Welcome to JAM 2011!

Welcome to the Big Easy and world's leading scientific meeting on animal agriculture and animal food products, the Joint Annual Meeting (JAM) between the American Dairy Science Association® (ADSA®) and the American Society of Animal Science (ASAS). A record number of abstracts (2171) for a two-society meeting await you, as do a total of 47 symposia, pre-conference events, and workshops. Add in the networking with colleagues and scientists from more than 55 countries and the opportunity to visit with close to a hundred exhibitors displaying the most current technologies and products, and you have the most comprehensive educational experience possible. Take advantage of the professional development and opportunities for cross-pollination of ideas while you renew old friendships and establish new ones. Activities start with the American Society for Nutrition (ASN)-ASAS-ADSA full-day symposium on Saturday, followed by the Triennial Lactation Symposium, the late-breaking research session, student events, and the opening session and reception on Sunday. Then, be sure to take time out to savor and enjoy what many feel is the most unique city in America, as we do our part to help support the city and the people of New Orleans.

The opening session will feature an introduction to the culture and agriculture of Louisiana and a special performance by the iconic Preservation Hall Jazz Band. Information in this program book highlights some of what awaits you in New Orleans and the infamous French Quarter and Bourbon Street areas.

The program committees have worked hard to assemble an outstanding set of symposia and presentations. Thank you to the chairs and members of the program committees for their diligent work to review abstracts and plan sessions for a unique and timely scientific program. We especially thank the Overall Program Committee—Dave Casper (chair), Clint Krehbiel (vice-chair), Tony Capuco (vice-chair), and Jack Whittier (vice-chair)—for their leadership and contributions to the success of this meeting. The scientific program will commence on Monday morning and conclude by noon on Thursday. Monday, Tuesday, and Wednesday sessions kick off at 7:30 am with 2 hours of posters before the oral presentations begin.

Be sure to attend the award programs recognizing members of our societies for excellence in teaching, research, outreach, and service. The ASAS awards program will take place on Monday evening at 7:00 pm and the ADSA awards program will take place on Tuesday at 7:00 pm. Following the awards program on Tuesday is an ice cream social for all attendees and their families to visit together and congratulate both ADSA and ASAS award winners.

The JAM is a major undertaking that requires continuous yearlong planning. It would not be possible without the dedicated work of many people. In addition to the program committees, we thank the FASS staff, with a special thanks to Jennifer Gavel, the JAM Program Coordinator, for making this event happen. However, the event would not be possible without the participation of you and the thousands of animal and dairy scientists who contribute to the scientific content of this meeting. We thank you for sharing your research and advancing our knowledge in the field of animal and dairy sciences.

We hope you enjoy this meeting and the many opportunities for scientific and social interaction it affords. Please be sure to attend the Global Networking Reception on Wednesday afternoon—open to all JAM attendees—to visit with friends and attendees from around the world. Catherine Woteki, Under Secretary for Research, Education, and Economics at the USDA, will speak at the reception. The JAM is a great manifestation of what it means to be a member of our societies. If you are not a member, please consider joining ADSA, ASAS, or both.
Important Message

In the event that protestors interrupt the meetings, please ignore them. Their goal is to attract attention and any attention you give them will only help their cause. Convention staff has a plan in place to handle these situations, and they depend on your cooperation. If members of the media approach you for an interview, please politely refuse and direct them to the convention’s media room, where spokespersons are available.

Thank you for your cooperation.
General Meeting Information

Location

The meeting will be held at the New Orleans Ernest N. Morial Convention Center and area hotels. The convention center is ideally located near the famed French Quarter and the well-known Garden District. This year, JAM will run a shuttle bus service between the headquarter hotels and the convention center.

Schedule of Events

The 2011 ADSA-ASAS JAM will be held July 10–14 (Sunday through Thursday). The opening session will be held on Sunday evening, July 10; scientific sessions will begin Monday morning, July 11, and run through noon on Thursday, July 14.

The American Society for Nutrition (ASN), ASAS, and ADSA are collaborating on a one-day pre-conference event: Agri-Medical Research: Providing Dual Benefit for Agriculture and Human Health on Saturday, July 9.

The Triennial Lactation Symposium/Biology of Lactation of Farm Animals: Lactation Biology Training for the Next Generation—A tribute to Dr. H. Allen Tucker will be held on Sunday, July 10.

The 2011 opening session will feature the world-renowned Preservation Hall Jazz Band! New Orleans is known for jazz music, and Preservation Hall is a quintessentially New Orleans jazz band. Don’t miss an opportunity to see this band live. The complete schedule of events can be found on page 35 of this program, or online at http://www.adsa.asas.org/meetings/2011/. Watch the website for updates.

Program Format for 2011

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poster sessions</td>
<td>7:30 am-9:30 am</td>
</tr>
<tr>
<td>Scientific sessions</td>
<td>9:30 am-12:30 pm</td>
</tr>
<tr>
<td>Lunch break</td>
<td>12:30 pm-2:00 pm</td>
</tr>
<tr>
<td>Scientific sessions</td>
<td>2:00 pm-5:00 pm</td>
</tr>
</tbody>
</table>

Meeting rooms will be equipped for electronic presentations and preloaded sessions. A cyber café will be available for attendees to keep up to date while at the meeting.

Registration Hours

Registration will be located in Lobby I2 of the New Orleans Ernest N. Morial Convention Center. Registration hours for the 2011 ADSA-ASAS Joint Meeting will be as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday, July 9 (preregistered only)</td>
<td>3:00 pm-5:00 pm</td>
</tr>
<tr>
<td>Sunday, July 10</td>
<td>7:00 am-7:00 pm</td>
</tr>
<tr>
<td>Monday, July 11</td>
<td>6:30 am-5:15 pm</td>
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<tr>
<td>Tuesday, July 12</td>
<td>7:00 am-5:15 pm</td>
</tr>
<tr>
<td>Wednesday, July 13</td>
<td>7:00 am-5:15 pm</td>
</tr>
<tr>
<td>Thursday, July 14</td>
<td>8:00 am-1:00 pm</td>
</tr>
</tbody>
</table>
Important Phone Numbers

Convention Center Registration Desk ............................................. (504) 670-4000
Sheraton New Orleans (ASAS HQ) .................................................. (504) 525-2500
Marriott New Orleans (ADSA HQ) .................................................. (504) 581-1000
Westin New Orleans Canal Place (Student HQ) ......................... (504) 566-7006
New Orleans Marriott Convention Center ................................. (504) 613-2888

Media Check-In

Please check in at the Registration Desk in Lobby I2 of the New Orleans Ernest N. Morial Convention Center.

Speaker Ready Room

The Speaker Ready Room is located in Room 284 of the New Orleans Ernest N. Morial Convention Center. This room will be available for speakers from 7:00 am to 5:00 pm on each day of the meeting.

Hospitality Lounge

A hospitality lounge will be located in Room 285 of the New Orleans Ernest N. Morial Convention Center. This lounge will offer attendees an area to relax, network, and catch up with old friends. The hospitality lounge is also a great meet-up place when departing the convention center as a group.

Business Center

In January 2011, the New Orleans Ernest N. Morial Convention Center celebrated the grand opening of its new, full-service location of The UPS Store. The UPS Store provides show management, attendees, and exhibitors a full range of services under a nationally recognized brand. In addition to domestic and international shipping, The UPS Store offers printing and document services, full-service packing and shipping, computer rental and mail receiving service. The UPS Store at the Convention Center is located in Lobby F. The phone number for The UPS Store is 504-670-8941.

Presentation Information

Oral and Invited Speakers

Oral sessions will begin at 9:30 am on Monday and Tuesday, 10:30 am on Wednesday, and 8:30 am on Thursday.

Onsite Upload Information

Onsite upload: Onsite presentation upload will be available; files can be delivered to the Preload Room (Room 283) at the convention center (Sat: 3:00 to 5:00 pm; Sun-Wed: 7:00 am to 5:00 pm; Thur: 7:00 am to Noon). Presentations must be uploaded by 5:00 pm on the day before your scheduled presentation. Files will not be accepted via e-mail. No presentations will be loaded while the session is in progress or between presentations.

Poster Presentations

We have dedicated a two-hour block each morning to poster presentations. The “open poster” sessions will be from 7:30 to 9:30 am Monday, Tuesday, and Wednesday in the Convention Center, Hall I2J.
Each poster presentation will be available for public viewing for the entire day, with the presenting authors present during the open posters time (7:30–9:30 am). All posters must be mounted on the board 30 minutes before the beginning of the day's session (poster sessions begin at 7:30 am so posters must be mounted on boards by 7:00 am) and must list the paper number and corresponding day. The exhibit hall will open at 6:30 am, Monday through Wednesday. Posters must be removed after 5:00 pm each day. Any posters remaining after 5:30 pm will be removed by the convention center staff and discarded.

Each poster board area is 48 inches high and 96 inches wide. Use of this space is dictated by the presenter, with the following exceptions: the top of the poster space must include the abstract number with corresponding letter of the day it is being presented, title, authors, and affiliations. The lettering for this section should be at least 1 inch high.

**Locating the Correct Poster Board**

Each poster board number corresponds to the abstract number as noted in the program. For Monday posters an “M,” Tuesday posters a “T,” and for Wednesday posters a “W” precedes the board number.

**Camera, Video Camera, and Cell Phone Policy**

Use of cameras, video cameras, and cell phones (for calls or as cameras) is prohibited during oral and poster presentations to minimize disruption and unauthorized dissemination of data. Anyone found in violation of this policy will be asked to leave the session.

**ARPAS Continuing Education Units**

The 2011 ADSA-ASAS Joint Annual Meeting has been approved for up to 21 continuing education units (CEUs) for the American Registry of Professional Animal Scientists (ARPAS) certification requirements. Check the schedule of events for times and location of the ARPAS exams.

**Continuing Education Credits for Veterinarians (RACE credits)**

Many of the symposia at the 2011 ADSA-ASAS Joint Annual Meeting will be approved for RACE credits. We are in the process of having specific symposia approved. Following approval, symposia approved for RACE credits will be posted online at http://www.adsa.asas.org/meetings/2011/. Information regarding RACE can be found at www.aavsb.org.

**Job Resource Center**

The ADSA-ASAS Job Resource Center is located in the exhibit hall. The job announcements and CVs will be organized into the following categories for posting: Animal Behavior and Well-Being; Animal Health; Animal Breeding; Companion Animals; Extension; Food Safety; Food Science; Forages and Pastures; Genetics; Growth and Development; International Animal Agriculture; Lactation; Meat Science and Muscle Biology; Nonruminant Nutrition; Pharmacology and Toxicology; Physiology and Endocrinology; Production and Management; Ruminant Nutrition; and Teaching.

**ASAS E-Career Tool Now Available Online**

Whether you are an employer looking to fill a position or a potential employee looking for a job, the ASAS E-Career Tool has been developed to facilitate this communication. The ASAS E-career tool is free to use and very user friendly.
Employers can take advantage of the “search employee” function to identify potential candidates and see where and when they will be presenting their work at the 2011 ADSA-ASAS Joint Annual Meeting. Job seekers may upload their CVs and cover letters for potential employers to peruse.

ASAS is excited to bring this feature to Joint Annual Meeting attendees once again, and we hope you will take full advantage of this valuable tool! Visit http://adsa.asas.org/meetings/2011/ecareer.asp for more information.

**Cyber Café**

Keep in touch with work, family, and friends during JAM at the cyber café. Located in exhibit hall, the cyber café is available to all meeting attendees. The cyber café will also have a computer with a printer for limited printing during the meeting.

**Headquarters Hotels**

**Sheraton New Orleans**
ASAS Headquarter Hotel
500 Canal St
New Orleans, LA 70130

**Westin New Orleans Canal Place**
Student Headquarter Hotel
100 Rue Iberville
New Orleans, LA 70130

**Marriott New Orleans**
ADSA Headquarter Hotel
555 Canal St
New Orleans, LA 70130

**New Orleans Marriott Convention Center**
Official JAM Hotel
859 Convention Center Blvd
New Orleans, LA 70130

**Welcome to New Orleans**

**Transportation in New Orleans**

The JAM hotels and the convention center are approximately 30 minutes by taxicab from Louis Armstrong New Orleans International Airport (MSY). The one-way taxi fare from the airport will be $33.00 (current as of the time of printing). A shuttle service (Airport Shuttle) is also available; go online to book a shuttle in advance (http://www.airportshuttleneworleans.com/). The standard rate is $38.00 round-trip or $20.00 one way, with a $5.00 discount for purchasing a ticket online.

This year, we will offer a shuttle service between all official JAM hotels and the Ernest N. Morial Convention Center. **Please watch for the JAM shuttle area and signage with shuttle schedules in the lobby of your hotel.**

The Convention Center is in the area known as the Warehouse District—a great central location for everything in the downtown area. Many people choose to walk the area, but three streetcar lines can help you get around if you prefer. Each trip on the streetcar costs $1.25. Pick up a visitor guide or French Quarter walking brochure at the convention center for more information on ways to get around New Orleans.
New Orleans Sightseeing Options

From the New Orleans Convention and Visitors Bureau (CVB):

“What to do in New Orleans? The answer is simple yet resounding—do as the New Orleanians do: indulge, savor, and celebrate. Indulge your senses, savor New Orleans’ rich cultural experience, and celebrate everything that—even after 203 years of the greatest achievements and the steepest challenges—still makes New Orleans America’s most unique, authentic, and enthralling destination.”

Ten Things You Must Do in New Orleans:

**Experience the French Quarter**
The historic French Quarter covers more than 100 city blocks of art, dining, shopping, entertainment, and architectural treasures.

**Take a Culinary Journey**
Experience America’s most delicious city. You’ll wonder why everyone doesn’t celebrate life this way.

**Take a Musical Journey**
No city loves music more than New Orleans. The rhythms fill the streets, clubs, churches, and concert halls. Don’t miss a beat!

**Museums: A Feast for the Eyes**
New Orleans is a city rich in living history, traditions, and customs that are woven into the fabric of our everyday life.

**Culturally and Artistically Speaking**
The New Orleans Arts District and Magazine Street are vibrant, diverse neighborhoods alive with galleries, shopping, dining, and special events.

**Explore the Outdoors and More**
From the Zoo, Aquarium, and Insectarium to year-round golfing, fishing and more, New Orleans is a true urban resort.

**Let Us Entertain You**
Entertainment, culture, and performing arts options are as unique as the city itself. From comedy to the symphony, enjoy it all!!

**A Trip with History**
Ride the famous St. Charles Avenue streetcar line and enjoy the convenience of the Canal Street and Riverfront lines.

**Don’t Let the Parade Pass You By!**
Learn about the history, traditions, and pageantry of Mardi Gras and see how the famous floats are constructed.

**Take New Orleans Home**
All styles have their place here, from exquisite antiques to funky fashions. Find the perfect take-home memory from your visit to the Crescent City.

Visit the CVB (http://www.neworleanscvb.com/) for more ideas on what to do for fun in the Big Easy!
**Special Events**

**SAD Student Tour: Honey Island Swamp Tour (Slidell, Louisiana)**
Saturday, July 9  
1:30 – 5:15 pm  
*Bus departs from the Westin*  
The bus will depart from the Westin Hotel (student HQ), traveling 45 minutes north to Slidell, Louisiana, where we’ll board a small boat for a two-hour tour of one of the few remaining preserved wetlands in Louisiana. We will share the wetlands with alligators, raccoons, owls, wild boars, nutria, snakes, turtles, black bears, bald eagles, and many other species. Price includes tour ticket and transportation.

**SAD Student Informal Mixer: French Quarter Walking Tour and Dinner**  
Saturday, July 9  
7:00 pm  
*Meet in Westin Lobby*  
Meet in the lobby of the Westin at 7:00 pm. We’ll walk as a group through the French Quarter and experience some authentic New Orleans cuisine.

**Open Meeting: Becoming an ADSA Volunteer Leader**  
Sunday, July 10  
11:30 am – 12:30 pm  
*Marriott New Orleans, Galerie 6*  
Why become an ADSA Volunteer Leader? Come to this meeting to find out! Whether you want to get started as a volunteer or are already serving on an ADSA committee, this meeting will help you understand the benefits of leadership, what ADSA is doing, where ADSA is headed, and how you can help us get there.

**SAD Midday Mixer and Lunch**  
Sunday, July 10  
12:00 – 1:00 pm  
*Convention Center, 395-396*  
Join your fellow dairy clubs for a fun hour of getting reacquainted and making new friends. Lunch included. Registration is limited to undergraduate students and advisors.

**JDIP Meeting**  
Sunday, July 10  
1:00 – 6:00 pm  
*Marriott New Orleans, Studio 1-3*  
Join with Johne’s Disease Integrated Program (JDIP) members and others with an interest in Johne’s disease to learn more about JDIP, get updates on current work in each of JDIP’s Core and Project areas, and provide input on future plans. In addition to Sunday’s meeting, Johne’s related abstracts will be presented in poster and oral presentation sections as part of the JAM Animal Health–Johne’s/JDIP program. All JAM registrants are welcome to attend.

**Graduate Student Grant Writing Workshop: Learning to Write the Competitive Grant Proposal for Research, Education, and Extension in Animal Agriculture**  
Sunday, July 10  
4:30 – 6:30 pm  
*Convention Center, 386-387*  
With a focus on writing grants from the perspective of a graduate student, Dr. Mark Mirando and Dr. Margo Holland, both with the USDA National Institute of Food and Agriculture, will co-present a seminar on learning the competitive grant process. Dr. Mirando will focus on the competitive grant proposal and Dr. Holland will present on the NIFA fellowship program. This program is free and open to all graduate students, but preregistration is required.
**SAD-Dairy Quiz Bowl Final Round**  
**Sunday, July 10**  
5:30 – 6:00 pm  
**Convention Center, 397**

On Sunday, university teams from across the US will compete in the ADSA Dairy Quiz Bowl. The event gives schools an opportunity to demonstrate their knowledge about dairy production, processing, and ADSA history. The Student Affiliate Division (SAD) invites you to join them for the excitement of the final round of competition as the top two schools go head-to-head for the title of 2011 Dairy Quiz Bowl Winning Team.

**Opening Session**  
**Sunday, July 10**  
7:00 – 8:15 pm  
**Convention Center, Conference Auditorium**

Come help us kick off the 2011 Joint Annual Meeting at the opening session. We will be entertained by New Orleans’ own Preservation Hall Jazz Band.

**Opening Reception**  
**Sunday, July 10**  
8:15 – 10:00 pm  
**Convention Center, La Nouvelle Orleans**

Wind down the evening by joining us after the opening session for food, drinks, and some long-awaited socializing time with colleagues and friends.

**ASAS Graduate Student Open Forum**  
**Monday, July 11**  
12:00 – 1:00 pm  
**Convention Center, 388**

The ASAS Graduate Student Directors invite all ASAS graduate student members to an open forum on Monday, July 11. This forum has been established for three purposes: (1) to allow for representatives from graduate student organization to interact and exchange ideas to bring back to their respective universities; (2) to provide an opportunity for graduate students to voice their opinions and concerns on what the society can do to improve services to graduate students; and (3) to inform students about the activities and services ASAS has to offer graduate students and early career professionals.

**ADSA Inaugural Graduate Student Division Business Meeting**  
**Monday, July 11**  
3:30 – 5:00 pm  
**Convention Center, 397**

Attend the inaugural business meeting of the ADSA Graduate Student Division to meet the officer team and fellow graduate students, ratify the constitution, and provide input on activities for the division.

**Exhibitor Reception**  
**Monday, July 11**  
4:00 – 6:00 pm  
**Convention Center, Exhibit Hall I2J**

Unwind after a busy first day with drinks and snacks in the exhibit hall. While there, take some time to peruse the exhibits to learn more about the latest products and services in our industries.

**ASAS Awards Program**  
**Monday, July 11**  
7:00 – 8:30 pm  
**Sheraton New Orleans, Napoleon ABC**

All meeting participants, families, and friends are welcome to attend the ASAS awards program. Please join us at this special event to recognize and congratulate the 2011 ASAS award winners.
ADSA Graduate Student Mixer  
Monday, July 11  
8:30 – 9:30 pm  
Location TBD  
Join us to learn about the newly formed division, meet your fellow ADSA graduate students, and catch up with others at a New Orleans restaurant. Preregistration required.

SAD Student Dance  
Monday, July 11  
9:00 pm  
Westin Hotel, Crescent Ballroom, 11th floor  
Celebrate a great week at the JAM and rock the night away with old and new friends. Good music, good dancing, good friends—it doesn’t get any better than this! Cash bar and snacks will be available. Don’t miss this one—it’s always the highlight of the meeting!

ADSA Graduate Student Career Development Workshop with Joe Tringali  
Tuesday, July 12  
9:15 – 11:00 am  
Convention Center, 392  
Join Joe Tringali as he presents on two topics of interest to graduate students: “Job search economics—Considerations beyond the salary” and “Selling yourself to the life sciences industry.” Joe is a frequent career presenter at FASEB meetings and a recruiter for many biotech and pharmaceutical companies. All graduate students are welcome.

SAD Career Roundtable  
Tuesday, July 12  
9:30 – 11:00 am  
Convention Center, 394  
Students will have the opportunity to visit with industry professionals representing various facets of the animal agriculture industry. They will learn about careers in the industry, get useful tips on planning their careers, and much more. Students are encouraged to dress professionally (business casual or better) and bring several copies of their CVs. Students should also plan time to visit industry reps in the exhibit hall for information about internships and job opportunities.

Spouse Event 1: Oak Alley Plantation Tour  
Tuesday, July 12  
10:00 am – 2:30 pm  
Depart from the Convention Center  
Feel the gentle breeze of Southern hospitality on a tour that takes you back to the glory of the Old South! Experience a bygone era in one of the South’s most beautiful settings—Oak Alley Plantation, built in 1839. Marvel at the unbelievable view of a quarter-mile long alley of 28 magnificent Oak trees, each more than 250 years old. Perhaps the most photographed plantation ever, Oak Alley has been the setting for such motion pictures as “Interview with a Vampire,” “Primary Colors” and the wedding of Bo and Hope from the daytime soap opera, “Days of our Lives.” Your guided tour will reveal the fascinating stories of the home and its history. Lunch is not included but snacks and drinks are available at the plantation.

SAD Awards Luncheon  
Tuesday, July 12  
11:45 am – 2:00 pm  
Convention Center, 395-396  
Plan to attend this year’s SAD awards luncheon. The afternoon will be capped with presentation of student awards and announcement of new SAD officers. Both students and professionals are encouraged to attend. This is a wonderful chance to get to know the next generation of the dairy industry.

ASAS Foundation Heritage Luncheon  
Tuesday, July 12  
12:30 – 2:00 pm  
Convention Center, 281-282  
The ASAS Foundation has chosen honorees for the second annual ASAS Foundation Heritage Luncheon to be held at the 2011 ADSA-ASAS Joint Annual Meeting. The 2011 honorees are Allen Tucker and David Baker. Please join us at this Foundation fundraiser to honor these two legends of animal science.
JAS Open Forum and Editorial Meeting  
Tuesday, July 12  
4:00 – 5:00 pm  
Convention Center, 399  
Attendees and division editors and associate division editors are invited to the JAS Open Forum to discuss the current status of the journal and future development opportunities.

The ASAS Open Forum: ASAS-CSAS-EAAP Animal Frontiers Launch  
Tuesday, July 12  
5:00 – 6:00 pm  
Convention Center, 388  
Attendees are invited to The ASAS Open Forum on Tuesday, July 12, from 5:00 to 6:00 pm in the convention center. Join ASAS, CSAS, and EAAP as we celebrate the launch of our new joint review magazine, Animal Frontiers.

ADSA Awards Program  
Tuesday, July 12  
7:00 – 8:00 pm  
Marriott New Orleans, Acadia  
All meeting participants, families, and friends are welcome to attend the 2011 ADSA awards program. Please join us at this special event to recognize and congratulate the 2011 award winners at the Marriott New Orleans.

ADSA-ASAS Ice Cream Social  
Tuesday, July 12  
8:15 – 9:30 pm  
Marriott New Orleans, Bissonet/Carondelet  
All meeting participants, families, friends, and award donors are invited to join us for the always-popular ice cream social.

Graduate Student Mixer, sponsored by ASAS  
Tuesday, July 12  
9:00 pm  
Bourbon Cowboy  
Join your fellow graduate students at a mixer for grad students to enjoy. This event will provide an opportunity to catch up with old friends and make new ones, so don’t miss it. Preregistration is highly recommended.

Spouse Event 2: Hurricane Katrina Rebirth and Rebuild Tour  
Wednesday, July 13  
10:00 am – 1:00 pm  
Depart from the Convention Center  
Get an eyewitness account of the events surrounding Hurricane Katrina, the worst natural disaster on American soil! Learn the history of the original city of New Orleans, the French Quarter, and why it was built at this particular location along the Mississippi River. The tour is narrated by licensed tour guides who are local New Orleanians with their own personal account of Hurricane Katrina. This tour travels by bus through neighborhoods such as Lakeview, Gentilly, New Orleans East, St. Bernard, and the Ninth Ward. Lunch is not included on this tour.

ADSA Graduate Student Career Roundtable  
Wednesday, July 13  
11:15 am – 12:30 pm  
Convention Center, 394  
Graduate students will have the opportunity to visit with faculty in hiring positions and industry professionals representing varied facets of animal agriculture. Attendees will learn about careers in the industry and hear useful tips on getting a job in academia, planning a career, and much more. Students are encouraged to dress professionally (business casual or better) and to bring several copies of their CVs.

Global Networking Reception  
Wednesday, July 13  
4:30 – 6:00 pm  
Convention Center, 395-396  
All meeting participants are welcome to attend the closing reception on Wednesday evening. Dr. Catherine Woteki, Under Secretary for Agriculture for Research, Education and Economics, USDA, will speak on the topic of the public research agenda for agriculture from the USDA perspective. Again this year, attendees will have the opportunity to indicate their home affiliation on a world map; check the exhibit hall for the poster board before the reception.
2011 ADSA Award Donors

ABS Global Inc.
ADSA Foundation
Alltech Biotechnology Center
American Feed Industry Association
Cargill Animal Nutrition
Cargill Flavor Systems
Dairy Research Institute
Danisco USA Inc.
DeLaval Inc.
Elanco Animal Health–Eli Lilly and Co.
Elsevier
Hoard’s Dairyman
International Dairy Foods Association
Land O’Lakes Purina Feed, LLC
Leprino Foods
Milk Industry Foundation
National Milk Producers Federation
Novus International Inc.
Nutrition Professionals Inc.
Pfizer Animal Health
Pioneer, A DuPont Company
Schreiber Foods
West Agro Inc.

2011 ASAS Award Donors

ABS Global Inc.
Agri-King
American Feed Industry Association
American Society of Animal Science
American Society of Animal Science Foundation
Center for Regulatory Services Inc.
DSM Nutritional Products Inc.
Elanco Animal Health-Eli Lilly and Co.
Land O’Lakes Purina Mills LLC
Merial Ltd.
Morrison Award Fund
Omega Protein Corp.
Pfizer Animal Health
The Iams Company
Zinpro Corp.
Exhibit Schedule

Sunday, July 10
Exhibit Set Up ...................................................... 10:00 am – 6:00 pm

Monday, July 11
Exhibits Open ...................................................... 8:00 am – 6:00 pm
Exhibitor Reception ........................................ 4:00 pm – 6:00 pm

Tuesday, July 12
Exhibits Open ...................................................... 8:00 am – 5:00 pm

Wednesday, July 13
Exhibits Open ...................................................... 8:00 am – 2:00 pm
Exhibit Dismantle ............................................ 2:00 pm – 5:00 pm

Exhibit Floor Plan
# Guide to Exhibitors/Booth Numbers

<table>
<thead>
<tr>
<th>Company/Institution</th>
<th>Booth Numbers</th>
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<tbody>
<tr>
<td>A-Systems</td>
<td>508</td>
</tr>
<tr>
<td>AAALAC</td>
<td>604</td>
</tr>
<tr>
<td>Acadian Agritech</td>
<td>409</td>
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<tr>
<td>Adisseo</td>
<td>315</td>
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<tr>
<td>Ag Processing Inc.</td>
<td>319</td>
</tr>
<tr>
<td>Alltech</td>
<td>619, 621, 718, 720</td>
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<tr>
<td>American Dairy Science Association (ADSA)</td>
<td>802</td>
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<tr>
<td>American Registry of Professional Animal Scientists (ARPAS)</td>
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<td>AMTS, LLC</td>
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<td>Ankom Technology</td>
<td>700</td>
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A special thank you to our 2011 ADSA®-ASAS Joint Meeting Exhibitors!
A-Systems
41 Rue Des Chantiers
78000 Versailles, France
Phone: +33 (0) 139072678
Booth(s): 508

A-Systems specializes in software for the feed industry. We have developed the feed formulation program Allix², the rationing calculation program Ruminix, the Safety Datasheet Program Securix, and the quality control programs KAllix. Today we have more than 1,500 users worldwide, including international, national and regional leaders in the feed industry.

AAALAC
5283 Corporate Dr Ste 203
Frederick, MD 21703-2879
http://www.aaalac.org
Booth(s): 604

AAALAC International offers accreditation and education services for agricultural animal research programs. Earning accreditation demonstrates dedication to responsible animal care. It also assures research partners, funding sources, and the public of a commitment to quality research and good science. More than 800 institutions in 34 countries have earned AAALAC accreditation.

Acadian Agritech
30 Brown Avenue
Dartmouth, NS B3B 1X8 Canada
Booth(s): 409

Tasco is a functional food designed to address critical production issues in today’s livestock industry. All-natural Tasco helps modulate functions relative to health, productivity, and stress resistance. Tasco is generally regarded as safe (GRAS) in animal feeds. http://www.tasco.ca

Adisseo
4400 N Point Pkwy Ste 275
One Point Royal
Alpharetta, GA 30022-2429
http://www.adisseo.biz/
Booth(s): 315

At Adisseo, we are nutritionists with a long tradition of applying our expertise to nutritional additives. We are dedicated to serving the animal production industry by helping premixers, feed manufacturers and integrators to improve their performance and to become more competitive.

Ag Processing Inc.
PO Box 2047
12700 West Dodge Road
Omaha, NE 68154
Phone: (402) 492-3309; Fax: (402) 496-6686
http://www.amino-plus.com
Booth(s): 319

AminoPlus is the number one volume bypass protein soybean meal dairy supplement in the United States. The patented AminoPlus process utilizes soybean meal to provide high amino acid quality, rumen bypass and intestinal digestibility without the addition of chemicals or non-soybean components.

Alltech
3031 Catnip Hill Rd
Nicholasville, KY 40356-8700
Phone: (859) 887-3245; Fax: (859) 887-3256
http://www.alltech.com
Booth(s): 619, 621, 718, 720

For more than 25 years, Alltech has been researching and providing all-natural nutritional solutions that benefit animal health, performance, and productivity. Alltech’s cutting-edge brands—Yea-Sacc 1026, Sel-Plex, Bio-Mos, Mycosorb, Bioplex, and Sil-All—set a unique example of how all-natural technologies backed by dedicated research can move the industry forward.

American Dairy Science Association (ADSA)
2441 Village Green Place
Champaign, IL 61822-7676
Phone: (217) 356-3182; Fax: (217) 398-4119
http://www.adsa.org
Booth(s): 802

Established in 1906, ADSA is an international organization of educators, scientists, industry, and government representatives who are committed to advancing the dairy industry. All are keenly aware of the vital role the dairy sciences play in fulfilling the economic, nutritive, and health requirements of the world’s population. Together, ADSA members have discovered new methods and technologies that have revolutionized the dairy industry. Please visit www.adsa.org for more information.
American Registry of Professional Animal Scientists (ARPAS)
2441 Village Green Place
Champaign, IL 61822-7676
Phone: (217) 356-3182; Fax: (217) 398-4119
http://www.arpas.org
Booth(s): 219

ARPAS is the organization that provides certification of animal scientists through examination, continuing education, and commitment to a code of ethics. Continual improvement of individual members is catalyzed through publications (including The Professional Animal Scientist journal) and by providing information on educational opportunities.

American Society of Animal Science (ASAS)
2441 Village Green Place
Champaign, IL 61822-7676
Phone: (217) 356-3182; Fax: (217) 398-4119
http://www.asas.org
Booth(s): 215

Established in 1908, ASAS is a professional organization for animal scientists designed to help members provide effective leadership through research, extension, teaching, and service for the dynamic and rapidly changing livestock and meat industries. Please visit www.asas.org for more information.

AMTS, LLC
127 Asbury Rd
Lansing, NY 14882
http://Agmodelsystems.com
Booth(s): 616

AMTS LLC is committed to bringing the Global Feed Industry and the Independent Nutritionist the best tools in a form that are powerful and easy to use. AMTS LLC has practicing nutritionists on staff. This powerful combination of advanced tools and practical experience allows AMTS to offer products and training that ‘bridges the gap’ between cutting edge science and field use. AMTS software incorporates the latest biology (CNCPS version 6.1) and an interface designed to increase user efficiency.

Animal Frontiers
2441 Village Green Place
Champaign, IL 61822-7676
Phone: (217) 356-3182; Fax: (217) 398-4119
http://www.animalfrontiers.org
Booth(s): 209

Animal Frontiers is a new review magazine published jointly by the American Society of Animal Science (ASAS), the Canadian Society of Animal Science (CSAS), and the European Federation of Animal Science (EAAP). Animal Frontiers will address current significant issues important to animal agriculture on the global stage. Each issue of Animal Frontiers will address a common theme with leading authors in those areas addressing various aspects of the theme. Animal Frontiers is published quarterly with an intended international readership of scientists, politicians, industry leaders and the general public seeking a scientific perspective on issues related to animal agriculture.

Ankom Technology
2052 O’Neil Rd
Macedon, NY 14502-8953
Phone: (315) 986-8090; Fax: (315) 986-8091
http://www.ankom.com
Booth(s): 700

Ankom Technology is best known for the development of filter bag technology for automating fiber and fat analysis in foods and feeds. Ankom has products supporting in vitro digestibility, in vitro gas production, and in situ digestibility. Ankom products are in use in over 90 countries around the world.

Arm & Hammer Animal Nutrition
469 Harrison St
Princeton, NJ 08540-3510
Phone: (609) 279-7335; Fax: (609) 497-7176
http://www.AHDairy.com
Booth(s): 320

Arm & Hammer Animal Nutrition is a leading supplier of dairy feed ingredients that work to improve producer profitability. We’ve developed a wide range of innovative products to address the dairy nutrition challenges today’s producers face. Trust Arm & Hammer Animal Nutrition for innovative, proven, and reliable nutritional solutions.

ASAS Foundation
2441 Village Green Place
Champaign, IL 61822-7676
Phone: (217) 356-9050; Fax: (217) 398-4119
http://www.asas.org
Booth(s): 217

The ASAS Foundation was created by the ASAS Board of Directors to identify individual and corporate entities that seek to enhance and perpetuate the activities of the society. The Foundation seeks to create a nucleus of funds and investments from which its Board of Directors and its membership may address critical issues facing the profession. Moreover, we would encourage the funding of ventures into new areas that will assist the society and its members in obtaining excellence in a highly dynamic industry. We visualize a corpus of funds composed of gifts, grants, endowments, and appreciation clubs, each tailored to the needs and wishes of the donor and that are consistent with the mission of the society.

Balchem
PO Box 600
52 Sunrise Park
New Hampton, NY 10958-0600
Phone: (845) 326-5600; Fax: (845)326-5742
http://www.balchem.com
Booth(s): 509, 608

Balchem’s Animal Nutrition and Health Division brings the benefits of patented proprietary micro-encapsulation and chelated trace mineral technology to the livestock, poultry, and companion animal industries. Encapsulation and chelation technologies offer “protection nutrition” to sensitive compounds. Hence, these compounds become bioavailable when and where they offer the most benefit to the animal. Our products include ReaShure, NiaShure, AminoShure-L, NitroShure, KeyShure, VitaShure, and choline chloride.
Bar Diamond
http://www.bardiamond.com
Booth(s): 818
Bar Diamond Inc. provides the world with rumen cannulae and accessories. Our cannulae are used in cattle, goats, sheep, water buffalo, bison, deer, reindeer, llama, musk oxen, and a camel! Visit our booth and see our newest photos from around the world.

Biomin
1846 Lockhill Selma Rd Ste 101
San Antonio, TX 78213-1551
Phone: (210) 342-9555; Fax: (210) 342-9575
http://www.biomin.net
Booth(s): 514
Biomin is a customer-oriented company with the objective to enhance productivity and unlock the performance potential of livestock. Based on intense research, Biomin develops and produces feed additives and premixes in accordance with latest know-how and with state-of-the-art production technology. Biomin's top brands are Biofix Plus and Biofix Select.

Bruker Optics, Inc.
19 Fortune Dr
Billerica, MA 01821-3923
http://www.brukeroptics.com/solutions
Booth(s): 301
Bruker offers Infrared (NIR) and NMR analyzers for the quality control of feed and forage for livestock, as well as milk and dairy products. Various types animal feed as well as feed ingredients can be rapidly analyzed for parameters like protein, oil, moisture, fiber and ash, as well as more specialized parameters (e.g., amino acids). Cheese products (soft, hard and slicing, processed, curd) can directly be analyzed in the laboratory or in-process for dry matter, fat, protein, salt and for some types for pH.

Buchi Corporation
19 Lukens Dr Ste 400
New Castle, DE 19720-2787
http://www.mybuchi.com
Booth(s): 601
For over 50 years, Buchi has been known as the market leader, inventor and innovator of lab instruments based on evaporation and vacuum technologies, and as the supplier of the Rotavapor rotary evaporators worldwide. In addition, Buchi Corporation is a proven North American provider of spray dryers for pharmaceutical and food agglomeration and microencapsulation, Kjeldahl and solvent extraction equipment for environmental and food analysis, NIR spectroscopy instruments for pharmaceutical and food Quality Control, modular flash chromatography systems, and other related laboratory equipment. Headquartered in New Castle, Delaware, Buchi Corporation is an affiliate of Buchi Labortechnik AG (Flawil, Switzerland).

C-Lock Inc.
2525 W Main St Ste 211
Rapid City, SD 57702-2439
Phone: (605) 791-5657
http://c-lockinc.com/
Booth(s): 321
GreenFeed is a low-cost (pat. pend.) system to measure CH₄ and CO₂ emissions from ruminants remotely in a nonintrusive way. CH₄ and CO₂ data collected several times daily provides valuable feedback on the performance of individual animals and can aid in maintaining animal health and in maximizing feed efficiency.

CABI Bookshop
22883 Quicksilver Dr
Sterling, VA 20166-2019
Phone: (703) 996-1012
http://www.styluspublishing.com
Booth(s): 505
CABI is a not-for-profit international organization that improves people's lives by providing information and applying scientific expertise to solve problems in agriculture and the environment. Distributed in North America by Stylus Publishing.

Cambridge University Press
32 Avenue of The Americas Bldg 1
New York, NY 10013-2473
http://journals.cambridge.org
Booth(s): 316
Cambridge University Press publishes high-quality books and journals, including Animal: The International Journal of Animal Bioscience on behalf of The Animal Consortium, and Animal Health Research Reviews in collaboration with the Conference of Research Workers in Animal Diseases. Please stop by our booth to peruse these and other publications.

Chr. Hansen
9015 W Maple St
Milwaukee, WI 53214-4213
Phone: (414) 607-5739; Fax: (414) 607-5704
http://www.chr-hansen.com
Booth(s): 303, 402
Chr. Hansen Animal Health & Nutrition has been ranked as the most trusted direct-fed microbial source by dairy nutritionists. As the “world’s microbial experts,” Chr. Hansen has been the leading supplier of lactic acid bacteria and other ingredients since 1874. A history rich in science, research, and product quality has produced products such as Probios, Biomate, Biomax, and BioPlus.

Cumberland Valley Analytical Services
14515 Industry Dr
Hagerstown, MD 21742-2410
Phone: (301) 790-1980; Fax: (301) 790-1981
http://www.foragelab.com
Booth(s): 515
Cumberland Valley Analytical Services is a full service forage and feed testing laboratory specializing in chemistry analysis.
Dairy Records Management Systems provides innovative dairy information products and services for producers, DHIA staff, consultants and other dairy industry professionals. Comprehensive processed reports include Transition Cow Management, Survival Analysis and Persistency Analysis. Leading-edge software and web tools include PCDART, PocketDairy, Herd Detective, DairyMetrics, WebReports, and Reports On-Demand.

Dairy Tech Inc.
352 North Shores Circle
Windsor, CO 80550
http://www.dairytechinc.com
Booth(s): 318

Dairy Tech Inc. has been an industry leader in new calf technologies that support best management practices. The core of Dairy Tech has been batch pasteurization technology that has lead the industry in innovation and research for the past 11 years. Just this year the company has launched sever products that have become cornerstones of colostrum management for calves.

Dalex Livestock Solutions, LLC
240 Industrial Blvd
Waconia, MN 55387-1734
Phone: (952) 442-4251; Fax: (952) 831-4251
http://www.dalex.com
Booth(s): 417

Dalex Livestock Solutions, LLC is the leading provider of ration formulation software and related livestock solutions. Current programs include The Consulting Nutritionist, Dairy Record Manager, Feed Tag and Beef Profit Projection. Dalex has provided a complete solution to formulate, analyze and monitor livestock feeding situations since 1980.

Diamond V, headquartered in Cedar Rapids, Iowa, provides nutritional fermentation products that optimize digestive function and nutrition key to animal and aqua health, productivity, efficiency and profitability. Our commitment to innovation, technology and quality has earned Diamond V a global reputation of trust and reliability within the animal feed industry. We help our customers succeed by sharing knowledge, innovation and capability. The benefit is real, Diamond V investment and commitment is real. Diamond V's innovative brands—(Original XPC, XP and YC), DiaMune Se, SeleneSource and DV Aqua—are research proven and engineered to deliver results.

Distillers Grains Technology Council
435 Lutz Hall
University of Louisville
Louisville, KY 40292-0001
Phone: (502) 852-1575; Fax: (502) 852-1577
http://www.distillersgrains.org
Booth(s): 719

Distillers Grains Technology Council (DGTC) is a nonprofit association of fuel and beverage ethanol & distillers grains producers that was established in 1945. At the DGTC exhibit booth we will have information on feeding wet and dry distillers grains to dairy and beef cattle, calves, sheep, goats, poultry, horses and combining it with other feed ingredients to reduce corn usage and costs. Stop and let's talk about the rapidly growing availability of distillers and its feed value.

DSM Nutritional Products
45 Waterview Blvd
Parsippany, NJ 07054-7611
Fax: (973) 257-8653
http://unlimitednutrition-na.dsm.com
Booth(s): 800

DSM Nutritional Products is the leading supplier of vitamins, carotenoids, enzymes and direct fed microbials to the animal feed industry. With its extensive network of premix plants, DSM Nutritional Products is optimally poised to deliver these essential micronutrients either as straight ingredients or through ROVIMIX premix
EAAP
Via G. Tomassetti
3 A/1 00161 Rome, Italy
Phone: +39 06 44202639; Fax: +39 06 44266798
http://www.eaap.org
Booth(s): 221

EAAP annually organizes the largest animal science meeting in Europe. This meeting is the perfect venue to create a network with qualified animal scientists. Over one thousand scientists have attended the EAAP annual meetings in the past years. EAAP produces the journal Animal, one of the highest-ranked animal science magazines. EAAP has many other services and activities for its members: publishing scientific books, organizing specific and regional workshops and scientific meetings, coordinating international research projects, and defending positions of animal science and livestock industry at international level. EAAP is a federation of national members with the national members being the backbone of EAAP. To increase the quantity and quality of services to the animal science community, EAAP established the individual membership structure. Everyone is invited to become members of EAAP and benefit from belonging to the EAAP community.

Elsevier
1600 John F Kennedy Blvd Ste 1800
Philadelphia, PA 19103-2398
Phone: (215) 239-3491; Fax: (215) 239-3494
http://www.elsevierhealth.com
Booth(s): 414

Elsevier is a world-leading multiple media publisher of science, technology, and health information products and services. We are proud to publish the Journal of Dairy Science® (JDS), the official journal of the American Dairy Science Association®. Please visit the Elsevier booth in the exhibit hall with any questions you might have about accessing the Journal of Dairy Science online and to browse our other titles in animal science.

Evonik Degussa Corp
1701 Barrett Lakes Blvd NW Ste 340
Kennesaw, GA 30144-4509
Phone: (678) 797-4311; Fax: (678) 797-4313
http://www.aminoacidsandmore.com
Booth(s): 607, 609

Degussa is the only company in the world to supply from a single source all four of the important amino acids for animal nutrition: DL-methionine, Biolys (L-lysine), L-threonine and L-tryptophan. Mepron, a rumen-protected DL-Methionine rounds off the company’s product range as part of its “one source” strategy.

FDA–Center for Veterinary Medicine
7519 Standish Pl
Rockville, MD 20855-2792
Phone: (301) 827-3800; Fax: (301) 827-4065
Booth(s): 618

The Center for Veterinary Medicine (CVM) regulates the manufacture and distribution of food additives and drugs that will be given to animals from which human foods are derived, as well as food additives and drugs for pet (or companion) animals. CVM is responsible for regulating drugs, devices, and food additives given to, or used on, over one hundred million companion animals, plus millions of poultry, cattle, swine, and minor animal species. (Minor animal species include animals other than cattle, swine, chickens, turkeys, horses, dogs, and cats.)

Federation of Animal Science Societies
2441 Village Green Place
Champaign, IL 61822-7676
Phone: (217) 356-3182; Fax: (217) 398-4119
http://www.fass.org
Booth(s): 717

The Federation of Animal Science Societies (FASS) was formed in 1998 by three founding member societies: the American Dairy Science Association® (ADSA®), the American Society of Animal Science (ASAS), and the Poultry Science Association (PSA). FASS is unique in that we support common agricultural interests and, at the same time, streamline administrative expenses while preserving the societies’ traditions and values. We specialize in providing a wide array of management services to small and medium-sized, not-for-profit associations. In addition, each year, PhD scientists in animal science compete for the opportunity to represent FASS in Congress through the Congressional Science Fellowship (CSF) Program. Many of these individuals stay on the Washington scene after their fellowship year and continue to serve animal agriculture in significant ways. Be sure to stop by the FASS booth to hear about DC activities from the 2010–2011 CSF.

Feed Management Systems
6120 Earle Brown Dr Ste 300
Brooklyn Center, MN 55430-4101
Phone: (763) 560-8139
http://www.feedsys.com
Booth(s): 614

Feed Management Systems provides integrated software solutions for feed manufacturers to manage their critical formula and production data. Ensure the quality of your feed supply by automating and optimizing formulas, pricing, ordering, inventory, labeling, delivery, traceability, reporting and financials. Solutions: Feed Mill Manager, Brill Formulation, Feed Ration Balancer, Feed Tags.
Feedstuffs is the only weekly paid news source for agribusiness. Every week, we keep our subscribers informed on the important issues affecting the business of producing food for the world.

Goat Industry-eXtension
http://extension.org/goat
Booth(s): 816

The Goat Industry is a website through eXtension that provides scientific basic information for goat producers, extension educators and consumers. Currently, this site has resources which include information on Announcements, Breeds, Extension Resources, Genetics, Glossary of Terms, Health, Instructional Videos, Goat Industry Assessment and Outlook, Meat Goat Management Wheel, Marketing, Management, Nutrition, Reproduction, Pastures and Forages, Predator Control and Vegetation Management. Resources are continuously being added to the site to benefit the people interested in learning more about goats.

GrowSafe Systems
280105 Range Road 22 RR1 Site 1 Box 19
Airdrie, AB T4B2A3 Canada
http://www.growsafe.com
Booth(s): 407

GrowSafe develops advanced data acquisition systems for individual animal feed intake and behavior research in feedlot, dairies and on pasture. Visit us in Booth 407 for a real-time demonstration of our technology capabilities.

GTC Nutrition
600 Corporate Cir Ste H Golden, CO 80401-5604
Phone: (303) 951-6520; Fax: (303) 951-6520
http://fortifeed.com
Booth(s): 503

GTC Nutrition, a business unit of Corn Products International, Inc., is a recognized leader in providing innovative ingredients along with scientific, technical and marketing expertise to the animal feed, food process, and dietary supplement industries. GTC Nutrition’s flagship animal feed ingredient, FortiFeed prebiotic fiber, selectively stimulates the growth of beneficial microflora in the intestines of animals to improve overall well-being and performance. GTC Nutrition promotes animal and human health globally with innovative functional food ingredients and unsurpassed customer support. For more information, visit www.fortifeed.com.

H.J. Baker & Bro., Inc.
228 Saugatuck Ave Ste 1
Westport, CT 06880-6444
Phone: (203) 682-9200; Fax: (203) 227-8351
http://www.bakerbro.com
Booth(s): 603

Introducing MetaboLys By-Pass lysine for dairy. Great news for our industry—MetaboLys by-pass lysine delivers a high payload of metabolizable lysine directly to the small intestine. University tests utilizing rumen and duodenal cannulated cows document high by-pass and intestinal digestibility—that means higher protein component milk and more milk per cow! Patent pending technology.

Hangzhou East Biochem Co., Ltd.
1705, Guangyin Bldg, 42 Fengqi Dong Rd
Hangzhou 310020 China
http://www.east-biochem.com
Booth(s): 715

We are a Chinese producer of specialty feed additives. Based on our FAMI-QS certified factory, we provide betaine, sodium butyrate 30% coated, zinc oxide 50% coated, vitamin C 97% coated, rumen protected choline chloride 25%, rumen protected lysine HCl 30%, rumen protected methionine 30%, Bacillus subtilis (5 × 1011 cfu/g) and Bacillus licheniformis (5 × 1011 cfu/g).

International Ingredient Corp.
150 Larkin Williams Ind Ct
Fenton, MO 63026-2409
Phone: (636) 343-4111 ext. 1252; Fax: (636) 349-4845
http://www.iicag.com
Booth(s): 701

International Ingredient Corporation is a manufacturer of specialty ingredients for swine, pets, dairy cattle, veal and dairy calves, and aquaculture. International Ingredient Corporation has nine plant locations producing quality ingredients, including Dairylac 80, Nutri-Gold Dried Milk, Brewtech Brewers Yeast, Dried Cheese Products, Dried Bacon Fat, Nutri-Sure, Milk Chocolate Product, Sugar Food Products, and GroBiotic prebiotics.

Jefo Nutrition
5020 Jefo Ave Box Office 325
St-Hyacinthe, QC J2S 7B6 Canada
Phone: (450) 799-2000; Fax: (450) 778-1338
www.jefo.ca
Booth(s): 709, 808

Jefo Nutrition is a worldwide leader and a fast-growing company in the field of non-medicated feed additives. Our cutting-edge technology is an effective alternative to antibiotic growth promoters. With offices on 5 continents, Jefo Nutrition’s expertise in nutrition and animal health comes from a strong and diversified background of experienced professionals. Our team, with the help of third parties such as universities, sustains and expands its expertise by investing 40% of Jefo Nutrition’s profits in R&D. Jefo Nutrition manufactures highly specialized products and also distributes over 175 products related to animal nutrition.
The Johne's Disease Integrated Program (JDIP) is a consortium of scientists, whose mission is to promote animal bio-security through the development and support of projects designed to enhance knowledge, promote education, and develop real-world solutions to mitigate losses associated with Johne's disease. Funded by a grant from the USDA-NIFA.

The Journal of Animal Science (JAS) is the premier journal for animal science and serves as the leading source of new knowledge and perspective in this area. JAS publishes more than 400 peer-reviewed research articles, invited reviews, technical notes, and letters to the editor each year. According to ISI's Journal Citation Reports, JAS consistently ranks as one of the top journals (among 43 titles) in the category of Agriculture, Dairy, and Animal Sciences in terms of impact factor, immediacy index, and cited half-life and is in the top 1% of STM publishing (50,000+ titles) by total ISI citations.

Kahne Ltd. is a New Zealand-based company that sells wireless rumen sensors to enable animal scientists to obtain accurate and comprehensive data from the rumen of unconstrained animals. Using less invasive practices, Kahne technology can benefit research in animal nutrition, welfare, behaviour and environmental emissions.

Kemin AgriFoods brings value to the feed industry by working in partnership with its customers. With fifty years of collective expertise in animal nutrition, Kemin AgriFoods has developed the TOTAL NUTRITION program offering nutritional solutions that contribute to the safe, efficient and healthy production of animal protein. Proven scientific knowledge, reliable technology and personalized service make Kemin the advisor you can count on.

Based in Europe, Phodé Laboratories have conceived and produced unique sensory additives since 1996. Created by DMV Daniel Eclache, the company has evolved over time to become a specialist of functional micro-ingredients for nutrition and the environment. R&D department of Phodé Laboratories is dedicated to better understanding the effects of olfactory molecules upon the emotions, behavior and well-being. Phodé's extensive research has recently led to a new patented technology allowing to control the release of active substances. The first resulting product, Force 6, was formulated for health preservation and maintenance of high performance animals.

Lallemand Animal Nutrition offers a range of solutions for the dairy industry including Levucell SC and Levucell SB active dry yeast, Biotal forage inoculants, Alkosel organic selenium yeast, Agrimos, and other mineral-enriched yeast supplements.

Micronutrients, based in Indianapolis, is dedicated to the development, production and marketing of trace minerals for livestock and companion animals. Current development has led to the creation of a new class of trace minerals, hydroxy trace minerals. Use of the first mineral - IntelliBond C (Micronutrients TBCC – tribasic copper chloride) has grown consistently for the past 15 years and is soon to be followed by zinc and manganese. Hydroxy trace minerals have been proven in over 70 research studies to deliver improved essential nutrient stability in feeds while significantly increasing the availability of the mineral to the animal.

Multimin 90 provides zinc, manganese, copper and selenium in a readily available form as an injectable, which by-passes any antagonists that may tie up oral minerals. Strategic injection offers critical supplementation at times of increased demand supporting reproduction and immunity.
National Animal Health Monitoring System (NAHMS)
2150 Centre Ave Bldg B-2E7
USDA:APHIS:VS:CEAH
Fort Collins, CO 80526-8116
Phone: (970) 494-7245; Fax: (970) 494-7228
http://nahms.aphis.usda.gov
Booth(s): 308

National Studies conducted by the National Animal Health Monitoring System (NAHMS) provide essential information on livestock and poultry health and management in the United States. Production types are studied at regular intervals, providing up-to-date information needed to monitor U.S. animal health, support trade decisions, inform the public, and set policy.

Novus International
20 Research Park Dr
Saint Charles, MO 63304-5633
Phone: (314) 453-7711; Fax: (314) 576-4635
http://www.novusint.com
Booth(s): 309, 408

Novus International Inc., headquartered in St. Louis, Missouri, serves customers in more than 80 countries. An industry leader in animal nutrition and health, Novus’s products include Agrado feed ingredient, Alimet feed supplement, Activate nutritional feed acid, Acidomix preservative premixture, Mintrex organic trace minerals, Santoquin feed preservative, and other ingredients.

Omega Protein Inc.
2101 Citywest Blvd, Bldg. 3, Suite 500
Houston, TX 77042-2832
http://www.omeganutrient.com
Booth(s): 306

Omega Protein is the world’s largest producer of omega-3 fish oil and North America’s largest producer of fish meal and fish solubles. These ingredients are used in poultry, swine, pet, equine, aquaculture, and other livestock feeds. Omega Protein is vertically integrated and certified sustainable. Available in bulk, bag or drums.

Poultry Protein & Fat Council
1530 Cooledge Rd
Tucker, GA 30084-7303
Phone: (770) 493-9401; Fax: (770) 493-9257
http://www.poultryegg.org/ppfc/
Booth(s): 706

The Poultry Protein & Fat Council solicits and sponsors research that would develop new and increased utilization of poultry byproduct meal, feather meal, blood meal, and poultry fat by demonstrating their efficacy in poultry, aquaculture, livestock, and companion animal rations.

Probiotech International Inc.
6225 Choquette Street
St. Hyacinthe, QC J2S 6L2 Canada
Phone: (450) 771-7252; Fax: (450) 771-4509
http://www.probiotech.com
Booth(s): 420

Probiotech International Inc. develops and provides the animal nutrition industry with natural solutions. The line of products was designed using the principles of biotechnology in order to promote animal health and to maximize agriculture production with the respect of our environment in mind. Products range from patented rumen-protected choline for dairy cows to organic acidifiers, and plant extracts for swine and poultry.

Quali Tech Inc.
318 Lake Hazeltine Dr
Chaska, MN 55318
http://www.qualitechco.com
Booth(s): 400

Quali Tech has been providing innovative solutions to dairy, beef, swine, poultry, equine and companion animals for over 40 years. Our core technologies and products include SQM organic trace minerals, Feedbuds palatability enhancers, dispersibles, electrolytes and protected vitamins. The foundation of our technology is over four decades of research conducted across species and under varying conditions with proven results. Quali Tech is committed to helping animals, plants, people and the environment thrive. For more information about how Quali Tech can benefit the animal species you work with, call us at (800) 328-5870 ext. 222 or visit us at www.qualitechco.com.

Saf Agri/Lesaffre Feed Additives
7475 W Main St
Milwaukee, WI 53214-1552
Phone: (414) 615-4138; Fax: (414) 615-4003
http://www.lfa-america.com
Booth(s): 317

Lesaffre Feed Additives provides innovative products produced by the Lesaffre Group, the world’s oldest and largest yeast manufacturer, to livestock feed producers and pet food manufacturers throughout the Americas. The product line includes active dry yeast for pelleted and non-pelleted feeds, inactive dry yeast, mineral yeast, enzymes, and mannan oligosaccharides.

Soybean Meal Information Center
1255 SW Prairie Trail Pkwy
Iowa Soybean Association
Ankeny, IA 50023-7068
Phone: (515) 251-8640; Fax: (515) 251-8657
http://www.soymeal.org
Booth(s): 416

The Soybean Meal INFOcenter website is designed to be a “center” or primary source of key information regarding soybean meal as an important supplement protein for livestock, poultry and specialty markets. The website provides information to feed manufacturers, professional nutritionists, feed formulators, livestock and poultry producers and the general public.
**SoyBest**  
PO Box 157  
West Point, NE 68788-0157  
Phone: (402) 372-2429; Fax: (402) 372-3305  
http://www.soyster.com  
Booth(s): 521, 620

SoyBest High Bypass Soybean Meal is bypass protein for dairy cows. Manufactured by the mechanical process, it contains no chemical solvents and is all-natural. SoyBest includes fresh soy gums with lecithin and phosphatidyl-choline. Research shows these nutrients behave like rumen-protected fat, resulting in even more bypass protein with excellent intestinal digestibility.

**SoyPLUS, SoyChlor (West Central)**  
PO Box 68  
Ralston, IA 51459-0068  
Phone: (712) 667-3200; Fax: (712) 667-3399  
http://www.soynplus.com  
Booth(s): 314

SoyPLUS is the industry leader, consistently delivering dairy bypass protein, unbeatable protein quality and intestinal digestibility. SoyPLUS contains research proven higher energy and rumen inert fat. SoyChlor has proven itself in effectively balancing DCAD in herd health. SoyChlor’s key ingredient is hydrochloric acid, the most palatable source of chloride available.

**Unity Scientific**  
32 Cornerstone Dr  
North Easton, MA 02356-2740  
Phone: (504) 338-8991; Fax: (504) 338-8992  
Booth(s): 708

Unity Scientific LLC is a global leader in the design and production of near infrared instruments for at line, on line and laboratory analysis. The Unity SpectraStar systems are ideal for quick and accurate QA/QC testing in the food, feed, forage and general agriculture markets. Unity’s new SpectraStar RTW system offers ultimate sample flexibility by allowing the use of existing sample cups from older equipment, our variety of cups, petri dishes, beakers or even bags on a top window in either rotating or static mode. Unity can also transfer an existing database to a new SpectraStar in minutes with the ability to continue your library expansion. Our technical staff averages average 20 years experience each in near infrared support and are available to assist in any technical capacity.

**Varied Industries Corporation**  
905 S Carolina Ave  
P.O. Box 1483  
Mason City, IA 50401-5813  
Phone: (641) 423-1460; Fax: (641) 423-0832  
http://www.vi-cor.com  
Booth(s): 615, 617, 714, 716

Vi-COR headquarters, located in Mason City, Iowa, was purchased in 1999 by Mark Holt, President, who changed the company into a world-class manufacturer of fermentation feed. An innovative company with many new discoveries in applied microbiology and fermentation chemistry put Vi-COR first in the market to develop a concentrated and liquid yeast culture and first to identify and guarantee metabolites associated with the benefits of yeast culture. This specialized process developing Celmanax can be seen in the health of your animals, production improvements, and return on investment and profitability. Vi-COR currently is doing business in over 40 countries.

**Western Yeast Company**  
305 W Ash St  
Chillicothe, IL 61523-1603  
http://www.westernyeast.com  
Booth(s): 606

Western Yeast Company was founded in 1932 and uses the Newhaven process for making yeast culture. This process makes live yeast cultures the old fashioned way with no added carriers after double fermentation. Western Yeast Culture is an active, all-natural feed supplement designed specifically to improve animal nutrition.

**Zinpro**  
10400 Vicking Drive Suite 240  
Eden Prairie, MN 55344  
http://www.zinpro.com  
Booth(s): 501, 600

Zinpro Performance Minerals are uniquely designed and manufactured to be the highest bioavailable trace mineral products on the market.
2011 Corporate Sponsorship

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Varied Industries Corp.
Zinpro Corp.

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Zook Nutrition and Management Inc.

Thank you for your support!
Introducing
AgriNIR™
PORTABLE ANALYZER FOR FORAGES

Now you can test forages for variations in dry matter and nutrient value quickly and efficiently on the farm with the new portable AgriNIR™ Portable Forage Analyzer from dinamica generale®!

- AgriNIR’s portability makes it fast and easy to take samples from multiple locations.
- Adjust rations the same day and more accurately match nutritionist recommendations.
- No more “guessing” how much dry matter has changed since the sample was sent for analysis to a lab.

**TAKE CONTROL & INCREASE FEED EFFICIENCY WITH THE AgriNIR PORTABLE FORAGE ANALYZER**

Research by the U.S. Dairy Forage Research Center shows that variations in stored forage dry matter after rain or snow can decrease milk production by 4 to 6 lbs per head per day.

Their study also shows that forage variability can be managed through rapid, on-farm NIR analysis of dry matter content and making daily ration adjustments to account for added moisture.

**Why risk a drop in milk production? Adjust rations in real time.**

The [dg NIR Manager Software Suite](mailto:dg-usa@dinamicagenerale.com) that comes with the unit is designed to create or update calibration curves involving new NIR crop families or new chemical parameters of existing NIR crop families.

For more information on the AgriNIR, call 715-781-7134 or email dg-usa@dinamicagenerale.com to set up an appointment for a demo today!
1. New Orleans Marriott
   (ADSA HQ)

2. Sheraton New Orleans
   (ASAS HQ)

3. Westin New Orleans Canal Place
   (Student HQ)

4. New Orleans Marriott Convention Center
   (Official JAM Hotel)
Thank you to the 2011 ADSA-ASAS Joint Meeting Sponsors!

<table>
<thead>
<tr>
<th><strong>Platinum Level</strong></th>
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<tbody>
<tr>
<td>EAAP</td>
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<tr>
<td>Elanco Animal Health</td>
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<td>Pancosma</td>
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<tr>
<td>Pfizer Animal Health</td>
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<td>USDA-AFRI</td>
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<tr>
<td>Alpharma Animal Health</td>
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<tr>
<td>American Dairy Science Association</td>
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<td>American Society of Nutrition</td>
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<td>American Society of Animal Science</td>
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<tr>
<td>American Society of Animal Science Foundation</td>
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<tr>
<td>BASF Exceed Genetics</td>
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<tr>
<td>Dairy Research Institute/ Innovation Center for U.S. Dairy</td>
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<td>Diamond V</td>
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<td>West Central</td>
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<th><strong>Silver Level</strong></th>
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<tbody>
<tr>
<td>American Dairy Science Association Foundation</td>
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<td>American Registry of Professional Animal Scientists</td>
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<td>DSM Nutritional Products</td>
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<td>Genus Plc</td>
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<tr>
<td>Monsanto Company</td>
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<td>National Renderers Association</td>
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<td>Soybest</td>
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<tr>
<td>AAALAC</td>
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<tr>
<td>Asociación Argentina de Producción Animal (AAPA)</td>
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<tr>
<td>Asociación Mexicana de Producción Animal (AMPA)</td>
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<tr>
<td>APC Inc.</td>
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<tr>
<td>Archer Daniels Midland Co.</td>
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<tr>
<td>Chinese Association of Animal Science and Veterinary Medicine (CAAV)</td>
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<td>Cargill Animal Nutrition</td>
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<tr>
<td>Chemgen</td>
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<td>Evonik Degussa Corp.</td>
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<td>Hill’s Science Diet</td>
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<td>Kemin Industries</td>
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<td>Lucta</td>
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<td>Nestlé Purina</td>
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<td>Proctor and Gamble</td>
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<th><strong>Donor Level</strong></th>
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<td>Adisseo</td>
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<tr>
<td>British Society of Animal Science (BSAS)</td>
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<td>California Dairy Research Foundation</td>
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<td>Danisco Animal Nutrition</td>
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<td>Prince Agri Products Inc.</td>
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<td>VetAgro SpA</td>
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<td>Zinpro Corp.</td>
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<th><strong>Contributor Level</strong></th>
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<tr>
<td>Akey Inc.</td>
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<tr>
<td>JBS United</td>
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<tr>
<td>John’s Disease Integrated Program (JDIP)</td>
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## Schedule of Events

*Scheduling and locations are subject to change without notice.*

**Saturday, July 9**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>7:00 am – 8:00 am</td>
<td>ASAS Membership Committee Meeting</td>
<td>Sheraton New Orleans, Ellendale</td>
</tr>
<tr>
<td>7:30 am – 5:00 pm</td>
<td>ADSA Board of Directors Meeting</td>
<td>Marriott New Orleans, Galerie 1</td>
</tr>
<tr>
<td>8:00 am – 9:00 am</td>
<td>ASAS New Board Orientation</td>
<td>Sheraton New Orleans, Crescent</td>
</tr>
<tr>
<td>8:00 am – 5:00 pm</td>
<td>American Society for Nutrition (ASN), ASAS, and ADSA preconference symposium</td>
<td>Convention Center, 288-289</td>
</tr>
<tr>
<td>9:30 am – 5:30 pm</td>
<td>ASAS Board of Directors Meeting</td>
<td>Sheraton New Orleans, Borgne</td>
</tr>
<tr>
<td>1:30 pm – 5:15 pm</td>
<td>ADSA-SAD Student Tour: Honey Island Swamp Tour</td>
<td>Meet in Westin Lobby</td>
</tr>
<tr>
<td>3:00 pm – 5:00 pm</td>
<td>Registration open (preregistered, badge and material pick-up only)</td>
<td>Convention Center, Lobby I2</td>
</tr>
<tr>
<td>6:00 pm</td>
<td>ARPAS Executive Committee Meeting and Dinner</td>
<td>Location TBD</td>
</tr>
<tr>
<td>7:00 pm</td>
<td>ADSA-SAD Student Informal Mixer: French Quarter Walking Tour/Dinner</td>
<td>Meet in Westin Lobby</td>
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**Sunday, July 10**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:00 am – 7:00 pm</td>
<td>Registration open</td>
<td>Convention Center, Lobby I2</td>
</tr>
<tr>
<td>7:30 am – 10:00 am</td>
<td>ADSA New Board Orientation</td>
<td>Marriott New Orleans, Galerie 4</td>
</tr>
<tr>
<td>8:00 am – 12:30 pm</td>
<td>ASAS Board of Directors Meeting</td>
<td>Convention Center, 275</td>
</tr>
<tr>
<td>8:00 am – 5:00 pm</td>
<td>ARPAS Governing Council Meeting</td>
<td>Marriott New Orleans, Galerie 2</td>
</tr>
<tr>
<td>8:30 am – 5:00 pm</td>
<td>Triennial Lactation Symposium/BOLFA</td>
<td>Convention Center, 286-287</td>
</tr>
<tr>
<td>10:00 am – 11:00 am</td>
<td>ADSA-SAD Officers and Advisor Meeting</td>
<td>Convention Center, 398</td>
</tr>
<tr>
<td>10:00 am – 6:00 pm</td>
<td>Exhibit Set Up</td>
<td>Convention Center, Exhibit Hall I2J</td>
</tr>
<tr>
<td>10:00 am – 6:00 pm</td>
<td>Student Dairy Clubs Exhibit Set Up</td>
<td>Convention Center, Exhibit Hall I2J</td>
</tr>
<tr>
<td>11:00 am – 12:00 pm</td>
<td>ADSA-SAD Quiz Bowl Officials Meeting</td>
<td>Convention Center, 399</td>
</tr>
<tr>
<td>11:30 am – 12:00 pm</td>
<td>ADSA-SAD Quiz Bowl Seating Test</td>
<td>Convention Center, 394</td>
</tr>
<tr>
<td>11:30 am – 12:30 pm</td>
<td>Open Meeting: Becoming an ADSA Volunteer Leader</td>
<td>Marriott New Orleans, Galerie 6</td>
</tr>
<tr>
<td>12:00 pm – 1:00 pm</td>
<td>ADSA-SAD Student Midday Mixer</td>
<td>Convention Center, 395-396</td>
</tr>
<tr>
<td>12:00 pm – 1:00 pm</td>
<td>ADSA JDS Editors and Journal Management Committee Luncheon</td>
<td>Marriott New Orleans, Galerie 5</td>
</tr>
<tr>
<td>12:00 pm – 5:00 pm</td>
<td>Hospitality Lounge</td>
<td>Convention Center, 285</td>
</tr>
<tr>
<td>1:00 pm – 3:00 pm</td>
<td>2011 and 2012 Program Committee Meeting</td>
<td>Convention Center, 296</td>
</tr>
<tr>
<td>1:00 pm – 5:00 pm</td>
<td>ADSA Journal Management Committee Meeting</td>
<td>Marriott New Orleans, Galerie 5</td>
</tr>
<tr>
<td>1:00 pm – 5:00 pm</td>
<td>ADSA-SAD Quiz Bowl Seating/Preliminary Rounds</td>
<td>Convention Center, 397 and 399</td>
</tr>
<tr>
<td>1:00 pm – 6:00 pm</td>
<td>Johne's Disease Integrated Program (JDIP) Meeting</td>
<td>Marriott New Orleans, Studio 1-3</td>
</tr>
<tr>
<td>2:00 pm – 3:00 pm</td>
<td>ADSA Production Division Council Meeting</td>
<td>Convention Center, 295</td>
</tr>
<tr>
<td>2:00 pm – 4:00 pm</td>
<td>ADSA Foundation Board of Trustees Meeting</td>
<td>Marriott New Orleans, Galerie 4</td>
</tr>
<tr>
<td>3:00 pm – 4:00 pm</td>
<td>ADSA Production Division Nominating Committee</td>
<td>Convention Center, 295</td>
</tr>
<tr>
<td>3:00 pm – 5:00 pm</td>
<td>Late-Breaking Original Research Session</td>
<td>Convention Center, 288-289</td>
</tr>
<tr>
<td>4:30 pm – 6:30 pm</td>
<td>Graduate Student Grant Writing Workshop</td>
<td>Convention Center, 386-387</td>
</tr>
<tr>
<td>5:00 pm – 6:00 pm</td>
<td>ADSA Dairy Foods Division Council Meeting</td>
<td>Convention Center, 275</td>
</tr>
<tr>
<td>5:30 pm – 6:00 pm</td>
<td>ADSA-SAD Quiz Bowl Final Round</td>
<td>Convention Center, 397</td>
</tr>
<tr>
<td>7:00 pm – 8:15 pm</td>
<td>ADSA-ASAS Opening Session</td>
<td>Convention Center, Conference Auditorium</td>
</tr>
<tr>
<td>8:15 pm – 10:00 pm</td>
<td>ADSA-ASAS Opening Reception</td>
<td>Convention Center, La Nouvelle Orleans</td>
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</table>
Monday, July 11

6:30 am – 8:00 am  ADSA Dairy Specialists/Dairy-Related Participants Breakfast  Marriott New Orleans, Galerie 1
6:30 am – 5:15 pm  Registration open  Convention Center, Lobby I2
7:00 am – 9:00 am  Animal Frontiers Board Meeting  Sheraton New Orleans, Ellendale
7:30 am – 8:30 am  ADSA-SAD Exhibit Set-Up  Convention Center, Exhibit Hall I2J
7:30 am – 9:30 am  Poster Presentations  Convention Center, Exhibit Hall I2J
8:00 am – 5:00 pm  Commercial Exhibits and ADSA-SAD Exhibits open  Convention Center, Exhibit Hall I2J
8:00 am – 5:00 pm  Job Resource Center  Convention Center, Exhibit Hall I2J
8:00 am – 5:00 pm  Hospitality Lounge open  Convention Center, 285
8:30 am – 9:15 am  ADSA-SAD Business Meeting  Convention Center, 397
9:00 am – 10:00 am  Discover Conference Steering Committee Meeting  Convention Center, 275
9:30 am – 10:30 am  ADSA-SAD Judging of Yearbooks, Scrapbooks, Annual Reports  Convention Center, 394
9:30 am – 10:30 am  ADSA-SAD Interviews for Outstanding Student and Advisor Awards  Convention Center, 398
9:30 am – 11:30 am  ASAS Publications Meeting  Sheraton New Orleans, Ellendale
9:30 am – 5:00 pm  Scientific Sessions  Convention Center
10:30 am – 12:30 pm  ARPAS Exam  Convention Center, 274
11:00 am – 5:00 pm  ADSA-SAD Undergraduate Paper Presentations  Convention Center, 397 and 399
12:30 pm – 1:30 pm  ASAS Graduate Student Open Forum  Convention Center, 388
12:30 pm – 2:00 pm  ASAS Past Presidents’ Luncheon  Convention Center, 394
12:30 pm – 2:00 pm  Michigan State University Luncheon  Marriott New Orleans, Galerie 1
12:30 pm – 2:00 pm  American College of Animal Sciences (ACAS) Annual Meeting  Convention Center, 278-279
3:30 pm – 5:00 pm  ADSA Graduate Student Division Business Meeting  Convention Center, 397
4:00 pm – 6:00 pm  Exhibitor Reception  Convention Center, Exhibit Hall I2J
5:00 pm – 6:00 pm  USDA-ARS Staff Update Session  Marriott New Orleans, Galerie 1-2
5:00 pm – 7:00 pm  Formal Calf Gathering  Sheraton New Orleans, Napoleon ABC
5:30 pm – 7:00 pm  ASAS Award Winners Dinner and Photo Session  Sheraton New Orleans, Napoleon ABC
7:00 pm – 8:30 pm  ASAS Awards Program  Sheraton New Orleans, Borgne
8:00 pm – 11:00 pm  Iowa State University Reception  Location TBD
8:30 pm – 9:30 pm  ADSA Graduate Student Mixer  Westin, Crescent Ballroom, 11th floor
9:00 pm  ADSA-SAD Student Informal Mixer: Dance

Tuesday, July 12

6:30 am – 8:00 am  Penn State Breakfast  Sheraton New Orleans, Borgne
6:30 am – 8:00 am  University of Illinois Breakfast  Sheraton New Orleans, Maurepas
6:30 am – 8:00 am  Kentucky Breakfast  Sheraton New Orleans, Napoleon D12
6:30 am – 8:00 am  JDS Editorial Board Breakfast/Meeting  Marriott New Orleans, Galerie 1
7:00 am – 5:15 pm  Registration open  Convention Center, Lobby I2
7:30 am – 9:30 am  Poster Presentations  Convention Center, Exhibit Hall I2J
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8:00 am – 5:00 pm  Job Resource Center  Convention Center, Exhibit Hall I2J
8:00 am – 5:00 pm  Hospitality Lounge open  Convention Center, 285
8:30 am – 9:30 am  ADSA-SAD Business Meeting–Elec. of Officers  Convention Center, 397
9:15 am – 11:00 am  ADSA Grad Student Career Development Workshop  Convention Center, 392
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9:30 am – 12:30 pm  ARPAS Symposium
9:30 am – 5:00 pm  Scientific Sessions
10:00 am – 2:30 pm  Spouse Event 1: Oak Alley Plantation Tour
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11:30 am – 12:30 pm  ADSA Dairy Foods Division Business Meeting
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12:30 pm – 2:00 pm  ASFA Foundation Heritage Luncheon
12:30 pm – 2:00 pm  ADSA DF Division Milk Proteins and Enzyme Committee
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4:30 pm – 6:00 pm  Johne’s Interest Group
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5:00 pm – 6:00 pm  FASS Update Session
5:00 pm – 6:30 pm  ADSA Award Donor Dinner
7:00 pm – 8:00 pm  ADSA Awards Program
8:15 pm – 9:30 pm  ADSA-ASAS Ice Cream Social
9:00 pm  Graduate Student Mixer, sponsored by ASAS

Wednesday, July 13

6:30 am – 8:00 am  Purdue University Breakfast
7:00 am – 5:15 pm  Registration open
7:30 am – 9:30 am  Poster Presentations
8:00 am – 2:00 pm  Commercial Exhibits Open
8:00 am – 2:00 pm  Job Resource Center
8:00 am – 5:00 pm  Hospitality Lounge Open
9:30 am – 10:30 am  ASAS Business Meeting
9:30 am – 10:30 am  ADSA Business Meeting
9:30 am – 5:00 pm  Mixed Models Workshop
10:00 pm – 12:00 pm  ARPAS Exam
10:00 am – 1:00 pm  Spouse Event 2: Katrina Rebirth and Rebuild Tour
10:30 am – 5:00 pm  Scientific Sessions
11:15 am – 12:30 pm  ADSA Graduate Student Career Roundtable
12:30 pm – 2:30 pm  ADSA Board of Directors Meeting
2:00 pm – 5:00 pm  Commercial Exhibits Dismantle
2:30 pm – 4:30 pm  ASAS Board of Directors Meeting
4:30 pm – 6:00 pm  Global Networking Reception (all attendees welcome)

Thursday, July 14

8:00 am – 1:00 pm  Registration open
8:00 am – 3:00 pm  Grant Writer Symposium/Workshop, sponsored by ASAS
8:00 am – 5:00 pm  Oral and Poster Presentation Workshop
8:30 am – 11:30 am  Scientific Sessions
8:30 am – 11:30 am  Mixed Models Workshop
ADSA Student Affiliate Division Program

SAD Special Events

Saturday, July 9

*SAD Student Tour: Honey Island Swamp Tour (Slidell, Louisiana)*

*Saturday, July 9*

1:30 – 5:15 pm

*Bus departs from the Westin*

The bus will depart from the Westin Hotel (student HQ), traveling 45 minutes north to Slidell, Louisiana, where we'll board a small boat for a two-hour tour of one of the only remaining preserved wetlands in Louisiana. We will share the wetlands with alligators, raccoons, owls, wild boars, nutria, snakes, turtles, black bears, bald eagles, and many other species. Price includes tour ticket and transportation.

*SAD Student Informal Mixer: French Quarter Walking Tour and Dinner*

*Saturday, July 9*

7:00 pm

*Meet in Westin Lobby*

Meet in the lobby of the Westin at 7:00 pm. We’ll walk as a group through the French Quarter and experience some authentic New Orleans cuisine.

Sunday, July 10

*SAD Midday Mixer and Lunch*

*Sunday, July 10*

12:00 – 1:00 pm

*Convention Center, 395-396*

Join your fellow dairy clubs for a fun hour of getting reacquainted and making new friends. Lunch included. Registration is limited to undergraduate students and advisors.

*SAD-Dairy Quiz Bowl Final Round*

*Sunday, July 10*

5:30 – 6:00 pm

*Convention Center, 397*

On Sunday, university teams from across the US will compete in the ADSA Dairy Quiz Bowl. The event gives schools an opportunity to demonstrate their knowledge about dairy production, processing, and ADSA history. The SAD invites you to join them for the excitement of the final round of competition as the top two schools go head-to-head for the title of 2011 Dairy Quiz Bowl Winning Team.

Monday, July 11

*SAD Student Dance*

*Monday, July 11*

9:00 pm

*Westin Hotel, Crescent Ballroom, 11th floor*

Celebrate a great week at JAM and rock the night away with old and new friends. Good music, good dancing, good friends—it doesn’t get any better than this! Cash bar and snacks will be available. Don't miss this one—it's always the highlight of the meeting!
Tuesday, July 12

**SAD Career Roundtable**  
Tuesday, July 12  
9:30 – 11:00 am  
**Convention Center, 394**

Students will have the opportunity to visit with industry professionals representing various facets of the animal agriculture industry. They will learn about careers in the industry, get useful tips on planning their careers, and much more. Students are encouraged to dress professionally (business casual or better) and bring several copies of their CVs. Students should also plan time to visit industry reps in the exhibit hall for information about internships and job opportunities.

**SAD Awards Luncheon**  
Tuesday, July 12  
11:45 am – 2:00 pm  
**Convention Center, 395-396**

Plan to attend this year’s SAD awards luncheon. The afternoon will be capped with presentation of student awards and announcement of new SAD officers. Both students and professionals are encouraged to attend. This is a wonderful chance to get to know the next generation of the dairy industry.

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**SAD Schedule of Events**  
*Scheduling and location are subject to change without notice.*  
*Please check the onsite newsletter each morning for changes.*

### Saturday, July 9

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<td>ADSA-SAD Student Tour: Honey Island Swamp Tour</td>
<td>Meet in Westin Lobby</td>
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<tr>
<td>3:00 pm – 5:00 pm</td>
<td>Registration Open (preregistered, badge and material pick-up only)</td>
<td>Convention Center, Lobby I2</td>
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<tr>
<td>7:00 pm</td>
<td>Student Informal Gathering: French Quarter Walking Tour/Dinner</td>
<td>Meet in Westin Lobby</td>
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### Sunday, July 10

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<td>Registration Open</td>
<td>Convention Center, Lobby I2</td>
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<td>Student Dairy Clubs Exhibits Setup</td>
<td>Convention Center, Exhibit Hall I2J</td>
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<tr>
<td>10:00 am – 11:00 am</td>
<td>SAD Officers and Advisor Meeting</td>
<td>Convention Center, 398</td>
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<tr>
<td>11:00 am – 12:00 pm</td>
<td>Dairy Quiz Bowl Officials Meeting</td>
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<tr>
<td>1:00 pm – 5:00 pm</td>
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<tr>
<td>5:30 pm – 6:00 pm</td>
<td>Dairy Quiz Bowl Final Round</td>
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<tr>
<td>7:00 pm</td>
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<td>Convention Center, Conference Auditorium</td>
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### Monday, July 11

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<tr>
<td>7:00 am - 8:15 am</td>
<td>Student Dairy Clubs Exhibits Setup</td>
<td>Convention Center, Exhibit Hall I2J</td>
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<tr>
<td>7:30 am – 9:30 am</td>
<td>Poster Presentations</td>
<td>Convention Center, Exhibit Hall I2J</td>
</tr>
<tr>
<td>8:00 am – 5:00 pm</td>
<td>Commercial Exhibits and ADSA-SAD Exhibits Open</td>
<td>Convention Center, Exhibit Hall I2J</td>
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<tr>
<td>8:30 am – 9:15 am</td>
<td>SAD Business Meeting</td>
<td>Convention Center, 397</td>
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<td>9:30 am – 10:30 am</td>
<td>SAD Judging of Yearbooks, Scrapbooks and Annual Reports</td>
<td>Convention Center, 394</td>
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<td>Interviews for Outstanding Student and Advisor Awards</td>
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<td>Scientific Sessions</td>
<td>Convention Center</td>
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<tr>
<td>11:00 am – 5:00 pm</td>
<td>SAD Undergraduate Paper Presentations</td>
<td>Convention Center, 397 and 399</td>
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<td>Student Mixer: Dance</td>
<td>Westin, Crescent Ballroom, 11th floor</td>
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<td>Convention Center, Exhibit Hall I2J</td>
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<td>SAD Career Roundtable</td>
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<td>11:45 pm – 2:00 pm</td>
<td>SAD Awards Luncheon</td>
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<td>2:00 pm – 5:00 pm</td>
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<td>2:30 pm – 3:30 pm</td>
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<td>7:00 pm – 8:00 pm</td>
<td>ADSA Awards Ceremony</td>
<td>Marriott New Orleans, Acadia</td>
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<td>Marriott New Orleans, Bissonet/Carondelet</td>
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ADSA Dairy Foods Division Schedule of Events

All rooms are at the Convention Center, unless otherwise noted.
Scheduling and location are subject to change without notice. Please check the onsite newsletter each morning for changes.

Sunday, July 10

5:00 pm – 6:00 pm ADSA Dairy Foods Division Council Meeting, 275

Monday, July 11

7:30 am – 9:30 am Posters: Dairy Foods: Chemistry, processing, and analysis, Exhibit Hall I2J
7:30 am – 9:30 am Posters: Graduate Student Competition: ADSA Dairy Foods Poster Competition, Exhibit Hall I2J
9:30 am – 12:00 pm Graduate Student Competition: ADSA Dairy Foods Oral Competition, 295
11:00 am – 12:30 pm ADSA-SAD Dairy Foods Undergraduate Competition, 397
2:00 pm – 4:00 pm Dairy Foods: Filtration and drying, 295
2:00 pm – 4:40 pm Symposium: Dairy Foods: Technological advancements in the reduction of pathogens and spoilage organisms in milk, 296

Tuesday, July 12

7:30 am – 9:30 am Posters: Dairy Foods: Milk protein and enzymes, Exhibit Hall I2J
7:30 am – 9:30 am Posters: Dairy Foods: Microbiology, Exhibit Hall I2J
9:30 am – 10:30 am Danisco International Dairy Science Award Lecture, 397
9:30 am – 12:30 pm Symposium: Milk Protein and Enzymes: Milk proteins and peptides: Bioactivity and digestion, 295
10:30 am – 11:30 am ADSA Foundation Scholar Lecture – Dairy Foods, 397
11:30 am – 12:30 pm ADSA Dairy Foods Division Business Meeting, 397
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12:30 pm – 2:00 pm ADSA DF Division Milk Proteins and Enzyme Committee, 399
2:00 pm – 3:00 pm ADSA Foundation Scholar Lecture – Production, 397
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7:30 am – 9:30 am Posters: Dairy Foods: Products, Exhibit Hall I2J
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3:00 pm – 5:00 pm ADSA Production Division Symposium: Current and future determinants of dairy product pricing, 298-299

Thursday, July 14

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Scheduling and locations are subject to change without notice.
Please check the onsite newsletter each morning for changes.

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Saturday, July 9

PRECONFERENCE SYMPOSIUM

ASN-ASAS-ADSA Preconference:
Agri-Medical Research: Providing Dual Benefit for Agriculture and Human Health


7:00 – 10:00 AM
Registration open; badge and bag pick-up; poster check-in (posters up all day).

8:00 AM
Welcome and introduction.
Matthew Waldron, University of Missouri.

8:10 AM
Impact of metabolism on human health, companion animal health and farm health and production.
James Ntambi, University of Wisconsin-Madison.

Development of models of obesity and metabolic syndrome.
Michael Spurlock, Iowa State University.

Integration of molecular biology, cell culture approaches, and whole-organism physiology in lipid metabolism research.
Sean Adams, University of California-Davis, WHNRC.

Panel discussion

10:15 AM
Impact of developmental environment on the risk of chronic disease.
Graham Burdge, University of Southampton, UK.

Fetal origins of adult disease.
Stephen Ford, Department of Animal Science, University of Wyoming.

Gestational nutrition and placental effects on health and productivity.
Lawrence Reynolds, North Dakota State University.

Panel discussion

12:15 PM
Lunch (on your own) and poster viewing

1:50 PM
Microbial endocrinology—Interactions of nutrition, host physiology, and microbes that impact infectious disease.
Mark Lyte, Texas Tech University Health Sciences Center.

Interventions to reduce pathogens in swine and cattle.
Todd Callaway, USDA-Texas A&M University.

Etiology of inflammatory bowel and liver diseases in small animals and humans.
Kenneth Simpson, Cornell University.

Panel discussion

3:55 PM
Nutritional impact of inflammation and infection.
Charles Dinarello, University of Colorado, Denver.

The cost of immune protection—Nutritional accounting and production efficiency.
Kirk Klasing, University of California-Davis.

Sculpting the optimal immune response.
Mark Cook, University of Wisconsin-Madison.

Panel discussion

6:00 – 7:30 PM
Awards and cocktail reception.
Sunday, July 10

SYMPOSIA AND ORAL SESSIONS

Triennial Lactation Symposium
Lactation Biology Training for the Next Generation – A Tribute to Dr. H. Allen Tucker
Chair: Geoff Dahl, University of Florida
Sponsors: ASAS Foundation, EAAP, Elanco Animal Health

286-287

8:30 AM

Introduction to the symposium and a history of Dr. Tucker’s trainees.


9:00 AM

Bovine mammary epithelial cell lineages and parenchymal development.

S. Ellis*, R. M. Akers*, A. V. Capuco1, and S. Safayi2, 1Clemson University, Clemson, SC, 2Virginia Polytechnic Institute, Blacksburg, VA, 3USDA-ARS, Beltsville Agricultural Research Center, Beltsville, MD.

9:45 AM

Break

10:00 AM

Prolactin—The multi-faceted potentiator of mammary growth and function.


10:45 AM

The lactocrine hypothesis: Programming reproductive tract development.

F. F. Bartol*, J. C. Chen1, D. J. Miller2, A.-L. Frankshun2, A. A. Wiley1, A. J. Silva1, M. E. Camp1, K. M. Ferio2, and C. A. Bagnell2, 1Auburn University, Auburn, AL, 2Rutgers University, New Brunswick, NJ.

11:30 AM

Lunch Break

1:00 PM

Opportunities for improving milk production efficiency in dairy cattle.

E. E. Connor*, J. L. Hutchison1, K. M. Olson2, and H. D. Norman2, USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD, 2USDA-ARS, Animal Improvement Programs Laboratory, Beltsville, MD.

1:45 PM

Lactational imprinting: The mechanism underlying the mammary response to changes in milking frequency?

E. H. Wall*, J. P. Bond2, and T. B. McFadden3, 1Department of Animal Science, University of Vermont, Burlington, 2Vermont Genetics Network Bioinformatics Core, University of Vermont, Burlington, 3Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.

2:30 PM

Break

3:00 PM

Mammary metabolism of amino acids in dairy cows.

H. Lapierre*, L. Doepel2, G. Raggio3, and S. Lemosquet4, 1Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 2University of Calgary, Calgary, AB, Canada, 3College Alfred, Guelph University, Guelph, ON, Canada, 4UMR1080 Dairy Production, INRA, Saint-Gilles, France.

3:45 PM

Stress effects on postpartum reproduction in dairy cows.

M. A. Crowe* and E. J. Williams, Veterinary Sciences Centre, University College Dublin, School of Agriculture, Food Science and Veterinary Medicine, Belfield, Dublin 4, Ireland.

4:30 PM

Panel Discussion

OTHER EVENTS

Late-Breaking Abstracts

288-289

3:00 to 5:00 PM

Opening Session

Convention Center, Conference Auditorium

7:00 to 8:15 PM

Opening Reception

Convention Center, La Nouvelle Orleans

8:15 to 10:00 PM
Monday, July 11

POSTER PRESENTATIONS

Animal Behavior and Well-Being


M2 Animal welfare assessment of intensive dairy farms from central zone of Chile under confinement with different housing systems. M. J. Castro, C. Kobrich, and M. S. Morales*, Departamento Fomento de la Produccion Animal, Facultad de Ciencias Veterinarias y Pecuarias, Universidad de Chile, Santiago, RM, Chile.


M5 Diurnal grazing behavior of cattle fed a concentrate supplement during the dry-rainy transition season in tropical conditions. H. J. Fernandes*, V. Siqueira, L. O. Tedeschi, G. C. Coelho, L. M. Paiva, C. Guaraldo, and J. C. Souza, State University of Mato Grosso do Sul, Aquidauana, MS, Brazil, Texas A&M University, College Station, Federal University of Mato Grosso do Sul, Aquidauana, MS, Brazil.

M6 Competition and feed restriction affect feeding and competitive behavior of group-housed dairy cows. L. K. M. Collings*, D. M. Weary, N. Chapinal, and M. A. G. von Keyserlingk*, University of British Columbia, Vancouver, BC, University of Guelph, Guelph, ON, Canada.

M7 Effect of residual feed intake in reactivity of Nellore heifers. T. L. Sobrinho, T. L. Egawa, R. H. Branco, E. Magnani, S. F. M. Bonilha, and M. E. Z. Mercadante, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, São Paulo, Brazil, Instituto de Zootecnia, Sertãozinho, São Paulo, Brazil.


M9 Intake and feeding behavior in growing heifers fed a high concentrate diet and offered a total mixed ration or dietary components separately. S. P. Iaira, M. Rodriguez-Prado, X. Manteca, J. L. Ruiz de la Torre, S. Calsamiglia, and A. Ferret, Universitat Autònoma Barcelona, Bellaterra, Barcelona, Spain.

M10 Validation and cross-prediction of a single or dual accelerometers for the prediction of grazing, standing/walking, and lying behavior of beef cattle using linear discriminant analysis. M. S. Gadberry, W. Whitworth, G. Montgomery, and K. Simon, University of Arkansas, Cooperative Extension Service, Little Rock, University of Arkansas, Southeast Research and Extension Center, Monticello.


M13 Effects of alternative housing and feeding systems on the performance of dairy heifer calves. J. A. Pempek, M. L. Eastridge, N. A. Botheras, C. C. Cronen, and W. S. Bowen, The Ohio State University, Columbus.


M16  Relationship between temperament, blood flow and area in the external jugular vein, and body temperature in crossbred beef calves.
H. L. Sanchez-Rodriguez*, R. C. Vann, E. Baravik-Munsell, S. T. Willard, and P. L. Ryan, Mississippi State University, Mississippi State, MS.

M17  Pre-separation behavior of calves being weaned by different methods.
H. T. Boland*1,2, S. T. Willard3, K. Umemura4, G. Scaglia5, J. A. Parish6, and T. F. Best1, Mississippi State University, Prairie Research Unit, Prairie, 1Mississippi State University, Department of Biochemistry and Molecular Biology, Mississippi State, 2National Agricultural Research Center for Hokkaido Region, Toyohira, Sapporo, Japan, 3Louisiana State University Agricultural Center, Iberia Research Station, Jeanerette, 4Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State.

M18  Predictors of body thermal status in heat-tolerant and -sensitive Bos taurus cattle exposed to different temperature loads under controlled conditions.

M19  Sexual behavior of Nellore cattle in the Pantanal.
J. C. DeSouza*1, U. J. P. Abreu1, J. R. B. Sereno1, C. H. M. Malhado4, J. A. Freitas5, P. B. Ferraz Filho6, H. J. Fernandes1, R. L. Weaber5, and W. R. Lamberson6, 1Mato Grosso do Sul Federal University – UFMG/Animal Science, Aquidauana, Brazil, 2Empresa Brasileira de Pesquisa Agropecuária - CPAP-EMBRAPA, Corumbá, Brazil, 3Empresa Brasileira de Pesquisa Agropecuária - CPAC - EMBRAPA, Brasília, DF, Brazil, 4South of Bahia State University - UESB, Bahia, Brazil, 5Parana Federal University - UFPR, Palotina, Brazil, 6Mato Grosso do Sul Federal University - UFMS, Tres Lagoas, Brazil, 7State University of Mato Grosso do Sul, Aquidauana, Brazil, 8Animal Sciences, University of Missouri, Columbia.

M20  Behavioral reactivity to psychosocial stress determines the effects of lavender oil on anxiety in sheep.
P. Hawken1, C. Fiol2, and D. B. Blache1, 1UWA Institute of Agriculture (Animal Production), The University of Western Australia, Perth, Western Australia, Australia, 2Departamento de Bosvinos, Facultad de Veterinaria, Universidad de la República, Montevideo, Uruguay.

M21  Characteristics and welfare of horses used for transportation in northeast Ohio.
K. Bennett-Wimbush*, M. Amstutz, and D. Willoughby, Ohio State University Agricultural Technical Institute, Wooster.

M22  Female mate choice in the domesticated goat (Capra hircus).
K. M. Longpre* and L. S. Katz, Rutgers University, New Brunswick, NJ.

M23  Effects of spray-dried porcine plasma (SDPP) administered as an oral gavage on indicators of health, welfare, and performance in pigs transported after weaning.
L. M. Wittsh* and M. J. Estienne, Virginia Polytechnic Institute and State University, Blacksburg.

M24  Castration is no laughing matter, nitrous oxide can’t even help.
J. L. Rault*1 and D. C. Lay2, 1Department of Animal Sciences, Purdue University, West Lafayette, IN, 2USDA-ARS-Livestock Behavior Research Unit, West Lafayette, IN.

M25  The effect of using carbon dioxide gas and/or a NSAID to reduce the pain associated with castration in pigs.
B. L. Davis*1 and M. A. Sutherland1, 1Texas Tech University, Lubbock, 2Ruakura Research Centre, AgResearch, Hamilton, New Zealand.

M26  The effects of group size on aggression when mixing unacquainted sows in outdoor paddocks.
J. N. Marchant-Forde*1, J. P. Garner1, A. K. Johnson1, R. M. Marchant-Forde2, and D. C. Lay1, 1USDA-ARS, West Lafayette, IN, 2Purdue University, West Lafayette, IN, 3Iowa State University, Ames.

M27  Association of sow fear with prolactin and cortisol concentrations pre- and post-farrowing.
C. E. Phillips*1, Y. Z. Li1, L. J. Johnston1, G. C. Shurson1, J. Deen1, and C. Farmer1, 1University of Minnesota, St. Paul, 2West Central Research and Outreach Center, Morris, MN, 3University of Minnesota-Morris, Morris, 4College of Veterinary Medicine, St. Paul, MN, 5Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre, Sherbrooke, Quebec, Canada.

Animal Health I
Sponsor: Elanco Animal Health

M28  Molecular basis of virulence in Staphylococcus aureus ovine mastitis.
C. Le Maréchal1, N. Seyffert1, J. Jardin1, D. Hernandez2, G. Jan3, V. Azevedo4, P. François5, J. Schrenzel1, S. Even1, N. Berkova1, R. Thiéry1, J. R. Fitzgerald6, S. Lortal1,2, and Y. Le Loir3,4, INRA STLO, Rennes, France, 5AGROCAMPUS OUEST STLO, Rennes, France, 6ANSES, Sophia-Antipolis, France, 7ICB/UFMG, Belo Horizonte, MG, Brazil, 8University of Geneva Hospitals (HUG), Geneva, Switzerland, 9University of Edinburgh, Edinburgh, Scotland, United Kingdom.

M29  Serological proteome analysis of Staphylococcus aureus strains isolated from gangrenous and subclinical ewe mastitis reveals core and accessory seroproteomes.
C. Le Maréchal1, J. Jardin1,2, G. Jan1,2, S. Even1,2, D. Hernandez3, P. François4, J. Schrenzel4, D. Demon5, E. Meyer5, N. Berkova1, R. Thiéry1, E. Vautrot1, S. Lortal1,2, and Y. Le Loir3,4, INRA STLO, Rennes, France, 5AGROCAMPUS OUEST STLO, Rennes, France, 6ANSES, Sophia-Antipolis, France, 8University of Geneva Hospitals (HUG), Geneva, Switzerland, 9Ghent University, Faculty of Veterinary Medicine, Merelbeke, Belgium.
Changes of plasma fatty acid and metabolites during the transition period in dairy cows with or without subclinical mastitis after calving.
Y. Yang1, J. Wang2, S. Li, D. Bu, T. Yuan, L. Zhou, and P. Sun, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2Institute of Animal Science and Veterinary Medicine, Anhui Academy of Agricultural Sciences, Hefei, China.

M41

iTRAQ quantitative analysis of changes of serum protein from the cows in the periparturient period.
S. S. Li, J. Q. Wang, H. Y. Wei, Y. X. Yang, D. P. Bu, T. J. Yuan, and P. Sun, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.

M42

Prevalence, transmission and impact of bovine leukosis in Michigan dairies.
T. M. Byrum, J. T. Houseman, R. J. Erskine, P. C. Bartlett, C. Render, C. Febvay, D. H. Norman, and J. R. Wright, Antel BioSystems Inc., Lansing, MI, Michigan State University, College of Veterinary Medicine, East Lansing, Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.

M43

Relationship between test-day somatic cell count with test-day milk yields in Iranian Holstein cows.
A. Laki, S. Babai, and M. Dehghan-Banadaky, Department of Animal Sci., Campus of Agriculture and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

M44

Effects of drying the udder using paper versus cloth towels on bacterial contamination of teat ends of lactating dairy cattle.
C. N. Baloun, S. I. Kehoe, and L. E. Baumann, University of Wisconsin-River Falls, River Falls.

M45

Metabolic and clinical responses of dairy cows to increasing oral doses of lipoteichoic acid.
S. Iqbal, Q. Zebeli, D. A. Mansmann, S. M. Dunn, and B. N. Ametaj, University of Alberta, Edmonton, AB, Canada.

M46

Repealed oronasal application of lipopolysaccharide affected milk yield and composition in transition dairy cows.

M47

Mortality patterns in Midwest DHIA herds.

M48

Cost analysis of feeding varying doses of Saccharomyces cerevisiae fermentation product on a commercial dairy.
C. M. Shriver-Munsch, E. M. Ramsing, J. R. Males, W. K. Sanchez, I. Yoon, and G. Bobe, Department of Animal Science, Oregon State University, Corvallis, Diamond V, Cedar Rapids, IA.

M49

The effect of feeding pasteurized or non-pasteurized waste milk on fecal populations and prevalence of Salmonella in dairy calves.
J. A. Garcia, T. S. Edrington, G. R. Hagevoort, R. F. Farrow, T. R. Callaway, N. A. Krueger, R. C. Anderson, and D. J. Nisbet, NMSU Ag Science Center, Clovis, NM, Food and Feed Safety Research Unit, Southern Plains Agricultural Research Center, USDA-ARS, College Station, TX.

M50

Effect of paste or wrap oxytetracycline treatment on papillomatous digital dermatitis.

M51

Association between virulence factors of Escherichia coli, Fusobacterium necrophorum, and Arcanobacterium pyogenes and uterine diseases of dairy cows.
M. Bicalho, R. Bicalho, and V. Machado, Cornell University, Ithaca, NY.

M52

Repeated oronasal application of lipopolysaccharide lowered the incidence of metabolic diseases in periparturient dairy cows.

M53

Peripartal intravaginal application of probiotic bacteria lowered the incidence of uterine infections and improved fertility in dairy cows.

M54

Partitioning innate immune response variation: How much variation is due to the animal?
M. D. Sellers, L. E. Hultbert, C. J. Cobb, and M. A. Ballou, Department of Animal and Food Sciences, Texas Tech University, Lubbock, Department of Animal Sciences, University of California-Davis, Davis.

M55

Effect of various dosages of Saccharomyces cerevisiae fermentation product on health and metabolism of multiparous dairy cows.
C. M. Shriver-Munsch, E. M. Ramsing, J. R. Males, W. K. Sanchez, I. Yoon, and G. Bobe, Department of Animal Science, Oregon State University, Corvallis, Diamond V, Cedar Rapids, IA.

M56

Influence of starch sources in prepartum diet oncolostrum quality and blood immunoglobulin concentration of calves.
F. Fatahni, H. Mirzaei Almamou*t, and A. Shahsavar, Department of Animal Science, University of Ilam, Iran, Department of Animal Science, University of Zanjan, Iran.
Animal Health

Johne’s Disease

M47 Development of a lab-on-a-chip immunoassay system for diagnosis of Johne’s disease.
A. Wadhwa*, K. Yang1, X. Liu1, J. Bannantine1, S. Eda1, and J. Wu1, 1University of Tennessee Knoxville, Knoxville, 2United States Department of Agriculture, Ames, IA.

M48 Immune activation after immunization of neonatal calves with a commercial heat-killed vaccine.
J. R. Stabel*, W. R. Waters1, J. P. Bannantine1, and K. Lyashchenko2, 1USDA-ARS-National Animal Disease Center, Ames, IA, 2Chembio Diagnostic Systems, Medford, NY.

M49 Phenotype array analysis of Mycobacterium avium ssp. paratuberculosis K10 phoP mutant and wild-type.

M50 Characterization of monoclonal antibodies specific for molecules uniquely expressed on bovine dendritic cells.
G. S. Abdellrazeq*, S. Tomida2, and W. C. Davis1, 1Alexandria University, Edfina, Behara Province, Egypt, 2Washington State University, Pullman.

M51 Identification of Mycobacterium avium ssp. paratuberculosis genotypes on Alberta dairy farms with high-resolution melt analysis of multiallelic short sequence repeats.
J. David, R. Mortier, H. Barkema, and J. De Buck*, Dept. of Production Animal Health, Fac. Veterinary Medicine, Calgary, Alberta, Canada.

M52 Complete genome sequence of a Mycobacterium avium subspecies paratuberculosis Isolate from a patient with Crohn’s disease.
L. Li*, J. P. Bannantine1, S. Sreevatsan1, and V. Kapur1, 1Penn State University, University Park, 2National Animal Disease Center USDA-ARS, Ames, IA, 3University of Minnesota, St. Paul.

M53 Salmonella delivery system to develop an efficient vaccine against Mycobacterium avium ssp. paratuberculosis.

M54 Exploring M. paratuberculosis pathogenesis using an in vitro cell culture passage model.
J. L. Everman* and L. E. Bermudez2, 1Department of Microbiology, College of Science, Oregon State University, Corvallis, 2Department of Biomedical Science, College of Veterinary Medicine, Oregon State University, Corvallis.

Beef Species

Beef Cattle Production

M55 Effects of Saccharomyces cerevisiae fermentation product on ruminal VFA production when supplemented to various beef feedlot diets.
I. Yoon*, C. Belknap, J. Butler, J. Lin, A. Brainard, and T. Werner, Diamond V, Cedar Rapids, IA.

M56 Body components on finishing crossbred beef heifers of different residual feed intake groups.
S. F. Reis*, P. V. P. Paulino1, S. R. Medeiros1, G. L. D. Feijão2, R. A. A. Torres Júnior2, D. A. Fausto3, M. A. Rezende1, and S. C. Valadares Filho1, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Embrapa Gado de Corte, Campo Grande, Mato Grosso do Sul, Brazil, 3Universidade de São Paulo, Piracicaba, São Paulo, Brazil.

M57 Finishing steers and bulls with high-vitamin E diets: Effect on circulating immune cells and creatine kinase at time of slaughter.
C. Reyes, C. Fuentes, and R. E. Larraín*, Pontificia Universidad Catolica de Chile, Santiago, Chile.

M58 Vitamin D3 effect on metabolite levels in plasma and longissimus muscle of steers fed zilpaterol hydrochloride.
K. T. Korn*, M. C. Claeyss, R. P. Lemenager, and J. P. Schoonmaker, Purdue University, West Lafayette, IN.

M59 Early metabolic imprinting events increase marbling scores in fed cattle.
M. A. McCann*, J. M. Scheffler1, S. P. Greiner1, M. D. Hanigan2, G. A. Bridges3, S. L. Lake4, J. M. Stevenson1, H. Jiang1, T. L. Scheffler1, and D. E. Gerrard1, 1Dept. of Animal and Poultry Sciences, Virginia Polytechnic Institute and State University, Blacksburg, 2Dept. of Dairy Science, Virginia Polytechnic Institute and State University, Blacksburg, 3University of Minnesota, North Central ROC, Grand Rapids, 4Dept. of Animal Sciences, University of Wyoming, Laramie.
Breeding and Genetics
Dairy Cattle Breeding

M60 Differences in the production and reproduction traits of embryo transfer full siblings living under different and identical conditions.
J. Bezdicek*1, J. Riha2, Agriresearch Rapotin Ltd., Rapotin, Czech Republic, Research Institute for Cattle Breeding, Ltd., Rapotin, Czech Republic.

M61 Female fertility in a Guzerat dairy herd: Heterogeneity of variance components for calving intervals.
J. C. C. Panetto1, J. E. Val1, C. R. Marcondes4, M. G. C. D. Peixoto4, R. S. Verneque2, J. B. S. Ferraz5, and B. L. Golden6, Curso de Veterinárias, Universidade de Uberaba, Uberaba, MG, Brazil, Embrapa Gado de Leite, Juiz de Fora, MG, Brazil, Faculdade de Medicina de Ribeirão Preto - USP, Ribeirão Preto, SP, Brazil, Embrapa Pecuária Sudeste, São Carlos, SP, Brazil, Faculdade de Zootecnia e Engenharia de Alimentos - USP, Pirassununga, SP, Brazil, Dairy Science Department, California Polytechnic State University, San Luis Obispo.

M62 Detection of early pregnancy and embryonic loss in dairy cows using BioPRYN and a NEW PSPB-based ELISA.
J. R. Branen*, J. O. Giordano2, C. Passavant2, J. M. Howard1, P. M. Fricke2, and R. G. Sasser1, BioTracking LLC, Moscow, ID, University of Wisconsin, Madison.

M63 Comparison of BioPRYN and a new pregnancy-specific protein B (PSPB) enzyme-linked immunosorbbent assay (ELISA) for determination of early pregnancy status in dairy cattle.

M64 Survey of genetic selection practices on pasture-based dairy farms in the United States.
K. D. Gay*, T. D. Nennich, and M. M. Schutz, Purdue University, West Lafayette, IN.

M65 Estimating field conception rates for Holstein sires in US herds (ACE index) and conception rate correlation from the same sires used for AI after natural estrus and timed AI breedings.
A. H. Souza*, H. Rivera2, P. Crump1, and V. Cabrera1, Department of Dairy Science, University of Wisconsin, Madison, Accelerated Genetics, Baraboo, WI.

M66 Effects of dam’s dry period length on heifer development.
H. D. Norman and J. L. Hutchison*, Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD.

M67 Changes in the use of young bulls.
K. M. Olson*, J. L. Hutchison1, P. M. VanRaden1, and H. D. Norman2, National Association of Animal Breeders, Columbia, MO, Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.

M68 Body condition score comparisons of crossbred Normande-sired cows with herd mates sired by Ayrshire, Holstein, and Jersey.

M69 Use of cow culling to help meet compliance for somatic cell standards.
H. D. Norman and J. R. Wright*, Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD.

M70 The association of high and low parent average with performance for yield, somatic cell score, and productive life in individual herds.
C. D. Dechow*, H. D. Norman2, R. C. Goodling1, and J. R. Wright2, Pennsylvania State University, University Park, Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.

M71 Genetic differences between New Zealand and North American dairy cows alter milk production and gluconeogenic enzyme expression.
H. M. White1, S. S. Donkin1, M. C. Lucy2, T. M. Grala1, and J. R. Roche3, Purdue University, West Lafayette, IN, University of Missouri, Columbia, DairyNZ Ltd., Hamilton, New Zealand.

M72 Verification of factors to estimate daily milk yield from one milking of cows milked twice daily.
M. M. Schutz*1 and H. D. Norman2, Purdue University, West Lafayette, IN, USDA-ARS Animal Improvement Programs Laboratory, Beltsville, MD.

M73 Estimation of daily yield of major fatty acids from single milking.
V. Arnould1, F. Froidmont1, H. N. Nguyen1, F. Dehareng1, D. Pals1, A. Gillon1, N. Gengler1, and H. Soyeurt*, CONVIS, Herdbuch Service Élevage et génétique, Ettelbruck, Luxembourg, University of Liège, Gembloux Agro Bio-Tech, Animal Science Unit, Gembloux, Namur, Belgium, National Fund for Scientific Research, Brussels, Brussels, Belgium, Production and Sectors Department, Walloon Agricultural Research Centre, Gembloux, Namur, Belgium, Quality of Agricultural Products Department, Walloon Agricultural Research Centre, Gembloux, Namur, Belgium, Walloon Breeding Association, Ciney, Namur, Belgium.

M74 Comparison of lactation performance in a panel of genetically diverse inbred mouse strains.
D. L. Hadsell**, W. Olea1, J. Wei1, L. A. Hadsell1, and P. Williamson1, Baylor College of Medicine, Houston, TX, The University of Sydney, Sydney, NSW, Australia.
Breeding and Genetics

Poultry Breeding

M76 Genetic parameters estimates to Colombian buffalo milk yield under random regression models.
N. Hurtado-Lugo*, J. M. Sousa Júnior, M. Cerón, R. Aspilcueta, E. Acevedo, S. Gutierrez, L. Albuquerque, M. de Camargo, D. Santos, and H. Tonhati, 1 UNESCO Faculty of Agriculture and Veterinary Sciences, State University of São Paulo, Jaborandí, SP, Brazil, 2 Genetics and Animal Improvement Group, Faculty of Agriculture Sciences, University of Antioquia, Medellín, Colombia.

M77 Mathematical modeling of the lactation curve of domestic donkey (Equus asinus).
A. M. Guastella*, A. Criscione, S. Bordonaro, D. Marletta, R. Steri, and N. P. P. Macciotta, 1 Università di Catania, Catania, Italy, 2 Università di Sassari, Sassari, Italy.

M78 Genetics of immunocompetence traits in Aseel native chicken of India.
S. Choudhary*, S. Kumar, and B. Nautiyal, 1 MJP Rohilkhand University, Bareilly, U.P, India, 2 Central Avian Research Institute, Bareilly, U.P, India.

M79 Study on the diversity of Yunnan original chicken meat using NIR spectroscopy based on principal component analysis and cluster analysis.
J.-L. Wu, X. Gao*, Y.-Z. Li, Y.-F. Yin, and Y. Li, 1 Yunnan Animal Science and Veterinary Institute, Kunming, Yunnan, China, 2 Sweden Perten Instruments Representative Office in China, Beijing, China, 3 University of Minnesota, Morris.

M80 Breed and egg size effects on weight loss during incubation of Broiler eggs.

M81 Estimation of genetic parameters for body weight traits in Mazandaran indigenous chicken.
S. Niknafs*, A. Nejati Javaremi, H. Mehrabani Yeganeh, and A. Fatemi, Agricultural Faculty, University of Tehran, Karaj, Alborz, Iran.

M82 Genetic and phenotypic trends for body weight and egg production in Mazandaran indigenous chicken.
S. Niknafs*, A. Nejati Javaremi, H. Mehrabani Yeganeh, and A. Fatemi, Agricultural Faculty, University of Tehran, Karaj, Alborz, Iran.

M83 Heritability and genetic correlation estimates for egg production related traits in Mazandaran indigenous chicken.
S. Niknafs*, A. Nejati Javaremi, H. Mehrabani Yeganeh, and A. Fatemi, Agricultural Faculty, University of Tehran, Karaj, Alborz, Iran.

Dairy Foods

Chemistry, Processing, and Analysis

M84 Effects of salts on foaming properties of milk protein concentrate at neutral pH.
J. Han* and B. Vardhanabhuti, University of Missouri, Columbia.

M85 Microencapsulation of probiotic cultures using polymerized whey proteins as wall material.

M86 Proteolysis in UHT milk produced with CO₂ added raw milk.
P. C. B. Vianna, E. H. M. Walter, M. E. F. Dias*, J. A. Faria, F. M. Netto, and M. L. Gigante, 1 Universidade Norte do Paraná, Londrina, SP, Brazil, 2 Universidade Federal do Pampa, Bagé, SP, Brazil, 3 Universidade Estadual de Campinas, Campinas, SP, Brazil.

M87 The effect of commercial sterilization regimes on micellar casein concentrates (MCC).
C. M. Beliciu, A. Sauer*, and C. I. Moraru, Cornell University, Ithaca, NY.

M88 The crystallization of large lactose crystals in skim milk concentrate.
B. Toledo* and F. X. Milani, University of Wisconsin-Madison, Madison.

M89 Investigation of twin-screw extrusion puffing of non-fat dry milk powder and starch to produce puffs and crisps for snack and ingredient uses.
A. J. Tremaine* and T. C. Schoenfuss, University of Minnesota, Department of Food Science and Nutrition, St. Paul.
M90  Browning and pH of UHT whole milk as influenced by time and temperature of storage.
M. E. F. Dias*, P. C. B. Vianna, and M. L. Gigante, 1Universidade Estadual de Campinas, Campinas, SP/Brazil, 2Universidade Norte do Paraná, Londrina, PR/Brazil.

M91  Evaluation of vacuum packaging on physical properties and solubility of dry dairy ingredients.
H. Eshpari* and P. Tong, California Polytechnic State University, San Luis Obispo.

M92  Hydrophobic aroma encapsulation in whey protein nanoparticles.
H. J. Giroux and M. Britten*, Food Research and Development Centre, Agriculture and Agri-Food Canada, St-Hyacinthe, (QC), Canada.

M93  Formation of β-lactoglobulin/alginate nanoemulsion containing coenzyme Q10.

M94  Homogenization and lipase addition influence methyl ketone generation.

M95  Use of fluorescence spectroscopy for monitoring vitamin D fortification of skim milk.
J. K. Amamcharla* and L. E. Metzger, Midwest Dairy Foods Research Center, Dairy Science Department, South Dakota State University, Brookings.

M96  Milk composition evaluation as screening criteria to investigate fraudulent addition of cheese whey to milk.

M97  Measuring milk treatments and storage temperature effects on fat globules aggregation.
N. Fucà1, G. Impoco1, M. Caccamo*, and G. Licitra1,2, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2DISPA, Catania University, Catania, Italy.

M98  Effects of residual lactose and galactose on cheese moisture determination.

M99  Quantification of textural properties of composite milk gels using laser-scanning fluorescence confocal microscopy and image texture analysis.
R. Hennessy*, L. Laiho1, A. Laubscher2, and R. Jimenez-Flores2, 1Cal Poly Biomedical Engineering, San Luis Obispo, 2Cal Poly, DPTC, San Luis Obispo.

M100 Evaluation of two kits based on microbial inhibition for detection of antimicrobial residues in milk.

M101 Validation of CombiScope FTIR for milk urea evaluation in raw milk.
M. C. P. Oliveira*, N. M. A. Silva, L. P. F. Bastos, R. S. Corrado, L. M. Fonseca, M. M. O. P. Cerqueira, R. Rodrigues, and M. O. Leite, Veterinary School/Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil.

M102 Identification of starch in cheese using laser scanning confocal microscopy.
W. R. McManus, E. N. Oberg, R. Wadhwani, K. M. Brown, and D. J. McMahon*, Western Dairy Center, Utah State University, Logan.

### Extension Education

M103 Assessing a comprehensive udder health and mastitis control program for practicing dairy veterinarians.
G. M. Schuenemann*, P. Rajala-Schultz, E. Gordon, S. Bas, and J. D. Workman, Department of Veterinary Preventive Medicine, The Ohio State University, Columbus.

M104 The relationships between weight, age, and average daily gain of Georgia 4-H & FFA commercial dairy heifers.

M105 Advising and technical support for the formulation and evaluation of diets for dairy cows and goats: The extension experience of Antonio Narro Agricultural University in north Mexico.

M106 An extension tool to assess forage production and utilization on dairy farms.
M.-C. Coulombe*, D. Pellerin, R. Roy, G. Allard, P. Savoie, D. Parent, and E. Charbonneau, 1Université Laval, Quebec, Canada, 2Valacta, Dairy production centre of expertise, Ste-Anne-de-Bellevue, Quebec, Canada, 3Agriculture and Agri-Food Canada, Soils and Crops Research and Development Centre, Quebec, Quebec, Canada.
Fiber production and fiber characteristics of alpacas farmed in United States.
T. Wuliji*, Lincoln University, Jefferson City, MO.

Advice from the experts: Processor assessment of planning considerations for an on-farm dairy processing enterprise.
E. A. Chaney* and J. M. Bewley, University of Kentucky, Lexington.

Using whole farm assessment tools to identify strategies for change to increase dairy farm profitability.

Evaluation of the use of pasture pork demonstration sites for on-farm educational programming.
N. C. Whitley* and M. L. Eley, North Carolina A&T State University, Greensboro.

Summary of Texas Panhandle dairy producer forage use.

An overview of compost bedded pack management in Kentucky.

Weighted cost of capital on dairy farms in Florida.
K. Kaniyamattam*, A. De Vries¹, and D. T. Galligan², ¹University of Florida, Gainesville, ²University of Pennsylvania, Kennett Square.

Current situation and further training needs: A case of Master Goat Producers.
U. Karki*, N. K. Gurung¹, O. Bolden-Tiller¹, and L. B. Karki², ¹Tuskegee University, Tuskegee, AL, ²PadmaDal Memorial Foundation, Auburn, AL.

Judging Pro: A dynamic software program for scoring judging contests.

Forages and Pastures

Antinutritive Compounds in Forages

Fermentation and microbial protein synthesis from anthocyanin accumulating Lc-alfalfa in rumen liquid.
A. Jonker¹,², M. Y. Gruber², Y. Wang³, D. A. Christensen¹, J. J. McKinnon¹, and P. Yu¹, ¹Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, ²Saskatoon Research Station, Agriculture and Agri-Food Canada, Saskatoon, Saskatchewan, Canada, ³Lethbridge Research Station, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada.

How tannin deactivation can affect nutrient digestibility and metabolizable energy contents of sainfoin (Onobrychis vicifolia)?
H. Khalilvandi-Behroozyar*¹, ², M. Dehghan-Banadaky¹, and K. Rezayazdi¹, ¹Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, ²Department of Animal Science, University of Urmia, Urmia, West Azerbaijan, Iran.

Effects of sainfoin (Onobrychis vicifolia) processing for tannin deactivation on nitrogen content of cell wall and available nitrogen.
H. Khalilvandi-Behroozyar*¹,², K. Rezayazdi¹, and M. Dehghan-Banadaki¹, ¹Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, ²Department of Animal Science, University of Urmia, Urmia, West Azerbaijan, Iran.

Effects of tannin deactivation with different chemicals on protein fractions of sainfoin (Onobrychis vicifolia Scop.) in Cornell Net Carbohydrate and Protein System (CNCPs).
H. Khalilvandi-Behroozyar*¹,², M. Dehghan-Banadaky¹, and K. Rezayazdi¹, ¹Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, ²Department of Animal Science, University of Urmia, Urmia, West Azerbaijan, Iran.

Effects of chemical treatments for tannin deactivation on in situ organic matter degradability of sainfoin (Onobrychis vicifolia).
H. Khalilvandi-Behroozyar*¹,², K. Rezayazdi¹, and M. Dehghan-Banadaki¹, ¹Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, ²Department of Animal Science, University of Urmia, Urmia, West Azerbaijan, Iran.

Chemical compositions and anti-nutritive factors of Acacia mangium.
T. Clavero* and R. Razz, Centro de Transferencia de Tecnología en Pastos y Forrajes, Universidad del Zulia, Maracaibo, Estado Zulia, Venezuela.

Nutrient composition, polyphenolic compound content, in situ degradation and in vitro rumen fermentation characteristics of leaves from three mulberry species.
H. J. Yang* and W. X. Wang, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing 100193, China.

Flouride content of leaves and stems of alfalfa hay at different stages of maturity.
C. Arzola*, ¹, M. R. Murphey*, J. Salinas¹, R. Copado¹, A. Corral¹, O. Ruiz¹, C. Rodriguez¹, E. Santellano¹, and H. Gaytan¹, ¹Universidad Autonoma de Chihuahua, Chihuahua, Chihuahua, Mexico, ²University of Illinois, Urbana-Champaign, ³Universidad Autonoma de Tamaulipas, Cd. Victoria, Tamaulipas, Mexico.

Distribution of antinherbivory compounds in Flourensia cernua.
Degradation kinetics of calcium caseinate incubated in vitro with increasing levels of tannin extract from *Acacia mearnsii* with or without polyethylene glycol addition.
D. Zeni*, A. C. Fluck, G. V. Kozloski, A. A. Martins, F. Zanferari, and S. Stefanello, *Universidade Federal de Santa Maria, Santa Maria, RS, Brazil.

Degradation kinetics of cellulose incubated in vitro with increasing levels of tannin extract from *Acacia mearnsii* with or without polyethylene glycol addition.
D. Zeni*, A. C. Fluck, G. V. Kozloski, A. A. Martins, F. Zanferari, and T. R. Longo, *Universidade Federal de Santa Maria, Santa Maria, RS, Brazil.

Nutrient and tannin contents of purple prairie clover (*Petalostemon purpureum*) harvested at different growth stages.
L. Jin*, Z. Xu*, A. D. Iwaasa*, Y. G. Zhang, M. P. Schellenberg, T. A. McAllister, and Y. Wang, 1Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada, 2Department of Animal Science, Northeast Agricultural University, China, 3SPARC-AACF, Swift Current, SK, Canada.

Evaluation of tannins in indigenous forage plants of the Brazilian semi-arid.
1Universidade Federal de Lavras, Lavras, MG, Brazil, 2Universidade Federal do Vale do Rio Grande do Sul, Porto Alegre, RS, Brazil.

Effect of grazing toxic tall fescue prior to or immediately following insemination on beef cattle reproductive performance.
M. G. Burns*, J. G. Andrae, S. L. Pratt, W. C. Bridges, and F. N. Schrick, 1Clemson University, Clemson, SC, 2University of Tennessee, Knoxville.

Endophyte-infected tall fescue seed extract induces constriction of bovine vasculature.
1University of Kentucky, Lexington, USA, 2USDA-ARS, FAPRU, Lexington, KY.

Contractile response of bovine lateral saphenous vein to ergovaline, serotonin, α1, and α1-adrenergic receptor agonists relative to time off endophyte-infected tall fescue.
J. L. Klotz, G. E. Aiken, A. P. Foote, L. P. Bush, K. R. Brown, B. M. Goff, and J. R. Strickland,
1USDA-ARS-FAPRU, Lexington, KY, 2University of Kentucky, Lexington.

Differences in chemical composition of crown rust resistant and susceptible oat cultivars in Northern Mexico.

**Forages and Pastures**

**Forage Production and Quality**

Dry matter yield and chemical composition of twenty-eight alfalfa cultivars grown in Brazil.

Tillering pattern and dry matter production of Mombasa grass submitted to nitrogen fertilization during regrowth.
A. F. Garcez Neto*, A. P. Foote, T. M. Dos Santos, E. B. Baldasso, and J. Da Silva, 1Federal University of Parana, Palotina, Parana, Brazil, 2Agronomic Institute of Parana, Parana, Brazil, 3Federal University of Víncos, Víncos, Minas Gerais, Brazil.

Effects of growing conditions on alfalfa hay quality and production.
A. Palmonari*, M. Fustini, G. Canestrari, and A. Formigoni, *Dipartimento Scienze Mediche Veterinarie, Universita degli Studi di Bologna, Bologna, Italy.

Nutritional value and silage fermentation parameters of elder (*Sambucus nigra*) as a supplement for dairy cattle in the Colombian Tropics.

Organic fertilization improves growth of *Paulownia* spp.

Ruminal degradability of crude protein of *Marandu* grasses.
A. J. D. Pacheco Junior*, F. A. P. Santos, C. M. M. Bittar, L. R. D. Agostinho Neto, R. A. M. Vieira, L. O. Tedeschi, B. C. Matos, and G. B. Mourão, 1University of São Paulo, University of Sao Paulo, USP/ESALQ, Piracicaba, SP, Brazil, 2State University of North Fluminense Darcy Ribeiro, State University of North Fluminense Darcy Ribeiro, Campos dos Goytacazes, RJ, Brazil, 3Texas A&M University, Texas A&M University, College Station.
Effect of stage of maturity of alfalfa hay upon in vitro dry matter and crude protein digestibility.
R. Copado-Garcia*, O. Serna1, C. Arzola1, O. Ruiz1, C. Rodriguez1, A. Corral1, and H. Gaytan1, 1Universidad Autonoma de Chihuahua, Chihuahua, Chihuahua, Mexico, 2INIFAP, Chihuahua, Chihuahua, Mexico.

Nutrient composition, metabolizable energy, in situ rumen degradation and in vitro fermentation characteristics of linted cottonseed hulls, delinted cottonseed hulls and cottonseed linter waste.
H. J. Yang* and Y. K. Bo, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing 100193, China.

Chemical composition and nutritional value of Prosopis laevigata harvested at three different maturation stage.

Graduate Student Competition: ADSA Dairy Foods Poster Competition
Chair: Rafael Jimenez-Flores, California Polytechnic State University

The influence of process time and heat treatment on bleaching efficacy of liquid whey and retentate.
X. Li* and M. A. Drake, North Carolina State University, Raleigh.

Impact of bleaching on flavor of 34% whey protein concentrate and benzoic acid concentration in dried whey proteins.
M. A. Listiyani*, R. E. Campbell, R. E. Miracle, L. O. Dean, and M. A. Drake, North Carolina State University, Raleigh.

The influence of bleaching agent, solids concentration and temperature on bleaching efficacy and volatile components of fluid whey.
A. J. Fox* and M. A. Drake, North Carolina State University, Raleigh.

Activation of lactoperoxidase for the bleaching of fluid whey.
R. E. Campbell*, E. J. Kang1, E. Bastian2, and M. A. Drake1, 1North Carolina State University, Raleigh, 2Glanbia Nutritionals Inc., Twin Falls, ID.

Bleaching efficacy of ozone gas in liquid whey and its effects on flavor of 80% whey protein concentrate.
T. J. Smith* and M. A. Drake, North Carolina State University, Raleigh.

The impact of sodium reduction on the flavor, texture and flavor chemistry of full fat and low fat Cheddar cheese.
M. K. Kim*, R. E. Miracle1, D. J. McMahon2, and M. A. Drake3, 1North Carolina State University, Raleigh, 2Utah State University, Logan.

Fortification of milk for Cheddar cheese manufacture using skim milk powder.
A. C. Moynihan* and P. L. H. McSweeney, University College Cork, Cork, Ireland.

Rapid measurement of lactose concentration in whey by using handheld blood glucose meter.
A. C. Biswas*, J. K. Amamcharla, and L. E. Metzger, Midwest Dairy Foods Research Center, Dairy Science Department, South Dakota State University, Brookings.

Organic acid identification and quantification in low-fat Cheddar cheese by capillary zone electrophoresis.
R. Kumar* and T. C. Schoenfuss, University of Minnesota, Department of Food Science and Nutrition, St. Paul.

Stability of sterilized micellar casein concentrates (MCC) during storage.
A. Sauer* and C. I. Moraru, Cornell University, Ithaca, NY.

Use of capillary gel electrophoresis for quantification of individual milk proteins in ultra- and microfiltration retentate.
P. Salunke*, C. Marella, and L. E. Metzger, Midwest Dairy Foods Research Centre, South Dakota State University, Brookings.

Incorporation of whey:buttermilk heat-denatured protein aggregates in model set-type yogurt.
M. Saffon*, V. Richard1, S. F. Gauthier1, M. Britten2, and Y. Pouliot2, 1STELA Dairy Research Center, Institute of Nutraceuticals and Functional Foods (INAF), Université Laval, Québec, QC, Canada, 2Food Research and Development Center (FRDC), Agriculture and Agri-Food Canada, St-Hyacinthe, QC, Canada.

Linking environmental and sensory qualities of a Vermont artisan cheese.
A. Greenbaum*, S. Carpino1, M. Almena1, S. Bosworth1, P. Kindstedt1, and A. Trubek1, 1University of Vermont, Burlington, 2CoRFiLaC, Ragusa, Italy.
M155 Chewing activities of dairy heifers precision-fed a low or high forage ration at four levels of dry distillers grain.

M156 Effect of one or two treatments of prostaglandin F₂α prior to Cosynch in lactating dairy cattle.
K. D. Baldock*, M. E. Wilson, and D. L. Smith, ¹Eastern New Mexico University, Portales; ²West Virginia University, Morgantown.

M157 The effects of extruding wheat dried distillers grains with solubles with peas or canola meal on ruminal fermentation, nutrient digestion and milk production in lactating Holstein dairy cows.
R. M. Claassen*, D. A. Christensen, and T. Mutsvangwa, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

M158 Ruminal degradation and intestinal protein digestion of steam-flaked soybeans.
H. R. Bruns*, K. J. Herrick, K. F. Kalscheur, D. J. Schingoethe, R. Rosenboom, G. Doppenberg, and A. R. Hippen, ¹South Dakota State University, Brookings, ²Deluxe Feeds, Sheldon, IA.

M159 A simulation assessment of long-term nitrogen runoff reduction from dairy pastures.
R. White* and J. L. Capper, Washington State University, Pullman.

M160 Characterization of management practices utilized by low somatic cell count Kentucky dairy herds.
A. E. Sterrett* and J. M. Bewley, University of Kentucky, Lexington.

J. A. M. Wittrick*, T. F. Duffield, S. Ruiuzzi, and S. J. LeBlanc, ¹University of Guelph, Guelph, Ontario, Canada, ²University of Padua, Padova, Italy.

M162 Effect of treatment with human chorionic gonadotropin (hCG) on day 5 after timed artificial insemination (TAI) on fertility in lactating Holstein cows.

M163 Evaluation of three-dimensional accelerometers to monitor motion changes relative to estrus behavior.
W. A. Smith*, J. M. Bewley, and W. J. Silvia, University of Kentucky, Lexington.

M164 Effects of hutches and fortified waste milk on growth and health in preweaned Holstein dairy calves.
K. L. Machado*, R. E. James, M. L. McGilliard, and T. J. Earleywine, ¹Department of Dairy Science, Virginia Polytechnic Institute and State University, Blacksburg, ²Land O Lakes Animal Milk Products, Shoreview, MN.

M165 Effect of postpartum diseases on reproduction of grazing dairy cows.

M156 Effects of using protective cover sheaths at the time of AI on fertility of lactating dairy cows.
S. Bas*, G. M. Schuenemann, A. Hoet, E. Gordon, D. Sanders, and K. N. Galvao, Department of Veterinary Preventive Medicine, The Ohio State University, Columbus.

M167 Metabolism of ruminally dosed butyrate and lactose in lactating dairy cows.

M168 Antioxidant activity of calf milk replacers.
M. A. Soberon*, D. R. Cherney, and R. H. Liu, Cornell University, Ithaca, NY.

M169 In situ ruminal degradability of diets, dried distillers grains with solubles and soybean meal under different rumen conditions.

M170 Effect of air-flow controlled chambers and cows of contrasting feed efficiency on methane emission.
C. Arndt*, M. A. Wattiaux, J. M. Powell, and M. J. Aguerre, ¹Department of Dairy Science, University of Wisconsin, Madison, ²USDA-ARS U.S. Dairy Forage Research Center, Madison, WI.
Comparison of two resynchronization protocols initiated at different intervals after insemination on fertility in lactating dairy cows.

Antimicrobial usage on large herds in Wisconsin.
L. Oliveira and P. L. Ruegg, University of Wisconsin, Madison.

Milk production, milk composition and first service pregnancy rate in lactating Holstein cows fed a lipid-encapsulated conjugated linoleic acid.

A hoof biopsy procedure of front and rear claws for gene expression analysis and its relation to locomotion in dairy cows.

Variation in failure of passive transfer and growth rates of calves on 38 farms in British Columbia.

Comparisons of udder health and milk quality in North Carolina organic and conventional pasture-based dairy herds.

Effect of conjugated linoleic acid supplementation in vitro on bovine embryo production and cryopreservation.

Net requirements of calcium and phosphorus for gain of Nellore and Nellore x Bos taurus crossbreds.

Effects of maternal body condition and breeding season forage type on beef heifer growth.
J. D. Patterson, M. L. Looper, B. C. Williamson, and C. F. Rosenkranz, University of Arkansas, Fayetteville, USDA/ARS DBSFRC, Booneville, AR.

Effects of colostrum intake and pre-weaning nutrient intake on post-weaning feed efficiency and voluntary feed intake.
F. Soberon and M. E. Van Amburgh, Cornell University, Ithaca, NY.

Interactions of residual feed intake and other performance parameters of Japanese Black (Wagyu) bulls.
M. McGee, C. M. Welch, J. B. Hall, and W. Small, University of Idaho, Moscow, University of Idaho Nancy M. Cummings Research, Education, and Extension Center, AgriBeef Snake River Farms, American Falls, ID.

Feeding or passive transfer of Anti-IL-10 peptide antibodies suppresses growth and feed efficiency in chicks.

Empty body composition of Nellore bulls classified for residual feed intake.
E. F. M. Bonilha, F. L. Araújo, S. F. M. Bonilha, and R. H. Branco, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil.

Body and carcass fat of Nellore bulls classified for residual feed intake.
S. F. M. Bonilha, R. H. Branco, K. Zorzi, M. E. Z. Mercadante, J. N. S. G. Cyrillo, and L. A. Figueiredo, Instituto de Zootecnia, Sertãozinho, São Paulo, Brazil, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil.

Describing DMI and growth patterns in beef steers during the finishing period.
N. Vargas Jurado, G. Scaglia, W. S. Swecker, D. A. Fiske, J. P. S. Neel, J. P. Fontenot, and R. M. Lewis, Virginia Tech, Blacksburg, Louisiana State University, Iberia Research Station, Jeanerette, USDA/ARS, Beaver, WV.

Effects of heat stress on proliferation, protein turnover, and levels of heat shock protein mRNAs in cultured porcine muscle satellite cells.

Effects of increased protein and energy fed in milk replacer and heat stress on growth parameters of neonatal holstein bull calves.
A. J. Krenek, G. A. Holub, T. A. Tomaszewski, and C. C. Stanley, Texas A&M University, College Station, Land O Lakes Purina Feed, Amarillo, TX.
M188  **Indirect methods for estimation BW of crossbreed Holstein-Jersey heifers.**

M189  **Effects of rice or wheat straw as ingredients in a TMR on Holstein heifer growth.**
R. E. Rauch*1,2, G. A. Nader1, P. H. Robinson1, and L. J. Erasmus1, *University Of Pretoria, Pretoria, South Africa, 2University Of California, Davis.

M190  **Effects of pre-weaning nutrient intake in the developing mammary parenchymal tissue and fat pad.**
F. Soberon*1 and M. E. Van Amburgh, Cornell University, Ithaca, NY.

M191  **Effect of diet metabolizable protein:metabolizable energy ratio on growth parameters and mammary gland development of crossbred Holstein-Jersey heifers reared on an accelerated growth program.**

M192  **Milk diet affects glucose transporters in skeletal muscle of neonatal calves.**
U. Schönhusen, C. Rehfeldt, J. Steinhoff-Wagner, and H. M. Hammon*, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany.

**Lactation Biology 1**

M193  **Essential amino acids significantly contribute to the energy status in short-term MAC-T cell cultures.**
V. S. Lyman1, M. L. Bell1, W. A. D. Nayananjalie1,*, E. M. England2, J. A. D. R. N. Appuhamy3, and M. D. Hanigan1, *Virginia Polytechnic Institute and State University, Blacksburg, 2University Of Guelph, Guelph, ON, Canada.

M194  **Mammary uptake of fatty acids varying in chain length and unsaturation supplied by intravenous triglyceride infusion.**

M195  **Conjugated linoleic acid-induced milk fat depression in lactating ewes is accompanied by reduced expression of genes involved in mammary lipid synthesis.**

M196  **Characterization of a novel bovine mammary epithelial cell line.**
P. Bernier-Dodier1,*, G. Tremblay1, and P. Lacasse1, *Université de Sherbrooke, Sherbrooke, QC, Canada, 1AAFC-Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada.

M197  **Further study on the role of SREBP-1 in lipogenesis in bovine mammary epithelial cells.**
L. Ma* and B. A. Corl, *Virginia Tech, Blacksburg.

M198  **Capturing circadian mammary gene expression of cows using RNA from milk fat globule.**
J. Crodian*, T. Casey, and K. Plaut, *Purdue University, West Lafayette, IN.

M199  **Expression of PEPCK isoforms in the mammary gland of dairy goats is regulated by insulin status.**
S. J. Mabjeesh*, A. Sahmay1, N. Argov-Agrman1, C. Sabastian1, and B. J. Bequette1, *The Robert H. Smith Faculty of Agriculture, Food and environment, The Hebrew University of Jerusalem, Rehovot, Israel, 1Institute of Animal Science, The Volcani Center, Bet Dagan, Israel, 2University of Maryland.

**Nonruminant Nutrition**

**DDGS**
Sponsor: BASF

M200  **Amino acids and energy utilization in zero tannin faba bean and co-fermented wheat and corn distillers dried grains with solubles (DDGS) fed to growing pigs.**

M201  **Glucanase, xylanase and microbial inoculants improve feeding value of DDGS for liquid-fed finishing pigs.**
C. L. Zhu*, M. Rudar, D. Wey, and C. F. M. de Lange, *University Of Guelph, Guelph, ON, Canada.

M202  **Determination of dry matter content in feces of pigs fed three different sources of DDGS.**
K. Kock* and C. Hostetler, *South Dakota State University, Brookings.
Nonruminant Nutrition

Enzymes
Sponsor: BASF

M203 Effects of dietary enzymed fermented wheat on growth performance, nutrient digestibility, blood characteristics, and fecal noxious gas emission in growing pigs.
X. Y. Guo*, H. Y. Baek, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

M204 The effect of enzyme fermented corn on growth performance, nutrient digestibility, blood profile, and fecal gas emission in growing pigs.
P. Y. Zhao*, S. C. Kim, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

M205 Effects of enzyme fermented oat on growth performance, digestibility, blood profile, and fecal gas emission of growing pigs.
S. Zhang*, J. M. Lee, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

M206 Effects of emulsifier and multi-enzyme on growth performance, organ weight, meat quality and blood characteristics in broilers.
S. C. Kim*, H. J. Kim, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

O. O. Adeleye*, A. D. Ologhobo1, P. A. Iji1, and O. A. Adebiyi1, 1Department of Animal Science, University of Ibadan, Department of Animal Science, University of Ibadan, Ibadan, Nigeria, 2School of Environmental and Rural Sciences, University of New England, School of Environmental and Rural Sciences, University of New England, Armidale, NSW, Australia.

M208 Performance of 1- to 42-day-old broilers fed diets containing multienzyme complex and lipid sources.
G. do Valle Polycarro*, A. C. Pezzato1, V. C. da Cruz1, J. R. Sartori1, V. B. Fascina1, F. B. de Carvalho1, F. Vercese1, N. C. Alexandre1, L. P. Centenaro1, I. M. G. P. de Souza1, P. G. Castelo1, E. M. Muro1, W. T. da Silva1, V. C. Pelícia1, P. C. de Araújo1, 1São Paulo State University, Botucatu Campus, Botucatu, São Paulo, Brazil, 2São Paulo State University, Dracena Campus, Dracena, São Paulo, Brazil.

M209 Carcass and cuts yield, and abdominal fat yield in 42-day-old broilers subjected to diets containing multienzyme complex and lipid sources.
A. C. Pezzato*, G. do Valle Polycarro1, V. C. da Cruz1, J. R. Sartori1, V. B. Fascina1, F. Vercese1, N. C. Alexandre1, L. P. Centenaro1, I. M. G. P. de Souza1, P. G. Castelo1, E. M. Muro1, W. T. da Silva1, A. C. Stradiotti1, M. K. Maruno1, F. Barros de Carvalho1, 1São Paulo State University, Botucatu Campus, Botucatu, São Paulo, Brazil, 2São Paulo State University, Dracena Campus, Dracena, São Paulo, Brazil.

M210 Effect of dietary phytase on performance, digestive enzymes and intestinal morphology in weaned pigs.
M. C. Shields*, E. van Heugten1, C. H. Stahl1, A. J. Moeser2, P. W. Plumstead3, and M. H. Borgmann1, 1Department of Animal Science, North Carolina State University, Raleigh, 2Department of Clinical Sciences and Molecular, Biomedical Sciences, College of Veterinary Medicine, North Carolina State University, Raleigh, 3Danisco Animal Nutrition, Marlborough, Wiltshire, UK.

M211 Effect of carbohydrolase complex and phytase combined in corn-soybean meal diet for pigs.
M. Ceccantini*, B. V. Freitas2, M. M. Mota2, N. B. Petrolí3, C. C. Silva4, C. S. S. Araujo2, and L. F. Araujo3, 1Adisseo, Sao Paulo, SP, Brazil, 2FMVZ/USP, Pirassununga, SP, Brazil, 3FZEA/USP, Pirassununga, SP, Brazil.

Nonruminant Nutrition

Feed Additives

M212 Effects of β-glucan and probiotics (Bacillus subtilis and Kefir) supplementation on growth performance, blood profile, relative organ weight and meat quality in broiler chickens.
J. H. Jang*, L. Yan, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

M213 Effects of caprylic acid and Yucca schidigera extract supplementation on growth performance, nutrient digestibility, fecal microflora and blood profiles in growing pigs.
B. U. Yang*, S. Zhang, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

M214 Effect of fructooligosaccharide and levan on growth performance, nutrient digestibility, blood characteristic and diarrhea in growing pigs.
L. Yan*, X. Y. Guo, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

M215 Effects of dietary sodium stearoyl-2-lactylate supplementation on growth performance, nutrient digestibility, and blood profiles in growing pigs.
B. U. Yang*, H. Y. Baek, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

M216 Effect of dietary zootechnical feed additive supplementation on sow and litter performance.
D. Solà-Oriol*, P. S. Agostini1, S. L. Vinokurovas1, B. T. Lund1, and J. Gasa1, 1Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Chr. Hansen, Hørsholm, Denmark.
Effect of a wheat dextrin and a fructooligosaccharide as prebiotics on nursery pig performance.

Effects of ractopamine feeding duration on performance and carcass traits of finishing pigs.
V. V. Almeida*1, A. J. C. Nuñez2, C. Andrade3, J. C. C. Balieiro3, and V. S. Miyada1, 1USP/ESALQ, Piracicaba, SP, Brazil, 2USP/FZEA, Pirassununga, SP, Brazil.

Effect of zilpaterol hydrochloride supplementation on growth performance in male Japanese Quails.
M. Mohammadi*, A. Towhidhi, H. Moravej, and A. Z. Shahneh, Department of Animal Science, university of Tehran, Karj, Karaj, Alborz, Iran.

Safety and efficacy of Moringa oleifera powder for growing poultry.
J. O. Ashong* and D. L. Brown, Cornell University, Ithaca, NY.

Singular consumption of either Lactobacillus plantarum or inulin reduces manure odor from finishing pigs; however, this is negated when offered in combination.

J. K. Mathai*, R. C. Sulabo1, J. L. Usry2, B. W. Ratliff3, D. M. McKilligan3, and H. H. Stein3, 2University of Illinois, Urbana,
3Ajinomoto Heartland, LLC, Chicago, IL, 4TechMix, LLC, Stewart, MN.

Digestibility of green banana flour (Musa cavendishi) in roosters.
E. Toledo*, F. Martinez–Bustos2, and A. G. Borbolla1, 1Department of Swine Medicine and Production, School of Veterinary Medicine, Universidad Nacional Autónoma de México, Mexico City, Mexico, 2CINVESTAV, IPN, Unidad Queretaréto, Querétaro, Qro. Mexico.

Effects of increasing levels of dietary turmeric on growth performance and immune response of nursery pigs.
M. R. Bible*, S. D. Carter1, H. J. Kim1, T. M. Walraven2, C. Houchen2, S. Anant3, and R. Ramanujum1, 1Oklahoma State University, Stillwater, 2University of Oklahoma Health Sciences Center, Oklahoma City, 3University of Kansas Medical Center, Kansas City, KS, 4Swaath Inc., Oklahoma City, OK, 5ADNA Inc., Dublin, OH.

Evaluation the effect of inositol monophosphate supplementation on growth performance, blood profiles and nutrient digestibility in weaning pigs.
H. Y. Baek*, H. W. Cho, and I. H Kim, Dankook University, Cheonan, Choongnam, South Korea.

Effects of probiotics and probiotics mix on growth performance and blood characteristics.
J. M. Lee*, S. M. Hong, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

Physiology and Endocrinology I

ACTH-induced stress impairs the expression of genes involved in steroidogenesis and angiogenesis in dairy cow preovulatory follicles.
D. Biran1, R. Braw-Tal1, Y. Lavon1, and Z. Roth*, 1Department of Animal Sciences, The Robert H. Smith Faculty of Agriculture, Food and Environment, The Hebrew University, Rehovot, Israel, 2Institute of Animal Science, Agricultural Research Organization, Bet Dagan, Israel.

Comparison of different staining methods on sperm from Holstein bulls.
A. Ata, M. E. Inanc, O. Kankavi, O. Yıldız Gulay*, and M. S. Gulay, Mehmet Akif Ersoy University, Faculty of Veterinary Medicine, Burdur, Turkey.

Insulin sensitivity correlates with parameters of hepatic lipid metabolism, and is lower in older dairy cows.
H. A. van Dorland1, M. Graber1, S. Kohler1, T. Kaufmann1, and R. M. Bruckmaier*, 1Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Bern, Switzerland, 2Department of Animal Science, Swiss College of Agriculture, Zollikofen, Bern, Switzerland, 3Clinic for Ruminants, Vetsuisse Faculty, University of Bern, Bern, Bern, Switzerland.

Intrauterine position and adjacent fetal sex status influences fetal and placental growth but not embryonic viability under crowded uterine conditions in pigs.
B. A. Freking* and C. A. Lents, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.

The effect of teasing rams with a ewe stimulus prior to semen collection.
A. G. Fahey*, P. Duffy1, and S. Fair1, 1University College Dublin, Belfield, Dublin, Ireland, 2University of Limerick, Limerick, Ireland.

Effects of supplemental progesterone and timing of initiation of resynchronization on fertility in lactating dairy cows.
T. R. Bilby*, R. G. S. Bruno2, K. J. Lager1, R. C. Chebel1, J. G. N. Moraes2, P. M. Fricke1, G. Lopes1, J. O. Giordano1, J. E. P. Santos1, F. S. Lima1, J. S. Stevenson1, and S. L. Pulley1, 1Texas A&M University, College Station, TX, 2Department of Veterinary Population Medicine, University of Minnesota, St. Paul, 3Department of Dairy Science, University of Wisconsin, Madison, 4Department of Animal Sciences, University of Florida, Gainesville, 5Department of Animal Sciences and Industry, Kansas State University, Manhattan.
Effect of circulating progesterone (P4) and two different GnRH doses on LH secretion in lactating dairy cows.

Assessment of an accelerometer system (Heatime) for detection of estrus and timing of insemination in lactating dairy cows.

Presynchronization with double-ovsynps improves conception at first postpartum AI in primiparous lactating dairy cows.
M. M. Herlihy*, J. N. Giordano, A. H. Souza, A. Keskin, A. B. Nascimento, J. N. Guenther, M. A. Crowe, S. T. Butler, and M. C. Wiltbank, Department of Dairy Science, University of Wisconsin-Madison, Madison; Animal and Biosciences Research Department, Teagasc, Moorepark, Cork, Ireland; School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Ireland.

Effect of GnRH and double AI (24h apart) on fertility of high-producing cows detected in estrus by professional tail chalk service.
D. Cunningham, A. Fisher, A. H. Souza*, H. Rivera, A. Skidmore, and M. C. Wiltbank, Accelerated Genetics, Baraboo, WI; Department of Dairy Science, University of Wisconsin, Madison; Intervet/Schering-Plough Animal Health, Summit, NJ.

Paraoxonase expression and activity in bovine granulosa cells and follicular fluid.
A. Schneider, V. A. Absalon-Medina, G. Espasto, M. N. Correia, and W. R. Butler*, Universidade Federal de Pelotas, Pelotas, RS, Brazil; Cornell University, Ithaca, NY; University of Naples Federico II, Naples, Italy.

Development of a lentiviral RNA interference (RNAi) system for interleukin–1 beta (IL1B) expressed in elongating porcine embryos.
D. J. Mathew*, E. M. Newsom, R. D. Geisert, and M. C. Lucy, University of Missouri, Columbia.

Differential gene expression in liver of lactating (L) and non-lactating (NL) primiparous Holstein cows during early pregnancy.
J. Green*, E. Newsom, C. Okamura, and M. C. Lucy, University of Missouri, Division of Animal Science, Columbia.

Immunohistochemical evidence for the presence of G protein-coupled receptor 43 in cattle rumen epithelium but not in the pancreatic islets of Langerhans.

Effects of protein supplementation during heifer development on reproductive characteristics and success in beef heifers.

Effect of parity on thermal response and energy balance (EB) of sows housed at 24-27°C during lactation.

Effects of progesterone concentrations at the end of a fixed-time AI protocol and time of administration of PGF2α in fixed-time AI and ET protocols in lactating dairy cows.
M. Pereira*, A. Rodrigues, T. Martins, F. Aono, P. Borges, T. Guzella, C. Sanchez, M. Veras, F. Aragon, and J. L. M. Vasconcelos*, FMVZ-UNESP, Botucatu, SP, Brazil; Pioneiros Veterinary Clinic, Carambeí, PR, Brazil.

Period of dominance of the ovulatory follicle influences conception rates in Nelore pubertal heifers detected in estrus.
T. Martins, A. Rodrigues, F. Aono, M. Pereira, R. Perea, H. Graff, E. Carvalho, and J. L. M. Vasconcelos*, FMVZ-UNESP, Botucatu, SP, Brazil; Agropecuaria Fazenda Brasil, Nova Xavantina, MT, Brazil.

Impacts of L-arginine on ovarian function and reproductive performance at the time of maternal recognition of pregnancy in ewes.
C. Schauer*, C. Saevre, A. Meyer*, M. VanEmon, J. Kirsch, M. Kapphahn, J. Luther, J. Caton, and D. Redmer, Hettinger Research Extension Center, North Dakota State University, Hettinger; Department of Animal Sciences, North Dakota State University, Fargo; Department of Animal and Food Science, University of Wisconsin-River Falls, River Falls.

Failure of differences in prepubertal dietary intake to affect ovarian development in pubertal beef heifers.

Follicular fluid composition of the preovulatory follicle in beef cows grazing different forage allowances of native pastures.
M. Carrquiry*, P. Socá, A. C. Espasandin, A. Meikle, and C. Viñoles, School of Agronomy, Udelar, Montevideo, Uruguay; School of Veterinary Sciences, Udelar, Montevideo, Uruguay; National Research Institute for Agriculture, Tacuarembó, Uruguay.

Longitudinal assessment of the somatotropic axis in free-ranging, juvenile Steller sea lions.
K. D. Hebert*, J. P. Richmond, L. D. Rea, and S. A. Zinn, University of Connecticut, Storrs; University of North Florida, Jacksonville; Alaska Department of Fish and Game, Fairbanks, AK.

Analysis of bovine liver transcriptomics data due to level of prepartal dietary energy using two bioinformatics approaches.
K. Shahzad*, M. Bionaz, and J. J. Loor, University of Illinois, Urbana.

Follicle-stimulating hormone induces the canonical WNT/beta-catenin pathway in bovine granulosa cells.
Sciences Department, University of Florida, Gainesville. Y. Moharami

Body condition score at calving affected reproductive performance and metabolic disorders in Holstein dairy cows.
K. E. Pfeiffer*1, J. A. Binversie1, J. D. Rhinehart2, and J. E. Larson1, 1Mississippi State University, Mississippi State, 2University of Tennessee, Nashville.

Effect of selenium and a glucogenucor precursor on fertility in Creole Rodeo cows synchronized with CIDR, PGF2α, eCG, and GnRH.

Effects of heat stress on skeletal muscle insulin responsiveness in lactating Holstein cows.
L. C. Cole1, M. V. Skrzypiec1, S. R. Sanders1, M. R. Waldron1, L. H. Baumgard2, and R. P. Rhoads*1, 1University of Arizona, Tucson, 2Iowa State University, Ames, 1University of Missouri, Columbia.

Withdrawn

Effects of heat-stress and fresh or frozen semen on reproductive efficiency in dairy cows treated with rbST throughout lactation.
E. Sepúlveda*1, O. Ange-Garcia1, CA Meza-Herrera2, FG Veliz1, and M. Mellado1, 1Universidad Autonoma Agraria Antonio Narro, Torreón, Coahuila, México, 2Universidad Autonoma Chapingo, Bermejillo, Durango, México.

Expression patterns of eNOS in 13 different tissues shows a new isoform in bovine brain stem.
M. De Donato*1, M. A. Adefenwa1*2, and I. G. Imumorin1, 1Dept of Animal Science, Cornell University, Ithaca, NY, 2Dept of Cell Biology and Genetics, University of Lagos, Lagos, Nigeria.

Analysis of bovine adipose transcriptomics data during the transition from pregnancy to early lactation using two bioinformatics approaches.
K. Shahzad*1, J. Sumner-Thomson1, J. P. McNamara2, and J. J. Loor1, 1University of Illinois, Urbana, 2Washington State University, Pullman.

Reproduction of dairy cows receiving 1 vs. 3 timed AI (TAI) when not observed for estrus and subjected to natural service (NS).
F. S. Lima*1, R. S. Bisinotto1, E. S. Ribeiro1, H. Ayres1, L. F. Greco1, C. A. Risco1, W. W. Thatcher1, and J. E. P. Santos1, 1Animal Sciences Department, University of Florida, Gainesville, 2Large Animal Clinical Sciences, University of Florida, Gainesville.

L. G. D. Mendoza*1, M. Amstalden1, and R. C. Chebel1, 1Department of Veterinary Population Medicine, University of Minnesota, St. Paul, 2Department of Animal Science, Texas A&M, College Station.

Environmental effects on semen quality of beef bulls used for artificial insemination.
D. O. Stepp*, K. J. Stutts, M. M. Beverly, and S. F. Kelley, Sam Houston State University, Huntsville, TX.

Plasma progesterone concentration and follicle dynamics of lactating Jersey cows treated with 1 or 2 intra-vaginal progesterone insert.
J. G. N. Moraes*, P. R. B. Silva, N. Bortoletto, A. L. A. Scanavez, and R. C. Chebel, Department of Veterinary Population Medicine, University of Minnesota, St. Paul.

Production, Management and the Environment
Dairy Production

Effect of a rumen-protected niacin product on lactation performance by dairy cows during summer in Wisconsin.

Body condition score at calving affected milk yield and blood metabolites in Holstein dairy cows.
Y. Moharrami1, G. R. Ghorbani1, H. R. Rahmani1, S. M. Nasrollahi1, and C. Li*2, 1Department of Animal Sciences, Isfahan University of Technology, Isfahan, Iran, 2Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB, Canada.

Body condition score at calving affected reproductive performance and metabolic disorders in Holstein dairy cows.
Y. Moharrami1, G. Ghorbani1, H. Rahmani1, S. M. Nasrollahi1, and C. Li*2, 1Department of Animal Sciences, Isfahan University of Technology, Isfahan, Iran, 2Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB, Canada.

Effects of bovine somatotropin (rbST) at 250 mg or 500 mg administered to crossbred cows (Bos taurus x Bos indicus).
B. G. Campos*1*2, S. G. Coelho1, A. M. Q. Lana1, E. Rabelo1, E. A. Alvarenga1, and B. F. Silper1, 1Escola de Veterinária da Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brasil, 2Fundação de Amparo à Pesquisa do Estado de Minas Gerais, Belo Horizonte, Minas Gerais, Brasil, 3Recursos Humanos no Agronegócio, Belo Horizonte, Minas Gerais, Brasil.
M267  Effect of pen change on daily milk yield of dairy cows.  
A. Zwald* and R. D. Shaver, University of Wisconsin-Madison, Madison.

M268  Milking management of crossbred Holstein x Gyr (F1) cows without calf on production performance.  
L. H. Oliveira¹, J. M. S. Filho¹, F. L. B. Toral¹, and R. B. Reis², ³, ¹Federal University of Minas Gerais (UFMG), Belo Horizonte, Minas Gerais, Brazil, ²ApEFMG, Belo Horizonte, Minas Gerais, Brazil.

M269  Risk management practices by Idaho dairy producers.  
R. J. Norell¹, C. W. Gray², and M. Chahine², ¹University of Idaho, Idaho Falls, ²University of Idaho, Twin Falls.

M270  High diurnal fluctuations of ambient temperature do not improve the adaptation of dairy cows to heat stress.  
H. Khelliti¹,², P. Faverdin¹,², and A. Boudon¹,², ¹INRA, Saint-Gilles, France, ²Agrocampus Ouest, Rennes, France.

M271  Assessment of long-term nitrogen runoff reduction from dairy pastures.  
R. White* and J. L. Capper, Washington State University, Pullman.

M272  Milk, fat, and protein production in relationship to herd linear somatic cell score in Minnesota.  

M273  Effects of water total dissolved solids on milk-fed calves weight gain, feed intake and weaning age in winter.  
R. Ramezankhani¹, A. Alizadeh¹, A. Nasserian¹, M. Chehrazi¹, and B. Saremi**, ¹Department of Animal Science, Islamic Azad University, Saveh Branch, Saveh, Iran, ²Department of Animal Science (Excellent Center of Animal Nutrition), Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran, ³Epidemiology and Reproductive Health Department, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran, ⁴Institute of Animal Science, Physiology and Hygiene unit, University of Bonn, Bonn, Germany.

M274  Occurrence of milk unstable protein in dairy farms from southeastern region of Brazil.  
L. C. Roma Junior*, A. C. O. Rodrigues¹, T. G. R. Amaral², F. Cardoso³,⁴, and P. F. Machado², ¹APTa Centro Leste, Ribeirao Preto, Sao Paulo, Brazil, ²Clinica do Leite/ESALQ/USP, Piracicaba, Sao Paulo, Brazil, ³Department of Animal Science, University of Illinois, Urbana.

M275  Alternative cooling of dairy cows by wetting the udder.  
J. A. Binversie*¹, J. D. Davis¹, K. G. Gbemebiedin², C. N. Lee³, and J. E. Larson³, ¹Mississippi State University, Mississippi State, ²Cornell University, Ithaca, NY, ³University of Hawaii, Honolulu.

M276  Effect of essential oils on production and reproduction in early lactating cows during heat exposure.  
U. Serbester¹, M. Çmar¹, A. Ceyhan¹, H. Erdem², M. Gorgülü³, H. R. Kutlu¹, L. Baykal Çelik¹, Ö. Yuce³, P. W. Cardozo⁴, and M. Blanch¹, ¹Bor Vocational School, University of Nigde, Turkey, ²Department of Obstetrics and Gynecology, Faculty of Veterinary Medicine, University of Selcuk, Turkey, ³Department of Animal Science, Faculty of Agricultural, University of Cukurova, Turkey, ⁴Ekol Company, Turkey, ⁵Novus International Inc., St. Charles, MO.

M277  The relationship between milk urea nitrogen with milk yield and protein percentage categories for Iranian Holstein cows.  
F. Fatehi*¹, M. Honarvar², M. Dehghan-Banadaky², A. Zali³, and A. Young⁴, ¹Department of Animal Science, Campus of Agriculture and Natural Resource, University of Tehran, Karaj, Iran, ²Islamic Azad University, Shahriar_Shahr-e Qods Branch, Shahriar, Iran, ³Department of Animal, Dairy, and Veterinary Sciences, Utah State, Logan.

M278  Stage of lactation is associated with differences in the metabolic profiles and innate immunity in dairy cows transitioning to an organic management system.  

M279  Delayed effect of heat stress on dry matter intake and milk yield in dairy cows.  
A. S. Atzori* and A. Cannas, Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari 07100, Italy.

M280  Effect of feed-line soaking and Niashure (NI) on heat–stressed lactating Holsteins housed in an evaporative tunnel ventilated barn in Thailand.  
S. Rungruang*, J. Collier, and R. Collier, University of Arizona, Tucson.

M281  Economic assessment of postpartum milking frequencies on dairy farms.  

M282  Milk fat and protein:fat ratio in California dairies.  
N. Silva-del-Rio*, L. Aogo¹, B. Verboort¹, and H. Selvaraj¹, ¹University of California Cooperative Extension, Tulare, ²APC Inc., Ankeny, IA, ³AgriTech Analytics, Visalia, CA.

M283  Performance of post-weaned Holstein heifers fed a grain mix with free choice hay or a total mixed ration (TMR) containing sweet corn cannery waste, hay and dried distillers grains.  
D. Schimek*, D. Ziegler*, B. Ziegler*, H. Chester-Jones¹, M. Raeth-Knight¹, and G. Golombeski¹, ¹Hubbard Feeds Inc., Mankato, MN, ²University of Minnesota Southern Research and Outreach Center, Waseca, ³University of Minnesota, St. Paul.

M284  Effect of feeding duration on growth of group fed dairy calves during transition to an organic production system.  
B. J. Heins*, D. G. Johnson, and E. A. Bjorklund, University of Minnesota, St. Paul.
Pre- and post-weaning performance and health of dairy heifer calves fed calf starters and grain mixes with glycerol as a replacement for corn.
D. Ziegler*, 1, H. Chester-Jones1, A. Doering2, D. Timmerman3, M. Raeth-Knight4, and G. Golombeski5, 1University of Minnesota Southern Research and Outreach Center, Waseca, 2Agricultural Utilization Research Institute, Waseca, MN, 3University of Minnesota, St. Paul.

Effect of lactation number, year and season of initiation of lactation on milk yield of rbST-treated cows hormonally induced into lactation.
M. Mellado*, 2E. Antonio-Chirino2, C. Meza-Herrera2, F. G. Veliz2, and J. R. Arevalo4, 2Autonomous Agrarian University Antonio Narro, Department of Animal Nutrition, Saltillo, México, 3Autonomous Agrarian University Antonio Narro, Faculty of Veterinary Medicine, Torreon, Mexico, 4Universidad Autónoma Chapingo, Unidad Regional Universitaria de Zonas Áridas, Bermejillo, México, 5University of La Laguna, Department of Parasitology, Ecology and Genetics, La Laguna, Spain.

Ruminant Nutrition

Impact of corn processing method and soy glycerin on fecal shedding from cattle inoculated with Escherichia coli O157:H7.

Different levels of urea in concentrate supplementation of grazing cattle during the transition period of dry to rainy seasons under tropical conditions.
A. G. Silva1, H. J. Fernandes2, 1, O. L. Tedeschi3, M. F. Paulino1, S. A. Lopes1, and A. A. Rocha, 1Federal University of Viçosa, Viçosa, MG, Brazil, 2State University of Mato Grosso do Sul, Aquidauana, MS, Brazil, 3Texas A&M University, College Station.

Effects of monensin on rumen metabolism of steers fed 60% dried distillers grains diets.
T. L. Felix*, 1, N. A. Pyatt2, and S. C. Loerch, 1The Ohio State University, Wooster, 2Elanco Animal Health, Greenfield, IN.

Carcass composition of mature cows subjected to a nutritional restriction and two levels of compensatory growth.
K. O. Barros1, H. J. Fernandes2, 1, G. L. D. Feijó2, M. A. Rezende2, 1, H. O. A. Santana1, E. Rosa1, L. M. Paiva1, and J. C. Souza1, 1State University of Mato Grosso do Sul, Aquidauana, MS, Brazil, 2EMBRAPA Beef Cattle Center, Campo Grande, MS, Brazil, 3Federal University of Grande Dourados, Dourados, MS, Brazil.

Combined use of ionophore and virginiamycin on feeding behavior of Nellore steers fed high concentrate diets.
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Performance and carcass traits of beef bulls fed crude glycerin in the diet.

Effect of dietary urea-N levels on growth performance and blood biochemical indexes of growth-finishing cattle.
L. Jiang*, Y. L. Huo, L. P. Ren, Z. M. Zhou, and Q. X. Meng, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing 100193, China.

In situ ruminal protein degradability of distiller’s grain varying grain source and milling process in beef cattle.
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Effects of monensin and probiotics on finishing Nellore bulls performance, carcass characteristics, and liver abscesses.
C. Sitta1, A. M. Pedroso1, G. B. Mourão3, R. Carareto1, J. R. R. Dórea1, T. G. Neri1, D. A. Rodrigues1, W. F. Angolini1, and F. A. P. Santos2, 1University of São Paulo, Piracicaba, SP, Brazil, 2Embrapa Cattle Southeast, São Carlos, SP, Brazil.

Effect of feeding alfalfa hay and starter concentrate containing two different levels of fiber on feed intake, body weight gain and feed efficiency.
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Effects of supplementation of organic, inorganic or a 50/50 mix of selenium on gene expression profiles in the longissimus dorsi muscle of maturing Angus beef heifers.

Effect of zilpaterol hydrochloride supplementation feeding duration on growth performance and carcass characteristics of feedlot heifers.
J. C. Robles-Estrada*, H. Dávila-Ramos1, A. Estrada-Angulo1, A. Plascencia3, F. G. Rios3, and R. A. Zinn3, 1Universidad Autónoma de Sinaloa, Culiacán, Sinaloa, México, 2Universidad Autónoma de Baja California, Mexicali, B.C., México, 3University of California-Davis, El Centro.
Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 1. Animal performance and plasma urea nitrogen.
K. M. Koenig*, K. A. Beauchemin, and S. M. McGinn, Agriculture and Agri-Food Canada, Research Centre, Lethbridge, Alberta, Canada.

Feeding tannins to reduce nitrogen losses from feedlot cattle fed high protein diets containing distillers grains 2. Nutrient digestibility and route of nitrogen excretion.
K. M. Koenig*, K. A. Beauchemin, and S. M. McGinn, Agriculture and Agri-Food Canada, Research Centre, Lethbridge, Alberta, Canada.

Potential modulation of the inflammatory response associated with enteropathogenic Escherichia coli infections in young calves using Actigen.
A. Aris¹, E. Rodriguez⁰*, A. Tort¹, M. Terré¹, F. Fàbregas¹, K. A. Jacques¹, and A. Bach¹, ², ³ Ruminant Production, Institut de Recerca i Tecnologia Agroalimentàries (IRTA), Caldes de Montbui, Barcelona, Spain, ¹Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Barcelona, Spain, ²Center for Animal Nutrigenomics and Applied Animal Nutrition, Alltech, Nicholasville, KY.

Effects of crude protein levels on the concentrate supplement on gas production from carbohydrate in vitro degradation of Elephant grass.
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Effect of 2,4-thiazolidinedione in finishing beef cattle growth performance and carcass traits.
M. Arévalo*, L. González-Dávalos, A. Kunio, J. D. Garza, J. L. Dávalos, O. Mora, and A. Shimada, Universidad Nacional Autónoma de México, Querétaro, Querétaro, México.

Evaluation of rumen protozoa counting under influence of a polyclonal antibody preparation against lactate-producing and proteolytic bacteria in cows fed different energy sources.
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Inclusion of triticale dried distiller grains with or without oilseeds reduces growth performance but increase alpha-linolenic acid and lowers trans 10 C18:1 fatty acid of subcutaneous fat in finishing beef cattle.
M. L. He¹, ², T. A. McAllister¹, H. Sultana¹, M. Oba¹, M. E. R. Dugan¹, J. P. Kastelic¹, and J. J. McKinnon¹, ¹Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, ²University of Saskatchewan, Saskatoon, SK, Canada, ³University of Alberta, Edmonton, AB, Canada, ⁴Lacombe Research Centre, Agriculture and Agri-Food Canada, Lacombe, AB, Canada.

Substitution of wheat dried distiller grains with solubles for barley silage in a barley based finishing diet increases beef alpha-linolenic acid.
M. L. He¹, ², W. Z. Yang¹, T. A. McAllister¹, M. E. R. Dugan¹, K. A. Beauchemin¹, and J. J. McKinnon³, ¹Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, ²Lacombe Research Centre, Agriculture and Agri-Food Canada, Lacombe, AB, Canada, ³University of Saskatchewan, Saskatoon, SK, Canada.

Effect of early grain feeding on ADG and signaling proteins for protein synthesis in the muscle tissues of beef animals.

Slow release urea can replace nitrogen from soybean meal in dry-rolled corn-based finishing diets for yearling steers.
B. P. Holland**, ¹, J. S. Jennings³, ¹Department of Animal and Range Sciences, South Dakota State University, Brookings, ²Alltech Inc., Brookings, SD.

Acetate clearance rates and postabsorptive capacity to utilize acetate by beef steers.

Blood profile of bulls fed different levels of crude glycerin.

Effect of specific polyclonal antibody preparation doses on ruminal variables in cattle fed high concentrate diets.
J. Bastos**, ¹, C. Marino¹, D. Millen², R. Pacheco², J. Magalhaes¹, J. Carvalho¹, M. Arrigoni¹, and P. Rodrigues¹, ¹University of Sao Paulo, FMVZ-USP, Pirassununga, Sao Paulo, Brazil, ²University of Sao Paulo State, FMVZ-UNESP, Botucatu, Sao Paulo, Brazil, ³Nutribeef Consultancy, Botucatu, Sao Paulo, Brazil.

Corn grain processing methods and forage levels in finishing diets for Nellore bulls.
R. Cararetó¹, ², A. P. Santos**, G. Mourão¹, A. M. Pedroso¹, C. Sitta¹, M. P. Soares¹, M. R. Paula¹, R. S. Marques¹, and M. C. Soares¹, ¹University of Sao Paulo, Piracicaba, Sao Paulo, Brazil, ²Embrapa Cattle Southeast, Sao Carlos, Sao Paulo, Brazil.
Effect of feeding *Camelina sativa* seeds or meal on lactation performance and milk fatty acid composition in lactating dairy cows.  
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M320

Milk fatty acid profile of dairy goats fed increasing levels of an unprotected conjugated linoleic acid (UCLA) supplement.  

M321

Performance and milk fatty acid profile of dairy goats fed a total mixed ration (TMR) containing an unprotected conjugated linoleic acid (UCLA) supplement.  
M. Baldin1, J. Souza1, M. M. Almeida1, R. Dresch1, D. Fernandes1, F. Batistel1, E. Ticiani2, F. C. F. Lopes4, M. A. S. Gama2, and D. E. Oliveira2,3; 1Centro de Ciências Agroveternárias, UDESC, Lages, SC, Brasil, 2Centro de Educação Superior do Oeste, UDESC, Chapecó, SC, Brasil, 3Universidade Federal de Juiz de Fora, Juiz de Fora, MG, Brasil, 4Embrapa, CNPGL, Juiz de Fora, MG, Brasil.

M322

Effects of feeding levels of a milk replacer on growth performance, digestion and metabolism of nutrients, and serum biochemical markers in calves.  
X. Xu, J. Wang, Y. Tu*, N. Zhang, C.-G. Jiang, and Q. Diao, Key Laboratory of Feed Biotechnology of Ministry of Agriculture/Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, P. R. China.

M323

Effect of dietary starch content on response to an intravenous glucose tolerance test in early lactation dairy cows.  

M324

Effect of milk feeding level on pre- and post-weaning performance of dairy calves.  
E. K. Miller-Cushon1,2, R. Bergeron2, K. E. Leslie3, and T. J. DeVries1; 1Dept. Animal and Poultry Science, University of Guelph, Kemptville Campus, Kemptville, ON, Canada, 2Dept. Animal and Poultry Science, University of Guelph, Campus d’Alfred, Alfred, ON, Canada, 3Dept. Population Medicine, Ontario Veterinary College, University of Guelph, Guelph, ON, Canada.

M325

Effects of methionine hydroxy copper supplementation on lactation performance, fertility, nutrients digestibility and some metabolic indices in dairy cows.  
F. Wang3, S. L. Li1, Y. J. Wang3, X. Jin1, H. Cao1, F. C. Guo2, and Y. M. Wan1; 1State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China, 2Novus International Research Center, Beijing, China.

M326

Effects of methionine hydroxy zinc supplementation on lactation performance, fertility, nutrients digestibility and some metabolic indices in dairy cows.  
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M327
Effect of metabolizable protein level on milk production and composition of early lactating Holstein cows.  
A. Laki, K. Rezayazdi, and M. Dehghan-Banadaky*; Animal Science Department, Campus of Agricultural and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

The effect of reducing dietary phosphorus on bone metabolism in lactating dairy cows.  
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Evaluation of rumen microbial diversity population under influence of a polyclonal antibody preparation against lactate-producing and proteolytic bacteria in cows fed different energy sources.  
C. Marino*, U. Hofstetter*, G. I. Zanton*, M. Aguilar*, J. Benninghoff*, F. J. Souza1, W. Otero1, B. Ziegler2, and D. Schimek2; 1Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Melle, Belgium, 2Department of Reproduction, Obstetrics and Herd Health, Ghent University, Merelbeke, Belgium, 3Department of Animal Sciences, Institute for Agricultural and Fisheries Research, Melle, Belgium.

Effect of poly-unsaturated fatty acid on plasma and milk fatty acid composition in early lactating dairy cows.  
B. Vlaeminck*, M. Hostens*, E. Colman1, S. De Campeneere1, G. Opsomer2, and V. Fievez2; 1Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Melle, Belgium, 2Department of Animal Sciences, Institute for Agricultural and Fisheries Research, Melle, Belgium.

Effect of extruded flaxseed or alfalfa protein concentrate in interaction with two levels of concentrate on milk protein and Ca synthesis.  
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Effect of cow variation on the efficiency of nitrogen recycling to the rumen in dairy cattle.  
M. Aguilar*, M. E. Van Amburgh2, W. A. D. Nayanjanjilee1, and M. D. Hanigan1; 1Virginia Polytechnic Institute and State University, Blacksburg, 2Cornell University, Ithaca, NY.

Effect of enhanced feeding rates of conventional milk replacer on pre- and post-weaning performance and health of dairy calves.  
D. Carlson*, B. Ziegler2, D. Schimek2, M. Raeth-Knight1, G. Golombeski3, J. Linn4, N. Litherland5, D. Ziegler6, and H. Chester-Jones7; 1Milk Products, Chilton, WI, 2Hubbard Feeds Inc., Mankato, MN, 3University of Minnesota, St. Paul, 4University of Minnesota, Southern Research and Outreach Center, Waseca, MN.

Effect of replacing corn grain and soybean meal with a treated wheat grain on the performance of dairy cows.  
F.-J. Desialis, Paris, France.

Form of trace mineral supplementation on complete lactation performance, reproduction, and locomotion in Holstein cows.  

Effect of replacing corn grain and soybean meal with a treated wheat grain on the performance of dairy cows.  
J. Benninghoff*, G. Hamann1, H. Steingaß2, F.-J. Romberg3, K. Landfried4, and K.-H. Südekum5; 1University of Bonn, Bonn, Germany, 2DLR Westfalen, Münchweiller/Alsenz, Germany, 3University of Hohenheim, Stuttgart, Germany.

Comparison of models to predict ruminal methane from milk fatty acids.  
J. M. Castro-Montoya1, V. Fievez2, and B. Vlaeminck2; Laboratory of Animal Nutrition and Animal Product Quality, Gent University, Gent, Belgium.

Effects of methionine analog supplement on milk production and composition of primiparous dairy cows in a Brazilian dairy herd.  

Dry matter digestibility of dairy goats diets during pregnancy.  

Effect of different levels of a mycotoxin deactivating feed additive on Holstein crossbred dairy cows in Southeast Asia fed rations naturally contaminated with mycotoxins.  
U. Hofstetter*, I. Rodrigues3, and K. Kiyothong1; 1Bioin Holding GmbH, Herzogenburg, Austria, 2School of Agriculture, Food and Rural Development, University of Newcastle, Newcastle, UK.

Voluntary selection of starter ingredients offered separately to nursing calves.  
C. Montoro1* and A. Bach1,2; 1Ruminant Production, IRTA, Caldes de Montbui, Barcelona, Spain, 2ICREA, Barcelona, Spain.

Duodenal flows and milk yields of odd- and branched-chain fatty acids in response to N underfeeding and energy source in dairy cows.  
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Effects of a direct-fed microbial and fibrolytic enzyme product on somatic cell counts in milk produced by crossbred dairy cows in the Brazilian Cerrado.  
R. D. Sainz1,2, C. U. Magnabosco3, E. A. Filgueiras3, R. Guimarães3, E. M. C. Freitas4,5, and L. R. Mattos4,6; 1University of California, Davis, 2Embrapa, Brasília, DF, Brazil, 3Embrapa Cerrados, Planaltina, DF, Brazil, 4Embrapa Arroz e Feijão, Santo Antonio de Goiâ, GO, Brazil, 5Biofórmula, Goiânia, GO, Brazil, 6Embrapa Gado de Leite, Juiz de Fora, MG, Brazil.
M344 Effects of abomasal dosing of ferrous lactate in lactating dairy cows.  

M345 Glycerin as a replacement for corn in dairy Holstein cows diets.  

M346 Rolled barley grain treated with lactic acid and heat altered postprandial rumen mineral availability in lactating dairy cows.  

M347 Phosphorus feeding for second lactation dairy cows.  

M348 Biochemical blood parameters of dairy cows fed with increasing concentration of glycerin.  

M349 Treating barely grain with lactic acid and heat modulated pre-prandial rumen calcium and magnesium availability in lactating dairy cows.  

M350 Performance variables of dairy cattle fed a commercial micronutrient supplement during the peripartum period.  

M351 Effect of whole versus chopped sugar cane on dry matter intake in dry dairy cows.  
J. E. Pérez-De La Ossa and R. P. Lana, Universidade Federal de Viçosa, MG, Brazil.  

M352 On-farm dry matter testing to improve feed delivery precision on dairy farms.  
K. R. French* and R. A. Kohn, University of Maryland, College Park.

M353 Effects of the source and amount of sulfur in prepartum diets on plasma metabolites of periparturient Holstein cows.  
E. Manidari, H. Amanlou, H. Mirzaei Alamouti, and M. Shahir, Department of Animal Science, University of Zanjan, Iran.

M354 Intake, digestibility and metabolism of nitrogen compounds of dairy cows fed with different urea levels in diets based on sugar cane.  

M355 Effects of barley grain processing on milk yield and composition of early lactating Holstein cows.  
H. Amanlou, H. Mirzaei Alamouti, and A. Aslani, Department of Animal Science, University of Zanjan, Iran.

M356 Fate of phosphorus in large intestine of dairy heifers.  
P. P. Ray*, M. D. Hanigan, and K. F. Knowlton, Virginia Polytechnic Institute and State University, Blacksburg.

M357 Peripheral blood leukocyte population dynamics during the peripartum period in dairy cattle fed a commercial micronutrient supplement.  

M358 Peripheral blood leukocyte population dynamics in peripartum dairy cattle managed under different dry period nutritional strategies.  

M359 Digestion and rumen fermentation in precision-fed dairy heifers on low or high forage rations at four levels of dry distillers grain.  
F. X. Suarez-Mena*, R. D. Shaver, and S. J. Bertics, Department of Dairy Science, University of Wisconsin, Madison.

M360 Effect of live-cell yeast at two dosages on lactation performance by dairy cows.  
L. F. Ferraretto*, R. D. Shaver, and S. J. Bertics, Department of Dairy Science, University of Wisconsin, Madison.

M361 Differences in nutrients formulated and nutrients supplied on three California dairies.  
H. A. Rossow, R. J. van Hoeij, and G. Acetoze, University of California, Davis.  


M363 Effects of additive treatment and glycerol supplementation on in vitro digestibility and fermentation of a total mixed ration.  

M364 Effects of abomasal dosing of ferrous lactate in lactating dairy cows.  
Use of an anti-inflammatory additive in preweaning Holstein calves.
L. A. Borunda1,*, D. Domínguez2, G. Villalobos3, J. Arteaga4, E. Santellano1, M. Cook1, and M. Yang5, 1Universidad Autónoma de Chihuahua, Chihuahua, Chihuahua, México, 2Aova Technologies Inc., Madison, WI.

Effect of dietary trans fatty acids on milk yield and milk composition of early lactating dairy cows.
J. S. Watts*, D. L. Sevier, S. M. Clark, M. A. McGuire, and P. Rezamand, Department of Animal and Veterinary Science, University of Idaho, Moscow.

Effect of nicotinamide on milk yield and retention of cows on commercial California dairies.

Periparturient supplementation of saturated and unsaturated fat sources differentially alters the fatty acid profile of colostrum and milk fat of Holstein cows.
M. Garcia*, L. F. Greco1, A. Lock1, J. E. P. Santos1, and C. R. Staples1, University of Florida, Gainesville, Michigan State University, East Lansing.

Effects of reduced dietary protein and supplementing rumen protected amino acids on the nitrogen efficiency of dairy cows.
A. L. Bell*, M. J. de Veth3, T. R. Wiles1, O. Beccav3, and M. D. Hanigan1, Virginia Polytechnic Institute and State University, Blacksburg, Balchem Corporation, New Hampton, NY, Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA.

The effect of direct-fed microbial supplementation on reproductive and production performance of primiparous Holstein heifers.
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Rumination behavior and its relationship to feeding behavior in Holstein dairy cows prepartum.
K. Schirmann*, N. Chapinal1, D. M. Weary2, W. Heuwieser1, and M. A. G. von Keyserlingk1, Animal Welfare Program, Faculty of Land and Food Systems, The University of British Columbia, Vancouver, BC, Canada, Clinic for Animal Reproduction, Faculty of Veterinary Medicine, Freie Universität Berlin, Berlin, Germany.

Performance of dairy calves offered alternative pre-weaning feeding programs.

Effect of Origanum vulgare L. leaves on production and milk fatty acid composition in lactating dairy cows.
A. N. Hristov*, C. Lee1, T. Cassidy1, K. Heyler1, J. A. Tekippe1, G. A. Varga1, and B. Corf2, Pennsylvania State University, University Park, Virginia Polytechnic Institute and State University, Blacksburg.

Ruminant Nutrition
Ruminal Metabolism

Evaluation of algae as livestock feed.

Hourly changes in fatty acid profile of ruminal contents in continuous cultures as soybean oil is added and removed from the diet.
C. M. Klein*, S. K. Thurmond, P. H. Morris, and T. C. Jenkins, Clemson University, Clemson, SC.

Effects of tannin extracts on in vitro growth of selected food-borne pathogenic bacteria.
B. J. Min1, B. R. Min2, J. M. Sieg3, J.-S. Eun4,*, D. R. ZoBell5, and D. C. Tice1, 1Department of Agricultural and Environmental Sciences, Tuskegee University, Tuskegee, AL, 2Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan.

Tannin extracts decrease in vitro growth of ruminal acidosis-causing bacteria in pure culture.
J.-S. Eun5,*, B. R. Min2, J. M. Sieg3, D. R. ZoBell5, and A. J. Young1, 1Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan, 2Department of Agricultural and Environmental Sciences, Tuskegee University, Tuskegee, AL.

Effects of wheat dried distillers grains with solubles (DDGS) and cinnamaldehyde (CIN) on fermentation and protein degradation in Rusitec.
Y. L. Li1,2, M. L. He1, K. A. Beauchemin1, and W. Z. Yang3, 1Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China.

In vitro digestion and gas production of wheat grain varying processing.
W. Z. Yang*, T. A. McAllister1, and M. Oba2, 1Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada.

The effect of DDGS when replacing corn or soybean meal on rumen microbial growth in vitro as measured using real-time PCR.
E. Castillo-Lopez* and P. J. Kononoff, University of Nebraska-Lincoln, Lincoln.
M380 Effects of semi-arid medicinal herb essential oils on growth of pure culture of Butyryrivibrio fibrisolvens SH13.
H. Jahani-Azizabadi1,2, M. Danesh Mesgaran3, A. R. Vakili1, and K. Rezayazdi1, 1Dept. of Animal Science, Excellence Center for Animal Science, Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran, 2Dept. of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Tehran, Iran.

M381 Effects of microbial contamination on in situ estimates of ruminal degradability of fiber fractions.

M382 Measurement of dry matter degradation of sugar cane molasses in rumen of bovine using nylon bag technique.

M383 Ruminal degradation of the dry matter of the sugar cane silage.

M384 A novel method to measure rumen stability of three ruminant protected products.
M. Sakkers2, P. H. Robinson1, L. J. Erasmus1, J. Garrett1, and R. Meeske1, 1University of Pretoria, Pretoria, South Africa, 2University of California, Davis, Davis, 3Quali Tech Inc., Chaska, MN, 4Western Cape Department of Agriculture, Western Cape, South Africa.

M385 Biohydrogenation of docosahexaenoic acid into unsaturated 22-carbon fatty acid intermediates in ruminal batch cultures.
C. M. Klein*, W. C. Bridges, and T. C. Jenkins, Clemson University, Clemson, SC.

M386 Effect of a handmade inoculum and additive on in vitro dry matter digestibility of sugar cane silage.

M387 Effects of dietary probiotics on growth performance, nutrient digestibility, blood profiles, fecal gas emission, fecal microflora and diarrhea index in weaning pigs.
S. M. Hong*, T. X. Zhou1, I. H. Kim1, and Y. H. Park2, 1Dankook University, Cheonan, Choongnam, South Korea, 2Yeungnam university, Dae dong, Gyeongsang, South Korea.

M388 The response of urea-N in ruminal content influenced by essential oils.
S. Zhao, J. Wang*, D. Bu, and Y. Zhang, State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agriculture Sciences, Beijing, China.

M389 Effects of polyclonal antibody against urease on ruminal fermentation and microbiota diversity in vitro.
S. Zhao, J. Wang*, D. Bu, and Y. Zhang, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.

M390 Effects of nitrate on microbial communities and rumen fermentation characteristic by using consecutive culture system.
Z. Zhou3,1, Z. Yu1, and Q. Meng1, 1College of Animal Science and Technology and State Key Laboratory of Animal Nutrition, China Agricultural University, Beijing, 100193, China, 2The MAPLE Research Initiative, Department of Animal Sciences, The Ohio State University, Columbus.

M391 Effects of lipid sources on performance and carcass traits of beef cattle finished at pasture.
T. T. Berchielli*1,2, I. P. C. Carvalho1,2, G. Fiorentini1,2, and J. F. Lage1,2, 1São Paulo State University, Jaboticabal, São Paulo, Brazil, 2FAPESP—Fundaçao de Amparo à Pesquisa do Estado de São Paulo, São Paulo, São Paulo, Brazil.

M392 Effects of different lipid sources on the carcass traits of the steers finished in a feedlot.
T. T. Berchielli*1,2, G. Fiorentini1,2, I. P. C. Carvalho1,2, J. F. Lage1,2, and R. C. Canesin1,2, 1São Paulo State University, Jaboticabal, São Paulo, Brazil, 2FAPESP—Fundaçao de Amparo à Pesquisa do Estado de São Paulo, São Paulo, São Paulo, Brazil.

Ruminant Nutrition
Small Ruminant

M393 Blood biochemical constituents in growing lambs fed on orange pulp ensiled with exogenous enzymes.
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Effect of propionate on urea and glucose kinetics in sheep.

Duodenal flow of nitrogenous compounds by wethers fed a fresh ryegrass-based diet intraruminally infused with Acacia mearnsii tannins.
F. Hentz**, C. J. Härter², G. V. Kozloski¹, M. P. Mezzomo¹, and A. C. Fluck¹, ¹Universidade Federal de Santa Maria, Santa Maria, RS, Brazil, ²Universidade Estadual Paulista, Jaboticabal, SP, Brazil.

Effect of germinated and ensiling sorghum grain on digestion and ruminal fermentation by sheep.
D. García¹, F. Castrejón¹, G. Mendoza¹, and L. Corona**², ¹Universidad Nacional Autónoma de México, Cd. Universitaria, DF, México, ²Universidad Autónoma Metropolitana, Xochimilco, DF, México.

Concentration of some elements in blood serum of nonlactating goats in a subtropical region of Southwest of México State.

Exogenous phytase effects on performance of weaned Dorper x Pelibuey lambs.
G. Buendía-Rodríguez, S. S. González-Muñoz*¹, G. D. Mendoza-Martínez², L. Y. Bernal-Zamora³, R. Basurto-Gutiérrez², M. M. Crosby-Galván¹, and J. J. A. Méndez-Romero³, ¹CENIDFyMA INIFAP, Ajuchitlán, Querétaro, México, ²Colegio de Postgraduados, Montecillo, Estado de México, México, ³Universidad Autónoma Metropolitana–Xochimilco, México DF, ¹Universidad La Salle Bajío, Guanajuato, México.

Calcium propionate and grain level effects on performance, ruminal variables and plasma glucose of finishing lambs.
H. A. Lee-Range¹, S. S. González-Muñoz*¹, G. D. Mendoza-Martínez², A. Hernández-Garay², and M. M. Crosby-Galván¹, ¹Colegio de Postgraduados, Montecillo, Estado de México, México, ²Universidad Autónoma Metropolitana–Xochimilco, México DF, México.

Effects of ziplaterol hydrochloride and genotype on performance of finishing lambs.
F. Montoya¹, R. Castañeda², S. S. González-Muñoz*², G. Buendía-Rodríguez¹, R. Basurto², P. Partida¹, and H. Jiménez-Severiano¹, ¹CENIDFyMA INIFAP, Ajuchitlán, Querétaro, México, ²Colegio de Postgraduados, Montecillo, Estado de México, México.

Small Ruminant Nutrition

Feed intake and performance by yearling Boer goat doelings consuming deep-stacked or ensiled broiler litter.
A. L. Goetsch*, G. D. Detweiler, B. Bah, T. Sahlú, and J. Hayes, American Institute for Goat Research, Langston University, Langston, OK.

Effects of night-locking on intake, digestion, behavior, and energy use by meat goat does grazing grass/legume pasture.
I. Tovar-Luna¹, R. Puchala², T. A. Gipson³, G. D. Detweiler¹, L. J. Dawson¹, T. Sahlú¹, A. Keli³, and A. L. Goetsch¹, ¹American Institute for Goat Research, Langston University, Langston, OK, ²American University of Beirut, Faculty of Agricultural & Food Sci., Beirut, Lebanon, ³University of Maryland, College Park.

Effects of replacing different levels of alfalfa hay and corn silage with sunflower residue silage on feed intake and nutrient digestibility in Mohabadi dairy goats.
A. Gholami-Yangije¹, R. Pirmohammadi¹, J. Amini Jabal Kandi¹, and H. Khalilivand-Behroozyar*¹², ¹Department of Animal Science, Urmia University, Urmia, West Azerbaijan, I. R. Iran, ²Department of Animal Science, West Azerbaijan Agriculture and Natural Resource Research Center, Urmia, West Azerbaijan, I. R. Iran, ³Department of Animal Science, University of Tehran, Karaj, Tehran, I. R. Iran.

Effects of inclusion of different levels of sunflower residue silage in dairy goat diets on milk production and composition.
A. Gholami-Yangije¹, R. Pirmohammadi¹, J. Amini Jabal Kandi¹, and H. Khalilivand-Behroozyar*¹², ¹Department of Animal Science, Urmia University, Urmia, West Azerbaijan, I. R. Iran, ²Department of Animal Science, West Azerbaijan Agriculture and Natural Resource Research Center, Urmia, West Azerbaijan, I. R. Iran, ³Department of Animal Science, University of Tehran, Karaj, Tehran, I. R. Iran.

Effect of protein restriction on body characteristics and fat storage in Awassi sheep.
S. F. Abi Saab¹², F. T. Sleiman¹, F. Ayoub², and P. Y. Aad**, ¹Lebanese University, Faculty of Agricultural & Veterinary Sci., Dekwaneh, Lebanon, ²Holy Spirit University of Kaslik, Faculty of Agricultural Sci., Kaslik, Lebanon, ³American University of Beirut, Faculty of Agricultural & Food Sci., Beirut, Lebanon, ⁴Notre Dame University, Faculty of Natural & Applied Sci., Louaizeh, Lebanon.

Nutrient intake and performance of lambs fed diets with different levels of inactive dry yeast.
L. D. A. Rufino¹, O. G. Pereira¹, K. G. Ribeiro¹, S. C. V. Filho¹, and L. L. Cardoso¹, ¹Federal University of Viçosa, Viçosa, Minas Gerais, Brazil, ²Universidade Federal dos Vales do Jequitinhonha e Mucuri, Diamantina, Minas Gerais, Brazil.
Effect of low and high oil corn distillers grain on rumen fermentation, growth performance and carcass characteristics of lambs.
A. S. O’Hara*, A. V. Chaves1, A. Tanner2, T. A. McAllister1,2, D. J. Gibb3, F. van Herk3, and R. D. Bush1, 1Faculty of Veterinary Science, The University of Sydney, Sydney, NSW, Australia, 2Faculty of Agriculture, Food and Natural Resources, University of Sydney, Sydney, NSW, Australia, 3Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, Alberta, Canada.

Nutrient intake and performance of lambs fed diets containing different levels of rumen degradable protein.
J. L. Silva1, K. G. Ribeiro4, O. G. Pereira1, S. C. V. Filho5, D. S. Pina6, and P. V. R. Paulino2, 1Federal University of Jequitinhonha and Mucuri Valleys, Diamantina, Minas Gerais, Brazil, 2Federal University of Viçosa, Viçosa, Minas Gerais, Brazil, 2Federal University of Mato Grosso, Sinop, Mato Grosso, Brazil.

Diet preference of lambs offered a choice of concentrate diets containing different proportions of wheat dried distillers grain with solubles.
E. K. R. Charles, A. V. Chaves, E. Jonas, and A. S. O’Hara*, Faculty of Veterinary Science, The University of Sydney, Sydney, NSW, Australia.

Effect of inclusion of dried citrus pulp on in vitro ruminal fermentation kinetics of a total mixed ration for goats.
J. Hernández1,2, R. Rojo1, A. González2, A. Z. M. Salemi3, F. Lucero4, J. L. Tinoco5, A. Carreón6, and J. F. Vázquez7, 1Centro Universitario UAEM-Temascaltepec, Universidad Autónoma del Estado de México, Temascaltepec, Estado de México, México, 2Unidad Académica Multidisciplinar Agricultura y Ciencias, Centro Universitario Victoria, Universidad Autónoma de Tamaulipas, Ciudad Victoria, Tamaulipas, México.

The under-nourishment of the Alpine-French goats does not diminish reproductive outcomes, but does affect dynamics of the offspring-growth.
R. Rivas-Muñoz1, E. Carrillo2, C. A. Meza-Herrera3, C. Leyva4, H. Zermeño-González5, R. Rodríguez-Martínez6, M. Mellado1, F. G. Véliz7, and G. Arelano-Rodríguez8, 1Instituto Tecnológico de Torreón, Torreón, Coahuila, México, 2Universidad Autónoma Chapingo, Unidad Regional Universitaria de Zonas Áridas, Bermejillo, Durango, México, 3Universidad Autónoma Agraria Antonio Narro, Torreón, Coahuila, México.

Evaluation of crude glycerin on performance and carcass characteristics of growing meat goats.
K. B. Tuoho*, N. K. Gurung1, S. G. Solaiman1, B. R. Min1, J.-S. Eun1, and W. H. McElhenney3, 1Tuskegee University, Tuskegee, AL, 2Utah State University, Logan.

A meta-analysis for comparing dry matter intake prediction models in dairy goats.

Intake and digestibility of rations containing dry yeast in Saanen goats during peripartum.
C. R. Alcalde*, B. S. L. Molina, L. R. Lima, L. C. Gomes, and R. Souza, Universidade Estadual de Maringá, Maringá, Paraná, Brazil.

Net protein requirements for growth of female Saanen goat kids.

Net energy requirements for growth of female Saanen goat kids.

Effect of Clinoptilolite (zeolite) substituting for corn-soybean meal on productive performance and carcass characteristics of Pelibuey sheep.

Effect of live yeast Saccharomyces cerevisiae (strain Sc 47) on fattening efficiency and blood parameters of growing Mehraban lambs.
N. Bajeghi1, A. Taghizadeh2, A. FarahAvar3, and H. Khalivandi-Behroozyyar4*, 1Islamic Azad University, Maragheh Branch, 2Department of Animal Science, University of Tabriz, 3Department of Animal Science, University of Tehran, 4Department of Animal Science, Urmia University.

Relationship of blood enzymes and metabolites to residual feed intake of lambs.

Nutritive value of Vicia panonica forage and its effect on ram Kurdish lamb performance.
F. Fatahnia1, M. Moeini2, F. Moradi2, R. Ebnabasi2, and H. Mirzaei Alamouti*, 1Department of Animal Science, University of Ilam, Iran, 2Department of Animal Science, University of Zanjan, Iran.

Daily supplementation of Saccharomyces cerevisiae (strain Sc 47) can cause reduction of blood cholesterol.
N. Bajeghi1, A. Taghizadeh2, A. FarahAvar3, and H. Khalivandi-Behroozyyar4*, 1Islamic Azad University, Maragheh Branch, 2Department of Animal Science, University of Tabriz, 3Department of Animal Science, University of Tehran, 4Department of Animal Science, Urmia University.
Cull pinto bean as a supplement to pregnant-lactating hair ewes.

Effect of different sources of lipid on blood parameters of sheep.

Use of ionophores in Santa Inês lambs diet for meat production.
P. M. França¹, J. R. O. Pérez¹, V. A. A. Reis¹, I. F. Furuscho-Garcia*, R. F. Leite², F. Oliveira³, S. P. Greca¹, and I. Leopoldino Junior¹, ¹Universidade Federal de Lavras, Lavras, Minas Gerais, Brasil, ²Universidade Paulista Júlio de Mesquita Filho, Jaboticabal, São Paulo, Brasil, ³Universidade Paulista Júlio de Mesquita Filho, Botucatu, São Paulo, Brasil.

Evaluation of behavior and apparent dry matter intake of sheep in tropical pasture.
F. P. Portilho*¹,², J. M. S. Diogo¹, and S. L. S. Cabral Filho¹, ¹University of Brasilia, Brasilia, DF, Brazil, ²Agrodefesa, Rio Verde, GO, Brazil.

Palatability of sainfoin (Onobrychis viciifolia Scop.) in sheep.
H. Khalilvandi-Behroozyar*,², M. Dehghan-Banadaky³, and K. Rezayazdi³, ¹Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, ²Department of Animal Science, University of Urmia, Urmia, West Azerbaijan, Iran.

Effect of feeding tannin-containing pine bark on fecal bacterial population and methane gas production in Kiko-cross goats.
B. R. Min*, S. Solaiman, R. Shange, and R. Ankumah, Tuskegee University, Tuskegee, AL.
SYMPOSIA AND ORAL SESSIONS

Animal Behavior and Well-Being Symposium
Novel Techniques for Euthanasia
Chair: Anna K. Johnson, Department of Animal Science, Iowa State University
Sponsor: AAALAC
298-299

9:30 AM  Welcome and Introduction
A. Johnson.

9:40 AM  8  Euthanasia—An overview of the AVMA's criteria and recommendations.
G. C. Golab*, American Veterinary Medical Association, Schaumburg, IL.

10:10 AM  9  Euthanasia of livestock: Public perception and influence.
S. R. Niekamp*, National Pork Board, Clive, IA.

10:30 AM  10  The signs of unconsciousness and death: How can we recognize them on the farm?
T. M. Widowski, T. M. Casey-Trott, and M. A. Erasmus, Campbell Centre for the Study of Animal Welfare, University of Guelph, Guelph, Ontario, Canada; Michigan State University, Lansing.

11:00 AM  Break

11:15 AM  11  Novel euthanasia technologies for the pig.
S. T. Millman*, Veterinary Diagnostic & Production Animal Medicine, Iowa State University, Ames.

11:45 AM  12  Euthanasia techniques for dairy and beef cattle.
J. K. Shearer, J. P. Reynolds, D. D. Griffin, and G. Johnson, Iowa State University, Ames; Western Veterinary College, Pomona, CA; University of Nebraska, Lincoln; Reedsburg, Wisconsin.

12:15 PM  Open floor wrap-up
A. Johnson.

Animal Health
Beef
Chair: Holly Neibergs, Washington State University
Sponsor: Pfizer Animal Health
297

9:30 AM  13  Weaning management of newly received beef calves with or without continuous exposure to a persistently infected bovine viral diarrhea virus pen mate: Effects on rectal temperature, peripheral blood leukocytes and serum proinflammatory cytokine concentrations.
J. T. Richeson, E. B. Kegley, J. G. Powell, R. G. Schaut, R. E. Sacco, and J. F. Ridpath, University of Arkansas, Fayetteville; Iowa State University, Ames; USDA-ARS, National Animal Disease Center, Ames, IA.

9:45 AM  14  Effect of oral meloxicam on performance and health of stocker calves after castration.
J. F. Coetzee, L. N. Edwards, R. A. Mosher, A. M. O'Connor, B. Wang, B. KuKanich, and D. A. Blasi, Kansas State University, Department of Animal Science and Industry, Manhattan; Iowa State University, Ames.

10:00 AM  15  Characterization and antibiotic susceptibility of Mycoplasma isolates from mastitic buffaloes.
I. Hussain, S. ur Rahman, F. A. Atif, and M. Arif, University College of Agriculture, University of Sargodha, Sargodha, Punjab, Pakistan; University of Agriculture Faisalabad, Faisalabad, Punjab, Pakistan.

10:15 AM  16  Development of detecting kit for bovine myeloperoxidase using enzyme-linked immunosorbent assay.
J. Shi, Q.-Z. Li, Y. Yang, Y. Lv, and X.-J. Gao, Key Laboratory of Dairy Science of Ministry of Education, Northeast Agricultural University, P.R. China.

10:30 AM  17  The identification of candidate genes and candidate gene structural variation for bovine spongiform encephalopathy.

10:45 AM  18  Genomic regions associated with incidence of disease in cattle using DNA pooling and a high-density single nucleotide polymorphism array.
In vitro and in vivo anthelmintic activity of *Amomum subulatum* Roxb. seeds.
Z. Iqbal*, N. Badar, M. Khan, and Z. Sindhu, Department of Parasitology, University of Agriculture, Faisalabad, Punjab-Pakistan.

Lentisk (*Pistacia lentiscus* L.) browse prevents gastro-intestinal nematode infection in goats.

Withdrawn

Occurrence of paratuberculosis in the hilly regions of Himachal Pradesh, India.

Status of *Mycobacterium avium* subspecies *paratuberculosis* Infection in the Cow Shelters (Goshalas/Pinjarapoles) in India.
S. V. Singh*, A. V. Singh1, P. K. Singh1, B. Singh1, A. Kumar1, B. S. Chandel1, A. Srivastav1, S. Gupta1, H. Singh1, A. Mittal1, and S. Yadav1, 1Central Institute for Research on Goats, Mathura, Uttar Pradesh, India, 2College of Veterinary Sciences, Mathura, Uttar Pradesh, India, 3College of Veterinary Science, Dantiwada, Gujarat, India.

Finishing performance and carcass traits of heifers previously managed with three respiratory disease protocols.
J. L. Wahrmund*, D. B. Burken1, B. K. Wilson1, S. J. Terrill1, C. R. Krehbiel1, D. L. Step2, S. M. Trost3, C. L. Goad4, and C. J. Richards1, 1Oklahoma State University, Department of Animal Sciences, Stillwater, 2Oklahoma State University, Department of Veterinary Clinical Sciences, Stillwater, 3Strategic Solutions International, Stillwater, OK, 4Oklahoma State University, Department of Statistics, Stillwater.

Beef Species & Ruminant Nutrition Joint Symposium
Cow Size, Genetics, Management and The Beef Industry
Chair: Jason Rowntree, Michigan State University
Sponsor: Cargill Animal Nutrition

Management and genetic factors affecting efficiency of cattle in a grazing environment.

Genetics of postweaning performance of beef cattle on forage.
M. A. Brown*, J. W. Holloway1, D. L. Lalm1, C. Dobbs1, and S. M. Clifton4, 1USDA-ARS, Grazinglands Research Laboratory, El Reno, OK, 2Texas AgriLife Research, San Angelo, 3Oklahoma State University, Stillwater, 4Redlands Community College, El Reno, OK.

A historical perspective on the influence of the beef industry on mature cow size.
B. McMurry*, Cargill Animal Nutrition, Minneapolis, MN.

Conclusion: Cow size and keeping perspective.
R. H. Pritchard*, South Dakota State University, Brookings.

Breeding and Genetics
Genomic Selection and Whole-Genome Association I
Chair: Selma Forni, Genus Plc

Effect of different genomic relationship matrices on accuracy and scale.
I. Misztal*, C. Y. Chen1, I. Aguilari, Z. G. Vitezica1, A. Legarra1, and W. M. Muir4, 1University of Georgia, Athens, 2Newsham Choice Genetics, Chesterfield, MO, 3INRA, Castanet-Tolosan, France, 4Purdue University, West Lafayette, IN, 5INIA, Las Brujas, Uruguay.
Comparisons of numerator and genomic and relationship matrices.
H. Wang* and I. Misztal, University of Georgia, Athens, GA.

A recursive method of approximation of the inverse of genomic relationships matrix.
P. Faux*, N. Gengler1,2, and I. Misztal1, 1University of Liege, Gembloux Agro-Bio Tech, Animal Science Unit, Gembloux, Belgium, 2National Fund for Scientific Research, Brussels, Belgium, 3University of Georgia, Animal and Dairy Science Department, Athens.

Adapting Bayesian mixture model algorithms to estimate hyperparameters that characterize genetic architecture in genomic selection models.
R. J. Tempelman*, W. Yang1, J. P. Steibel2, and N. M. Bello3, 1Michigan State University, East Lansing, 2Kansas State University, Manhattan.

Improving accuracy of genomic selection by hierarchical Bayesian modeling of spatially correlated chromosomal effects.
W. Yang* and R. J. Tempelman, Michigan State University, East Lansing.

Incorporating molecular breeding values with variable call rates into genetic evaluations.
S. D. Kachman*, G. L. Bennett1, K. J. Hanford1, L. A. Kuehn1, E. J. Pollak1, W. M. Snelling1, M. L. Spangler1, and R. M. Thallman1, 1University of Nebraska, Lincoln, 2U.S. Meat Animal Research Center, Clay Center, NE.

Optimizing principal component extraction for direct genomic value prediction in a multibreed population.
N. P. P. Macciotta*, M. A. Pintus1, R. Steri1, G. Gaspa1, D. Vicario1, E. Santus1, J. T. H. Van Kaam1, and P. Ajmone Marsan1, 1Università di Sassari, Sassari, Italy, 2ANAPRI, Udine, Italy, 3ANARB, Bussolegno, Italy, 4ANAFI, Cremona, Italy, 5Università Cattolica del Sacro Cuore, Piacenza, Italy.

Adjustment of deregressed values from cow evaluations to have the similar mean and variance as bull deregressed values.
G. R. Wiggans*, P. M. VanRaden, and T. A. Cooper, Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.

Effectiveness of genomic selection on milk flow traits in dairy cattle.
K. A. Gray*, J. P. Cassady1, A. Rossoni2, and C. Maltecca1, 1North Carolina State University, Raleigh, 2Italian Brown Breeders Association, Bussolegno, VR, Italy.

Visualization of associations between single nucleotide polymorphisms and economically important dairy traits using biplot analysis.
A. I. Vazquez1, K. A. Weigel2, G. J. M. Rosa3, D. Gianola3, and D. B. Allison4, 1University of Alabama, Birmingham, 2University of Wisconsin, Madison.

Using single nucleotide polymorphism to detect selection signature in Hereford beef cattle.
Y. Huang*, C. Maltecca1, M. D. MacNeil2, and J. P. Cassady1, 1Department of Animal Science, North Carolina State University, Raleigh, 2USDA-ARS, Fort Keogh Livestock and Range Research Laboratory, Miles City, MT.
How can extension use media to connect to and maintain connections and conversations with farmers, ranchers, and producers?
J. Blue* and N. Arthur, Truffle Media Networks, Indianapolis, IN.

Opportunities and challenges associated with the use of technology in extension programming.
J. M. Bewley*, University of Kentucky, Lexington.

Food Safety Symposium
Safe Food Production: Zoonotic Disease-Control, Responsibility, and Liability
Chair: Kristi Smedley, Center for Regulatory Services Inc.

Safe food production: Zoonotic disease-control, responsibility, and liability.
C. Custer*, Independent Consultant.

FDA Authority and Food Production Controls to Protect the Public from Zoonotic Diseases.
T. Schell, FDA/CVM.

Authority and Food Production Controls to Protect the Public from Zoonotic Diseases.
D. Engeljohn, USDA.

Animal Traceability—a part of the solution.
S. Larsen, National Pork Board.

Fundamentals of foodborne illness litigation – Are you at risk?
P. Waller*, Epidemiologist, Marler Clark Law Firm.

Panel Discussion/Questions

Forages and Pastures
Improving Silage Conservation, Utilization and Performance of Grazing Ruminants
Chair: Limin Kung and Jamie Foster

Effect of microbial inoculants on the quality and stability of bermudagrass haylage.
K. G. Arriola*, O. C. M. Queiroz1, J. J. Romero1, J. Kivipelto1, E. N. Muniz2, J. C. Hamie1, M. A. Zarate1, L. G. Paranhos1, and A. T. Adesogan, 1Department of Animal Sciences, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 2Embrapa Tabuleiros Costeiros, Aracaju, SE Brazil.

The impact of aerobic deterioration of corn silage on feed intake by goats.
K. Gerlach*, F. Roß, W. Büscher, and K.-H. Südekum, University of Bonn, Bonn, Germany.

Caloric content of brown midrib sorghum silage harvested at two maturities, fed with concentrate at two levels of intake using in vivo, in vitro and prediction equation methods as related to rumen fermentation and fractional passage.

Intake and digestibility in steers fed sugarcane ensiled with different levels of calcium oxide.
F. H. M. Chizzotti*, O. G. Pereira1, S. C. Valadares Filho1, M. L. Chizzotti1, and R. T. S. Rodrigues1, 1Universidade Federal de Lavras, Lavras, MG, Brazil, 2Universidade Federal de Viçosa, Viçosa, MG, Brazil, 3Universidade Federal do Vale do São Francisco, Petrolina, PE, Brazil.

Effects of co-grazing dairy heifers with goats on animal performance, pasture composition, and dry matter yield.
T. S. Dennis*, M. K. Neary, L. J. Unruh-Snyder, J. E. Tower, and T. D. Nennich, Purdue University, West Lafayette, IN.

Forage mineral concentrations and mineral status of beef cattle grazing cool season pastures in northwestern Florida, emphasizing magnesium.
J. N. Carter1, L. R. McDowell1*, R. O. Myer2, M. K. Maddox1, and M. Brennan1, 1University of Florida, Gainesville, 2University of Florida, Marianna.

In vitro rumen fluid digestion activity of grazing cows as related to productivity and days postpartum.
Forage characteristics and animal performance of beef heifers grazing ‘Mulato II’ brachiariagrass in North-Central Florida.
1UF/IFAS Range Cattle Research and Education Center, Ona, 2UF/IFAS North Florida Research and Education Center, Marianna, 3Agronomy Department, Gainesville, FL, 4Texas AgriLife Research and Education Center, Beeville.

Bermudagrass-legume forage systems for summer stockers.
1The Samuel Roberts Noble Foundation, Ardmore, OK, 2University of Nebraska, Lincoln.

Stocker production systems utilizing warm-season perennial grass pasture: Cattle performance and nitrogen use efficiency.
Oklahoma Agricultural Experiment Station, Stillwater.

Effect of protein supplementation on intake and digestion of three bermudagrass hays of divergent quality by beef cattle.
Texas A&M University, College Station.

Stocker production systems utilizing warm-season perennial grass pasture: Cattle performance and nitrogen use efficiency.
Oklahoma Agricultural Experiment Station, Stillwater.

Effect of protein supplementation on intake and digestion of three bermudagrass hays of divergent quality by beef cattle.
Texas A&M University, College Station.

Effect of level and frequency of protein supplementation on utilization of South Texas grass hay.
1Texas A&M University, College Station, 2Texas A&M University-Kingsville, Kingsville.

Graduate Student Competition: ADSA Dairy Foods Oral Competition
Chair: Stephanie Clark, Iowa State University
295

Effect of salt replacers and flavor enhancers to reduce sodium in Cheddar cheese on aging and sensory properties.
J. E. Grummer* and T. C. Schoenfuss.
University of Minnesota, Department of Food Science and Nutrition, St. Paul.

The influence of NaCl reduction on the properties of cheddar cheese where moisture contents were kept constant.
K. V. Grant*, S. Govindasamy-Lucey, J. J. Jaeggi, M. E. Johnson, and J. A. Lucey.
1University of Wisconsin, Madison, 2Wisconsin Center for Dairy Research, Madison.

Concentration of casein micelles: Changes in renneting functionality in the presence of sodium caseinate.
P. Krishnakutty Nair* and M. Corredig.
1Department of Food Science, University of Guelph, Guelph, Ont., Canada, 2Department of Dairy Development, Government of Kerala, India.

Impact of transglutaminase on the functionality of micellar casein concentrate in process cheese product applications.
P. Salunke and L. E. Metzger.
Midwest Dairy Foods Research Centre, South Dakota State University, Brookings.

Production of a high concentration liquid micellar casein concentrate (18% protein) with a long refrigerated shelf-life.
I. Amelia and D. M. Barbano.
Cornell University, Ithaca, NY.

Serum protein removal from skim milk with a 3-stage, 3X ceramic Isoflux membrane process at 50°C.
M. Adams and D. M. Barbano.
Cornell University, Ithaca, NY.

The manufacture of linoleic acid-modified chitosan/β-lactoglobulin nanoparticles as a delivery system of quercetin.
Division of Applied Life Sciences (Institute of Agriculture and Life Science), Gyeongsang National University, Jinju, Korea.

Alternative bleaching methods for 80% whey protein concentrate.
E. J. Kang and M. A. Drake.
North Carolina State University, Raleigh.

Impact of bleaching whey on the sensory and functional properties of 80% whey protein concentrate.
North Carolina State University, Raleigh, 2Cornell University, Ithaca, NY.

The complete genome sequence of Bifidobacterium animalis ssp. animalis ATCC 25527T and analysis of growth in milk.
J. R. Loquasto, R. Barrangou, E. G. Dudley, and R. F. Roberts.
The Pennsylvania State University, University Park, 2Danisco USA Inc., Madison, WI.
Graduate Student Competition: ADSA Graduate Paper Competition - Production Division - PhD Students
Chair: Benjamin Corl, Virginia Tech

9:30 AM 70  
** ruminal fermentation characteristics and lactational performance of Holstein dairy cows fed whole safflower seeds.  
C. M. Dschaak*1, C. T. Naviotid1, J.-S. Eun1, V. Feller2, A. J. Young3, R. D. ZoBell4, and C. E. Israelson5, 1Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan, 2Department of Animal Science, North Carolina State University, Raleigh, 3Cooperative Extension, Utah State University, Logan.

9:45 AM 71  
** the effects of NPH insulin and insulin glargine on milk yield and composition by lactating dairy cows.  

10:00 AM 72  
** the effects of degradable nitrogen level and degradation rate on nitrogen balance and urea kinetics in Holstein steers.  
V. B. Holder*1, J. Tricarico2, D. H. Kim3, N. B. Kristensen4, and D. L. Harmon5, 1University of Kentucky, Lexington, 2Alltech, Brookings, SD, 3Aarhus University, Tjele, Denmark.

10:15 AM 73  
** effects of monensin on metabolic parameters, feeding behavior, and productivity of transition dairy cows.  
C. R. Mullins*1, K. M. Mamedova1, M. J. Brouk1, C. E. Moore1, H. B. Green1, K. L. Perfield1, J. F. Smith1, J. P. Harner1, and B. J. Bradford1, 1Kansas State University, Manhattan, 2Elanco Animal Health, Greenfield, IN.

10:30 AM 74  
** the effect of ketoprofen following left displaced abomasum surgery on lying behaviour and ketosis.  
N. C. Newby*1, S. J. LeBlanc1, K. E. Leslie1, D. L. Pear1, M. A. G. von Keyserlingk2, and T. F. Duffield3, 1University of Guelph, Guelph, Ontario, Canada, 2University of British Columbia, Vancouver, British Columbia, Canada.

10:45 AM 75  
** ruminal fermentation and nutrient digestion by dairy cows fed different concentrations of forage and dried distillers grains with solubles.  
S. D. Ranathunga*1, K. F. Kalscheur, A. R. Hippen, and D. J. Schingoethe, South Dakota State University, Brookings.

11:00 AM 76  
** on-farm validation of two rapid methods to estimate IgG in bovine colostrum.  
K. M. Morrill*1, E. Conrad1, A. Lago1, J. D. Quigley1, and H. D. Tyler1, 1Iowa State University, Ames, 2APC Inc., Ankeny, IA.

11:15 AM 77  
** physiological and transcriptional adaptations in adipose tissue of dairy cows in response to prepartal plane of dietary energy.  
P. Ji1, J. S. Osorio, J. K. Drackley, and J. J. Loor, University of Illinois, Urbana.

11:30 AM 78  
** expression of novel, putative stem cell markers in prepubertal and lactating bovine mammary glands.  
R. K. Choudhary*1, C. M. Evock-Clover2, and A. V. Capuco3,1, 1Department of Animal Sciences, University of Maryland, College Park, 2Bovine Functional Genomics Lab, USDA-ARS, Beltsville, MD.

12:00 PM 79  
** effect of dietary protein level and rumen-protected methionine supplementation on performance of lactating dairy cows.  
C. Lee*1, A. N. Hristov1, T. Cassidy2, H. Heyler1, H. Lapierre1, G. A. Varga1, and C. Parys3, 1Pennsylvania State University, University Park, 2Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 3Evonik Degussa GmbH, Hanau, Germany.

12:15 PM 80  
** summer assessment and validation of metabolic profile reference values for transition Holstein dairy cattle.  
K. J. Lager*1,2, E. R. Jordan1, and D. R. Topliff2, 1Texas AgriLife Extension Service, Texas A&M System, College Station, 2West Texas A&M University, Canyon.

12:30 PM 81  
** effect of follicular wave and progesterone (P4) concentration during follicle growth on fertility of dairy cows.  
R. S. Bisinotto*1, H. Ayres1, M. R. Carvalho1, E. S. Ribeiro2, R. L. A. Cerri1, L. F. Greco1, F. S. Lima2, M. G. Favoreto1, A. P. Monteiro1, M. C. Perdomo1, W. W. Thatcher1, and J. E. P. Santos1, 1University of Florida, Gainesville, 2University of British Columbia, Vancouver, BC, Canada.

Graduate Student Competition: ADSA Southern Section
Chair: Christie Stanley, Land O’Lakes Purina Feed

9:30 AM 82  
** production response to corn silage produced from normal, brown midrib, or waxy corn hybrids.  
J. S. Barlow*1, J. K. Bernard, and N. A. Mullis, The University of Georgia, Tifton.

9:45 AM 83  
** ruminal escape and intestinal digestibility of experimental ruminal protected lysine supplements.  
Z. Wu*1, J. K. Bernard1, R. B. Eggleston2, and T. C. Jenkins3, 1University of Georgia, Tifton, 2University of Georgia, Athens, 3Clemson University, Clemson, SC.
Effect of sample processing on in situ protein degradability of distillers grains.
M. L. Drewery*, J. E. Sawyer1, N. M. Kenney1, W. E. Pinchak2, and T. A. Wickersham1, 1Texas A&M University, College Station, 2Texas AgriLife Research, Vernon.

Effects of heat stress and increased protein and energy fed in milk replacers on health parameters of neonatal Holstein bull calves.
A. J. Krenek**, G. A. Holub1, T. A. Tomaszewski1, and C. C. Stanley2, 1Texas A&M University, College Station, 2Land O Lakes Purina Feed, Amarillo, TX.

Effects of resistant starch in milk replacer on health and performance of neonatal Holstein heifer calves.

Potential for estrus detection in dairy cattle using recticular temperature monitors.
W. A. Smith*, W. J. Silvia, and J. M. Bewley, University of Kentucky, Lexington.

Lactation Biology Symposium
Circadian Clocks and Photoperiod in Mammary Development and Lactation
Chair: Darryl Hadsell, Baylor College of Medicine

9:30 AM
Welcom and Introduction
D. Hadsell, Baylor College of Medicine, Houston, TX.

9:35 AM
Circadian timekeeping mechanisms.
P. Hardin*, Texas A&M University, College Station.

10:15 AM
Circadian clocks in mammary gland development and differentiation.
W. Porter*, Texas A&M University, College Station.

10:55 AM
Break

11:10 AM
Circadian clocks as mediators of the homeorhetic response to lactation.
T. Casey* and K. Plaut, Purdue University, West Lafayette, IN.

11:50 AM
Effects of photoperiod on mammary gland development and lactation.

Nonruminant Nutrition
Enzymes & Minerals
Chairs: Mark Whitney, University of Minnesota, and Rommel Sulabo, University of Illinois
Sponsors: BASF, Archer Daniels Midland

9:30 AM
Supplemental dietary phytase alters gut microbiota of weanling pigs.
L. Wang and X. G. Lei*, Cornell University, Ithaca, NY.

9:45 AM
Effects of phytase on standardized total tract digestibility of P in copra expellers, palm kernel expellers, and palm kernel meal fed to growing pigs.
B. L. Almaguer*, R. C. Sulabo2, and H. H. Stein2, 1Universidad Autónoma de Querétaro, Mexico, 2University of Illinois, Urbana.

10:00 AM
Supplementing a xylanase alone or a combination of xylanase and β-glucanase on growth performance, health, and nutrient digestibility of nursery pigs.
Y. Han* and A. Ludger, Nutreco R & D, Boxmeer, the Netherlands.

10:15 AM
Effect of different dietary calcium concentrations on the digestive and metabolic response of growing pigs to microbial phytase.
X. Rousseau*12, M. P. Letourneau-Montminy1, M. Magnin2, A. Narcy1, and C. Pomar1, 1INRA UR83 Poultry Research, Nouzilly, France, 2BNA Animal Nutrition, Chateau-Gontier, France, 3Agriculture and Agrifood, Lennoxville, QC, Canada.
### 10:30 AM 96
**Effects of supplemented NSP-degrading enzymes on nutrient digestibility of diets containing wheat and wheat millrun fed to grower pigs.**

D. Shrestha*, J. Broz, and R. T. Zijlstra. 1University of Alberta, Edmonton, AB, Canada, 2DSM Nutritional Products, Animal Nutrition and Health R&D, Basel, Switzerland.

### 10:45 AM 97
**Capillary electrophoresis coupled with inductively coupled plasma mass spectrometry (CE-ICP-MS) enables identification and quantification of copper and manganese glycinate complexes in enriched feed samples and the study of their bioavailability.**


### 11:00 AM 98
**Effects of feeding tribasic copper chloride or copper sulfate on growth and efficiency of nursery pigs.**


### 11:15 AM 99
**Intestinal, liver, kidney, serum and biliary Cu concentrations in piglets fed Cu proteinate or CuSO4.**

B. Aldridge*, R. F. Power, K. A. Dawson, and S. Radcliffe. 1Purdue University, Department of Animal Science, West Lafayette, IN, 2Center for Animal Nutrigenomics and Applied Animal Nutrition, Alltech, Nicholasville, KY.

### 11:30 AM 100
**Effect of dietary calcium on gastric ulceration in yearling horses.**

C. W. Waters*, D. H. Sigler, N. D. Cohen, and P. G. Gibbs. 1Texas A&M University Department of Animal Science, College Station, 2Texas A&M University College of Veterinary Medicine, College Station.

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**Physiology and Endocrinology**

**Estrous Cycle Manipulation - Dairy**

**Chair: Paul Fricke, University of Wisconsin**

#### 9:30 AM 101
**Ovarian follicular development, luteal function, and fertility in lactating Holstein cows treated with 14dCIDR_PGF or 2xPGF_Ovsynch56 for first insemination timed AI (TAI).**


#### 9:45 AM 102
**Prostaglandin Fα and GnRH administration increase progesterone, luteal number, and proportion of dairy cows with corpora lutea before a timed AI program.**

J. S. Stevenson*, S. L. Pulley, and H. I. Mellieon, Kansas State University, Manhattan.

#### 10:00 AM 103
**Evaluation of LH release after the intrauterine administration of gnrh in lactating dairy cattle.**

S. Bas*, C. G. Pinto, M. L. Day, and G. M. Schuennemann, The Ohio State University, Columbus.

#### 10:15 AM Break

#### 10:30 AM 104
**Effect of presynchronization strategy prior to ovsynch on fertility at first service in lactating dairy cows.**

A. Keskin*, G. Yilmazbas-Mecitoglu*, E. Karakaya*, A. Alkan, H. Okut, A. Gumen, and M. C. Wiltbank, 1Department of Obstetrics and Gynecology, Faculty of Veterinary Medicine, University of Uludag, Bursa, Turkey, 2Tarfas Company, Bursa, Turkey, 3Biometry and Genetics, Faculty of Agriculture, University of Yuzuncu Yil, Van, Turkey, 4Department of Dairy Science, University of Wisconsin-Madison, Madison.

#### 10:45 AM 105
**Effects of presynchronization (PRE) and length of proestrus (LP) on pregnancy per AI (P/AI) of grazing dairy cows subjected to the 5d-Cosynch protocol.**


#### 11:00 AM 106
**Two- and three-wave estrous cycles in dairy cows, investigated with a mechanistic mathematical model.**

M. Boer*, L. Boer, M. D. Röblitz, C. Stötzel, R. Veerkamp, B. Kemp, and H. Woelders. 1Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Lelystad, the Netherlands, 2Computational Systems Biology Group, Zuse Institute Berlin, Berlin, Germany, 3Evolutionary Physiology Group, Department of Animal Sciences, Wageningen University, Wageningen, the Netherlands.
Production, Management and the Environment
Dairy Production I
Chair: Marcia Endres, University of Minnesota
386-387

9:30 AM 107 A meta-analysis of the impact of stocking rate on the productivity of pasture-based milk production systems.
B. McCarthy*1,2, L. Delaby3, K. M. Pierce4, F. Journot5, and B. Horan6, 1Animal and Grassland Research and Innovation Centre, Teagasc Moorepark, Fermoy, Co. Cork, Ireland, 2School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin, Ireland, 3INRA, AgroCampus Ouest, Saint-Gilles, France.

9:45 AM 108 Claw length and angle in lactating Jersey cattle, field measurements.
D. J. Tomlinson*,1, L. Rodriguez1, M. L. McGilliard2, and K. Burgi3, 1Zinpro Performance Minerals, Eden Prairie, MN, 2Virginia Tech, Blacksburg, 3Dairyland Hoof Care Institute Inc., Baraboo, WI.

10:00 AM 109 A ranking system based on stochastic modeling to identify efficient dairy farms using farm-level inputs.
A. S. Atzori*,1, A. Cannas1, and L. O. Tedeschi2, 1Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari, Italy, 2Department of Animal Science, Texas A&M University, College Station.

10:15 AM 110 Predictors of primiparous and multiparous transition cow success from an automatic milking system.

10:30 AM 111 Effects of sodium bicarbonate or calcium magnesium carbonate on intake, digestibility and milk yield and composition of high producing dairy cows.
R. E. Rauch*,1,2, P. H. Robinson1, D. D. Simms3, and L. J. Erasmus1, 1University of Pretoria, Pretoria, South Africa, 2University of California, Davis, 3MIN-AD, Amarillo, TX.

11:00 AM 112 Withdrawn

11:00 AM 114 Use of rumen fluid to inoculate dairy excrement for bio-fuel production by anaerobic digestion.
C. L. Ross*, K. C. Das, and M. A. Froetschel, University of Georgia, Athens.

Ruminant Nutrition
Beef: By-Product Feeds
Chair: Aimee Wertz, South Dakota State University
294

9:30 AM 115 Effects of corn processing method and dietary inclusion of wet distillers grain with solubles on carbon-nitrogen balance of finishing cattle.
K. E. Hales*,1, N. A. Cole1, and J. C. MacDonald2, 1USDA-ARS-CPRL, Bushland, TX, 2Texas Agrilife Research Center, Amarillo.

9:45 AM 116 Effects of corn processing method and dietary inclusion of wet distillers grain with solubles on energy metabolism and enteric methane emissions of finishing cattle.
K. E. Hales*,1, N. A. Cole1, and J. C. MacDonald2, 1USDA-ARS-CPRL, Bushland, TX, 2Texas Agrilife Research Center, Amarillo.

10:00 AM 117 Effects of spoilage of wet distillers grains plus solubles on feedlot performance.

10:15 AM 118 Effect of partially replacing barley grain with wheat bran alone or in combination with condensed liquid whey on performance of backgrounding steers.
A. D. Friedt*,1, T. A. McAllister2, B. Wildeman3, and J. J. McKinnon1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Agriculture and Agri-Food Canada, Lethbridge Research Centre, AB, Canada, 3Pound-Maker Agventures Ltd., Lanigan, SK, Canada.

10:30 AM 119 Effects of wet distillers grains plus solubles on health and performance of high-risk calves.

10:45 AM 120 Effect of feeding crude glycerin on prevalence of E. coli O157:H7 in growing cattle.
C. Aperce*, J. Heidenreich, C. J. Schneider, and J. S. Drouillard, Kansas State University, Manhattan, Kansas.

11:00 AM 121 Effects of distillers grain with soluble and supplemental copper and molybdenum on ammonia emissions and nitrogen retention.
Ruminant Nutrition

Dairy: Protein and Fats

Chair: Alex Bach, IRTA, Spain

293
The partial replacement of soya and rapeseed meal with urea or a slow release urea source (Optigen) and its effect on intake, performance and metabolism in dairy cows.

Effect of added fat to diets for dairy cattle on production performance and dry matter intake.
A. R. Rabiee1, K. Brienhild1, W. Scott1, H. M. Golder1, E. Block2, and I. J. Lean*, 1SBScibus, Camden, New South Wales, Australia, 1Church & Dwight Co. Inc., Princeton, NJ.

Effect of dietary fat blend and monensin supplementation on dairy cattle performance, milk fatty acid profiles and milk fat depression.
M. He1, K. L. Perfield1, H. B. Green1, and L. E. Armentano*, 1Department of Dairy Science, University of Wisconsin-Madison, Madison, 1Elanco Animal Health, Greenfield, IN.
ADSA-SAD Dairy Production Undergraduate Competition
Chair: Elizabeth Karcher, Michigan State University

1:00 PM 149 Colostrum replacers in neonatal dairy calf management.
E. Eckelkamp*, Louisiana State University, Baton Rouge.

1:15 PM 150 Genomics: A tool for commercial dairy producers.
L. Ellison*, University of Florida, Gainesville.

1:30 PM 151 Implementing an accelerated heifer program: Is it worth the risk?
S. E. Fraley* and E. L. Karcher, Michigan State University, East Lansing.

1:45 PM 152 Genomic testing as a tool for herd development.
L. Krueger* and J. Robison, California State University-Fresno, Fresno.

2:00 PM 154 Bacteriophages as a potential treatment for mastitis.

2:15 PM 155 Heat.
C. Hoffner*, North Carolina State University, Raleigh.

2:30 PM 156 Direct-fed microbials: Decreasing scrutiny and increasing productivity.
A. Sassard* and J. Fain, Clemson University, Clemson, SC.

2:45 PM 157 Genetic selection for feed efficiency in dairy cows.
A. M. Yeiser* and C. D. Dechow, Pennsylvania State University, University Park.

3:00 PM 153 Impact and control of claw lesions in dairy cattle.
T. A. Reiter* and J. M. Bewley, University of Kentucky, Lexington.

ADSA-SAD Original Research Undergraduate Competition
Chair: Elizabeth Karcher, Michigan State University

1:00 PM 158 Assessment of ruminal fermentation characteristics under normal or high fermentative temperature in continuous cultures.
C. C. King*, C. M. Dschaak1, J.-S. Eun1, V. Fellner2, and A. J. Young1, 1Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan; 2Department of Animal Science, North Carolina State University, Raleigh.

1:15 PM 159 Supplemental butyrate does not enhance selective permeability of ruminal epithelia in sheep.
D. J. Wilson*, T. Mutsvangwa, and G. B. Penner, University of Saskatchewan, Saskatoon, SK, Canada.

1:30 PM 160 Effect of feeding a C16:0-enriched fat supplement on milk fatty acid composition.

1:45 PM 161 Impact of water intake on dairy cattle reticulorumen temperature.
M. Cornett*, D. Ray, and J. Bewley, University of Kentucky.

2:00 PM 162 Genotype and breed trend influences on citric acid and coagulation times of raw milk.
M. Looney*, A. Laubscher1, J. Medrano3, R. Jimenez-Flores1, and G. Rincon1, 1California Polytechnic State University, San Luis Obispo; 2University of California, Davis, Davis.

2:15 PM 163 Effects of different flooring options in outside pens of hutches on dairy calf growth.
K. A. Hoeing**, M. A. Laws1, T. S. Dennis1, M. M. Schutz1, S. D. Eicher2, and T. D. Nennich1, 1Purdue University, West Lafayette, IN; 2USDA-ARS, West Lafayette, IN.

2:30 PM Break

2:45 PM 164 Alterations in the rate of progesterone clearance induced by insulin-like growth factor-I in the mouse hepatocyte.
C. L. Varela*, K. D. Baldock, W. G. Squire, and D. L. Smith, Eastern New Mexico University, Portales.

3:00 PM 165 The effects of protease enzymes and storage on the ensiling and nutritive value of corn silage.

3:15 PM 166 Differences in the rumen methanogen population exist between Jerseys and Holsteins.
E. King*, R. Smith, and A-D. Wright, University of Vermont, Burlington.
3:30 PM 167  The association of electrical conductivities and California Mastitis Tests on a robotic dairy farm. A. M. Brigham*, 1, C. D. Dechow, 1, and B. Carter, 1 1Pennsylvania State University, University Park, 1Keseca Veterinary Clinic, Geneva, NY.

3:45 PM 168  Effects of shade on heat stress reduction in Holstein dairy calves. S. S. Thibeau**, 1, B. S. Sage, 1, C. C. Williams, 1, B. F. Jenny, 1, and A. H. Dolejsiova, 2 1Louisiana State University, Baton Rouge, 2Louisiana State University, Baton Rouge, LA.

4:00 PM 169  Xylose absorption in dairy calves supplemented with sodium butyrate in milk replacer. N. M. Larson*, 1, S. I. Kehoe, 1, S. Moreland, 2, and D. Shields, 1, University of Wisconsin-River Falls, River Falls, 1Nutriad, Inc., Elgin, IL, 1Merrick’s, Inc., Union Center, WI.

ADSA Southern Section Symposium Producing Quality Milk in Hot, Humid Climates Chair: Patrick D. French, The Old Mill-Troy, Inc.

2:00 PM 170  Extension programming in Kentucky to address somatic cell count challenges and opportunities. J. M. Bewley*, University of Kentucky, Lexington.

2:30 PM 171  Dairy producer adoption of mastitis control technologies for reducing herd somatic cell counts. S. C. Nickerson*, University of Georgia, Athens.

3:00 PM 172  Effect of micronutrients on the regulation of the immune system and its role in milk quality. W. Weiss*, OARDC/The Ohio State University, Wooster.

3:30 PM 173  Use of records to investigate and monitor mastitis in dairies. M. W. Overton*, University of Georgia, Athens.

3:30 PM 174  Advancing mastitis research: Using proteomics to identify biomarkers and evaluate adjunctive therapies. J. L. Boehmer*, U.S. Food and Drug Administration Center for Veterinary Medicine, Laurel, MD.

4:00 PM Break

4:45 PM Southern Branch Business Meeting

Animal Behavior and Well-Being 1 Chair: Janice Siegfurd, Department of Animal Science, Michigan State University

2:00 PM 175  Effects of oxytocin administration in early life on the behavioral and physiological stress response of swine. J. L. Rault**, C. S. Carter**, J. P. Garner**, J. N. Marchant-Forde, B. T. Richert, and D. C. Lay, 1Department of Animal Sciences, Purdue University, West Lafayette, IN, 1Department of Psychiatry, University of Illinois at Chicago, Chicago, 1USDA-ARS-Livestock Behavior Research Unit, West Lafayette, IN.


2:30 PM 177  Preference in weanling pigs for sweet or umami taste after in utero exposure. S. J. Chavez*, E. van Heugten, I. Ipharraguerre, and G. B. Huntington, 1North Carolina State University, Raleigh, 1R&D Feed Additives, Lucsa S.A., Barcelona, Spain.

2:45 PM Withdrawn

3:00 PM 179  Glucosamine:chondroitin or ginger root extract have little effect on articular cartilage in swine. D. C. Lay**, J. N. Marchant-Forde, B. T. Richert, and K. A. McMunn, 1Livestock Behavior Research Unit; Agricultural Research Service-USDA, West Lafayette, IN, 1Purdue University, West Lafayette, IN.
Market pig transport losses, surface temperatures and trailer air temperatures with medium or heavy bedding on the trailer.
A. Sapkota*, B. L. Davis¹, A. Butters-Johnson², and J. J. McGlone³, ¹Texas Tech University, Lubbock, ²Iowa State University, Ames.

Brain lesions and time to death resulting from application of a non-penetrating captive bolt to anaesthetized nursery piglets.
T. M. Casey-Trott¹, R. Brooks², P. V. Turner¹, S. G. Nykamp¹, M. Litman¹, S. T. Millman², and T. M. Widowski*¹, ¹University of Guelph, Guelph, Ontario, Canada, ²Iowa State University, Ames.

Animal Health
Johne’s Disease
Chair: K. E. Olson
Sponsor: Johne’s Disease Integrated Program
286-287

Bayesian analysis of longitudinal Johne’s disease diagnostic data without a gold standard test.
C. Wang*¹, B. Turnbull¹, S. Nielsen¹, and Y. Gröhn¹, ¹Iowa State University, Ames, ²Cornell University, Ithaca, NY, ³University of Copenhagen, Frederiksberg, Denmark.

Environmental contamination with Mycobacterium avium ssp. paratuberculosis in endemically infected dairy herds.
R. L. Smith*¹, Y. H. Schukken¹, A. K. Pradhan¹, J. M. Smith¹, R. H. Whitlock¹, J. S. Van Kessel¹, D. R. Wolfgang¹, and Y. T. Grohn¹, ¹Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY, ²Department of Animal Science, University of Vermont, Burlington, ³Department of Clinical Studies, New Bolton Center, School of Veterinary Medicine, University of Pennsylvania, Kennett Square, ⁴Environmental Microbial and Food Safety Laboratory, ANRI, USDA-ARS, Beltsville, MD, ⁵Department of Veterinary and Biomedical Science, Penn State University, University Park.

Mycobacterium avium ssp. paratuberculosis promotes rapid IL-1β release and macrophage transepithelial migration.
E. Lamont*¹, S. O’Grady¹, W. Davis¹, T. Eckstein¹, and S. Sreevatsan¹, ¹University of Minnesota, ²Washington State University, ³Colorado State University.

Real-time estimation of the lacto-persistence of Mycobacterium avium subspecies paratuberculosis in milk and milk products originating from goat and cattle herds endemic for Johne’s disease.
S. V. Singh*¹, T. Raghuvanshi¹, R. B. Sharma¹, B. Singh¹, A. V. Singh¹, P. K. Singh¹, A. Kumar¹, and A. Srivastav¹, ¹Central Institute for Research on Goats, Mathura, Uttar Pradesh, India, ²College of Veterinary Sciences, Mathura, Uttar Pradesh, India.

Association of Bsa I polymorphism of MHC Class II DRB gene with Mycobacterium avium ssp.paratuberculosis bacteremia in Jamunapari breed of goats.

Johne’s program—Impact on education and outreach activities.
K. E. Olson*, KEO Consulting, Schaumburg, IL.

Mathematical modeling of Mycobacterium avium subspecies paratuberculosis infection transmission in dairy cattle: Current status and future directions.
Z. Lu*¹, R. Mitchell¹, R. Smith¹, Y. Schukken¹, Y. Gröhn¹, K. Ahmadizadeh¹, M. Teose¹, T. Damoulas¹, and C. Gomes², ¹Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY, ²Department of Computer Science, Cornell University, Ithaca, NY, ³Center for Applied Mathematics, Cornell University, Ithaca, NY.

Vertical transmission or increased susceptibility to MAP?
E. Knupfer¹, R. M. Mitchell*¹, A. K. Pradhan¹, A. Kramer¹, J. Dieguez¹, R. H. Whitlock¹, T. Fyock¹, and Y. H. Schukken¹, ¹Utrecht University, Utrecht, the Netherlands, ²Cornell University, Ithaca, NY, ³University of Maryland, College Park, ⁴Univesidad de Santiago de Compostela, Spain, ⁵University of Pennsylvania, New Bolton Center.

MAP co-infection or evolution?
R. M. Mitchell*¹, E. Knupfer¹, A. K. Pradhan¹, A. Kramer¹, J. Dieguez¹, R. H. Whitlock¹, T. Fyock¹, and Y. H. Schukken¹, ¹Cornell University, Ithaca, NY, ²Utrecht University, Utrecht, the Netherlands, ³University of Maryland, College Park, MD, ⁴Universidad de Santiago de Compostela, Spain, ⁵University of Pennsylvania, New Bolton Center.
4:15 PM 191 Towards understanding endemicity of MAP infection in dairy herds.
R. M. Mitchell*, G. F. Medley1, and Y. H. Schukken1, 1Cornell University, Ithaca, NY, 2Warwick University, Coventry, UK.

4:30 PM 192 Mycobacterium avium subspecies paratuberculosis-infected macrophages have different protein and transcriptome profiles than control or uninfected culture mates.
E. Kabara* and P. Cousens, Michigan State University, East Lansing.

4:45 PM 193 Effect of changes in management practices on the risk of Johne’s disease in Minnesota Johne’s disease demonstration dairy herds.
L. A. Espejo*, S. Godden, and S. J. Wells, University of Minnesota, Department of Veterinary Population Medicine, St. Paul.

Cell Biology Symposium
Novel Technologies and Novel Insights
Chair: Deb Hamernik, University of Nebraska, Lincoln
Sponsors: ADSA, ASAS, USDA-NIFA, EAAP

2:00 PM 194 Zinc-finger nucleases: Innovations in custom-designed modification of the swine genome.

2:45 PM DNA Sequencing Technologies: New Methods & New Opportunities.
J. Rogers*, Director TGAC (The Genome Analysis Centre), Norwich, England, United Kingdom.

3:30 PM 195 Improved RNA quantitation and applications to animal science.
C. D. Haudenschild*, Illumina Inc., Hayward, CA.

4:15 PM 196 Informatics-driven biological research: Infectious diseases as an example.
B. Sobral*, Virginia Bioinformatics Institute at Virginia Tech, Blacksburg.

Breeding and Genetics Symposium
Really Big Data: Processing and Analysis of Very Large Datasets
Chairs: Scott Newman, Genus Plc, and Catherine Ernst, Michigan State University
Sponsors: EAAP, Genus Plc

2:00 PM 197 Introduction - Why is this topic important and relevant?
S. Newman, Genus Plc, Hendersonville, TN.

2:10 PM 198 High performance computing and really big datasets: Overview and best practices.
F. Foerther*, Genus plc, Hendersonville, TN.

2:50 PM 199 Data structures and visualization.
J. B. Cole*, Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD.

3:30 PM 200 Computational challenges in genetic evaluation with really big datasets.
I. Aguilar** and I. Misztal1, 1Instituto Nacional de Investigación Agropecuaria, INIA Las Brujas, Canelones, Uruguay, 2Animal & Dairy Science Department, University of Georgia, Athens.

4:10 PM 201 The implementation of analysis of large data.
M. Coffey*, Scottish Agricultural College, Penicuik, Midlothian, UK.
Dairy Foods
Filtration and Drying
Chair: Phillip Tong, Cal Poly State University
295

2:00 PM 201 Impact of annatto color and bleaching of whey and microfiltration permeate on ultrafiltration processing characteristics during production of 80% protein concentrates.
M. Adams¹, J. Zulewska*², and D. M. Barbano¹, ¹Cornell University, Ithaca, NY, ²University of Warmia and Mazury, Olsztyn, Poland.

2:15 PM 202 Functional properties of milk serum protein concentrates with varying levels of β-casein.
L. Coppola*¹, S. Rankin³, M. Molitor², and J. Lucey¹, ¹University of Wisconsin-Madison, Madison, ²Wisconsin Center for Dairy Research, Madison.

2:30 PM 203 Impact of microfiltration temperature on the composition and functionality of casein concentrates.
J. R. Koch*¹, J. A. Lucey¹, K. J. Burrintong², and M. Molitor², ¹University of Wisconsin, Madison, ²Wisconsin Center for Dairy Research, Madison.

2:45 PM 204 Spiral wound microfiltration process for production of micellar casein concentrate.
C. Marella*, P. Salunke, and L. E. Metzger, Midwest Dairy Foods Research Center, South Dakota State University, Brookings.

3:00 PM 205 Characterization of α-lactalbumin and β-lactoglobulin powders obtained from serum whey.
C. Marella*, P. Salunke, L. E. Metzger, and K. Muthukumarappan, Midwest Dairy Foods Research Center, South Dakota State University, Brookings.

3:15 PM 206 Effects of washing/diafiltration on milk protein concentrate (MPC) functionality.
J. Du* and J. A. Lucey, University of Wisconsin-Madison, Madison.

3:30 PM 207 Effect of adding NaCl or KCl during manufacture of MPC80 on its physico-chemical properties.
V. Sikand*¹, P. S. Tong², S. Vink¹, and J. Walker², ¹Dairy Products Technology Center, Cal Poly State University, San Luis Obispo, ²Dept. of Statistics, Cal Poly State University, San Luis Obispo.

3:45 PM 208 Determination of the drying behavior of dairy products to improve the process, energy costs and the quality of the dairy powders.
P. Schuck¹,², A. Dolivet¹,³, S. Mejean¹,², P. Zhu*¹,², E. Blanchard¹, and R. Jeantet¹,², ¹INRA, UMR1253, Rennes, France, ²Agrocampus Rennes, UMR1253, Rennes, France, ³Laiterie de Montaigu, F-8560 Montaigu, France.

Dairy Foods Symposium
Technological Advancements in the Reduction of Pathogens and Spoilage Organisms in Milk
Chair: David McCoy, Dairy Research Institute
Sponsor: Dairy Research Institute/Innovation Center for U.S. Dairy
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2:00 PM 209 Technological advancements in the reduction of pathogens and spoilage organisms in milk—Introduction and challenges.
D. R. McCoy*, Dairy Research Institute, Rosemont, IL.

2:10 PM 210 Reduction of cooked and oxidized flavors in UHT milk.
D. G. Peterson*, University of Minnesota, St. Paul.

2:40 PM 211 CHIEF/pulse electric field technology—A unique processing system.
R. Ruan*¹,², S. Deng¹, Y. Cheng¹, X. Lin³, P. Chen¹, and L. Metzger¹, ¹University of Minnesota, St. Paul, ²Fuzhou University, Fuzhou, Fujian, China, ³Nanchang University, Nanchang, Jiangxi, China, ⁴South Dakota State University, Brookings.

3:10 PM 212 UV light inactivation of bacteria and spores in milk to enhance shelf-life.
J. S. Cullor*, P. V. Rossitto, J. Crook, and J. Parka, University of California at Davis, Tulare.

3:40 PM 213 Electrical resistive heating versus conventional UHT technologies.
D. J. McMahon*, B. Ganesan¹, M. Qian², and C. Brothersen¹, ¹Western Dairy Center, Utah State University, Logan, ²Food Science and Technology Department, Oregon State University, Corvallis.

4:10 PM 214 Continuous flow microwave heating for pasteurization and sterilization of dairy products.
J. Simunovic*, North Carolina State University, Raleigh.
Forages and Pastures
Alternative Forages and Improving Forage Quality and Characterization
Chairs: Adegbola Adesogan, University of Florida, and Steven Washburn, North Carolina State University

2:00 PM 215 Gain from selection for 16- and 96-h in vitro ndf digestibility of alfalfa stems. 
H. G. Jung* and J. F. S. Lamb, USDA-Agricultural Research Service, St. Paul, MN.

2:15 PM 216 The nutritive value of mature corn silage from BMR, non-BMR and a 50:50 mix ensiled for varying lengths of time. 
J. M. Lim*, M. C. Santos1, J. P. Rigueria1, M. C. Der Bedrosian1, K. E. Nestor2, and L. Kung1, 1University of Delaware, Newark, 2Mycogen Seeds, Indianapolis, IN.

2:30 PM 217 Concentrations and apparent digestibility of lignin and carbohydrate fractions in cell walls of whole-crop cereal silages. 
J. Wallsten* and R. Hatfield, US Dairy Forage Research Center, Madison, WI.

2:45 PM 218 Construction of a recombinant Pichia pastoris integrating a two-copy xylanase gene from Thermomonospora fusca and characterization of its secreted protein. 
Q. Wang*, M. Z. Ma1, X. Y. Weng2, J. Y. Sun1, and J. X. Liu1, 1MOE Key Laboratory of Molecular Animal Nutrition, College of Animal Sciences, Zhejiang University, Hangzhou, P.R. China, 2College of Life Science, Zhejiang University, Hangzhou, P.R. China.

3:00 PM 219 Screening exogenous fibrolytic enzyme products for improved in vitro ruminal fiber digestibility of bermudagrass. 

3:30 PM 221 Effect of rate of application of various exogenous fibrolytic enzyme products on in vitro ruminal fiber digestibility of bermudagrass. 

3:45 PM 222 Alternative approaches of replication for estimating in vitro starch disappearance. 
D. R. Mertens*1 and R. Ward2, 1Mertens Innovation & Research LLC, Belleville, WI, 2Cumberland Valley Analytical Services Inc., Maugansville, MD.

4:00 PM 223 Microbial protein synthesis and partitioning of nutrients of native species from semiarid regions of North Mexico. 
M. Guerrero-Cervantes1,2,1, M. A. Cerrillo-Soto*1,2,1, A. S. Juárez-Reyes3,1, H. Bernal-Barragán3,1, and R. G. Ramírez2, 1Universidad Juárez del Estado de Durango, Durango, México, 2Universidad Autónoma de Nuevo León, Nuevo León, México, 3Red Internacional de Nutrición y Alimentación en Rumiantes.

4:15 PM 224 Effects of species and season on chemical composition and ruminal crude protein and organic matter degradability of some multi-purpose tree species by West African Dwarf rams. 
O. M. Arigbede1,2, U. Y. Anele1,3, K.-H. Südekum4, J. Hummel4, A. O. Oni1, J. A. Olanite1, and A. O. Isah1, 1University of Agriculture, Abeokuta, Nigeria, 2University of Bonn, Bonn, Germany.

4:30 PM 225 Effect of land clearing and tillage methods on growth and yield of maize-cassava intercrop. 
A. H. Ekeocha*, University of Ibadan, Ibadan, Oyo, Nigeria.

Graduate Student Competition: ADSA Graduate Paper Competition - Production Division - MS Students
Chair: Benjamin Corl, Virginia Tech

2:00 PM 226 Toll-like receptors expression in the gastro-intestinal tract of dairy calves. 
N. Malmuthuge*, M. Li1, P. Fries2, P. Griebel2, and L. L. Guan1, 1University of Alberta, Edmonton, Alberta, Canada, 2Vaccine and Infectious Disease Organization, University of Saskatchewan, Saskatchewan, Saskatoon, Canada.

2:15 PM 227 Soybean meal substitution by a microbial protein source in dairy cattle diets. 
J. A. Sabbia*, K. F. Kalscheur1,2, A. Garcia1, A. Gehman1, and J. M. Tricarico2, 1South Dakota State University, Brookings, 2Alltech Inc., Brookings, SD.
Effect of timing of initiation of Resynch and presynchronization with GnRH on fertility of resynchronized inseminations in lactating dairy cows.

Somatic cell count and management benchmarks in Minnesota dairy herds.

Effect of dietary trans fatty acids on selected inflammatory mediators in early lactating dairy cows.

Effects of physical preparation of diets and level of modified wet distillers grains with solubles on production and rumen measurements of lactating dairy cows.

Modifying the double-Ovsynch protocol to include human chorionic gonadotropin to synchronize estrus in lactating dairy cows.
J. A. Binversie*, K. E. Pfeiffer, and J. E. Larson, Mississippi State University, Mississippi State.

Fibroblast growth factor 9 influences steroidogenesis and gene expression in ovarian granulosa and theca cells of cattle.
N. B. Schreiber* and L. J. Spicer, Oklahoma State University, Stillwater.

Relationships among temperature, moisture, bacterial counts, and animal hygiene in compost bedded pack barns.

Objective assessment of pain in dairy cattle with clinical mastitis.
C. E. Fitzpatrick*, N. Chapinal1,2, C. S. Petersson-Wolfe3, and K. E. Leslie3, 1University of Guelph, Guelph, Ontario, Canada, 2University of British Columbia, Vancouver, British Columbia, Canada, 3Virginia Polytechnic Institute and State University, Blacksburg.

Herd reproductive performance with an automated activity monitoring system versus a synchronized breeding program in 3 commercial dairy herds.
R. C. Neves*, K. E. Leslie, J. S. Walton, and S. J. LeBlanc, University of Guelph, Guelph, ON, Canada.

Effects of time and storage conditions on Johne's disease milk ELISA test results.
C. M. Innes*, D. F. Kelton, D. L. Pearl, and T. F. Duffield, University of Guelph, Guelph, Ontario, Canada.

The evaluation of bulk tank tests for the surveillance of Johne's disease.
C. M. Innes*, D. F. Kelton, D. L. Pearl, and T. F. Duffield, University of Guelph, Guelph, Ontario, Canada.

Graduate Student Symposium
Becoming Your Own Best Advocate: How to Expand and Communicate Your Skills and Qualifications
Chair: Heather M. White, Indiana University School of Medicine
Sponsors: ADSA, ASAS, Elanco Animal Health

Introduction.
H. M. White, Indiana University School of Medicine.

Preparing an effective CV for an academic position.
M. T. See*, North Carolina State University, Raleigh.

Grantsmanship—How to write a successful grant proposal.
T. Davis*, Baylor College of Medicine, Children’s Nutrition Research Center, Houston, TX.

Break

ASAS National Graduate Student Update.
C. Jones, Iowa State University, Ames.
Maximizing your graduate experience.
N. C. Whitley*, North Carolina A&T State University, Greensboro.

Becoming your own personal brand: How to market your talents and experiences for maximum results.

Growth and Development
Growth and Development: Adipose and Body Composition in Ruminants
Chairs: Tom Welsh, Texas A&M University, and Erin Connor, USDA-ARS, Beltsville
Sponsor: BASF
298-299

2:00 PM 243 Plane of dietary protein during late gestation in beef cows alters longissimus lumborum adipogenic gene expression in the offspring.
S. Moisa*, D. Shike, D. B. Faulkner, and J. J. Loor, University of Illinois, Urbana.

2:15 PM 244 Oleic acid enhances G protein-coupled receptor 43 (GPR43) in cultured bovine intramuscular adipocytes.
K. Y. Chung*, S. B. Smith*, and B. J. Johnson, Texas Tech University, Lubbock, Land O’ Lakes Purina Feed, LLC, Gray Summit, MO.

2:30 PM 245 Effect of stearoyl-CoA desaturase 1 inhibitors on lipid metabolism and cellular proliferation in primary bovine adipocytes.
A. K. G. Kadegowda*, T. A. Burns, S. L. Pratt, and S. K. Duckett, Clemson University, Clemson, SC.

2:45 PM 246 Palmitoleic acid (C16:1), not an elongation product, decreases lipogenesis and desaturation in bovine adipocyte cultures.
T. A. Burns*, C. M. Klein, S. K. Duckett, S. L. Pratt, and T. C. Jenkins, Clemson University, Clemson, SC.

3:00 PM 247 Palmitic and stearic acids induce adipogenic gene expression in single- or co-cultures of bovine intramuscular preadipocyte and satellite cells.
S. H. Choi*, K. Y. Chung*, B. J. Johnson, K. H. Kim, and S. B. Smith, Texas A&M University, College Station, Land O’ Lakes Purina Feed, LLC, Gray Summit, MO.

3:15 PM 248 The effect of chromium propionate on bovine intramuscular and subcutaneous preadipocytes and muscle satellite cells.

3:30 PM 249 Effect of rate of gain during grazing on gene expression of adipose tissue in growing beef cattle.
P. A. Lancaster*, E. D. Sharman, G. W. Horn, C. R. Krehbiel, and U. DeSilva, Oklahoma Agricultural Experiment Station, Stillwater.

3:45 PM 250 Effect of ewe body condition during mid to late gestation on mammary growth and composition of female progeny.

4:00 PM 251 Defining maturity of Nellore cattle based on growth and body composition.
M. Marcondes*, L. Tedeschi, S. V. Filho, M. Gionbelli, and L. F. Silva, Universidade Federal de Viçosa/INCT-CA, Viçosa, MG, Brazil, Texas A&M University, College Station, INCT - Ciência Animal, Viçosa, MG, Brazil.

Nonruminant Nutrition
Health/Management
Chair: Ryan Dilger, University of Illinois, Urbana
Sponsor: BASF
383-385

2:00 PM 252 Population dynamics of leukocytes during immune activation of the chicken immune system by E. coli.
V. Arias* and K. Klasing, University of California, Davis.
Physiology and Endocrinology

Estrous Cycle Manipulation - Beef
Chair: Robert Cushman, USDA MARC, Clay Center, NE

2:00 PM 263 Effect of 72 h temporary calf removal and/or equine chorionic gonadotropin (eCG) before timed AI on follicle development, concentrations of LH and estradiol, and ovulation rate in suckled beef cows.
G. H. L. Marquezini*, 1, V. R. G. Mercadante, 2, J. S. Stevenson, 2, G. A. Perry, 3, and G. C. Lamb, 1, 2 North Florida Research, Clay Center, NE.

2:15 PM 264 Evidence that prostaglandin administration at the onset of a 5-day CO-Synch + CIDR synchronization protocol markedly improves fixed-time AI pregnancy rates in Bos indicus-influenced cattle.
G. Williams*, 1, 2, R. Stanko, 1, C. Allen, 2, R. Cardoso, 1, L. Prezotto, 1, 2, J. Thorson, 1, 2, and M. Amstalden, 1 Texas AgriLife Research, Beeville, 2Texas A&M University, College Station, 3Texas A&M University-Kingsville, Kingsville.

2:30 PM 265 Determination of appropriate delivery of PGF₂α in the 5-day Co-Synch + CIDR protocol in lactating beef cows.
G. A. Bridges*, 1, L. H. Cruppe, 1, J. F. Currin, 1, M. L. Day, 1, P. J. Gunn, 1, J. R. Jaeger, 1, G. C. Lamb, 1, A. E. Radunz, 1, P. Repenning, 1, J. S. Stevenson, 1, C. C. Whittier, 1, and W. D. Whittier, 1 University of Minnesota, 2The Ohio State University, 3Virginia Tech, 4Purdue University, 5Kansas State University, 6University of Florida, Marion, 7University of Wisconsin, Madison, 8Colorado State University.

Y. Liu*, 1, J. J. Lee, 1, M. Song, 1, T. M. Che†, 1, J. A. Soares†, 1, D. Bravo†, 1, W. G. Van Alstine†, 1, and J. E. Pettigrew†, 1University of Illinois, Urbana, 2Pancosma SA, Geneva, Switzerland, 3Purdue University, West Lafayette, IN.

3:00 PM 256 Plant extracts for weaned pigs experimentally infected with porcine reproductive and respiratory syndrome virus. 2: Effect on peripheral blood immune cells and inflammatory mediators.
Y. Liu*, 1, J. J. Lee, 1, M. Song, 1, T. M. Che†, 1, J. A. Soares†, 1, D. Bravo†, 1, W. G. Van Alstine†, 1, and J. E. Pettigrew†, 1University of Illinois, Urbana, 2Pancosma SA, Geneva, Switzerland, 3Purdue University, West Lafayette, IN.

3:15 PM 257 Effects of spray-dried plasma on pregnancy rate and growth performance of mated female mice after transport as a model for stressed sows.
M. Song*, 1, T. M. Che, 1, Y. Liu, 1, J. A. Soares, 1, J. J. Lee, 1, J. M. Campbell, 1, J. Polo, 1, J. C. O’Connor, 1, and J. E. Pettigrew, 1University of Illinois, Urbana, 2Pancosma SA, Geneva, Switzerland, 3Purdue University, West Lafayette, IN.

3:30 PM Break

3:45 PM 258 Dietary phosphate supplementation to neonatal pigs affects satellite cell proliferation and progression through their myogenic lineage.

4:00 PM 259 Flavour preferences conditioned by the effects of porcine digestible peptides (PDP) and soybean concentrate in post-weaned piglets.
J. Figueroa*, 1, D. Salà-Oriol†, 1, S. L. Vinokurovas, 2, E. Borda, 2, and J. F. Pérez, 1Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, 2Bioibérica, Barcelona, Spain.

4:15 PM 260 Influence of length of storage on parameters used to measure the quality of soybean meal.
S. Suarez, 1, M. P. Serrano, 2, M. Gonzalez, 1, M. Hermida, 1, P. G. Rebollar, 1, and G. G. Mateos*, 1Laboratorio de Mouriscate, Pontevedra, Spain, 2Universidad Politècnica de Madrid, Madrid, Spain.

4:30 PM 261 Effects of an abrupt change from mash to pellets and vice-versa on growth performance in finishing pigs.
C. B. Paulk*, 1, J. D. Hancock, 1, J. C. Ebert, 1, and J. J. Ohlde, 2Kansas State University, Manhattan, 3Key Feeds, Clay Center, KS.

4:45 PM 262 The effect of weaning group-housed calves over a different length of time fed by automatic feeding machine.
2:45 PM 266 Comparison of long-term progestin-based protocols to synchronize estrus and ovulation prior to fixed-time AI in postpartum beef cows.

3:00 PM 267 Comparison of long- versus short-term progestin-based protocols to synchronize estrus and ovulation prior to fixed-time AI in postpartum beef cows.

3:15 PM 897 Estrogenicity of sugar beet by-products used as animal feeds.
N. W. Shappell*, E. M. Lenneman1,2, and M. S. Mostrom1, 1USDA-ARS, Fargo, ND, 2North Dakota State University, Fargo.

3:30 PM Break

3:45 PM 268 Effect of length of the preovulatory period on estradiol, progesterone, ISG-15 and Mx2 in cows.
L. H. Cruppe*, L. A. Souto1, M. Maquivar1, F. M. Abreu1, M. L. Mussard1, T. L. Ott1, J. L. Pate1, and M. L. Day1, 1The Ohio State University, Columbus, 2The Penn State University, State College.

4:00 PM 269 Effect of follicle age on conception rate in beef heifers.
F. M. Abreu1,2, L. H. Cruppe1, M. Maquivar1, M. D. Utt1, C. A. Roberts2, M. L. Mussard1, M. L. Day1, and T. W. Geary2, 1The Ohio State University, Columbus, 2USDA-ARS Fort Keogh LARRL, Miles City, MT.

4:15 PM 270 Effect of various doses of prostaglandin F2α on estrous behavior and blood progesterone in beef cows.

4:30 PM 271 The use of ruminal temperature for the prediction of estrus in beef cows.
B. H. Boehmer*, T. A. Pye, and R. P. Wettmann, Oklahoma Agricultural Experiment Station, Stillwater.

4:45 PM 272 Effect of acetylsalicylic acid on vasodilatation of uterine arteries, right external iliac arterial blood flow, and pregnancy in beef cows.

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Production, Management and the Environment
Dairy Production II
Chair: William Platter, Eli Lilly and Co.
386-387

2:00 PM 273 Antimicrobial resistance and prevalence of virulence factor genes in fecal Escherichia coli of Holstein calves fed milk with and without antimicrobials.
R. V. V. Pereira*, T. M. A. Santos, M. L. Bicalho, S. Machado, R. C. Bicalho, and L. S. Caixeta, Department of Population Medicine and Diagnostic Science, College of Veterinary Medicine, Cornell University, Ithaca, NY.

2:15 PM 274 Somatic cell count and management benchmarks in Minnesota dairy herds.

2:30 PM 275 Heritability of rectal temperature and genetic correlations with production and reproduction traits in dairy cattle.
S. Dikmen*, J. B. Cole1, D. J. Null2, and P. J. Hansen3, 1Department of Animal Science, Faculty of Veterinary Medicine, Uludag University, Bursa, Turkey, 2Animal Improvement Programs Laboratory Agricultural Research Service, USDA, Beltsville, MD, 3Department of Animal Sciences, University of Florida, Gainesville.

2:45 PM 276 Analysis of twinning, abortion and calf mortality in Irish Holstein and Friesian populations.
A. M. Doyle1, R. D. Evans2, and A. G. Fahey*, 1University College Dublin, Belfield, Dublin 4, Ireland, 2Irish Cattle Breeding Federation, Bandon, Co. Cork, Ireland.

3:00 PM 277 Nation-wide evaluation of quality and composition of colostrum fed to dairy calves in the United States.
K. M. Morrill*, E. Conrad1, A. Lago2, J. D. Quigley2, and H. D. Tyler1, 1Iowa State University, Ames, 2APC Inc., Ankeny, IA.

3:15 PM 278 Milk production and somatic cell counts: A cow level analysis.
K. J. Hand*, A. Godkin2, and D. F. Kelton3, 1Strategic Solutions Group, Puslinch, ON, Canada, 2Ontario Ministry of Agriculture, Food and Rural Affairs, Elora, ON, Canada, 3University of Guelph, Guelph, ON, Canada.

3:30 PM 279 Daily Markov-chain simulation model for selection of reproductive management programs in dairy herds.
J. O. Giordano*, P. M. Fricke, M. C. Wiltbank, and V. E. Cabrera, Department of Dairy Science, University of Wisconsin-Madison, Madison.
Timing to reach the new level of pregnancy and milk yield after an improvement in reproductive management in dairy herds.

G. M. Schuenemann*1, P. Federico2, A. De Vries3, and K. N. Galvão4, 1The Ohio State University, Columbus, 2Capital University, Columbus, 4University of Florida, Gainesville.

Economic comparison of reproductive programs for dairy herds using estrus detection (ED), Ovsynch, or a combination of both.

K. N. Galvao*1, P. Federico3, A. De Vries1, and G. M. Schuenemann2, 1University of Florida, Gainesville, 2The Ohio State University, Columbus, 3Capital University, Columbus, OH.

Ruminant Nutrition
Beef: Additives and Supplements
Chair: Stacey Gunter, USDA-ARS, Woodward, OK

The effect of Bovamine on feedlot performance of finishing cattle: A meta-analysis.
K. J. Hanford*, W. M. Kreikemeier, and D. R. Ware, 1Department of Statistics - UNL, Lincoln, NE, 2Nutrition Physiology Co. LLC, Overland Park, KS.

Effects of Min-Ad on growth performance and carcass characteristics of finishing steers.

Ractopamine hydrochloride reduces urinary nitrogen excretion of both implanted and non-implanted finishing beef cattle.
M. M. Kappen*, J. Ham, H. Han, and S. L. Archibeque, Colorado State University, Ft. Collins.

Impact of sorting prior to feeding zilpaterol hydrochloride on feedlot performance and carcass characteristics of yearling steers.
E. M. Hussey*, G. E. Erickson, W. A. Griffin, B. L. Nuttleman, T. J. Klopfenstein, and K. J. Vander Pol, 1University of Nebraska-Lincoln, Lincoln, 2Intervet/Schering-Plough Animal Health, De Soto, KS.

Effect of feeding Micro-Aid in diets containing wet distillers grains plus solubles to finishing cattle on performance and nutrient mass balance fed during the summer.
A. J. Doerr*, B. L. Nuttelman, G. E. Erickson, T. J. Klopfenstein, W. A. Griffin, and M. J. Rincker, 1University of Nebraska-Lincoln, 2DPI Global, Porterville, CA.

Rumen-protected arginine supplementation alters vascular hemodynamics in forage-fed steers.
A. M. Meyer*, C. B. Saevre, D. V. Dhuyvetter, R. E. Musser, and J. S. Caton, 1Center for Nutrition and Pregnancy, Department of Animal Science, North Dakota State University, Fargo, 2Ridley Block Operations, Mankato, MN, 3SODA Feed Ingredients LLC, Mankato, MN.

Effect of supplemental vitamin C on performance and antioxidant capacity of cattle fed varying concentrations of dietary sulfur.
D. J. Pogge* and S. L. Hansen, Iowa State University, Ames.

Use of MTB-100, provided through a mineral mix, to reduce toxicity when lactating beef cows graze endophyte-infected tall fescue.

In vitro mitigation of rumen hydrogen sulfide.
M. Ruiz-Moreno*, E. Seitz, and M. D. Stern, University of Minnesota, St. Paul.

Utilizing crop residues in winter feeding systems for beef cows.
A. D. Krause* and H. A. Lardner1,2, 1University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 2Western Beef Development Centre, Humboldt, Saskatchewan, Canada.

Effect of supplementing dried distillers grains to cattle consuming low-quality South Texas forage.
M. C. Briggs*, K. C. McCuistion, R. O. Dittmar, J. E. Zradicka, D. Kinkel, and T. A. Wickersham, 1Texas A&M University, Kingsville, 2Texas A&M University, College Station.

A mechanistic model of enteric methane emissions from ruminants.
R. A. Kohn* and S.-W. Kim, University of Maryland, College Park.
2:00 PM 294  Impact of free-choice or restricted water intake during the pre-weaning and early post-weaning period on calf performance and health.
A. Manthey*, D. Ziegler†, H. Chester-Jones‡, M. Raeth-Knight§, G. Golombeski*, and J. Linn*, †University of Wisconsin-River Falls, River Falls, ‡University of Minnesota, Southern Research and Outreach Center, Waseca, §University of Minnesota, St. Paul.

2:15 PM 295  Effects of free-access feeding of acidified milk replacer on the performance and general health of veal calves.
C. G. Todd*, T. J. DeVries†, K. E. Leslie†, J. M. Sargeant‡, N. G. Anderson‡, K. Shore‡, and S. T. Millman‡, †Department of Population Medicine, University of Guelph, Guelph, ON, Canada, ‡Department of Animal Poultry Science, University of Guelph, Kemptville Campus, Kemptville, ON, Canada, †Ontario Ministry of Agriculture, Food and Rural Affairs, Elora, ON, Canada, †Grober Nutrition, Cambridge, ON, Canada, †Veterinary Diagnostic and Production Animal Medicine, Iowa State University, Ames.

2:30 PM 296  Effect of Celmanax SCP on calf performance when fed in the milk replacer and grower phase.
R. J. Dennis* and S. Jalukar*, †Kent Nutrition Group Product Development Center, Muscatine, IA, †Varied Industries Corporation, Mason City, IA.

2:45 PM 297  Effect of different forage sources on performance and feeding behavior of Holstein calves.
L. I. Castells*, A. Bach†, G. Araujo‡, and M. Terré‡, †Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, ‡ICREA, Barcelona, Spain.

3:00 PM 298  Effect of fatty acid intake by dairy calves on performance, health, and markers of immunity.
T. M. Hill*, M. J. VandeHaar†, L. M. Sordillo‡, H. G. Bateman‡, and R. L. Schlotterbeck‡, †Nurture Research Center, Provi mi North America, Lewisburg, OH, ‡Department of Animal Science, Michigan State University, East Lansing, †Department of Large Animal Clinical Sciences, Michigan State University, East Lansing.

3:15 PM 299  Impact of feeding various fats and fatty acids on dairy calf performance, health, and markers of immunity.

3:30 PM 300  Impact of three times versus twice a day milk replacer feeding on calf performance, likelihood to reach lactation and future milk production in a commercial dairy herd.
D. C. Sockett*, C. E. Sorenson†, N. K. Betzold†, J. T. Meronek†, and T. J. Earleywine‡, †Wisconsin Veterinary Diagnostic Laboratory, University of Wisconsin, Madison, ‡United Cooperative, Sauk City, WI, †University of Wisconsin-Madison, College of Agricultural & Life Sciences, Madison, †Land O’Lakes Inc., Cottage Grove, WI.

3:45 PM 301  Effects of a modified intensive milk replacer program fed two or four times daily on nursery calf performance.
A. D. Km cic kewycz*, D. N. da Silva, and N. B. Litherland, University of Minnesota, St. Paul.

4:00 PM 302  Effect of different levels of alfalfa hay and sodium-propionate supplementation on performance and rumen development of dairy calves.
H. Beiranvand, M. Khorvash, G. R. Ghorbani*, A. Riasi, S. Kargar, and M. Mirzaei, Isfahan University of Technology, Isfahan, Iran.

4:15 PM 303  Effect of pre-weaning feeding regimens on post-weaning growth performance of Sahiwal calves.
S. A. Bhatti*, A. Ali†, D. McGill‡, M. Sarwar‡, H. Nawaz‡, M. Afzal§, M. S. Khan‡, M. A. Amer†, R. D. Bush‡, P. C. Wynn‡, H. M. Warriach†, and H. Nawaz‡, †Institute of Animal Nutrition and Feed Technology, University of Agriculture, Faisalabad, Pakistan, ‡E H Graham Centre (NSW Industry and Investment and Charles Sturt University), Wagga Wagga, Australia, †Pakistan Agricultural Research Council, Islamabad, Pakistan, †Livestock Production Research Institute, Bahadurnagar, Okara, Pakistan, †Faculty of Veterinary Science, University of Sydney, Camden, Australia.
Tuesday, July 12
POSTER PRESENTATIONS

Animal Health II
Sponsor: Elanco Animal Health

T1 Development of kit for bovine myeloperoxidase using enzyme-linked immunosorbent assay.
J. Shi*, Y. Yang, Q. Li, and Y. Lv, Key Laboratory of Dairy Science, Ministry of EducationNortheast Agricultural UniversityHarbin, China.

T2 Development of kit for bovine haptoglobin using enzyme-linked immunosorbent assay.

T3 Transcriptional factors SP1 and SP3 influence differentially the regulating sequence of the bovine osteopontin gene depending on promoter haplotype.
N. Bissonnette* and C. Thibault, Agriculture and Agri-Food Canada, Dairy Cattle and Swine Research and Development Center, Sherbrooke, Quebec, Canada.

T4 Evaluation of interleukin 5 as a biomarker for parasite resistance in goats pasture exposed to Haemonchus contortus.
M. M. Corley* and A. A. Saeed, Virginia State University, Petersburg.

T5 Influence of latency to collect blood samples from beef calves on ex vivo innate immune responses.
L. E. Hulbert*, C. J. Cobb, M. D. Sellers, D. L. Hanson, M. L. Galyean, and M. A. Ballou, Department of Animal and Food Sciences, Texas Tech University, Lubbock.

T6 Characterization of bovine leukocyte differentiation molecules in Egyptian cattle using flow cytometry.
G. S. Abdellrazeq*, M. M. El-Naggar, and W. C. Davis, Alexandria University, Edfina, Behara province, Egypt.

T7 Comparative evaluation of gene expression in bovine and caprine neutrophils.

T8 Detection and expression of the gene encoding low density lipoprotein receptor-related proteins 6 (LRP6) in goat peripheral blood.

T9 Comparison of commercially available enzyme-linked immunosorbent assay with serum neutralization for measuring bovine viral diarrhea virus specific antibodies.
M. Gonda*, X. Fang, G. Perry, and C. Maltecca, South Dakota State University, Brookings.

K. Hatami and M. Zaghari*, Department of Animal Science, College of Agriculture and Natural Resource, University of Tehran, Karaj, Karaj, Alborz, Iran.

T11 Gastrointestinal nematode infection in Nelore and crossbred cattle.

T12 Concentrations of haptoglobin in bovine plasma determined by ELISA or a colorimetric method based on peroxidase activity.

T13 Feed and water restriction elicits an acute-phase protein response in beef cattle.
Natural infestation by external parasites in beef cattle in southern Brazil.

Embrapa Pecuaria Sudeste, São Carlos, SP, Brazil; 2Uniara, Araraquara, SP, Brazil; 3Unicep, São Carlos, SP, Brazil; 4Unesp, Jaboticabal, SP, Brazil; 4UFSCar, São Carlos, SP, Brasil.

Cinnamaldehyde enhances in vitro parameters of immunity and reduces severity of in vivo infection against avian coccidiosis.
S. H. Lee*, H. Lillehoj*, S. Jang†, K. Lee‡, and D. Bravo‡.
Animal and Natural Resources Institute, ARS USDA, Beltsville, MD, 2Pancosma S.A., Le Grand Saconnex, Geneva, Switzerland.

Comparison of different levels of vitamin premix on chicken meat quality in floor and battery cage broiler raising.
M. A. Shahrasb, H. Moravec, and M. Shivazad*.
Department of Animal Science, Faculty of Agriculture and Natural Resources, Tehran University.

Effects of feeding OmniGen-AF to rats on gastrointestinal gene expression: Microarray analysis.
B. R. Ou*, Y. Q. Wang†, and N. E. Forsberg‡.
OmniGen Research, Corvallis, OR, 2Tunghai University, Taichung, Taiwan, ROC.

Inhibition of inflammatory processes in Caco-2 intestinal epithelial cells by an ethanolic extract of a polyphenol-rich grape seed meal.
R. Ringsel‡, M. Siebers†, J. Keller†, A. Steinbeck‡, B. Eckel‡*, and K. Eder‡.
Institute of Animal Nutrition and Nutrition Physiology, Justus-Liebig-University Giessen, Heinrich-Buff-Ring 26-32, 35390 Giessen, Germany, 2Dr. Eckel GmbH, Im Stiefelfeld 10, 56651 Niederzissen, Germany.

**Beef Species**

**Beef Cattle Production**

Association of slaughter and dressing traits with ultrasound and computed tomography data in cattle.
G. Hollo*, J. Tőzsér‡, A. Szentléleki‡, F. Szabo†, I. Anton‡, T. Somogyi‡, I. Repa‡, and I. Hollo†.
Kaposvár University, Kaposvár, Hungary, 2St. István University, Gödöllő, Hungary, 3Pannon University, Keszthely, Hungary, 4Research Institute for Animal Breeding and Nutrition, Herceghalom, Hungary.

Effect of arrival health risk status of steer calves on feedlot performance and health during a 61-d preconditioning program.
C. Flaig†, L. Clark†, O. C. Schunicht†, M. L. May†, R. E. Peterson‡, C. W. Booker†, R. Krehbiel‡, G. K. Jim†, B. P. Holland‡, and L. O. Burciaga-Robles‡.
Feedlot Health Management Services Ltd., Okotoks, Alberta, Canada, 3Department of Animal Science, Oklahoma State University, Stillwater, 4Department of Animal and Range Sciences, South Dakota State University, Brookings.

Effect of residual feed intake on blood urea nitrogen concentration in growing heifers from an Angus-Brahman multi-breed herd.
R. O. Myer†, M. A. Elzo‡, G. C. Lamb§, and N. DiLorenzo*‡.
University of Florida, NFREC, Marianna, 3University of Florida, Gainesville.

Post-weaning feed efficiency of tropically adapted purebred and crossbred calves when fed in either winter or spring.
S. W. Coleman*, C. C. Chase‡, W. A. Phillips†, and D. G. Riley‡.
USDA ARS Subtropical Agricultural Research Station, Brooksville, FL, 2USDA, ARS, Grazinglands Research Laboratory, El Reno, OK.

Finishing steers and bulls with high-vitamin E diets: Effect on circulating immune cells and creatine kinase after a mild stress.
C. Reyes, C. Fuentes, and R. E. Larraín*, Pontificia Universidad Catolica de Chile, Santiago, Chile.

**Breeding and Genetics**

**Molecular Genetics**

Quantitative genetics and differential performance and gene expression of half-sib families of hybrid striped bass in communal ponds.
S. A. Fuller*, B. H. Beck, M. McEntire, and D. Freeman, USDA ARS Stuttgart National Aquaculture Research Center, Stuttgart, AR.

Effects of transgenic myostatin depression on reproductive parameters and placental superoxide dismutases in mice.
S. Yarlagadda, C. N. Lee*, Y. S. Kim, J. Yang, and W. Y. Ho, University of Hawaii-Manoa, Honolulu.
T26 Study of polymorphism at CSD gene in Apis mellifera meda.
S. Karimi*, A. Nejati Javaremi, S. R. Miraei Ashitian, and H. Alizadeh, 1University of Tehran, University College of Agriculture and Natural Resource, Department of Animal Science, Tehran, Karaj, Iran, 2University of Tehran, University College of Agriculture and Natural Resource, Agronomy & Plant Breeding Department, Tehran, Karaj, Iran.

T27 Growth-related differential gene expression in the longissimus thoracis muscle of Iberian × Landrace back-crossed pigs.
J. Casellas,1 3, J. L. Noguera,1 R. R. Nena,3 J. M. Folch,1 M. Muñoz,4 and N. Ibáñez-Escribène,5 1Departament de Ciencia Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Genètica i Millora Animal, IRTA-Lleida, Lleida, Spain, 3Departament de Producció Animal, Universitat de Lleida, Lleida, Spain, 4Departamento de Mejora Genética Animal, SGIT-INIA, Madrid, Spain.

T28 Path analysis of candidate genes for intramuscular fat in pigs.
N. V. L. Serô*,1 3, J. Braccini Neto,1 A. M. F. Ribeiro,1 P. V. Silva,1 S. L. Rodríguez-Zas,1 and S. E. F. Guimaraes,3 1University of Illinois at Urbana-Champaign, Urbana, 2Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil, 3Universidade Federal de Viçosa, Viçosa, MG, Brazil.

T29 Evaluating statistical models to assess differential gene expression in PRRSV infected pigs using plasmode datasets.
M. E. Arceo*,1 C. W. Ernst,1 M. Wysocki,2 J. K. Lunney, and J. P. Steibel,1 1Department of Animal Science, Michigan State University, East Lansing, 2Lehrstuhl für Tierzucht, Technische Universität München, Munich, Germany, 3Animal Parasitic Diseases Laboratory, ARS, USDA, BARC, Beltsville, MD.

T30 Structural changes at bovine IgE as related to variation at the DNA level.
I. Rivera, M. Pagan,*, E. Jimenez, and G. Ortiz, Department of Animal Industry, University of Puerto Rico at Mayaguez, Mayaguez, PR.

T31 Association between SNPs in candidate genes and residual feed intake in Angus cattle.

T32 Identification of a JY-1 gene variant in Nellore cattle.
G. M. F. de Camargo*,1 A. C. de Freitas,1 A. C. Andrade,1 F. M. M. Gil1, D. F. Cardoso1, P. D. S. Fonseca1, F. R. P. Souza1, M. Cervini1, F. Baldi1, L. G. de Albuquerque1, L. C. A. Regitano,2 and H. Tonhati1,3 Sao Paulo State University, Jaboticabal, Sao Paulo, Brazil, 2Brazillian Agricultural Research Corporation - Southeast Cattle Center, Sao Carlos, Sao Paulo, Brazil.

T33 Novel associations between a SNP in the bovine DDEF1 gene and production traits in Nellore breed.
P. C. Tiziotto*,1 S. L. Meirelles,1 G. B. Veneroni,1 M. M. de Souza,1 F. Siqueira,1 A. do Nascimento Rosa,2 L. O. Campos da Silva,2 R. de Almeida Torres,2 S. R. Medeiros,2 R. R. Tullio,1 M. M. Alencar,2 G. Feijó,1 and L. C. de Almeida Regitano,2 Federal Universidade de São Carlos, São Carlos, São Paulo, Brazil, 1Embrapa Beef Cattle National Center, Campo Grande, Mato Grosso do Sul, Brazil, 3Embrapa Southwest Cattle Research Center, São Carlos, São Paulo, Brazil.

T34 CAPN4751 and UOGCAST effects on feed efficiency, carcass traits and feedlot performance in Nellore (Bos indicus) cattle.
R. C. Gomes*,1 M. E. Carvalho,2 M. H. A. Santana,3 S. L. Silva,1 P. R. Leme,1 P. Rossi,1 and J. B. S. Ferraz,2 1Faculdade de Zootecnia e Engenharia de Alimentos, Universidade de São Paulo (FZEA/USP), Pirassununga, SP, Brazil, 2Escola Superior de Agricultura Luiz de Queiroz, Universidade de São Paulo (Esalq/USP), Piracicaba, SP, Brazil, 3Departamento de Zootecnia, Universidade Federal do Paraná (UFPR), Curitiba, PR, Brazil.

T35 Bialellic expression studies of CAST gene in bovine muscle.
M. M. de Souza1, S. C. M. Nicotra2, A. M. G. Ibelli, S. L. Meirelles,1 M. I. Rocha,1 P. C. Tiziotto,2 G. Gasparini,2 M. E. Carvalho,2 G. B. Veneroni,1 F. A. Bressani,1 P. S. N. de Oliveira1, F. Siqueira,1 L. L. Coutinho,1 and L. C. de Almeida Regitano,2 1Federal University of São Carlos, São Carlos, São Paulo, Brazil, 2Embrapa Southwest Cattle Research Center, São Carlos, São Paulo, Brazil, 3Embrapa Beef Cattle National Center, Campo Grande, Mato Grosso do Sul, Brazil.

T36 The polymorphism Msp I in intron 3 of the growth hormone gene in Nellore cattle (Bos taurus indicus).
D. F. Cardoso1, G. M. F. de Camargo*,1 P. D. S. Fonseca,1 F. M. M. Gil1, M. G. Chiquitelli1, F. R. P. Souza1, L. G. de Albuquerque,1 M. E. Z. Mercadante,1 and H. Tonhati,1 1Department of Animal Sciences, Sao Paulo State University, Jaboticabal, SP, Brazil, 2Animal Science Experimental Station, Sertãozinho, SP, Brazil.

T37 Polymorphisms of the IGF1 and MSTN genes in Nellore beef cattle (Bos indicus) and in their crosses with Bos taurus.
R. A. Curi1, R. S. Fortes2, D. M. Vankani, J. A. V. Silva*,1 H. N. Oliveira1, M. D. S. Mota1, and A. C. Silveira1, 1Faculdade de Medicina Veterinária e Zootecnia, Unesp, Botucatu, São Paulo, Brazil, 2School of Veterinary Science, University of Queensland, St. Lucia, Queensland, Australia, 3Faculdade de Ciências Agrárias e Veterinárias, Unesp, Jaboticabal, São Paulo, Brazil.

T38 Characterization of polymorphism in the ORL1 gene in Nellore cattle (Bos taurus indicus) by PCR-RFLP.
P. D. da Silva Fonseca,1 F. R. P. de Souza1, G. M. F. de Camargo,2 F. M. Gil1, D. F. Cardoso1, M. G. Chiquitelli1, L. G. Albuquerque1, M. E. Z. Mercadante,1 and H. Tonhati,1 1São Paulo State University, São Paulo State University, Jaboticabal, Brazil, 2Animal Science Experimental Station, Animal Science Experimental Station, Sertãozinho, Brazil.

F. R. P. Souza,1 S. Sartore,2 S. Maione,1 D. Soglia,1 V. Spalenza,1 G. M. F. de Camargo,2 P. Sacchi,2 R. Rasero,2 and M. E. Z. Mercadante,1 1Sao Paulo State University, Jaboticabal, SP, Brazil, 2University of Torino, Grugliasco, TO, Italy, 3Istituto de Zootecnia, Sertãozinho, SP, Brazil.
Association between a SNP in intron 1 of the ghrelin gene with milk production traits in Murrah buffaloes (Bubalus bubalis).

Identification of polymorphism in IGF-I gene in Bubalus bubalis.
V. A. Ferreira Junior*, G. M. F. de Camargo*, A. L. F. Lima1,2, F. M. M. Gil3, and H. Tonhati3, São Paulo State University, Jaboticabal, SP, Brazil, Santa Catarina Federal University, Florianópolis, SC, Brazil.

Relationship between kappa-casein genotype in inseminated bulls and the milk composition of their daughters.
J. Bezdieck4,5 and J. Riha4,5, AgriResearch Rapotin, Ltd., Rapotin, Czech Republic, Research Institute for Cattle Breeding, Ltd., Rapotin, Czech Republic.

Effect of DGAT1, TG and leptin gene polymorphisms on milk production traits in Holstein-Friesian cows in Hungary.
I. Anton4,5, K. Kovács1, G. Holló2, V. Farkas3, F. Szabó4, and A. Zsolnai5, Research Institute for Animal Breeding and Nutrition, Herceghalom, Hungary, University of Kaposvár, Faculty of Animal Science, Kaposvár, Hungary, University of Pannonia, Geogikon Faculty of Agriculture, Keszthely, Hungary.

Association of BMPR-IB gene polymorphism with breeding value of growth and reproductive traits in Mazandaran native chicken.
S. Niknafs*, A. Nejati Javaremi, and M. Sadeghi, Agricultural Faculty, University of Tehran, Karaj, Alborz, Iran.

Association of a single nucleotide polymorphism in NPY gene with growth and reproductive traits in Mazandaran native chicken.
S. Niknafs*, A. Fatemi, M. Mehrabani Yeganeh, and A. Nejati Javaremi, Agricultural Faculty, University of Tehran, Karaj, Alborz, Iran.

Investigation of three single nucleotide polymorphisms of STAT5B gene and their association with growth and reproductive traits in Mazandaran native chicken.
S. Niknafs*, A. Nejati Javaremi, M. Sadeghi, and A. Fatemi, Agricultural Faculty, University of Tehran, Karaj, Alborz, Iran.
Companion Animals
Sponsors: Hill’s Science Diet, Nestlé Purina, Proctor and Gamble

T55  Effect of feeding a combination of galacto-oligosaccharides and a Bifidobacterium sp. strain on feline intestinal ecosystem.
G. Biagi1, I. Cipollini1, M. Grandi1, C. Pinna1, A. Pompei1, M. Zini1, and G. Zaghini1, 1Department of Veterinary Medical Sciences, University of Bologna, Ozzano Emilia, Italy, 2Department of Pharmaceutical Sciences, University of Bologna, Bologna, Italy, 3Department of Biochemistry, University of Bologna, Bologna, Italy.

T56  Dietary fiber viscosity may affect insulin and GLP-1 secretion, but does not appear to contribute to the “second meal effect” in healthy adult dogs.
P. Deng1, A. Wolff2, A. N. Beloshapka3, B. M. Vester Boler4, and K. S. Swanson1,2, 1Department of Animal Sciences, University of Illinois, Urbana, 2Division of Nutritional Sciences, University of Illinois, Urbana.

T57  Comparison of fecal microbial communities of healthy adult dogs fed raw meat-based or extruded diets using 454 pyrosequencing.
A. N. Beloshapka1, S. E. Dowd3, L. Duclos4, and K. S. Swanson1,2, 1Department of Animal Sciences, University of Illinois, Urbana, 2Division of Nutritional Sciences, University of Illinois, Urbana, 3Research and Testing Laboratory, Lubbock, TX, 4Nature’s Variety Inc., Lincoln, NE.

T58  Processing techniques to maintain low glycemic index of peas.
J. Fouhse1, J. Adolphe2, L. Weber3, and M. Drew4, 1University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 2Western College of Veterinary Medicine, Saskatoon, Saskatchewan, Canada.

T59  Acute effects of carbohydrates in dogs.
J. L. Adolphe1, J. M. Fouhse1, M. D. Drew2, and L. P. Weber1, 1Department of Veterinary Biomedical Sciences, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 2Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

T60  Effects of protease enzyme on diets for growing mink (Mustela vison).
E. S. Dierenfeld1, E. Keith2, R. Johnson2, C. Falco2, B. Roeder2, and N. Odetallah1, 1Novus International, Inc., St. Charles, MO, 2FBAC, Sandy, UT, 3Brigham Young University, Provo, UT.

T61  Influence of feeding a fish oil containing diet to mature overweight dogs: Effects on lipid and protein metabolism, postprandial glycemia, and body weight.
M. R. C. de Godoy1, K. R. McLeod, and D. L. Harmon, University of Kentucky, Lexington.

T62  Influence of feeding a fish oil containing diet to adult lean dogs: Effects on lipid and protein metabolism, postprandial glycemia, and body weight.

T63  In vivo and in vitro procedures for measuring coat quality after dietary manipulation in dogs.
G. González-Ortiz1, L. Castillejos*1, R. Franco-Rosselló1, J. J. Mallo1, J. Alcañiz2, M. A. Calvo2, and M. D. Baucells1, 1Nutrition and Welfare Service, Department of Animal and Food Science (UAB), Bellaterra, Spain, 2Departament de Sanitat i d’Anatomia Animals (UAB), Bellaterra, Spain, 3Norel, S.A., Spain.

T64  Evaluation of a mixture of Bacillus amyloliquefaciens CECT 5940 and Enterococcus faecium CECT4515 in adult healthy dogs.
G. González-Ortiz1, L. Castillejos*1, J. J. Mallo1, J. Alcañiz2, M. A. Calvo2, and M. D. Baucells1, 1Nutrition and Welfare Service, Department of Animal and Food Science (UAB), Bellaterra, Spain, 2Departament de Sanitat i d’Anatomia Animals (UAB), Bellaterra, Spain, 3Norel, S.A., Spain.

T65  Effect of increasing levels of mannanprotein in humoral immunity in dogs.
A. F. Chizzotti1, F. M. O. B. Saad, F. S. Ebina, R. C. Silva, J. S. R. Reis, and M. C. Kadri, Universidade Federal de Lavras, Lavras, MG, Brazil.

T66  Effect of dietary starch level on protein metabolism in domestic cats.
T. J. Wester1, K. Weidgraaff1, M. Hekman1, N. J. C. P. de Godoy*, and M. H. Tavendale1, 1Institute of Food, Nutrition and Human Health, Massey University, Palmerston North, New Zealand, 2Institute of Veterinary, Animal and Biomedical Sciences, Palmerston North, New Zealand, 3AgResearch Ltd., Palmerston North, New Zealand.

T67  Effect of glucose infusion and dietary protein level on urea production in the domestic cat.
T. J. Wester1, K. Weidgraaff1, M. Hekman1, N. J. C. P. de Godoy*, and M. H. Tavendale1, 1Institute of Food, Nutrition and Human Health, Massey University, Palmerston North, New Zealand, 2Institute of Veterinary, Animal and Biomedical Sciences, Palmerston North, New Zealand, 3AgResearch Ltd., Palmerston North, New Zealand.
Contemporary and Emerging Issues

Effects of sow stocking rate and season on bermudagrass (Cynodon dactylon) ground cover.
S. Pietrosemoli*1, J. C. Guevara2, and J. T. Green3, 1Animal Science Department, North Carolina State University, Raleigh, 2Alternative Swine Research and Extension Project, Raleigh, NC, 3Crop Science Department, North Carolina State University, Raleigh.

Cradle-to-farm gate analysis of milk carbon footprint. A critical review.
G. Pirlo*, Consiglio per la ricerca e sperimentazione in agricoltura, Centro di ricerca per le produzioni foraggere e lattiero-casearie (CRA-FLC), Cremona, Italy.

Dairy Foods
Microbiology

Fluid milk quality survey.
C. Boeneke*, J. Vargas, and K. Aryana, Louisiana State University Agricultural Center, Baton Rouge.

Seasonal variation of psychrotrophic bacteria isolated from raw milk in South Korea.

Influence of multilayer packaging on pasteurized milk quality.
M. da Silva Pinto, A. F. Carvalho*, J. Y. Suda, A. C. P. Silveira, and A. C. dos Santos Pires, Food Science Department, Federal University of Viçosa, Viçosa, MG, Brazil.

Microbiological quality of UHT dairy products analyzed by rapid, reference, and ATP bioluminescence methods.
A. F. Cunha1, A. D. Lage1, M. M. P. Araújo1, C. F. Abreu1, A. R. Tassinari1, M. R. Souza1, C. F. A. M. Penna1, L. M. Fonseca1, M. O. Leite1, and M. M. O. P. Cerqueira*, 1Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil, 23M do Brazil, Sumaré, São Paulo, Brazil.

Phylogenic analysis and characterization of bacterial sporeformer isolates obtained from raw milk, pasteurized milk, and dairy farm environments.

Spores in dairy products: Characterization and destruction by pulsed light.
A. Laubscher* and R. Jimenez-Flores, California Polytechnic State University, Dairy Products Technology Center, San Luis Obispo.

The effect of different sweeteners on growth and survival of Lactobacillus rhamnosus GR-1 in milk.
S. Hekmat*, 12and G. Reid1, 1Brescia University College, London, Ontario, Canada, 2Canadian Research and Development Center for Probiotics, London, Ontario, Canada.

Detection and transfer of the glutamate decarboxylase gene in Streptococcus thermophilus.
G. Somkuti*, J. Renye, and D. Steinberg, Eastern Regional Research Center/USDA, Wyndmoor, PA.

Development of a real-time PCR assay for rapid detection of spoilage Paenibacillus spp. in fluid milk.

Genetic analysis of a novel plasmid encoded duracin locus in Enterococcus durans 41D.
L. Du1, G. Somkuti*2, and J. Renye2, 1Nanjing University of Finance and Economics, Nanjing, China, 2Eastern Regional Research Center/USDA, Wyndmoor, PA.

Development of a qPCR method for monitoring strain dynamics during yogurt manufacture.

Binding and efficacy of a natural biopreservative (nisin) in different food matrices.
R. Niewohner*, S. Anand, and R. Nauth, South Dakota State University, Brookings.

Resistance of membrane biofilms to cleaning and sanitation treatments.
D. Singh* and S. K. Anand, Midwest Dairy Foods Research Center, Dairy Science Department, South Dakota State University, Brookings.

Effect of low sonication intensities on the growth of Streptococcus salivarius ssp. thermophilus ST-M5 subjected to different temperatures.
M. Moncada* and K. Aryana, School of Animal Sciences, Louisiana State University Agricultural Center, Baton Rouge.

Low sonication intensity influences on the protease activity of Lactobacillus delbrueckii ssp. bulgaricus LB-12 at different temperatures.
M. Moncada* and K. Aryana, School of Animal Sciences, Louisiana State University Agricultural Center, Baton Rouge.
Influence of low sonication intensities at different temperatures on the bile tolerance of Streptococcus salivarius spp. thermophilus ST-M5.
M. Moncada* and K. Aryana, School of Animal Sciences, Louisiana State University Agricultural Center, Baton Rouge.

Screening of mild pulsed electric field parameters for enhancing acid tolerance of Streptococcus salivarius spp. thermophilus ST-M5.
N. Najim and K. Aryana*, School of Animal Sciences, Louisiana State University Agricultural Center, Baton Rouge.

Mild pulsed electric field conditions identified for improving growth, protease activity and acid tolerance of Lactobacillus delbrueckii ssp. bulgaricus LB-12 and Lactobacillus acidophilus LA-K.
N. Najim and K. Aryana*, School of Animal Sciences, Louisiana State University Agricultural Center, Baton Rouge.

Impact of mild pulsed electric field conditions on improving bile tolerance, protease activity and growth of Streptococcus salivarius spp. thermophilus ST-M5.
N. Najim and K. Aryana*, School of Animal Sciences, Louisiana State University Agricultural Center, Baton Rouge.

Resistance of E. coli and L. rhamnosus to acid stress is affected by the presence of pepsin-treated caseinomacropeptide.
G. Robitaille, C. Lapointe, D. Leclerc, and M. Britten*, Food Research and Development Centre, Agriculture and Agri-Food Canada, St Hyacinthe, Quebec, Canada.

Effect of microencapsulation on survival of Lactobacillus acidophilus La5 during simulated gastrointestinal conditions of stirred yoghurt after refrigerated storage.

Viability of free and microencapsulated Lactobacillus acidophilus La5 in stirred yoghurt during refrigerated storage.

In vitro property evaluation of Propionibacterium cultures for probiotic applications.

Can high quality raw milk have enough microbical load to show a reduction of organisms in a pasteurization adjunct?
J. A. Zonneveld*, A. M. Lammert, and R. Jimenez-Flores, California Polytechnic University, San Luis Obispo.

Dairy Foods
Milk Protein & Enzymes

Effects of prolactin on the expression of genes related to milk protein synthesis in bovine mammary epithelial cells.

The best ratio between lysine and methionine on milk protein synthesis in bovine mammary epithelial cells.

Development of safe glue sticks containing whey protein.
G. Wang and M. Guo*, The University of Vermont, Burlington.

Isolation and characterization of prosaposin from milk from four goat breeds.

Food Safety

Poultry offal meal traceability in meat quail tissues using the technique of stable carbon-13 and nitrogen-15 Isotopes.
C. Mori*, E. A. Garcia, C. Ducatti, J. C. Denadai, and K. Pelicia, São Paulo State University, Botucatu, São Paulo, Brazil, São Paulo State University, Registro, São Paulo, Brazil.

Use of stable isotopes of carbon-13 and nitrogen-15 in quail eggs.
C. Mori*, C. Ducatti, C. C. Pizzolante, S. K. Kakimoto, J. C. Denadai, São Paulo State University, Botucatu, São Paulo, Brazil, São Paulo State University, Registro, São Paulo, Brazil, São Paulo Agency of Agribusiness Tecnology, Brotas, São Paulo, Brazil.
T100 Adsorption capacity and efficacy assessment of bamboo charcoal as an alternative adsorbent for aflatoxin B1 in a ruminal batch culture.
H. J. Yang* and Y. H. Jiang, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China.

T101 Occurrence of mycotoxins in feedstuffs and feed samples from 2009-2010.

T102 Horizontal transfer of Stx2 gene from E. coli O157:H7 to non-pathogenic E. coli occurred under feedlot conditions.

T103 Antagonistic intestinal microflora produces antimicrobial substance inhibitory to Pseudomonas species and other spoilage organisms.
B. Hatew*1, T. Delesa1, V. Zakin1, and N. Gollo1, 1Agricultural Research Organization of Israel, Bet-Dagan, Israel, 2Wageningen University, Wageningen, the Netherlands, 3Swiss Federal Institute of Technology, Zurich, Switzerland.

T104 Microencapsulated feed additives to reduce Salmonella shedding.
E. Grilli*, R. Bari1, A. Piva1, B. Tugnoli1, and T. R. Callaway2, 1University of Bologna, Ozzano Emilia, BO, Italy, 2Food and Feed Safety Research Unit, ARS/USDA, College Station, TX.

T105 Improving voluntary oral interaction of dairy cattle with manila ropes to facilitate E. coli O157:H7 monitoring on dairies.
A. F. Pedroso*, O. C. M. Queiroz1, and A. T. Adesogan1, 1Department of Animal Sciences, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 2Brazilian Agricultural Research Corporation, Embrapa Cattle-Southeast, 13560-970, São Carlos, SP, Brazil.

T106 Effects of predipping practices on milk iodine concentrations.
S. I. Borucki-Castro1, R. Berthiaume1, A. Robichaud1, and P. Lacasse1*, 1AAFC-Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada, 2Food Directorate, Health Canada, Longueuil, QC, Canada.

T107 Effects of natural beta-acids extracted from hops on Salmonella and Campylobacter pure culture.
N.A. Krueger*, R. C. Anderson1, J. A. Byrd1, M. D. Flythe1, and D. J. Nisbet1, 1Food and Feed Safety Research Unit, United States Department of Agriculture, Agriculture Research Service, College Station, TX, 2Forage Animal Production Research Unit, United States Department of Agriculture, Agriculture Research Service, Lexington, KY.

T108 Staphylococcus aureus virulence and metabolism are dramatically affected by Lactococcus lactis in cheese matrix.
M. Cretenet1,2, S. Nouaille1,4, J. Thouin1,2, L. Rault1,2, L. Stenz1,2, P. Francois1, J. A. Hennekinne1, M. B. Maillard1,2, J. Lauquint1,2, P. Loubiere1,2, S. Lortal1,2, J. Thouin1,2, S. Nouaille1,2, Y. Lu1,2, Y. Zhao1,2, and Y. Jiang1,2, 1INRA, STLO, Rennes, France, 2Agrocampus Ouest, STLO, Rennes, France, 3Université de Toulouse; INSA, Toulouse, France, 4INRA, UMR792, Toulouse, France, 5University of Geneva Hospitals, Geneva–Switzerland, 6ANSES, LERQAP, Maisons-Alfort, France.

T109 Characterization of risk of food pathogens in Minas Frescal cheese.
R. Freitas1, A. F. Carvalho1,2, L. A. Nero1, G. G. Netto1, and M. A. V. Brito1, 1Federal University of Viçosa, Viçosa, MG, Brazil, 2EMBRAPA-CNPG, Juiz de Fora, MG, Brazil.

T110 Inhibition of Listeria monocytogenes growth in cheddar cheese by nanofiltration retentate of tryptic extract of whey proteins.
V. Demers-Mathieu1,2, G. Robitaille1, D. St-Gelais1, S. Gauthier1, and M. Britten1*, 1Food Research and Development Centre, Agriculture and Agri-Food Canada, St Hyacinthe, QC, Canada, 2Centre de recherche STELA & INAF, Département de Sciences des Aliments et de Nutrition, Québec, QC, Canada.

T111 Investigating contamination of bulk tank milk with Listeria monocytogenes on a dairy farm.

T112 Prediction the growth of Staphylococcus aureus in raw milk using modified Gompertz and Logistic models.
B. Li1, C. Man1, M. Guo4, Y. Shan1, F. Zhao1, S. Yang1, Y. Jiang1, Y. Lang1, and Y. Jiang1,2, 1National Dairy Engineering and Technology Research Center, Northeast Agricultural University, Harbin, Heilongjiang, China, 2Department of Food Science, Northeast Agricultural University, Harbin, Heilongjiang, China, 3Department of Nutrition and Food Sciences, The University of Vermont, Burlington.

Y. Jiang1, C. Man1, M. Guo4, Y. Lu1, F. Zhao2, Y. Liu2, B. Li1, S. Yang1, and Y. Jiang1,2, 1National Dairy Engineering and Technology Research Center, Northeast Agricultural University, Harbin, Heilongjiang, China, 2Department of Food Science, Northeast Agricultural University, Harbin, Heilongjiang, China, 3Department of Nutrition and Food Sciences, The University of Vermont, Burlington.

T114 Simultaneous analysis of anions Cl−, NO−2, SO2−4, NO3−, and PO4− in milk with ion chromatography.
D. Liu and Z. Chen*, Analysis and Testing Center, Shandong University of Technology, Zibo, Shandong Province, China.

T115 Evaluation of a screening test for detecting antimicrobial residues in milk by visual reading and by reader equipment.
M. M. P. Araújo, M. A. Guerra, A. D. Lage, A. F. Cunha, L. M. Fonseca, M. O. Leite, M. R. Souza, C. F. A. M. Penna, and M. M. O. P. Cerqueira*, Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil.
Forages and Pastures

Enhancing Forage Characterization Methods

T116 Descriptive statistics for surface and core temperatures measured with infrared imaging and a digital thermometer on commercial Midwestern US silages.

T117 Intake, digestibility, and internal marker recovery of bermudagrass fed to cattle.

T118 In vitro gas production and microbial efficiency of Paspalum notatum.
V. Gallardo-Santillán1, R. Luevano-Escobedo1, V. M. Llamas-Rodríguez1, M. Guerrero-Cervantes1, H. Bernal-Barragán1, A. S. Juárez-Reyes1, and M. A. Cerrillo-Soto1, 1Universidad Juárez del Estado de Durango, Durango, México, 2Universidad Autónoma de Nuevo León, Nuevo León, México.

T119 Relationships between chemical composition, in vitro dry matter, neutral detergent fiber digestibility, and in vitro gas production of corn and sorghum silages.
A. Corral-Luna*, D. Domínguez-Díaz1, M. R. Murphy1, F. A. Rodríguez-Almeida1, C. Arzola1, G. Villalobos1, and J. A. Ortega-Gutierrez1, 1Facultad de Zootecnia y Ecología, Universidad Autónoma de Chihuahua, Chihuahua, Chihuahua, México, 2Department of Animal Science, University of Illinois, Urbana-Champaign.

T120 Effect of blending ruminal digesta, and filtration procedure on in vitro gas production.
M. de J. Marichal*, R. Crespi, M. de los A. Bruni, S. Furtado, and G. Arias, Departamento de Producción Animal y Pasturas, Facultad de Agronomía, Universidad de la República, Montevideo, Uruguay.

T121 Predictive accuracy of near-infrared reflectance (NIR) technology for fat and fatty acids in randomly selected TMR samples.

T122 Relationships of fermentation characteristics in corn forage.
R. Ward* and D. R. Mertens, 1Cumberland Valley Analytical Services Inc, Maugansville, MD, 2Mertens Innovation & Research LLC, Bellefonte, WI.

T123 Factors affecting estimation of spoilage indices in silage. 1: Effects of culture media, temperature, and duration.
J. Leite1,2, K. G. Arriola1, N. Cavalcanti1,2, O. C. M. Queiroz1, E. N. Muniz1,2, and A. T. Adesogni, 1Department of Animal Sciences, IFAS, University of Florida, Gainesville, 2Universidade Federal Rural de Pernambuco, Recife, PE, Brazil, 3Embrapa Tabuleiros Costeirios, Aracaju, SE, Brazil.

T124 Relationship between residual feed intake, performance, and carcass parameters of pasture finished cattle.
J. P. S. Neel*, E. E. D. Felton1, S. K. Duckett2, and W. S. Swecker3, 1USDA-ARS-AFSRC, Beaver, WV, 2West Virginia University, Morgantown, 3Clemson University, Clemson, SC, 4Virginia Tech University, Blacksburg.

Forages and Pastures

Improving Pasture Quality and Utilization and Animal Performance

T125 Herbage accumulation in Brachiaria humidicola subjected to different frequencies and intensities of defoliation.
H. H. Vilela1, D. Nascimento Junior*1, A. L. Santos1, D. L. R. Henriques1, B. D. Faria1, C. A. S. Freitas1, and A. F. Sbrissia2, 1Universidade Federal de Vicsosa, Vicsosa, MG, Brazil, 2Universidade do Estado de Santa Catarina, Lages, SC, Brazil.

T126 Sward bulk density in Brachiaria humidicola subjected to frequencies and intensities of defoliation.
D. Nascimento Junior*, H. H. Vilela1, A. L. Santos1, B. D. Faria1, B. M. L. Sousa1, G. O. Rocha1, and A. F. Sbrissia2, 1Universidade Federal de Vicsosa, Vicsosa, MG, Brazil, 2Universidade do Estado de Santa Catarina, Lages, SC, Brazil.

T127 Herbage accumulation dynamics in pastures of Pennisetum purpureum submitted to grazing severities.
D. Nascimento Junior*, B. M. L. Sousa1, H. C. F. Monteiro1, H. H. Vilela1, M. C. T. Silveira1, A. F. Sbrissia2, and S. C. Da Silva3, 1Universidade Federal de Vicsosa, Vicsosa, MG, Brazil, 2Universidade do Estado de Santa Catarina, Lages, SC, Brazil, 3Escola Superior de Agricultura Luiz de Queiroz, Piracicaba, SP, Brazil.

T128 Pre-and post-grazing targets for mulato grass subjected to rotational stocking management.

T129 Balance between the emergence and mortality of tiller in Brachiaria decumbens pastures under continuous stocking.
M. E. R. Santos1, V. M. Gomes2, D. M. Fonseca2, D. Nascimento Junior*, and A. F. Sbrissia2, 1Universidade Federal de Uberlandia, Uberlandia, MG, Brazil, 2Universidade Federal de Vicsosa, Vicsosa, MG, Brazil, 3Universidade do Estado de Santa Catarina, Lages, SC, Brazil.
Forage utilization efficiency estimated in *Pennisetum purpureum* submitted to grazing severities.

D. Nascimento Junior*, B. M. L. Sousa1, H. C. F. Monteiro1, F. C. Gomes1, C. Z. Assis1, H. H. Vilela1, A. F. Sbriassa2, A. L. Santos1, and M. C. T. Silveira1, 1Universidade Federal de Vicsosa, Vicsosa, MG, Brazil, 2Universidade do Estado de Santa Catarina, Lages, SC, Brazil, 3Escola Superior de Agricultura Luiz de Queiroz, Piracicaba, SP, Brazil.

Grazing losses and grazing efficiency on mulato grass subjected to strategies of rotational stocking management.

M. C. T. Silveira1, D. Nascimento Junior1, S. C. Da Silva1, C. S. Rodrigues1, V. A. Lima2, L. M. Barbosa1, S. J. Sousa1, K. S. Pena1, and B. M. L. Sousa1, 1Universidade Federal de Vicsosa, Vicsosa, MG, Brazil, 2Escola Superior de Agricultura Luiz de Queiroz, Piracicaba, SP, Brazil.

Relationship between canopy light interception and pre-grazing sward height in *Brachiaria humidicola* pastures subjected to frequencies and intensities of defoliation.

H. H. Vilela1, D. Nascimento Junior1, A. L. Santos1, B. M. L. Sousa1, G. O. Rocha1, C. A. S. Feitas1, and A. F. Sbriassa2, 1Universidade Federal de Vicsosa, Vicsosa, MG, Brazil, 2Universidade do Estado de Santa Catarina, Lages, SC, Brazil.

Tiller population density in *Brachiaria humidicola* pastures subjected to frequencies and intensities of defoliation.

H. H. Vilela1, D. Nascimento Junior1, A. L. Santos1, B. M. L. Sousa1, G. O. Rocha1, C. A. S. Feitas1, and A. F. Sbriassa2, 1Universidade Federal de Vicsosa, Vicsosa, MG, Brazil, 2Universidade do Estado de Santa Catarina, Lages, SC, Brazil.

Forage production and leaf area index of tropical grass cultivars under irrigation in the cerrado region of Minas Gerais, Brazil.

E. A. da Silva1*,1, 2, W. J. da Silva1, J. R. M. Luas1, 3, D. S. Queiroz1, M. C. M. Viana1, 4, J. M. V. Paes1, 5, and L. C. da Silva Júnior1, 6, 1EPAMIG, Uberaba, Minas Gerais, Brazil, 2EPAMIG, Janaúba, Minas Gerais, Brazil, 3EPAMIG, Vioasa, Minas Gerais, Brazil, 4EPAMIG, Prudente de Morais, Minas Gerais, Brazil, 5CNPq, Brasilia, Federal District, Brazil, 6FAPEGEM, Belo Horizonte, Minas Gerais, Brazil.

Morphogenic characteristics of tropical grass cultivars under irrigation in the cerrado region of Minas Gerais, Brazil.

E. A. da Silva1*,1, 2, W. J. da Silva1, J. R. M. Luas1, 3, D. S. Queiroz1, J. M. V. Paes1, 5, and L. C. da Silva Júnior2, 1EPAMIG, Uberaba, Minas Gerais, Brazil, 2EPAMIG, Janaúba, Minas Gerais, Brazil, 3EPAMIG, Vioasa, Minas Gerais, Brazil, 4EPAMIG, Prudente de Morais, Minas Gerais, Brazil, and 5CNPq, Brasilia, Federal District, Brazil, 6FAPEGEM, Belo Horizonte, Minas Gerais, Brazil.

Effect of patch-burning mixed-grass prairie rangeland on cattle performance.

S. A. Gunter1*, 2, T. L. Springer1, E. T. Thacker1, and R. L. Gillen1, 1USDA-ARS, Southern Plains Range Research Station, Woodward, OK, 2Western Kansas Agricultural Research Centers, Kansas State University, Hays.

Estimating pasture growth rates using local weather data.

E. B. Rayburn and W. L. Shockey*, West Virginia University, Morgantown.

Impact of feeding strategies on milk production and income over feed cost: A case study of organic, grazing and conventional Wisconsin dairy farms.

M. Dutreuil*, M. Wattiaux, R. Gildersleeve, B. L. Barham, and V. E. Cabrera, University of Wisconsin, Madison.

Performance of automatic milking during a whole herd transition to grazing.

S. Utsumi*, M. Haan, R. Ashley, and J. Bronson, Kellogg Biological Station, Michigan State University, Hickory Corners.

Corn and forage yield on degraded pasture recovered by integrated crop-livestock-forest system in the central region of Minas Gerais, Brazil.

M. C. M. Viana1*, M. H. T. Mascarenhas1, W. M. Alberna2, F. M. Freire1, R. C. Alvarenga1, E. A. Silva1, M. M. Gontijo Neto1, and M. F. F. Teixeira1, 1EPAMIG - Minas Gerais Agricultural Research Corporation, Belo Horizonte, Minas Gerais, Brazil, 2EMATER MG - Minas Gerais Agricultural Assistance and Rural Extension, Belo Horizonte, Minas Gerais, Brazil, 3Embrapa Maize and Sorghum, Sete Lagoas, Minas Gerais, Brazil, 4FEAD, Belo Horizonte, Minas Gerais, Brazil, 5FAPEGEM, Belo Horizonte, Minas Gerais, Brazil.

Supplement and stocking strategies for heavy-weight fall-born calves backgrounded on Tifton 85 bermudagrass.


Production of wheat and oats overseeded into Tifton-85 grass at different forage allowances.

F. F. Simili1*, A. C. Ruggieri2, T. V. Bertolino2, D. R. Casagrande2, R. A. Reis2, and R. Godoy4, 1APTA, Ribeirao Preto, Sao Paulo, Brazil, 2UNESP, Jaboticabal, Sao Paulo, Brazil, 3UFAM, Parintins, Amazonas, Brazil, and 4EMBRAPA, Sao Carlos, Sao Paulo, Brazil.

Effects of lack of shade on Wye Angus brood cows.

M. S. Updike* and R. M. Harrell, University of Maryland, College Park.

Effect of stocking rate on forage production, soil compaction and root numbers in a swine pasture system.


Average annual weight prediction of cows kept four years in a tough regime using a model of simulation.

**Effects of stocking rate and supplementation on carcass traits of beef cattle grazing winter annual forages.**
B. C. Williamson1,3, M. L. Looper4, F. M. Rouquette3, G. E. Aiken3, S. F. Tabler4, J. B. Wolley2, and C. F. Rosenkrans1. 1University of Arkansas, Fayetteville, 2USDA/ARS, DBSFR, Booneville, AR, 3Texas AgriLife Research, Overton, 4USDA/ARS, FAPRU, Lexington, KY.

**Matching hay composition to requirements during the winter.**
W. M. Backus1, B. T. Campbell2, A. M. Saxton3, D. K. Joines2, and J. C. Waller4. 1The University of Tennessee, Knoxville, 2Soil, Plant, and Pest Center, Nashville, TN.

**Total fat and fatty acid composition of steaks from steers finished on three different forage systems in the Gulf Coast Region.**
G. Scaglia1, J. Rodriguez2, K. McMillin2, G. Gentry1, and H. Boland3. 1LSU AgCenter School of Animal Sciences, Baton Rouge, LA, 2Prairie Unit Mississippi State University, Prairie.

**Effect of molasses or cornmeal on milk production and nitrogen utilization of grazing organic dairy cows.**
S. Ross1, A. F. Brito2, K. J. Soder1, K. Greene1, A. Green1, and P. Y. Chouinard3. 1University of New Hampshire, Durham, 2USDA-Agricultural Research Service-Pasture Systems and Watershed Management Research Unit, University Park, PA, 3University of Laval, Québec City, Quebec, Canada.

**Sensory properties and abundance of selected volatile compounds in milk from cows fed timothy grass as hay, silage or pasture.**
M. P. Villeneuve1,2,3, Y. Lebeuf1,2,3, R. Gervais1, G. F. Tremblay1, J. C. Vuillemand1,2, and P. Y. Chouinard3,4. 1Département des sciences animales, Université Laval, Québec, QC, Canada, 2Institute of Nutraceuticals and Functional Foods (INAF), Québec, QC, Canada, 3Agriculture and Agri-Food Canada, Québec, QC, Canada, 4Département des sciences des aliments et de nutrition, Université Laval, Québec, QC, Canada.

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### Horse Species

#### Equine Advancements I

**Is horse harvesting and processing plants a horse owner solution to the United States unwanted horse population?**
S. Lindsey and M. Nicodemus*, Mississippi State University, Mississippi State.

**Selenium status declines in horses fed NRC adequate and low selenium diets.**
M. Brummer*, S. Hayes, J. E. Earing, S. M. McCown, and L. M. Lawrence, University of Kentucky, Lexington.

**Round-bale feeder design affects hay waste and intake during horse feeding.**

**Glycemic and insulinemic responses of weanling horses to high and low protein diets.**
A. L. Wagner*, R. N. Digianantonio1, S. L. Tanner1, R. B. Ennis1, P. A. Harris2, J. T. Sylvester1, and K. L. Urschel1. 1University of Kentucky, Lexington, 2WALTHAM Centre For Pet Nutrition, Melton Mowbray, UK, 3Buckeye Nutrition, Dalton, OH.

**The development, evaluation and implementation of an online safety course for youth working on equine facilities.**
E. A. Greene*, K. L. Waite2, G. Heyboer5, J. Whittle1, C. D. Skelly1, and K. Vignare6. 1University of Vermont, Burlington, 2Michigan State University, East Lansing, 3University of Kentucky, Lexington.

**Greener pastures, stable footing, and seeking balance: An easy-to-use land stewardship series for all horse owners.**
E. A. Greene4, R. Gilk4, and K. Martinson5. 1University of Vermont, Burlington, 2University of Minnesota, St. Paul.

**Genetic evaluation of annual earnings in Quarter Horses.**
J. A. V. Silva*, A. P. A. Silva1, B. Langlois2, C. B. Cyrino2, and M. D. S. Mota3. 1Faculdade de Medicina Veterinária e Zootecnia, Unesp, Botucatu, São Paulo, Brasil, 2Institut National de la Recherche Agronomique, Jouy en Josas, France.

**Genetic correlation between racing performance traits in Quarter Horses.**
M. D. S. Mota1, B. Langlois2, R. A. Curi1, M. C. L. Dal Colet1, and J. A. V. Silva1, 1Faculdade de Medicina Veterinária e Zootecnia, Unesp, Botucatu, São Paulo, Brasil, 2Institut National de la Recherche Agronomique, Jouy en Josas, France.

**Genome-wide association of polymorphic gait in the horse.**
E. A. Staiger1, R. R. Bellone2, N. B. Sutter2, and S. A. Brooks1. 1Department of Animal Science, Cornell University, Ithaca, NY, 2Department of Biology, University of Tampa, Tampa, FL, 3Department of Clinical Science, College of Veterinary Medicine Cornell University, Ithaca, NY.

**Aromatherapy treatment in horses.**
C. E. Ferguson*, H. Kleneman, A. L. Browning, J. Browning, and E. L. Ferguson, McNeese State University, Lake Charles, LA.

**L-Arginine supplementation increases ovarian blood flow in postpartum mares.**

**Using glycerol-1H to evaluate equine blastocyst capsule permeability.**
B. R. Scott1, D. B. Carwell2, R. A. Hill3, K. R. Bondioli1,2, R. A. Godke1,2, and G. T. Gentry1,2, 1School of Animal Sciences, Louisiana State University AgCenter, Baton Rouge, 2Reproductive Biology Center, Louisiana State University AgCenter, St. Gabriel.
Effect of centrifugation/freezing extenders and sperm concentrations on post-thaw motility and membrane integrity of frozen-thawed stallion spermatozoa.
C. S. Ballard*, C. G. Lorentz, and J. B. Davis. William H. Miner Agricultural Research Institute, Chazy, NY, University of Vermont, Burlington.

Evaluation of hCG or Deslorelin for enhancing ovulation and subsequent pregnancy rate in mares in a commercial setting.
M. M. Tondre, M. M. Vogelsang, C. A. Cavinder, C. M. Honnas, and S. G. Vogelsang. Texas A&M University, College Station, Texas Equine Hospital, Bryan, TX, Equine Reproductive Consultant, Hearne, TX.

Endoscope-guided insemination for off-season mares.

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International Animal Agriculture

Milk and plasma iodine in Isfahan Holstein dairy cows.
A. Nikkhah and G. Ghorbani. University of Zanjan, Zanjan, Iran, Isfahan University of Technology, Isfahan, Iran.

The effect of stocking rate and calving date on reproductive performance, body state, metabolic, health and welfare parameters of Holstein-Friesian dairy cows.
B. McCarthy, K. M. Pierce, L. Delaby, A. Brennan, and B. Horan. Animal and Grassland Research and Innovation Centre, Teagasc Moorepark, Fermoy, Co. Cork, Ireland, School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin, Ireland, INRA, AgroCampus Ouest, Saint-Gilles, France.

G. Császár, A. Unger, and L. Varga. Hungarian Dairy Research Institute, Inc., Mosonmagyarovar, Hungary, Department of Dairy Science, Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyarovar, Hungary.

Bulk tank somatic cells and its relationship to milk production, milk composition, and revenue in dairy farms located in central Thailand.

Factors affecting carcass weight, dressing percent, and marbling score of crossbred beef cattle in tropical Thailand.

Forage yield and quality of two genetic materials of corn (Zea mays) harvested at two different cutting heights in Costa Rica.

Comparison of chemical composition, in situ degradability and in vitro gas production of ensiled and sun-dried mulberry pomaces.
Z. Bo, Q. Meng, L. Ren, F. Shi, and Z. Zhou. State Key Laboratory of Animal Nutrition, Beef Cattle Research Center, College of Animal Science and Technology, China Agricultural University, Beijing, China.

Immune status of water buffalo calves allowed to nurse their dams.

Milk composition, blood cellular and chemical components of Saanen and local Lebanese goats.

Assessment nutrient matrix values of three xylanase and β-glucanase on broilers performance fed wheat-based diet.
S. A. Mofakharzadeh, H. Moravej, and M. Shivazad. Department of Animal Science, Agriculture and Natural Source Pardis, University of Tehran, KarajIran.

Evaluation of nutrient matrix values for different kinds of NSP enzymes on performance, water intake, litter moisture and jejunal digesta viscosity of broilers fed barley-based diet.
S. A. Mofakharzadeh, H. Moravej, and M. Shivazad. Department of Animal Science, Agriculture and Natural Source Pardis, University of Tehran, KarajIran.

The effects of albusin B (bacteriocins) of Ruminococcus albus 7 expressed by yeast on the lipid metabolism of mice.
Y. H. Hsieh, T. Wang, J. T. Hsu, and C. Y. Chen. National Taiwan University, Taipei, Taiwan, Chinese Culture University, Taipei, Taiwan.
Nonruminant Nutrition

Amino Acids

Sponsor: Archer Daniels Midland

T178 Fermentation biomass can replace protein from fish and soybean meals in nursery diets.
V. G. Perez1,2, H. Yang1, T. R. Radke1, J. Less2, and D. P. Holzgreve1, 1ADM Alliance Nutrition Inc., Quincy, IL, 2ADM Specialty Feed Ingredients, Decatur, IL.

T179 The digestibility marker used and their inclusion level influence the magnitude of ileal amino acid digestibility response to phytase supplementation of a swine diet.
O. A. Olukosi1, O. Bolarinwa2, A. J. Cowieson3, and O. Adeola4*, 1Avian Science Research Centre, Scottish Agricultural College, Ayr, Ayrshire, United Kingdom, 2Department of Animal Sciences, Purdue University, West Lafayette, IN, 3Poultry Research Foundation, Faculty of Veterinary Science, The University of Sydney, Camden, Sydney.

T180 Evaluation of different lysine to threonine ratios on growth performance, relative organ weight, meat quality and blood profiles in broilers.
H. W. Cho*, L. Yan, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

T181 Essential amino acids to crude protein ratio in placenta and uterus during gestation.
Y. L. Ma1, N. Trottier3, J. Liesman1, R. L. Payne1, and M. D. Lindemann5, 1University of Kentucky, Lexington, 2Michigan State University, East Lansing, 3Evonik-Degussa Corp., Kennesaw, GA.

T182 Estimating fermentative amino acid catabolism in the upper gut of growing pigs.
D. Columbus*, J. P. Cant, and C. F. M. de Lange, Department of Animal and Poultry Science, University of Guelph, Guelph, Ontario, Canada.

T183 Serum amino acid concentration and expression of amino acid transporter bo,+ in pigs fed diets with different protein and amino acid levels.
H. García1, A. Morales3, A. B. Araiza1, M. Cervantes4*, J. Yañez2, and P. Carrillo3, 1ICA, Universidad Autónoma de Baja California, Mexicali, BC, México, 2Universidad Autónoma de Tlaxcala, Tlaxcala, Tlax, México.

T184 Effect of dietary leucine and isoleucine on productive performance and myosin expression in growing pigs.
V. Méndez1, A. Morales*, M. Cervantes1, B. A. Araiza1, and M. A. Barrera4, 1ICA, Universidad Autónoma de Baja California, Mexicali, BC, México, 2Universidad de Sonora, Hermosillo, Son., México.

T185 Preference for diets with free L-tryptophan in pigs with different tryptophan status.
J. Suárez1, E. Roura1,2, I. Ipharraguerre1,2, and D. Tarrallardona1, 1IRTA-Mas de Bover, Constantí, Spain, 2Lucta S.A., Barcelona, Spain, 3Current address: University of Queensland, Brisbane, Australia.

T186 Effects of dietary inclusion of bioactive grape seed extract on protein and amino acid digestibility in broiler chicks.
S. Chamorro1, A. Viveros2, C. Centeno1, C. Romero1*, I. Arja1, and A. Brenes1, 1Instituto de Ciencia y Tecnología de Alimentos y Nutrición, ICTAN, CSIC, Madrid, Spain, 2Facultad de Veterinaria, Universidad Complutense de Madrid, Spain, 3Escuela de Ingenieros Agrónomos, Universidad Politécnica de Madrid, Spain.

T187 Effect of levels of lysine and ractopamine on the performance of immunocastrated pigs from 97 to 124 kg.
D. O. Fontes1*, B. O. Rosa1, U. A. D. Orlando1, M. A. e Silva1, and P. C. Silva1, 1Department of Animal Science, Veterinary School of UFMG, Brazil, 2BRF Foods, Brazil.

T188 Effect of L-tryptophan supplementation on hypothalamic serotonin level and aggression of nursery pigs fed diets varying large neutral amino acid concentrations.
Y. B. Shen, G. Vollqué*, and S. W. Kim, North Carolina State University, Raleigh.

Nonruminant Nutrition

Energy

T189 Importance of sampling diets on the precision of ME studies with swine.

T190 Influence of dietary net energy concentration provided during the finishing period on carcass, meat and fat characteristics of heavy gilts.
M. A. Latorre1,2, J. Suárez2, M. A. Sanz2, G. Ripoll2, and M. Joy1, 1Universidad de Zaragoza, Spain, 2Centro de Investigación y Tecnología Agroalimentaria de Aragón, Zaragoza, Spain.

T191 Metabolizable energy and digestibility of carbohydrates in cereal grains fed to growing pigs.
S. K. Cervantes-Pahn* and H. H. Stein, University of Illinois, Urbana.
Nonruminant Nutrition

Feed Ingredients

T195
The granulated barley provided during growing or finishing period improves the major fatty acid composition in the intramuscular fat of longissimus dorsi muscle and of dry-cured ham from heavy pigs.
A. Daza1, M. A. Latorre*2, and C. J. López-Bote1, 1Universidad Politécnica de Madrid, Spain, 2Universidad de Zaragoza, Spain.

Sulfur addition in corn-soybean meal diets reduced nursery pig performance.

The effect of Kapok seed meal supplementation on growth performance, nutrient digestibility, blood characteristics, meat quality, and fatty acids profile in finishing pigs.
H. J. Kim*, T. X. Zhou, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

Performance of 1-d-old to 42-d-old broiler chicks fed with increasing levels of acerola meal replacing corn in diet.
V. C. da Cruz*1, L. H. Zanetti1, G. da Valle Polycarpo1, R. F. de Oliveira1, A. L. C. Brich1, D. D. Millen1, L. C. Carvalho1, D. O. dos Santos Gomes1, O. J. Sabbag1, and M. L. Poia1, 1São Paulo State University, Dracena Campus, Dracena, São Paulo, Brazil, 2São Paulo State University, Botucatu Campus, Botucatu, São Paulo, Brazil.

Inclusion of acerola meal replacing corn in the diet of broilers of 1-d-old to 21-d-old.
L. H. Zanetti*1, V. C. da Cruz1, G. da Valle Polycarpo1, R. F. de Oliveira1, A. L. C. Brich1, D. D. Millen1, V. B. Fascia1, M. L. Poia1, and O. J. Sabbag1, 1São Paulo State University, Dracena Campus, Dracena, São Paulo, Brazil, 2São Paulo State University, Botucatu Campus, Botucatu, São Paulo, Brazil.

Fatty acid content and sensory evaluation of trimmed loins as influenced by timing of feeding flaxseed or fish oil to pigs.
H. R. Martinez-Ramirez1, L. M. Pivotto1, I. B. Mandell1, J. K. G. Kramer2, and C. F. M. de Lange1, 1Centre for Nutritional Modelling, Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, 2Agriculture and Agri-Food Canada, Guelph, ON, Canada.

Nonruminant Nutrition

Gastrointestinal Physiology

T201
Intestinal short-chain fatty acid sensors, FFA2 and FFA3, and control of food intake.
M. Al-Rammahi*, K. Daly, A. Moran, and S. Shirazi-Beechey, University of Liverpool, Liverpool, UK.

T202
Gene expression of the L–amino acid–sensing receptor T1R1/T1R3 changes in gut tissues of pigs in response to dietary protein.
G. Tedo1, E. Roua13, I. Ipharraguere*1, and X. Manteca1, 1Lucta SA, Feed Additives Division, Montornes del Vallès, Barcelona, Spain, 2Autonomous University of Barcelona, Bellaterra, Barcelona, Spain, 3Current address: University of Queensland, Brisbane, Australia.

T203
Gene expression of the porcine sweet taste receptor in tongue and gut tissues changes after weaning.
G. Tedo1, X. Manteca1, I. Ipharraguere*1, M. Reina1, D. Torrallardona4, and E. Roua15, 1Lucta SA, Feed Additives Division, Montornes del Vallès, Barcelona, Spain, 2Autonomous University of Barcelona, Veterinary School, Bellaterra, Barcelona, Spain, 3University of Barcelona Cell Biology Dept., Celltec-UB, Barcelona, Spain, 4IRTA Mas de Bover, Constanti, Tarragona, Spain, 5Current address: University of Queensland, Brisbane, Australia.

T204
Evaluation of seaweed-derived polysaccharides on indices of gastrointestinal fermentation and selected populations of microbiota in newly weaned pigs challenged with Salmonella Typhimurium.
S. Dillon1, J. Fanning1, T. Sweeney1, J. Egan1, C. J. O’Shea1, M. Gutierrez2, C. Mannon1, F. Leonard1, and J. V. O’Doherty*1, 1University College Dublin, Dublin, Ireland, 2Central Veterinary Research Laboratories, Backweston, Celbridge, Co. Kildare, Ireland.
Fermentation activity of colonic microbiota from piglets fed diets including alfalfa, citrus pulp or inulin.
S. Brambillasca*1, M. Hernández1, A. Britos1, L. Reyes1, P. Zunino2, and C. Cajarville1, 1Departamento de Nutrición Animal, Facultad de Veterinaria, UdelaR, Montevideo, Montevideo, Uruguay, 2Departamento de Microbiología, Instituto de Investigaciones Biológicas Clemente Estable, MEC, Montevideo, Montevideo, Uruguay.

Physiology and Endocrinology II

Quantitative bioluminescence imaging of functional estrogen receptor activity within intact porcine ovarian follicles in vitro.
S. Jung* and S. T. Willard, Mississippi State University, Mississippi State.

Propionate increases mitochondrial phosphoenolpyruvate carboxykinase mRNA in Madin-Darby bovine kidney epithelial cells.
S. I. Tindell*1, S. L. Koser, and S. S. Donkin, Purdue University, West Lafayette, IN.

Staining bovine sperm for sex-sorting: Concentration effects of seminal plasma, sperm and Hoechst 33342.

Effect of feed restriction on reproductive and metabolic hormones in dairy cows.
H. Gencoglu1,2, A. Nascimento1, K. Hackbart1, L. F. Ferraretto*1, F. Dalla Costa1, J. Guenther2, R. Meyer1, R. D. Shaver1, and M. C. Wiltbank1, 1Department of Dairy Science, University of Wisconsin-Madison, Madison, 2Department of Animal Nutrition and Nutritional Diseases, Faculty of Veterinary Medicine, University of Uludag, Bursa, Turkey.

Fetal growth and maternal body condition following melatonin supplementation in adequately fed or nutrient restricted ewes.

Effects of realimentation after nutrient restriction during early to mid-gestation on uterine blood flow in pregnant beef cows.
L. E. Camacho1,2, C. O. Lemley1,2, B. W. Neville1,2, C. R. Dahlen1,2, G. P. Lardy1,2, and K. A. Vonnahme1,2, 1Center for Nutrition and Pregnancy; Department of Animal Sciences, Fargo, ND, 2North Dakota State University, Fargo.

Effects of propiogenic supplements on serum concentration of insulin and progesterone in nonlactating cows: I. Monensin.
T. Leiva1, M. Barbosa1, R. O. Rodrigues1, R. F. Cooke1, and J. L. M. Vasconcelos1, 1UNESP – Faculdade de Medicina Veterinária e Zootecnia, Botucatu, SP, Brazil, 2Oregon State University – Eastern Oregon Agricultural Research Center, Burns.

Effects of propiogenic supplements on serum concentration of insulin and progesterone in nonlactating cows: II. Propylene glycol.
A. M. L. Madureira1, M. A. S. Borges1, R. O. Rodrigues1, R. F. Cooke1, and J. L. M. Vasconcelos1, 1UNESP – Faculdade de Medicina Veterinária e Zootecnia, Botucatu, SP, Brazil, 2Oregon State University – Eastern Oregon Agricultural Research Center, Burns, OR.

Follicular fluid composition in cyclic Hereford cows supplemented with rice bran in grazing conditions.
L. Velo1,2, M. E. Trobo1,2, C. Garcia Pintos1,2, C. Vinholes2, and M. Carriquiry*, 1School of Agronomy, UdelaR, Montevideo, Uruguay, 2National Research Institute for Agriculture, Tracauarembó, Uruguay.

Capability of a new or once-used CIDR to develop persistent follicles and the capability of additional progesterone for persistent follicle turnover in replacement beef heifers.

Influence of CIDR-based protocols associated with supplementation of calcium soap on reproductive performance of Nellore cows.
M. V. Biehl1, A. V. Pires1,2, I. Susin1, D. D. Nepomuceno1, J. R. S. Gonçalves1, L. H. Cruppe1, F. M. Da Rocha1, and M. L. Day3, 1University of Sao Paulo, Pirassununga, SP, Brazil, 2University of Sao Paulo, Piracicaba, SP, Brazil, 3Ohio State University, Columbus, 4Experimental Station Georgina Hildegard von Pritzelwitz, Londrina, PR, Brazil.

Effect of dietary conjugated linoleic acid on reproduction and tissue responses in dairy cows.
G. Esposito*1,2, A. Schneider1, V. A. Absalon Medina1, S. H. Pelton1, and W. R. Butler3, 1University of Naples Federico II, Naples, Italy, 2Cornell University, Ithaca, NY, 3Universidade Federal de Pelotas, Pelotas, RS, Brazil.

Effect of timing of initiation of Resynch and presynchronization with GnRH on fertility of resynchronized inseminations in lactating dairy cows. (see Abstract 228).

Endocrine and ovarian parameters associated with increased fertility after resynchronized timed artificial inseminations in lactating dairy cows.
J. O. Giordano*, M.C. Wiltbank, and P. M. Fricke, Department of Dairy Science, University of Wisconsin, Madison.
T220 Use of the CIDR+EB synchronization program in prepubertal Nellore heifers.
1University of Sao Paulo, Pirassununga, SP, Brazil, 2University of Sao Paulo, Piracicaba, SP, Brazil, 3Ohio State University, Columbus, 4Experimental Station Georgina Hildegard von Pritzelwitz, Londrina, PR, Brazil.

T221 Effects of ethanol and acetic acid fed to high-producing dairy cows on blood parameters.

T222 Estrous response in yearling and multiparous ewes during reduction on the synchronized luteal phase and eCG injection.

T223 Fertility following fixed-time AI in infertile CIDR-treated dairy cows given rbST throughout extended (>500 d) lactations.

T224 Adiponectin system and peroxisome proliferator-activated receptor gamma2 (PPARγ2) mRNA abundance in different bovine fat depots considering conjugated linoleic acids (CLA) or lactation stage related changes.

T225 Relationship between follicular and ovulatory responses with embryo production during superovulatory treatment in cattle.
H. Kohram1,2, and M. Poorhamdollah1,2*, 1Department of Animal Science, Faculty College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran, 2Department of Clinical Sciences, Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran.

T226 Differentiation of estrus versus nonestrus cow cervix morphology: Verification of a cost-effective methodology.
A. Nikkhah*, M. A. Sirjani, A. A. Assadzadeh, and H. Amanloo, University of Zanjan, Zanjan, Iran.

T227 Metabolic characteristics of pregnant gilts fed low and excess protein diets associated to intrauterine growth retardation (IUGR).
C. C. Metges1, I. S. Lang1, U. Hennig1, M. Peters1, K.-P. Brüssow1, E. Kanitz1, M. Tuchscherer1, F. Schneider1, J. Weitzel1, A. Ooster1, H. Sauerwein3, G. Nürnberg1, C. Rehfeldt1, and W. Otten1, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, 2Institute of Animal Science, Rheinische Friedrich-Wilhelms-Universität, Bonn, Germany.

T228 Induction of luteal tissue in PGF2α-treated sows.
D. Gandy*, A. L. Greathouse, H. Klienman, F. M. LeMieux, and C. E. Ferguson, McNeese State University, Lake Charles, LA.

T229 Effects of increased GnRH dose post–TAI in Brahman influenced cattle.
B. Pousson1, D. J. Kesler2, M. Poole2, W. Storer1, and C. E. Ferguson2, 1McNeese State University, Lake Charles, LA, 2University of Illinois, Urbana-Champaign.

T230 Dynamics of fat cell turnover in visceral and subcutaneous fat tissue in dairy cows.

T231 Insulin sensitivity in obese (iberian) and lean (Landrace) 50-kg barrows.

T232 Reproductive performance of replacement beef heifers when estrus was synchronized with progesterone (CIDR) for 5 or 7 d, GnRH, and PGF2α.
K. M. Bischoff*, T. E. Black2, R. D. Estermann2, G. A. Bridges3, G. C. Lamb3, and J. V. Yelich1, 1North Florida Research and Education Center, University of Florida, Marianna, 2Department of Animal Sciences, University of Florida, Gainesville, 3North Central Research and Outreach Center, University of Minnesota, Grand Rapids.

T233 Fat mobilization during early lactation: Effects on milk performance, feed intake, body condition and metabolic changes in dairy cows.
C. Weber1*, F. Becker1, C. Hametner1, B. Losand2, R. M. Bruckmaier3, W. Kanitz4, and H. M. Hammon1, 1Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, 2State Institute for Agriculture and Fishery, Dummerstorf, Germany, 3Veterinary Physiology, Vetsuisse Faculty, Bern, Switzerland.

T234 Fat mobilization around calving in high-yielding dairy cows affects hepatic gene expression of gluconeogenic enzymes but not enzymes involved in fatty acid oxidation.
H. M. Hammon1,2, C. Weber1, F. Becker1, C. Hametner1, B. Losand2, and W. Kanitz4, 1Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, 2State Institute for Agriculture and Fishery, Dummerstorf, Germany.

T235 Ovarian characteristics, serum estradiol and progesterone concentrations, and fertility in lactating dairy cows in response to equine chorionic gonadotropin (eCG).
S. L. Pulley*, L. D. Wallace, H. I. Mollieon, and J. S. Stevenson, Kansas State University, Manhattan.
T236 A mechanistic metabolic model of regulation of reproductive processes in dairy cattle.
J. P. McNamara, S. L. Shields, and I. Lean, Washington State University, Pullman, University of Sydney, Camden, NSW, Australia.

T237 Effect of prostaglandin F2α on growth of Escherichia coli and Streptococcus uberis associated with bovine mastitis.
C. Autran, B. Shafii, M. McGuire, J. Dalton, and A. Ahmadzadeh, University of Idaho, Moscow, Statistical Programs, College of Ag & Life Sci, Moscow, ID, Caldwell R & E Center, Caldwell, ID.

T238 Effects of sequential injections of GnRH at 17 and 24 d after AI on progesterone concentration and pregnancy losses.

T239 Effect of GnRH treatment at critical stages of estrous cycle following artificial insemination on pregnancy rate in lactating Holstein dairy cows.
Z. Hakimi, A. Z. Shahne, H. M. Yejane, and R. Masoumi, University of Tehran, Karaj, Karaj, Iran.

Production, Management and the Environment I

T240 Effect of insemination timing on conception rates of dairy cows having high activity as identified by the Select Detect activity monitor.

T241 Reproductive performance in Mexican Holstein dairies by geographic region.
H. Lopez, F. Cavazos, A. Gonzalez, L. Ruiz, and C. Vergara, ABS Global Inc.

T242 Effects of 2.1 and 10 x 10⁹ doses of sex-sorted or conventionally processed sperm on conception rates of Holstein heifers.

T243 IGF-I increases in vitro embryo production and protects against deleterious effects of heat stress in Nelore (Bos indicus) and Holstein (Bos taurus) breeds.
R. A. Satrapa, E. M. Razza, C. F. Silva, T. Nabhan, R. A. L. Simoes, and C. M. Barros, Department of Pharmacology - IBB, University of São Paulo State, Botucatu, Sao Paulo, Brazil.

T244 Cytological endometritis incidence in crossbred dairy cows.

T245 Effect of simultaneous thawing of multiple semen straws and sequence of insemination on pregnancy rate for timed-AI in suckled multiparous Nelore cows.
L. Z. Oliveira, V. F. M. Hossepiam de Lima, R. M. Santos, T. Martins, R. F. G. Peres, H. B. Graff, E. R. Carvalho, A. F. C. de Andrade, and R. P. Arruda, FCAV-UNESP, Jaboticabal, SP, Brazil, FAMEV-UFU, Uberlândia, MG, Brazil, FMVZ-UNESP, Botucatu, SP, Brazil, Agropecuária Fazenda Brasil, Nova Xavantina, MT, Brazil, FMVZ-USP, Pirassununga, SP, Brazil.

T246 An individual cow-based model to aid in decision making about reproductive management of dairy cows.
P. Federico, A. De Vries, G. M. Schuenemann, K. N. Galvão, Capital University, Columbus, University of Florida, Gainesville, The Ohio State University, Columbus.

T247 Efficacy of embryo transfer in lactating dairy cows during summer using fresh or vitrified embryos produced in vitro with sex-sorted semen. II. Calving data.

T248 Economic evaluation of embryo transfer in dairy cows during the summer using linear programming.

T249 Economic comparison of two resynchronization protocols initiated at different intervals after insemination on fertility in lactating dairy cows.

T250 The effects of probiotic, prebiotic, and plant extract on egg quality in layer hens.
V. Kalderon and V. Akay, Cakabey High School, Izmir, Turkey, Global Nutritech Biyoteknoloji Ltd., Kocaeli, Turkey.
T251 The in vitro antibacterial activity of extracts by different extraction of Chinese pulsatilla root, purslane herb, dyers woad leaf, and ash barks—traditional Chinese medicine.
F. Rejun*, W. Xiangrong1, H. Jianghua1, Y. Yulong2, and C. Caihui1, 1Department of Animal Science and Technology, Hunan Agricultural University, Changsha, Hunan, P. R. China, 2Institute of Subtropical Agriculture, Chinese Academy of Sciences, Changsha, Hunan, P. R. China.

T252 Effect of season on four categories of fresh and current mastitis infections in Minnesota.
R. F. Leuer* and J. K. Reneau, University of Minnesota, Saint Paul.

T253 Effect of somatic cells counting on milk composition of Holstein cows.
J. A. De Freitas*, A. F. Garcez Neto1, J. C. De Souza2, J. D. Silva3, V. L. De Souza1, and T. M. Dos Santos1, 1Federal University of Paraíba, Patos, Paraíba, Brazil, 2Federal University of South Mato Grosso, Aquidauana, Mato Grosso do Sul, Brazil.

T254 Immunoglobulin G1 concentration and bacterial contamination of colostrum fed to newborn Holstein heifers in Central California dairies.
I. Z. Zhelev*, N. D. Spiro1, J. D. Robison1, J. Quigley2, and A. Lago3, 1California State University, Fresno, 2APC Inc., Ankeny, IA.

T255 Use of a blood glucose meter compared with laboratory analysis in dairy calves.
M. R. Stafne* and S. I. Kehoe, University of Wisconsin-River Falls, River Falls.

T256 Study on the metabolic mechanism of melamine in dairy cattle.
X. Jin, Y. Zhang, S. Li*, H. Zhang, Q. Zhang, and Z. Cao, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China.

T257 Association between milk urea nitrogen and fertility of Brazilian dairy cows.
M. C. Doska1, J. A. Horst2, A. A. Valloto*, and R. Almeida**, 1Universidade Federal do Paraná, Curitiba, PR, Brazil, 2Associação Paranaense de Criadores de Bovinos da Raça Holandesa, Curitiba, PR, Brazil.

T258 Metabolic profiles and immune status of periparturient dairy cows transitioning from conventional to organic management system.

T259 Season and stage of lactation affected metabolic profiles and innate immunity of periparturient dairy cows.

T260 Management factors affecting microbial contamination of bovine colostrum.
E. Conrad*, K. Morrill1, J. Quigley2, and H. Tyler1, 1Iowa State University, Ames, 2APC Inc., Ankeny, IA.

T261 Effect of short-term treatment with bovine somatotropin on milk yield of Brazilian dairy cows.
R. Almeida** and S. L. Viechnieski1, 1Universidade Federal do Paraná, Curitiba, PR, Brazil, 2StarMilk Farm, Céu Azul, PR, Brazil.

T262 Chop length, dry matter and density of corn and wheat silage structures in California dairies.
N. Silva-del-Río*1, and C. Heiman*, 1University of California Cooperative Extension, Tulare, 2Alltech, Lexington, KY.

T263 Molecular aspect of laying hens feed cottonseed meal supplemented with lysine and enzyme.
K. Pournia*, H. Kermanshahi, and A. Golian, Ferdowsi University of Mashhad, Mashhad, Iran.

T264 Performance evaluation of Santa Ines ewes and lambs weaned at 60 days of lactation.
M. M. Stradiotto*, A. D. Rodrigues1, and J. A. Negrão1, 1University of Sao Paulo – USP; Faculty of Animal Science and Feed Engineering – FZEA, Pirassununga, SP, Brazil, 2University of Sao Paulo State – Unesp; Faculty of Agronomy and Veterinary Sciences – FCAV, Jaboticabal, SP, Brazil.

T265 Comparison of pork characteristics of antibiotic free Yorkshire crossbreds raised in the hoop barn.
S.-H. Oh*, D. Bautista*, D. Hanson1, M. Morrow2, and T. See2, 1North Carolina A&T State University, Greensboro, 2North Carolina State University, Raleigh.

T266 Comparison of body weights in Berkshire and Large Black crossbreds produced by the use of antibiotic-free Yorkshire sows.
S.-H. Oh*, M. Morrow1, and T. See2, 1North Carolina A&T State University, Greensboro, 2North Carolina State University, Raleigh.

T267 Evidence that maternal conjugated linoleic acid alters secondary metabolites in plasma of late-stage chick embryos that may lead to increased embryonic mortality.
V. A. Leone*, D. Haughey1, E. A. Bobeck2, M. E. Cook3, and F. M. Assadi-Porter4, 1University of Chicago, Chicago, IL, 2University of Wisconsin-Madison, Madison.

T268 Suitability of visual ear tags, electronic boluses and retinal images for tracking and auditing lamb traceability.

T269 Retrospective analysis of the effects of feeding pelleted versus meal diets on growth performance of 12- to 30-kg nursery pigs over a 5-year period.
E. D. Frugé*, E. L. Hansen1, S. A. Hansen1, K. A. Frerichs1, and C. W. Hastad2, 1Hubbard Feeds, Mankato, MN, 2New Fashion Pork, Jackson, MN.
Ruminant Nutrition
Beef Cattle

Performance and carcass traits of bulls fed different levels of crude glycerin.

Effects of distillers grains supplementation on beef cow performance.
M. J. Faulkner*, P. M. Walker1, R. L. Atkinson1, J. L. Veracini1, L. A. Forster1, J. M. Carmack1, and K. L. Jones2, 1Illinois State University, Normal, 2Southern Illinois University, Carbondale, 3Archer Daniels Midland Co, Decatur, IL.

Effect of a mixture of cinnamaldehyde, carvacrol and capsicum oleoresin on performance and rumen development of weaning calves.

Effect of fescue toxicosis on the expression of selected hepatic genes in Angus cattle.

Evaluation of Nellore steers’ performance supplemented with two levels of concentrate and sugar cane in feedlot.
R. M. Silva*, J. T. Pádua1, J. Restle1, R. Z. Taveira1, B. A. S. R. Leite1, and D. A. Lima2, 1Universidade Estadual de Goiás, São Luís de Montes Belos, Goiás, Brazil, 2Universidade Federal de Goiás, Goiânia, Goiás, Brazil, 3FAPEG, Goiânia, Goiás, Brazil.

The influence of glycerol supplementation during late gestation on beef cow performance and dietary digestibility.

The effect of feed additive and sulfur intake on rumen fluid pH and rumen gas cap hydrogen sulfide concentration in feedlot steers.
K. L. Neuhold*, J. J. Wagner1, T. E. Engle1, E. M. Domby1, and M. Braine1, 1Colorado State University, Fort Collins, 2Alpharma Animal Health, Canon City, CO.

The effect of feed additive program and dietary sulfur concentration in steam-flaked corn diets containing wet distillers grains on feedlot performance and carcass merit in yearling feedlot steers.
E. M. Domby*, K. L. Neuhold*, J. J. Wagner1, T. E. Engle1, and M. Braine1, 1Colorado State University, Fort Collins, 2Alpharma Animal Health, Canon City, CO.

Effects of dietary chromium propionate on performance traits of stocker/growing cattle.
J. L. Veracini*, P. M. Walker1, M. J. Faulkner1, and R. E. Hall2, 1Illinois State University, Normal, 2Cooperative Research Farms, Richmond, VA.

Nutrient digestibility and residual feed intake in Nellore heifers.
R. H. Branco1, E. Magnani1, T. L. Sobrinho1, S. F. M. Bonilha1, L. T. Egawa1, M. E. Z. Mercadante*, and F. M. Monteiro1, 1Instituto de Zootecnia, Sertãozinho, São Paulo, Brasil, 2Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, São Paulo, Brasil.

Potential of calcium oxide-treated corn stover and modified distillers grains as a partial replacement for corn grain in feedlot diets.
J. R. Russell*, D. D. Loy1, and M. Cecava1, 1Iowa State University, Ames, 2Archer Daniels Midland Company, Decatur, IL.

Performance of Nellore steers from a genetic improvement program in feedlot.

Effect of partial or complete replacement of barley grain with wheat bran on voluntary intake, apparent nutrient digestibility and rumen pH of beef heifers fed backgrounding rations.
A. D. Friedt1, T. A. McAllister2, B. Wildeman1, and J. McKinnon1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Agriculture and Agri-Food Canada, Lethbridge Research Centre, AB, Canada, 3Pound-Maker Agventures Ltd., Lanigan, SK, Canada.
T284 Effect of different doses of chitosans to modulate ruminal fermentation in Nelore steers.
F. P. Renno*, 1, 2, A. P. C. Araujo*, 1 J. E. Freitas Junior, 1 J. R. Gandra, 1, R. Gardinali, 1 G. D. Calomeni, 1 L. N. Renno, 1 M. C. B. Santos, 1 and R. T. Trimboli, 1 1University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil, 2State University Julio de Mesquita, Jaboticabal, Sao Paulo, Brazil, 3Vicosa Faculty of Life Sciences and Health, Vicosa, Minas Gerais, Brazil.

T285 Evaluation of residual feed intake of Nelore bulls from a genetic improvement program.
M. D. Freitas Neto, 1, 2, J. J. R. Fernandes*, 1, 2, D. A. Lima, 1, 2, P. L. P. Rezende, 1 L. F. N. Souza, 1 E. G. Moraes, 1 R. A. Nogueira, 1 and M. L. R. Pereira, 1 1Universidade Federal de Goias, Goiania, Goias, Brasil, 2Conselho Nacional de Desenvolvimento Cientifico e Tecnologico, Brasilia, Distrito Federal, Brasil, 3Nelore Qualitas, Goiania, Goias, Brasil.

T286 Effect of different doses of chitosans on ruminal microbial protein synthesis in Nelore steers.
F. P. Rennó*, 1, A. P. C. Araujo*, 1 J. E. Freitas Junior, 1 J. R. Gandra, 1 G. D. Calomeni, 1 R. Gardinali, 1 L. N. Rennó, 1 B. C. Venturelli, 1 T. H. A. Vendramini, 1 and F. G. Villela, 1 1University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil, 2State University Julio de Mesquita, Jaboticabal, Sao Paulo, Brazil, 3Faculty of Life Sciences and Health, Facis, Vícosa, Minas Gerais, Brazil.

T287 Effect of crude glycerin on nutrient intake and apparent digestibility in Nellore feedlot steers.
E. H. C. B. van Cleef*, 1 J. M. B. Ezequiel, 1 A. C. Homem Júnior, 1 A. P. D’Aurea, 1 J. B. D. Sancanari, 1 F. B. O. Scarpino, 1 D. A. V. Silva, and V. F. Rávaro, 1 1Sao Paulo State University, Jaboticabal, Sao Paulo, Brazil.

T288 Performance and carcass traits of bulls fed lipids sources and ionophore.
L. C. Santarosa, 1 M. M. Ladeira*, 2 O. R. Machado Neto, 1 M. L. Oliveira, 1 L. S. Lopes, 1 J. S. F. Hostalácio, 1 and M. C. L. Alves, 1 1Federal University of Lavras, Lavras, MG, Brazil.

T289 Effect of post-ruminal Saccharomyces boulardii on fecal parameters and nutrient digestibility in Holstein steers given abomasal oligofructose.
K. Davison*, 1 R. L. Hougentoglder, 1 C. Leonardi, 1 M. M. McCarthy, 1 M. M. Nemec, 1 and T. F. Gressley, 1University of Delaware, Newark.

T290 Can forage-based nutritional strategies offset weaning stress in calves?
S. R. Blevins*, 1 A. E. Tanner, 1 W. S. Swecker, 1 B. F. Tracy, 1 D. A. Fiske, 1 J. P. Fontenot, 1 and R. M. Lewis, 1Virginia Tech, Blacksburg.

T291 Urea supplements for beefsteers grazing on marandugrass pastures during dry season in the Brazilian savannas.
D. G. de Quadros*, 1 H. N. de Souza, 1 G. L. Franco, 1 R. G. de Almeida, 1 and D. N. de Oliveira, 1 1Universidade do Estado da Bahia (UNEB), Barreiras, Bahia, Brazil, 2PETROBRAS, Rio de Janeiro, Brazil, 3Universidade Federal do Mato Grosso do Sul (UFMS), Campo Grande, Mato Grosso do Sul, Brazil.

T292 Influence of nonmedicated additives as alternatives to antibiotics on calf plasma and intestinal measurements.
S. M. Katzman*, 1 S. I. Kehoe, 1 and D. B. Carlson, 1 1University of Wisconsin-River Falls, River Falls, 2Milk Products LLC, Chilton, WI.

T293 Effects of using near infrared spectroscopy to segregate and feed high and low energy barley on feedlot cattle performance, animal health, and carcass characteristics.
E. M. Hussey, 1 R. E. Peterson, 1 D. Plett, 1 C. W. Booker, 1 G. K. Jim, 1 L. O. Burciaga-Robles, 1 and M. L. May*, 1 1Feedlot Health Management Services, Okotoks, AB, Canada, 2Western Feedlots, High River, AB, Canada.

T294 Supplementation of methionine hydroxy analog, chelated trace mineral and dietary antioxidants in the diet of beef bulls for color stability.
I. Castillo*, 1 G. I. Zanton, 1 and M. Vazquez-Anon, 1 1Novus International Inc., St. Charles, MO.

T295 Evaluation of bimodal distributions to determine meal criterion in heifers fed a high-grain diet.
J. C. Bailey*, 1 L. O. Tedeschi, 1 E. D. Mendes, 1 and G. E. Carstens, 1Texas A&M University, College Station.

T296 Effects of temperament classification and breed type on feed efficiency and feeding behavior traits in heifers fed a high-grain diet.
J. C. Bailey*, 1 G. E. Carstens, 1 J. T. Walter, 1 A. N. Hafla, 1 E. D. Mendes, 1 L. O. Tedeschi, 1 and R. K. Miller, 1Texas A&M University, College Station.

Ruminant Nutrition
Dairy Cattle

T297 Effect of concentration of flax hulls in the diet on intake, digestion, milk production, and milk composition of dairy cows.
H. V. Pettit*, 1 Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada.

T298 Body condition score at the initiation of bST supplementation does not affect milk response in dairy cows of Chile.
F. Bargo, 1 S. Follert*, 1 A. Hinostroza, 1 L. Lastra, 1 and R. Navarrete, 1 1Elanco Animal Health, Southern Cone (Argentina & Chile), 2Ancali Dairy, Los Angeles, Chile.
Associations among digestive tract lesions and abnormal serum chemistries in cull dairy cattle.
M. B. Hall*, G. R. Oetzel#, G. B. Huntington, F. M. Moore, and D. M. Hertzke, 1U.S. Dairy Forage Research Center, USDA-ARS, Madison, WI, 1School of Veterinary Medicine, Univ. of Wisconsin, Madison, 1Dept. of Animal Science, Univ. of North Carolina, Raleigh, 1Marshfield Labs Veterinary Services, Marshfield, WI.

Influence of a reduced-starch diet with or without exogenous amylase on lactation performance by dairy cows.
L. F. Ferraretto, R. D. Shaver, M. Espineira, H. Gencoglu, and S. J. Bertics, 1Department of Dairy Science, University of Wisconsin-Madison, Madison, 2Department of Animal Nutrition and Nutritional Diseases, Faculty of Veterinary Medicine, University of Uludag, Bursa, Turkey.

Effects of different ratios of extruded soybeans and whole cottonseeds on production performance of cows and conjugated linoleic acids (CLA) in milk fat.
R. Yan*, Y. Chen, C. Jiang, Y. J. Zhang, and J. G. Han, 1Department of Grassland Science, China Agricultural University, Beijing, China, 1Department of Agronomy, University of Wisconsin-Madison, Madison.

Effects of supplemental whole cotton seeds on production performance and milk fatty acids of dairy cows fed diets with different ratios of corn silage and alfalfa hay.
R. Yan*, Y. Chen, R. Z. Zhang, Y. J. Zhang, and J. G. Han, 1Department of Grassland Science, China Agricultural University, Beijing, China, 1Department of Agronomy, University of Wisconsin-Madison, Madison.

Energy expenditure, feeding behavior and locomotion of grazed versus zero-grazed dairy cows throughout the lactation period.
F. Dohme-Meier*, L. D. Kaufmann, S. Görs, P. Junghans, C. C. Metges, and A. Münger, 1Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland, 1Research Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany.

Effects of combinations of probiotics on growth and blood biochemical parameters in preruminant calves.
Y-Q. Fu, Y. Tu*, N.-F. Zhang, and C.-G. Jiang, Key Laboratory of Feed Biotechnology of Ministry of Agriculture/Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, PR. China.

The limiting sequence and proper ratio of lysine, methionine and threonine for calves fed milk replacers containing soy protein.
J.-H. Wang, Y. Tu*, N.-F. Zhang, X.-C. Xu, and Q.-Y. Diao, Key Laboratory of Feed Biotechnology of Ministry of Agriculture/Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, PR. China.

Feeding frequency for individually fed early lactation cows: enlightening the perplexing strategy.
A. Nikkhah*, S. M. Karimzadeh, B. Sorkhroo, S. Asghari, M. Avaz Khanloo, and L. Bahramkhani Zarrin Goli, 1Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China, 2Department of Animal Nutrition and Nutritional Diseases, Faculty of Veterinary Medicine, University of Uludag, Bursa, Turkey.

Rumen degradation patterns of ground and steam-processed broomcorn and ground barley.
A. Nikkhah*, University of Zanjan, Zanjan, Iran.

Steam-flaking of broom sorghum improves effective rumen degradation of DM while Controlling that of CP.
A. Nikkhah*, University of Zanjan, Zanjan, Iran.

Steam-flaked broom sorghum a viable substitute for ground barley in midlactation dairy rations.
A. Nikkhah*, University of Zanjan, Zanjan, Iran.

Effect of dietary nitrogen levels and yeast supplementation on apparent diet digestibility and microbial population in the rumen content of dairy lactating cows.
D. R. Ouellet* and J. Chiquette, Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Sherbrooke (QC) Canada.

Ground broomcorn in dairy rations.
A. Nikkhah*, University of Zanjan, Zanjan, Iran.

Effect of naturally extracted vitamin E (RRR-α-tocopheryl acetate) vs. synthetic vitamin E on blood and milk levels of vitamin E in lactating dairy cows.
M. B. de Ondarza*, K. Daniels, and D. Bunting, 1Paradox Nutrition LLC, West Chazy, NY, 1ADM Alliance Nutrition Inc., Quincy, IL.

Large-scale production effects of an intestinally releasable methionine product in dairy cows.
A. Nikkhah*, R. Kowsar, and G. Ghorbani, 1University of Zanjan, Zanjan, Iran, 2Isfahan University of Technology, Isfahan, Iran.

Study on the metabolic mechanism of melamine in dairy cattle.
X. Jin*, Y. Zhang, S. Li, H. Zhang, and Q. Zhang, College of Animal Science and Technology, China Agricultural University, Beijing, China.

Conjugated linoleic acid (CLA) supplementation around calving affects glucose metabolism in dairy cows.
H. M. Hammon*, K. Hötger, S. Görs, M. Becker, C. Weber, A. Tröscher, and C. C. Metges, 1Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, 1BASF, Limburgerhof, Germany.
Lactation performance and milk fatty acid profile in dairy cows fed linseed oil in diets with different forage to concentrate ratios.
L. Saliba*1,2, R. Gervais1, Y. Lebeuf1,2, J.-C. Vuillemand1, and P. Y. Chouinard1,2, 1Département des sciences animales, Université Laval, Québec, Québec, Canada, 2Institute of Nutraceuticals and Functional Foods (INAF), Québec, Québec, Canada.

Rumen volume and passage kinetics depend on feeding time (0900 vs. 2100 h).
A. Nikkhah*4, J. C. Plaizier5, and A. D. Kennedy1, 1University of Zanjan, Zanjan, Iran, 2University of Manitoba, Winnipeg, MB, Canada.

Influence of method of surfactant supplementation on characteristics of digestion and feeding value of fat in Holstein steers fed a high-energy finishing diet.
H. Dávila-Ramos*1, A. Gonzalez-Castellon1, A. Barreras-Serrano1, A. Estrada-Angulo1, M. A. López-Soto1, J. V. Macias-Zamora1, A. Plascencia1, S. H. Vega1, and R. A. Zinn1, 1ICV - Universidad Autónoma de Baja California, México, 2FMVZ - Universidad Autónoma de Sinaloa, México, 3Department of Animal Science, University of California, Davis, El Centro.

Evaluation of limit feeding and bunk management strategies for gravid dairy replacement heifers.
N. M. Esser1, J. Larson2, P. C. Hoffman*1, C. L. Liu2, and W. K. Coble2, 1University of Wisconsin, Madison, 2Northeast Institute of Geography and Agricultural Ecology, CAS, Harbin, Heilongjiang, China, 3USDA-ARS Dairy Forage Research Center, Marshfield, WI.

Effects of cinnamon essential oil, cinnamaldehyde and monensin on milk fatty acid profile of dairy cows.
C. Benchaar*1, and P. Y. Chouinard1, 1Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre, Sherbrooke, QC, Canada, 2Université Laval, Département des Sciences Animales, Québec, QC, Canada.

Fat acids in milk of dairy cows fed diets containing propolis-based products.
S. C. de Aguilar1, S. M. Cottica1, R. B. Samensari1, E. M. de Paula1, S. L. Franco1, L. P. P. de Moura1, G. T. dos Santos1, J. V. Visentainer1, W. B. R. dos Santos2, E. H. Yoshimura1, M. V. Valero1, and L. M. Zeoula*1, 1Universidade Estadual de Maringá, Maringá, Paraná, Brazil, 2Instituto Federal do Amazonas, Maués, Amazonas, Brazil.

Varying dietary dry matter concentration through water addition: Effect on nutrient intake of dairy cows in late lactation.
J. A. Fish and T. J. DeVries*, 1University of Guelph, Kemptville Campus, Kemptville, ON, Canada.

Effect of parity and stage of lactation on feed sorting behavior of lactating dairy cows.
T. J. DeVries*1, L. Holtshausen2, M. Obá3, and K. A. Beauchemin1, 1University of Guelph, Kemptville Campus, Kemptville, ON, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 3University of Alberta, Edmonton, AB, Canada.

Effects of different physical processing of corn starter on performance of newborn Holstein dairy calves.
A. Soltani1, G. R. Ghorbani*2, B. Omidian1, M. Khorvash1, S. Zarree-Shamsabadi1, H. Beiranvand1, M. Kazemi-Bonchenari2, and M. Mirzaee1, 1Department of Animal Sciences, Isfahan University of Technology, Isfahan, Iran, 2Department of Animal Sciences, Arak University, Arak, Iran, 3Department of Animal Sciences, Shahrekord University, Shahrekord, Iran.

Comparison of dairy cattle performance in Nebraska when fed silage and grain produced from second-generation insect protected (B.t.) corn (MON 89034), parental line, or reference corn grown during 2009.
H. A. Paz1, E. Castillo-Lopez1, K. Clark2, T. H. Klusmeyer1, G. F. Hartnell1, and P. J. Kononoff2, 1University of Nebraska-Lincoln, Lincoln, 2Monsanto Company, St. Louis, MO.

Morphology of the omasum of dairy cows fed of high or low grain content diet before parturition.

Enteric methane production from dairy cows fed different silages with and without rapeseed supplementation.
M. Johannes*, A. L. F. Hellwing, P. Lund, M. R. Weisbjerg, and T. Hvelplund, Faculty of Agricultural Sciences, Aarhus University, Denmark.

Particle size and endosperm type of dry ground corn alter apparent ruminal synthesis of B-vitamins in lactating dairy cows.
M. Seck*1,3, M. S. Allen1, P. Y. Chouinard1, and C. L. Girard1, 1Agriculture and Agri-Food Canada, Sherbrooke, Quebec, Canada, 2Department of Animal Science, Michigan State University, East Lansing, 3Département de sciences animales, Université Laval, Quebec, Canada.

Abrupt changes in forage dry matter of one to three days affect intake and milk yield in late lactation dairy cows.
J. Boyd*1 and D. R. Mertens2, 1US Dairy Forage Research Center, Madison, WI, 2Mertens Innovation & Research LLC, Belleville, WI.

Effects of adding fibrolytic enzymes to diets containing bermudagrass silage harvested at two maturity stages on the performance of lactating Holstein cattle.
O. C. M. Queiroz*1, A. T. Adesogan1, J. L. P. Daniel1, J. J. Romero1, J. H. Shin1, C. R. Staples1, and J. E. P. Santos1, 1University of Florida, Gainesville, 2University of Sao Paulo, Piracicaba, Sao Paulo, Brazil.

Effects of Bacillus subtilis natto on intestinal morphology in pre and postweaning dairy calves.
Effect of dietary delivery product Force 6 on performances and antioxidant status of high-producing dairy cows.
D. Éclache, P. Etienne, and V. Noirot*, Phodé Laboratories, Terssac, France.

Effects of abomasal infusion of linolenic acid on milk fat synthesis and composition in dairy cows.
U. Moallem*, D. Vyas1, B. B. Teter1, P. Delmonte1, and R. A. Erdman1, 1Agriculture Research Organization, Bet Dagan, Israel, 2University of Maryland, College Park, FDA.

The time of access to temperate pasture influences rumen pH and NH₃–N concentration in heifers.

The time of access to temperate pasture influences intake and feeding behavior in heifers.
A. Félix1, N. Hernández2, N. Torterolo1, S. Roja1, M. Aguerre1, A. Pérez-Ruchel1, J. L. Repetto1, and C. Cajavalle4*, 1Departamento de Bovinos, Facultad de Veterinaria, UdelaR, Montevideo, Uruguay, 2Departamento de Nutrición Animal, Facultad de Veterinaria, UdelaR, Montevideo, Uruguay.

Effect of time of access to temperate pasture on fermentation capacity of rumen fluid in heifers consuming temperate pastures.
N. Hernández1, A. Félix1, K. Saavedra1, K. Rosano1, A. Pérez-Ruchel1, M. Aguerre1, S. Brambillasca1, C. Cajavalle1, and J. L. Repetto1*, 1Departamento de Bovinos, Facultad de Veterinaria, UdelaR, Montevideo, Uruguay, 2Departamento de Nutrición Animal, Facultad de Veterinaria, UdelaR, Montevideo, Uruguay.

Frequency of feed delivery affects feeding behavior of limit-fed dairy heifers.
A. M. Greter1, T. F. Duffield2, B. W. McBride3, T. M. Widowski1, and T. J. DeVries1*, 1Dept. Animal and Poultry Science, University of Guelph, Kemptville Campus, Kemptville, ON, Canada, 2Dept. Population Medicine, Ontario Veterinary College, University of Guelph, Guelph, ON, Canada, and 3Dept. Animal and Poultry Science, University of Guelph, Guelph, ON, Canada.

Effect of feeding brown midrib corn silage and dried distillers grains with solubles on bacterial diversity in rumen fluid of dairy cows using bacterial tag-encoded FLX amplicon pyrosequencing.
H. A. Ramirez Ramirez1*, L. O. Teedeschi1, T. R. Callaway1, S. E. Dowd2, K. Nester2, and P. J. Kononoff2, 1University of Nebraska-Lincoln, 2Texas A&M University, College Station, 3Food and Feed Safety Research Unit, USDA-ARS, College Station, TX, 4Medical Biofilm Research Institute and Research Testing Laboratory, Lubbock, TX, 5Dow AgroSciences LLC.


Differential expression of the transcriptome in adipose tissue of first lactation dairy cattle.
J. P. McNamara1, J. M. Thomson2*, and J. Loo4, 1Washington State University, Pullman, 2University of Alberta, Edmonton, Alberta, Canada, 3University of Illinois, Urbana-Champaign.

The survival of Bacillus subtilis natto in rumen and duodenum of Holstein dairy cows.

Milk fatty acid composition of lactating dairy cows fed short and medium chain fatty acids.

Veal calves deposit nitrogen from solid feed as efficient as nitrogen from milk replacer.
H. Berends1*, J. J. G. C. Van den Borne1, C. G. Van Reenen2, and W. J. J. Gerrits1, 1Animal Nutrition Group, Wageningen University, Wageningen, the Netherlands, 2Livestock Research, Animal Sciences Group, Lelystad, the Netherlands.

Effect of B2M haplotype combinations on the expression of FcRn mRNA in mammary gland of dairy cows.
X. Hu, J. Wang*, S. Zhao, J. Zhao, and D. Bu, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.

Effect of feeding Bacillus subtilis natto fermentation production on hindgut fermentation and microbiota of Holstein dairy cows.

Effect of short- and medium-chain fatty acid on milk composition in lactating dairy cows.
T350  Effect of feeding *Bacillus subtilis natto* fermentation production on milk production and composition, blood metabolites and rumen fermentation in early lactation dairy cows.
H. Peng1, J. Q. Wang1*, H. Y. Kang2,3, S. H. Dong1,3, P. Sun1, D. P. Bu1, and L. Y. Zhou1, 1Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2College of Animal Science and technology, Southwest University, Chongqing, China, 3Faculty of Animal Sciences and Technology, Gansu Agricultural University, Lanzhou, China.

T351  Fermentative and nutritional dynamics of bovine colostrum silage for dairy calves liquid feeding.
L. S. Ferreira1,2, M. C. Soares1, M. P. C. Gallo1, M. R. Paula1,2, and C. M. M. Bittar1,2,1 University of São Paulo/ESALQ, Piracicaba, SP, Brazil, 2Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Brasilia, DF, Brazil.

T352  Performance of dairy calves fed “colostrum silage” or milk replacer.
L. S. Ferreira1,2, J. T. Silva1, G. G. O. Nápoles1, C. E. Olttramari1, and C. M. M. Bittar1,2,1 University of São Paulo/ESALQ, Piracicaba, SP, Brazil, 2Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Brasilia, DF, Brazil.

T353  In situ dry matter degradation kinetics of fennel forage in Holstein cow.
M. Chaji*, T. Mohammadabadi, and H. Eghbali, Khuzestan Ramin Agricultural and Natural Resources University, Molassani, Khuzestan, Iran.

T354  The effect of exogenous phytase on ruminal degradation of inositol phosphate in dairy cows.
J. Sehested1,2, D. N. Braks-Pedersen1, V. Glitsø1, L. K. Skov2, and P. Lund1,1Department of Animal Health and Bioscience, Aarhus University, Tjele, Denmark, 2Department of Feed Applications, Novozymes A/S, Bagsværd, Denmark.

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**Ruminant Nutrition**

**Ruminal Metabolism**

T355  Effect of sample processing on in situ organic matter degradability of distillers grains.
M. L. Drewery1*, J. E. Sawyer1, N. M. Kenney1, W. E. Pinchak1, and T. A. Wickersham1,1Texas A&M University, College Station, 2Texas Agrilife Research, Vernon.

T356  Effect of tannins on in vitro ruminal degradability of purple prairie clover (*Petalostemon purpureum*) harvested at the two growth stages.
L. Jin1,2,3, Z. Xu1, A. D. Iwaasa1, Y. G. Zhang1, M. P. Schellenberg1, T. A. McAllister1, and Y. Wang1,1 Agriculture and Ag-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada, 2Department of Animal Science, Northeast Agricultural University, China, 3SPARC-AAFC, Swift Current, SK, Canada.

T357  Effect of exogenous fibrolytic enzymes on dry matter in situ digestibility of two *Brachiaria* grasses.

T358  Method evaluation for determining digestibility of rumen undegraded amino acids in blood meal.
S. E. Boucher1,2, S. Calsamiglia1, M. D. Stern1, C. M. Parsons3, H. H. Stein4, C. G. Schwab5, K. W. Darrah6, and J. K. Bernard7,1Kemin AgriFoods North America Inc., Des Moines, IA, 2Universitat Autònoma de Barcelona, Bellaterra, Spain, 3University of Minnesota, St. Paul, 4University of Illinois, Urbana, 5Schwab Consulting LLC, Boscobel, WI, 6William H. Miner Agricultural Research Institute, Chazy, NY, 7University of Georgia, Tifton.

T359  In vitro modification of ruminal and post ruminal metabolism by lignosulfonate and polysaccharide protected microminerals.
M. Ruiz-Moreno1,2, E. Seitz1, M. D. Stern1, and J. Garrett1,1University of Minnesota, St. Paul, 2Quali Tech Inc., Chaska, MN.

T360  Factors affecting estimation of spoilage indices in silage 2: Effects of amount of silage evaluated and type of container.
N. Cavalcanti1,2, J. Leite1,2, L. G. Paranhos1,2, O. C. M. Queiroz1, K. G. Arriola1, and A. T. Adesogan1,1University of Florida, Gainesville, 2Federal University of Pernambuco, Recife, Pernambuco, Brazil.

T361  Infusion of marker solution into intact digesta for measurement of the ruminal clearance of volatile fatty acids.

T362  Adjustment of in vitro rumen fermentation protocol for testing products based on rumen pH regulation and the impact of Acid Buf.
S. Taylor1, E. Pennala1, and J. Apajalahti1,1Celtic Sea Minerals Ltd., Cork, Ireland, 2Alimetrics Ltd., Espoo, Finland.

T363  Impact of different sources of hydrolysable and condensed tannins on rumen fermentation and methane production in vitro.
F. Hassanat* and C. Benchaar, Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada.
T364 Changes in ruminal bacterial community composition following feeding of silage inoculated with a commercial silage inoculant.
R. Mohammed*, 1,2, D. M. Stevenson¹, K. A. Beauchemin¹, P. J. Weimer¹, and R. E. Muck¹, 3USDA-ARS, Madison, WI, 2AAFC, Lethbridge, AB, Canada.

T365 Effect of a dietary antioxidant with different substrate on rumen fermentation in vitro.
Y. Wang¹, 1,2, J. Wang¹, M. Vazquez-Anon², H. Cao², G. Zanton², and J. Liu¹, 3Institute of Dairy Science, Zhejiang University, Hangzhou, P. R. China, 4Novus International Inc., St. Louis, MO.

T366 Effect of dietary roughage and sulfur concentration on hydrogen sulfide production from corn-based diets containing dried distillers grains.

T367 Effects of hops on rumen fermentation and bacterial populations using the rumen simulation technique.
N. Narvaez*, Y. Wang¹, Z. Xu¹, T. Alexander¹, S. Garden¹, and T. McAllister¹, 2Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada, 3John I. Haas Inc., Washington DC.

T368 Effect of nitrate, sulfate, monensin, and corn gluten feed on in vitro ruminal methane production.
C. Davis¹, S. Ghimire¹, T. Willes¹, Z. Wem¹, M. A. McCann¹, and M. D. Hanigan¹, 1Department of Dairy Science, Virginia Polytechnic Institute and State University, Blacksburg, 2Department of Biological Systems Engineering, Virginia Polytechnic Institute and State University, Blacksburg, 3Department of Animal and Poultry Sciences, Virginia Polytechnic Institute and State University, Blacksburg.

T369 Effects of microwave irradiation on ruminal dry matter degradability of canola and corn gluten meal.
M. Dehghan-Banadaky¹, H. Khalilvandi-Behroozyar*¹, 2, H. R. Khazanehi¹, and N. Vahdani¹, 3Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, 4Department of Animal Science, University of Urmia, Urmia, West Azerbaijan, Iran, 5Department of Animal Science, University of Manitoba, Manitoba, Canada.

T370 Evaluation of two protein hydrolyzates as a source of soluble protein to foster ruminal microbial growth.
A. Aris¹, A. Serrano¹, F. Fabregas¹, J. Polo¹, C. Rodríguez¹, and A. Bach*¹, 2Ruminant Production, Institut de Recerca i Tecnologia Agroalimentàries (IRTA), Caldes de Montbui, Barcelona, Spain, 3Institución Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain, 4APC EUROPE, S.A. R&D department, Granollers, Barcelona, Spain.

T371 Effects of protein protection with orthophosphoric or malic acid and heat in lamb fattening diets.

T372 Identification of several novel fungal species in feed samples from the southeast United States.
J. D. Chapman*, Y. Q. Wang¹, and N. E. Forsberg¹, 1OmniGen Research, Corvallis, OR, 2Prince Agri Products, Quincy, IL.

T373 Evaluating the inclusion of Met and Lys to mechanically extracted soybean meal with soy gums on the ruminal-undegraded Met and Lys content.
C. A. Macgregor*, L. O. Tedeschi¹, and T. K. Miller-Webster¹, 1Grain States Soy Inc., West Point, NE, 2Texas A&M University, College Station, 3West Virginia University, Morgantown.

T374 Effect of ghrelin on bovine myogenic differentiation.
D. Montoya-Flores*¹, 2, O. Mora¹, E. Tamariz¹, L. González-Dávalos¹, A. González-Gallardo¹, A. Antaramian¹, A. Shimada¹, A. Varela-Echavarria¹, and J. L. Romano-Muñoz¹, 1Universidad Nacional Autónoma de México, Querétaro, Querétaro, México, 2Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias, Colón, Querétaro, México.

T375 Essential oil and rumensin affect ruminal fermentation in continuous culture.
D. Ye*, S. K. R. Karnati¹, J. L. Firkins¹, M. L. Eastriddle¹, and J. M. Aldrich¹, 1Ohio State University, Columbus, 2Provimi-North America, Lewisburg, OH.

T376 Energy value of co-products of bioethanol production: comparison between triticale grain and triticale DDGS.
B. Liu and P. Yu*, University of Saskatchewan, Saskatoon, Canada.

T377 Molecular spectral features of functional groups mainly associated with lipid biopolymer in co-products (DDGS) from bioethanol production.
P. Yu* and D. Damiran, University of Saskatchewan, Saskatoon, Canada.

Ruminant Nutrition
Small Ruminant

T378 Sheep performance on sorghum or sorghum-soybean silage diets.
A. A. Melin¹ and H. M. Arelovich*², 1Coronel Suarez-Pasman Experimental Station, 2Departamento de Agronomía-CIC-CERZOS.
T379  The effect of sulfuric acid on in vitro gas production parameters of sugarcane top in Arabian sheep.
S. Mahmoudi, M. Chaji**, M. Eslami, T. Mohammadabadi, and M. Bojarpour, Khuzestan Ramin Agricultural and Natural Resources University, Molassani, Khuzestan, Iran.

T380  The effect of urea, molasses and sulfuric acid on in vitro digestibility of sugarcane top by Arabian sheep.
S. Mahmoudi, M. Chaji**, M. Eslami, T. Mohammadabadi, and M. Bojarpour, Khuzestan Ramin Agricultural and Natural Resources University, Molassani, Khuzestan, Iran.

T381  Interactions between nutrient supply and dietary flavors on diet selection by lambs.
A. Bach**, J. J. Villalba`, and I. R. Ihnarragueurre`, 1ICREA and Ruminant Production-IRTA, Barcelona, Spain, 2Utah State University, Logan, 3Lucto, S.A., Barcelona, Spain.

T382  Effect of forage type in the diet on Ruminococcus flavefaciens, Ruminococcus albus and Fibrobacter succinogenes populations in sheep rumen content as determined by real-time PCR.
C. Saro`, M. J. Ranilla**, and M. D. Carro`, 1Dpto. Producción Animal, Universidad de León, León, Spain, 2IGM (CSIC–ULE), Finca Marzanas s/n, Grulleros, León, Spain.

T383  The effect of replacing corn bran with water-soaked neem fruit on nutritive value and in vitro gas production characteristics of West African Dwarf sheep.
M. K. Adewumi*, Department of Animal Science, University of Ibadan, Ibadan, Nigeria.

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**Small Ruminant Health, Growth, Extension, and Dairy**

T384  Selected condensed tannin-containing plant extracts and their effects on Haemonchus contortus larvae.
K. J. Stutts*, M. J. Thomas, M. M. Beverly, R. A. Lane, and S. F. Kelley, Sam Houston State University, Huntsville, TX.

T385  Effect of subclinical mastitis and stage of lactation on somatic cell count, composition and plasmacytotic activity of goat milk.
R. Shangguan`, L. Spicer`, C. DeWitt`, J. Wang*, and S. Zeng`, 1Langston University, Langston, OK, 2Oklahoma State University, Stillwater.

T386  Hematological and spermatological evaluations of Homamli goat in Turkey.
M. S. Gulay`, A. Ata`, O. Elma`, M. Saatci, N. Mamak`, B. Day`, and A. H. Aktas`, 1Mehmet Akif Ersoy University, Faculty of Veterinary Medicine, Burdur, Turkiye, 2Selcuk University, Faculty of Agriculture, Department of Animal Science, Konya, Turkiye, 3Bahri Dagtas Uluslararasi Hayvacinik Arastirma Enstitusu, Konya, Turkiye.

T387  Managing seasonal outbreak of foot rot in sheep flocks.
T. Wuji`, and C. Clifford-Rathert, Lincoln University, Jefferson City, MO.

T388  Comparison of nematode parasite-susceptibility and performance of Boer and Spanish goats supplemented with garlic.

T389  Effect of sericea lespedeza (Lespedeza cuneata) leaf meal pellets fed to gastrointestinal nematode infected goats.
N. C. Whitley`, T. H. Terrill`, J. E. Miller`, J. M. Burke`, K. Moulton`, L. Townsend`, J. R. Horton`, J. French`, A. K. Cooper`, and D. S. Kommuru`, 1North Carolina A&T State University, Greensboro, 2Fort Valley State University, Fort Valley, GA, 3Louisiana State University, Baton Rouge, 4USDA-ARS, Booneville, AR, 5NCDA-UMRS, Laurel Springs, NC, 6NCDA-UPRS, Reidsville, NC.

T390  Influence of type of pasture and transport stress on microbial loads in meat goats.
A. Mechineni, S. Gujja, D. S. Kommuru, T. H. Terrill, G. Kannan*, B. Kouakou, and J. H. Lee, Fort Valley State University, Fort Valley, GA.

T391  Gastro-intestinal parasitic infestation in meat goats and its relationships with production traits under a pasture-based performance test in Western Maryland.
K. Nadarajah**, S. Schoenian`, D. L. Kuhlers`, M. D. Carpenter`, and D. Rankins`, 1Auburn University, Auburn, AL, 2University of Maryland Extension, Keedysville.

T392  Gastro-intestinal parasitic infestation and its relationships with growth performance in meat goats on pasture with supplemental grain feeding test at the Kerr Center in Oklahoma.
K. Nadarajah**, M. Penick`, D. L. Kuhlers`, M. D. Carpenter`, and D. Rankins`, 1Auburn University, Auburn, AL, 2Kerr Center, Poteau, OK.

T393  Lamb immune status (blood IgG, IgM and chitotriosidase activity) during weaning, preliminary results.
Comparison of FAMACHA scores and need for deworming in hair sheep and meat goats grazed together or sheep grazed alone.

Lack of an effect of pelletized diets containing pumpkin seeds on gastrointestinal nematode fecal egg counts in goats.
M. Gooden, E. N. Escobar, N. C. Whitley, D. J. Jackson-O’Brien, and H. Taylor, 1University of Maryland Eastern Shore, Princess Anne, 2North Carolina A&T State University, Greensboro, 3Delaware State University, Dover.

Comparative efficacies of alternative anthelmintics against natural nematode infection in grazing goats.
P. B. Collier* and E. G. Brown, Stephen F. Austin State University, Nacogdoches, TX.

Effects of immunomodulatory substances added to milk replacer on white blood cell populations during weaning.

Goat browsing for invasive shrub and internal parasite control.
J. C. Warren*, D. J. O’Brien, C. Heckscher, R. Beaman, and N. C. Whitley, 1Delaware State University, Dover, 2Delaware Department of Transportation, Dover, 3North Carolina A&T State University, Greensboro.

Gastrointestinal nematode (GIN) resistance and GIN management on small ruminant farms in the mid-Atlantic U.S.
D. J. O’Brien, K. K. Crook, E. N. Escobar, N. C. Whitley, B. Storey, S. Howell, and R. Kaplan, 1Delaware State University, Dover, 2Virginia Maryland Regional College of Veterinary Medicine, Blackburg, 3North Carolina A & T State University, Greensboro, 4University of Georgia, Athens.

Effects of supplemental dried distillers grains on performance and internal parasites of grazing lambs.
C. L. Pickworth*, T. L. Felix, I. Susin, L. M. Shoup, and S. C. Loerch, 1The Ohio State University, Wooster, 2Universidade de São Paulo, Piracicaba, São Paulo, Brazil.

Feeding North American panicled tick-clover containing condensed tannins to growing goats reduces Haemonchus contortus infection.
N. M. Cherry, B. D. Lambert, J. P. Muir, M. Bullinger, J. E. Miller, R. M. Kaplan, and T. R. Whitney, 1Texas Agrilife Research, Stephenville, 2Tarleton State University, Stephenville, TX, 3Louisiana State University, Baton Rouge, 4The University of Georgia, Athens.

Demographic factors of meat goat producers completing an online certification program.

Variability among enumerators in assigning body condition scores in meat goats.
R. C. Merkel* and T. A. Gipson, Langston University, Langston, OK.

Comparative effect of implants with trenbolone-estradiol or zeranol on feedlot-performance of Katahdin × Pelibuey hair-lambs.
B. Ortiz*, A. Camacho, N. E. Villalba, R. Barajas, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacán, Sinaloa, México, 2Agricola Ganadera Mojolo, Culiacán, Sinaloa, México.

Influence of zeranol implant on performance of Dorper × Katahdin feedlot lambs.
B. Ortiz*, A. Camacho, N. E. Villalba, R. Barajas, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacán, Sinaloa, México, 2Agricola Ganadera Mojolo, Culiacán, Sinaloa, México.

Seasonal changes in chemical composition of Hungarian raw goat’s milk.
L. Varga*, Department of Dairy Science, Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Masonmagyarvar, Hungary.

Examination of microbiological and physicochemical quality of raw materials and end products during manufacture of cheeses from caprine and ovine milk.
L. Varga*, Department of Dairy Science, Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Masonmagyarvar, Hungary.

Milk yield and milk composition of ewes fed diets with canola oil or linseed oil.

The mammary gland of the Canarian dairy goats undergone two different milking frequencies: morphological characterization of the tissular components.
A. Suarez-Trujillo*, J. Capote, A. Arguello, A. Arencibia, N. Castro, J. Morales, and M. A. Rivero, 1Universidad de Las Palmas de Gran Canaria, Arucas, Las Palmas, Spain, 2Instituto Canario de Investigaciones Agrarias, La Laguna, Tenerife, Spain.
Swine Species
Sponsor: JBS United

**T410** Effects of Actigen on peripheral blood immune cells in pigs experimentally infected with porcine reproductive and respiratory syndrome virus (PRRSV).
T. M. Che*†, M. Song†, R. W. Johnson†, K. W. Kelley†, W. G. Van Alstine†, K. A. Dawson†, and J. E. Pettigrew†, †Department of Animal Sciences, University of Illinois, Urbana; ‡Animal Disease and Diagnostic Laboratory, Purdue University, West Lafayette, IN; §Research, Alltech Biotechnology Center, Nicholasville, KY.

**T411** Effects of dietary multi-carbohydrases on growth performance, nutrient digestibility and blood characteristics in finishing pigs.
J. P. Wang*, X. Y. Guo, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

**T412** Effects of a natural feed additive in comparison to an antibiotic treated group to prevent gram-negative associated diseases in pigs.
S. Schaumberger*†, S. Masching‡, A. Ganner§, and G. Schatzmayr¶, †Biomin Research Center, Tulln, Austria; ‡Biomin Holding, Herzogenburg, Austria.

**T413** Effects of feeding Actigen on ex vivo immune responses of porcine leukocytes.
T. M. Che*†, R. W. Johnson†, K. W. Kelley†, K. A. Dawson†, and J. E. Pettigrew†, †Department of Animal Sciences, University of Illinois, Urbana; ‡Research, Alltech Biotechnology Center, Nicholasville, KY.

**T414** Effects of multiple sources and levels of dietary fiber on apparent total tract dry matter digestibility, growth performance, and concentration of fermentation indices in pigs.
A. Woldeghbriel, S. Smith*, T. Barrios, and B. Bishop, North Carolina Agriculture and Technical State University, Greensboro.

**T415** Addition of bee pollen to the sow feed and effects on body weight of piglets.

**T416** Effects of thermal stress on liver xenobiotic metabolism gene expression in swine.

**T417** Effect of sex and housing density on growth performance, carcass quality, and fatty acid profile of pigs slaughtered at 110 kg BW.
J. I. Morales1, M. P. Serrano1, L. Cámara1, J. D. Berrocoso1, C. J. López-Bote1, J. P. López1, and G. G. Mateos2*, 1Universidad Politécnica de Madrid, Madrid, Spain; 2University Complutense of Madrid, Madrid, Spain, 3Copiso S.A., Soria, Spain.

**T418** Productive performance and carcass quality of gilts and surgically and immune-castrated male pigs from crossbreeds of Duroc and Pietrain sire lines.
J. I. Morales1, M. P. Serrano1, L. Cámara1, J. D. Berrocoso1, J. P. López1, and G. G. Mateos2*, 1Universidad Politécnica de Madrid, Madrid, Spain; 2Copiso S.A., Soria, Spain.

**T419** Fatty acid composition of piglet tissues changes during suckling time.

Teaching/Undergraduate and Graduate Education

**T420** Opinions of farm versus urban freshman college students on issues involving animal agriculture before and after animal science instruction.

**T421** Connecting lecture to the real world in animal sciences.

**T422** Enhancing the pool of underrepresented minorities in veterinary medicine.
O. U. Bolden-Tiller*, Tuskegee University, Tuskegee Institute, AL.

**T423** Comparison of multiple choice and short essay assessment vehicles on student performance in an upper division animal reproduction course.
L. J. Spicer* and M. E. Payton, Oklahoma State University, Stillwater.

**T424** Variables that affect academic performance in undergraduate animal science courses.
M. M. Beverly, K. J. Stutts, and S. F. Kelley*, Sam Houston State University, Huntsville, TX.

**T425** CyberSheep: Improving student understanding of animal breeding concepts with a virtual sheep flock.
K. L. Kessler*, R. M. Lewis†, J. P. Cassady5, and K. M. Cammack*, University of Wyoming, Laramie; 5Virginia Polytechnic Institute and State University, Blacksburg, 6North Carolina State University, Raleigh.
Academic preferences of freshman college students in the Department of Animal Industry of the University of Puerto Rico at Mayagüez.

Impact of duration of an online animal science nutrition course on student learning assessments.
K. D. Ange-van Heugten* and A. Renjifo McComb, North Carolina State University, Raleigh.

Effectiveness of a university introductory course in developing student confidence in horse handling and riding.
M. Nicodemus*, Mississippi State University, Mississippi State.
SYMPOSIA AND ORAL SESSIONS

Danisco International Dairy Science Award Lecture
Chair: Jim Moran, Kraft Foods
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9:30 AM Introduction

9:40 AM Danisco International Dairy Science Award Lecture: Exploring bacterial life in cheese . . . the “in situ.”
S. Lortal, INRA Technologie du lait et de l’oeuf, Rennes Cedex, France.

Animal Behavior and Well-Being 2
Chair: Marcia Endres, Department of Animal Science, University of Minnesota
Sponsor: ASAS Foundation
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9:30 AM 304 ASAS Early Career Award Presentation: Working to foster the discovery, sharing, and application of knowledge concerning the well-being of farm animals.
A. Johnson*, Iowa State University, Ames.

10:00 AM 305 The effect of reactive state on the physiology of dairy cows milked in a novel environment.

10:15 AM 306 The effect of reactive state and training on the behaviour and milk production of heifers during the first week of lactation.

10:30 AM 307 Effect of frequency of feed delivery on the behavioral patterns of dairy cows milked in an automatic system.
J. A. Deming*1, R. Bergeron2, K. E. Leslie1, and T. J. DeVries1, 1Dept. Animal and Poultry Science, University of Guelph, Kemptville Campus, Kemptville, ON, Canada, 2Dept. Animal and Poultry Science, University of Guelph, Campus d’Alfred, Alfred, ON, Canada, 3Dept. Population Medicine, Ontario Veterinary College, University of Guelph, Guelph, ON, Canada.

10:45 AM 308 Effect of yearly climate on milk yield in a sub-tropical environment.
J. C. Lees* and J. B. Gaughan, The University of Queensland, Gatton, Queensland, Australia.

11:00 AM 309 Evaluation of two different cooling systems on a Sicilian dairy farm: Physiological parameters and milk aroma.
R. Ben Younes1, 2, G. Azzaro2, 1, G. Schadt1, 2, G. Belvedere1, M. Caccamo2, R. Petriglieri2, G. Licitra1, 2, and S. Carpino*, 2, 1INAT, Tunis, Tunisia, 2CoRFiLaC, Regione Siciliana, Ragusa, Italy, 3DISPA, Catania University, Catania, Italy.

11:15 AM 310 Assessment of a web camera to evaluate farm management and cow behavior.
G. Licitra1, 2, G. Azzaro2, R. Petriglieri2, M. Caccamo1, and J. D. Ferguson*3, 1CoRFiLaC, Regione Siciliana, Ragusa, Italy, 2DISPA, Catania University, Catania, Italy, 3University of Pennsylvania, PA.

11:30 AM 311 Novel techniques for anesthesia during disbudding of calves.
K. R. Tapper*1, 2, J. P. Goff1, B. L. Leuschen2, J. K. West2, and S. T. Millman1, 2, Iowa State University Department of Biomedical Sciences, Ames, Iowa State University Veterinary Diagnostic and Production Animal Medicine, Ames.

11:45 AM 312 The effect of pain relief on the physiology and behavior of calves after castration and/or dehorning.
M. A. Sutherland*1, 2, B. L. Davis2, 1Texas Tech University, Animal and Food Sciences Department, Lubbock, 2AgResearch Ltd., Animal Behaviour and Welfare Group, Hamilton, New Zealand.

12:00 PM 313 Physiological and immunological effects of surgical castration and amputation dehorning and the influence of anesthetics and analgesics in Holstein calves.
M. A. Ballou*, 1, M. A. Sutherland1, 2, B. L. Davis2, 1Texas Tech University, Animal and Food Sciences Department, Lubbock, 2AgResearch Ltd., Animal Behaviour and Welfare Group, Hamilton, New Zealand.

12:15 PM 314 Effects of pair housing versus limited social contact on the response of dairy calves to separation.
L. R. Duve*, 1, M. B. Jensen1, and D. M. Weary2, 1University of Aarhus, Tjele, Denmark, 2University of British Columbia, Vancouver, British Columbia, Canada.

12:30 PM 315 Lameness, leg injuries and lying times on 122 North American freestall farms.
Animal Health Symposium
Viral Swine Diseases: Prevalence, Prevention, and Their Impact on Production
Chair: Ty Schmidt, Mississippi State University
Sponsors: Elanco Animal Health, JBS United, Pfizer Animal Health

9:30 AM
Swine hepatitis E virus: Zoonosis and pork safety.
X. J. Meng, Virginia Tech, Blacksburg.

10:15 AM
Porcine Circovirus: Update on understanding of the pathogenesis, transmission, impact and best practices for control.
T. Opriessnig, Iowa State University, Ames.

11:00 AM
New technologies for the control and elimination of porcine reproductive and respiratory syndrome.
R. R. Rowland, Kansas State University, Manhattan.

11:45 AM
Influenza A Viruses in Swine – An Update on Surveillance and Research.
M. Gramer, University of Minnesota, Saint Paul.

ARPAS Symposium
Understanding Meta-Analysis
Chair: John Wagner, Colorado State University
Sponsor: ARPAS

9:30 AM
Introduction

9:40 AM
Unsophisticated “cowboy” methods used traditionally to merge results from multiple experiments.
F. N. Owens* and A. Hassan, Pioneer Hi-Bred Int’l, Johnston, IA.

10:10 AM
Meta-analysis: The good, the bad and the ugly.
I. J. Lean* and A. R. Rabiee, SBScibus, Camden, NSW, Australia.

10:40 AM
Panel Discussion

Beef Species
Beef Production
Chair: Andy Herring, Texas A&M University

9:30 AM
Relationship between postweaning RFI in heifers and intake and productivity of mid-gestation beef females.
A. N. Hafla*, G. E. Carstens¹, T. D. A. Forbes², J. C. Bailey³, J. T. Walter², J. W. Holloway⁴, and J. G. Moreno³,¹Texas A&M University, College Station,²Texas AgriLife Research, Uvalde.

9:45 AM
Using a mechanistic nutrition model to identify efficient beef cows under grazing conditions.
B. M. Bourg*, L. O. Tedeschi¹, A. D. Aguilar³, F. R. B. Ribeiro⁵, J. Genho³, R. R. Gomez¹, D. Delaney⁴, and S. Moore⁶,¹Texas A&M University, College Station,²Texas A&M University, Commerce, ³Eldon Farms, Woodville, VA, ⁴King Ranch, Kingsville, TX, ⁵University of Florida, Gainesville.

10:00 AM
Relationship among lifetime measures of body weight and frame size in beef cows.
A. C. Echols*, D. A. Fiske, M. L. Wahlberg, and S. P. Greiner, Virginia Polytechnic Institute and State University, Blacksburg.

10:15 AM
A mineral survey of Louisiana beef cow/calf production systems.
J. Rowntree*, K. Guidry¹, G. Scaglia³, G. Gentry², and L. Southern¹,¹Michigan State University, East Lansing, ²LSU Agricultural Center, Baton Rouge, LA.

10:30 AM
Finishing steers and bulls with high-vitamin E diets: Effect on pH and tenderness of beef.
C. Reyes, C. Fuentes, and R. E. Larrain*, Pontificia Universidad Catolica de Chile, Santiago, Chile.
10:45 AM 323  Effect of beef cow age and calf sex on model-predicted energy efficiency.  
M. J. Baker*, 1  L. O. Tedeschi, 1  D. G. Fox, 1  and G. Jacimovski, 1  Cornell University, Ithaca, NY, 2 Texas A&M University, College Station.

11:00 AM  
Break

11:15 AM 324  Selling prices of Arkansas beef feeder calves as affected by management practices.  
T. R. Troxel* and B. L. Barham, University of Arkansas, Department of Animal Science, Little Rock.

11:30 AM 335  The relationship between climatic conditions and the incidence of calving.  
T. R. Troxel*, M. S. Gadberry, D. Hubbell, and W. Kellogg, 1 University of Arkansas, Department of Animal Science, Little Rock, 2 University of Arkansas, Department of Animal Science, Batesville, 3 University of Arkansas, Department of Animal Science, Fayetteville.

11:45 AM 326  Selling price of Arkansas beef feeder calves as affected by phenotypic expression.  
B. L. Barham* and T. R. Troxel, University of Arkansas, Department of Animal Science, Little Rock.

12:00 PM 327  Using ultrasonography to determine reproductive tract development in beef heifers.  

12:15 PM 328  Characterization of feeding behavior of abrupt-weaned crossbred heifer calves.  
A. N. Loyd*, R. C. Vann, J. P. Banta, T. H. Welsh, J. A. Carroll, and R. D. Randal, 1 Texas AgriLife Research, College Station, 2 MAFES, Mississippi State University, Raymond, 3 Texas AgriLife Extension, Overton, 4 Livestock Issues Research Unit, USDA-ARS, Lubbock, TX, 5 Texas AgriLife Research, Overton, TX.

Breeding and Genetics  
Genomic Selection and Whole-Genome Association II  
Chair: John B. Cole, Animal Improvement Programs Laboratory, ARS-USDA, Beltsville, MD  
298-299

9:30 AM 329  Use of the Illumina Bovine3K BEAD chip in dairy genomic evaluation.  
G. R. Wiggins, 1 T. A. Cooper, 1 K. M. Olson, 2 and P. M. VanRaden, 1 Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD, 2 National Association of Animal Breeders, Columbia, MO.

9:45 AM 330  Properties of different density genotypes used in dairy cattle evaluation.  
P. M. VanRaden, 1 M. E. Tooker, 1 K. M. Olson, 2 T. A. Cooper, 1 G. R. Wiggins, 1 and C. P. Van Tassell, 1 Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD, 2 National Association of Animal Breeders, Columbia, MO, 3 Bovine Functional Genomics Laboratory, ARS, USDA, Beltsville, MD.

10:00 AM 331  Use of the partial least-squares regression to impute missing markers when some animals are genotyped with low-density SNP platforms.  
C. Dimauro, 1 S. Sorbolini, 1 E. Pintus, 1 J. T. van Kaam, 1 and N. P. P. Macciotta, 1 Università di Sassari, Sassari, Italy, 2 Associazione Nazionale Allevatori Frisona Italiana, Cremona, Italy.

10:15 AM 332  Reduced dimensionality in GS models through Lassoed supervised principal components.  
C. Maltecca* and K. A. Gray, North Carolina State University, Raleigh.

10:30 AM 333  FImpute - An efficient imputation algorithm for dairy cattle populations.  
M. Sargolzaei*, J. P. Chesnais, 1 and F. S. Schenkel, 1 Alliance Boviteq, Saint-Hyacinthe, QC, Canada, 2 University of Guelph, Guelph, ON, Canada.

10:45 AM 334  Estimation of linkage disequilibrium in four US pig breeds.  
Y. M. Badke, 1 R. O. Bates, 1 C. W. Ernst, 1 C. Schwab, 1 and J. P. Steibel, 1 Department of Animal Science, Michigan State University, East Lansing, 2 National Swine Registry, West Lafayette, IN.

11:00 AM 335  A major QTL for response to porcine reproductive and respiratory syndrome virus in pigs.  
N. Bodicker, 1 D. J. Garrick, 1 J. M. Reecy, 1 R. Rowland, 1 M. F. Rothschild, 1 J. P. Steibel, 1 J. K. Lunney, 1 and J. C. M. Dekkers, 1 Iowa State University, Ames, 2 Kansas State University, Manhattan, 3 Michigan State University, East Lansing, 4 United States Department of Agriculture, Beltsville, MD.

11:15 AM 336  Use of sample pooling in a genome-wide association study identifies chromosomal regions affecting incidence of bovine respiratory disease.  
Genetic analysis of dry matter intake in Holstein cows.

Genetic markers in bovine chromosome 14 are significant for residual feed intake in steers.

QTL-by-feeding period interaction for residual feed intake in crossbred steers: a genome selection approach.
O. N. Durunna*, D. J. Nkrumah, S. S. Moore, and Z. Wang, University of Alberta, Edmonton, Alberta, Canada, Pfizer Animal Genetics, Kalamazoo, MI.

Identification of genomic markers for feed efficiency in purebred Simmental, Angus and crossbred steers.
N. V. L. Serão, A. D. Markey, M. Pérez-Enciso, D. B. Faulkner, and S. L. Rodríguez-Zas, University of Illinois at Urbana-Champaign, Urbana, Universitat Autònoma de Barcelona, Barcelona, Catalonia, Spain.

Prediction of genomic estimated breeding values for temperament at weaning in Bos indicus crossbreds using Bayesian inference.
L. L. Hulsman*, S. O. Peters, J. O. Sanders, A. D. Herring, C. A. Gill, and D. G. Riley, Department of Animal Science, Texas A&M University, College Station, Department of Animal and Range Sciences, New Mexico State University, Las Cruces.

Companion Animals Symposium
Promoting Companion Animal Biology and Research in Animal Sciences
Chair: Cheryl L. Morris, Omaha’s Henry Doorly Zoo
Sponsors: Hill’s Science Diet, Nestlé Purina, Proctor and Gamble

Reaching out: Opportunities for developing companion animal biology.
C. L. Morris*, Omaha’s Henry Doorly Zoo, Omaha, NE.

Wants and needs: What students want may not be what the current comparative animal industry needs.
K. D. Ange-van Heugten*, North Carolina State University, Raleigh.

Cat and mouse: Utilizing technology and science to reach students.
N. A. Dreschel*, Pennsylvania State University, University Park.

Research and outreach: Blending the basic and the applied.
L. K. Karr-Lilienthal*, University of Nebraska-Lincoln, Lincoln.

Biodiversity is life: Teaching conservation biology with zoos and aquariums.
R. L. Krisher*, National Foundation for Fertility Research, Lone Tree, CO.

The future of companion animal biology in academics.
A. Fischer*, University of Illinois, Urbana.

Contemporary and Emerging Issues Symposium
Emerging Animal Welfare Issues
Chair: Temple Grandin, Colorado State University
Sponsor: Elanco Animal Health, Monsanto Co.

Does high production increase the occurrence of health problems in dairy cows?
K. D. Vogel*, Department of Food and Animal Science, University of Wisconsin-River Falls, River Falls.

Potential solutions for reducing lameness in dairy cows.
N. Cook*, University of Wisconsin, Madison.

The national shortage of food animal veterinarians: What’s being done to address the issue?
D. G. Bristol*, North Carolina State University, Raleigh.
11:00 AM 351 Animal welfare issues: Organic and conventional.  
W. K. Fulwider*, Cropp Cooperative, LaFarge, WI.

11:30 AM 352 Consequence of changing standards for somatic cell count on US Dairy Herd Improvement herds.  
H. D. Norman*, J. R. Wright, and R. H. Miller, Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD.

11:45 AM 353 Current level of compliance with EU bulk tank SCC standards and proposed US standards based on data from four Federal Milk Marketing Orders.  
J. E. Lombard1, H. D. Norman*, C. A. Koprál1, J. M. Rodriguez1, and J. R. Wright2, 1USDA-APHIS-VS, Centers for Epidemiology and Animal Health, Fort Collins, CO, 2USDA-ARS, Animal Improvement Programs Laboratory, Beltsville, MD.

12:00 PM 354 Latinos and animal agriculture.  
S. Archibeque-Engle* and I. N. Roman-Muniz, Colorado State University, Fort Collins.

12:15 PM 355 Effect of live yeast supplementation on milk production and health status of lactating camels (Camelus dromedarius).  
P. Nagy*, E. Chevaux1, M. Khetoud1, O. Marko2, S. Thomas1, U. Wernery3, and J. Juhasz2, 1Industries for Camel Milk and Products, Dubai, United Arab Emirates, 2Central Veterinary Research Institute, Dubai, United Arab Emirates, 3Lallemand SAS, Toulouse, France.

12:30 PM 356 Why people become vegetarian and/or vegan: Results of a survey of US self-identified vegans.  
S. D. Lukefahr*, R. A. Cheeke2, and P. R. Cheeke3, 1Texas A&M University–Kingsville, 2Corvallis, OR, 3Oregon State University, Corvallis.

Food Safety

Chair: Susan K. Duckett, Clemson University

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9:30 AM 357 Does pre-slaughter stress affect pork safety risk?  
M. H. Rostagno*, S. D. Eicher, and D. C. Lay, USDA-ARS-LBRU, West Lafayette, IN.

9:45 AM 358 Salt and nitrite at concentrations relevant to meat processing enhances Shiga toxin II production by E. coli O157:H7.  

10:00 AM 359 Detection of major serotypes of Shiga-toxin producing E. coli in bovine feces by multiplex PCR.  
Z. Paddock*, X. Shi, T. G. Nagaraja, and J. Bai, Detection of major serotypes of Shiga-toxin producing E. coli in bovine feces by multiplex PCR.

10:15 AM 360 Microbial contamination rates and antimicrobial resistance patterns in “no antibiotics added” labeled chicken products.  
J. Zhang*, A. Massow1, M. M. Stanley1, M. Papariella1, X. Chen2, B. Kraft3, and P. D. Ebner4, 1Purdue University Department of Animal Sciences, West Lafayette, IN, 2Purdue University College of Veterinary Medicine, West Lafayette, IN, 3University of Illinois at Urbana-Champaign Department of Animal Sciences, Urbana-Champaign.

10:30 AM 361 Antimicrobial activities and comparing bacterial membrane interactions of porcine lactoferricin derived peptides.  
F. Han*, Y. Liu, Y. Xie, Y. Gao, and Y. Wang, Institute of Feed Science, Hangzhou, Zhejiang, China.

10:45 AM 362 Nitrate and nitrite partition in cheese and whey during cheesemaking.  

11:00 AM 363 Prevalence of Clostridium burnetii in bulk tank milk and associations with herd characteristics on US dairy operations.  

11:15 AM 364 Bulk somatic cell penalties in herds enrolled in dairy herd improvement programs.  
K. J. Hand*, A. Godkin1, and D. F. Kelton1, 1Strategic Solutions Group, Puslinch, ON, Canada, 2Ontario Ministry of Agriculture, Food and Rural Affairs, Elora, ON, Canada, 3University of Guelph, Guelph, ON, Canada.

11:30 AM 365 A novel analysis strategy of detection hydrolysate protein adulteration in milk.  
Z. Chen1 and D. M. Barbano*, 1Analysis and Testing Center, Shandong University of Technology, Zibo, Shandong Province, PRC, 2Department of Food Science, Cornell University, Ithaca, NY.
Lactation Biology 1
Chair: Mike Van Amburgh, Cornell University
399

J. F. Trott*, A. Schennink, and R. C. Hovey, University of California, Davis.

9:45 AM 367  Comparative transcriptome analysis of laser microdissected cells from bovine mammary gland.
K. M. Daniels*, R. K. Choudhary, C. M. Evock-Clover, R. W. Li, W. Garrett, and A. V. Capuco, The Ohio State University, Wooster, University of Maryland, College Park, USDA-ARS, Beltsville, MD.

10:00 AM 368  Acute DNA methylation changes are associated with involution and re-initiation of lactation in dairy cows.

10:15 AM 369  Ontogeny of nuclear and cytoplasmic myoepithelial markers during prepubertal bovine mammary development.
S. Safayi*, N. Korn, A. Bertram, R. M. Akers, A. V. Capuco, S. L. Pratt, S. Calcatera, C. Klein, and S. Ellis, Clemson University, Clemson, SC, Virginia Polytechnic Institute and State University, Blacksburg, USDA-ARS, Beltsville Agricultural Research Center, Beltsville, MD.

10:30 AM 370  Multispectral analysis of myoepithelial cell development in prepubertal bovine mammary gland.
S. Safayi*, N. Korn, A. Bertram, R. M. Akers, A. V. Capuco, S. L. Pratt, and S. Ellis, Clemson University, Clemson, SC, Virginia Polytechnic Institute and State University, Blacksburg, USDA-ARS, Beltsville Agricultural Research Center, Beltsville, MD.

10:45 AM 371  Break

11:15 AM 372  Lactogenic hormones and IGF-I do not regulate glucose transporter gene expression in the bovine mammary gland during the transition period.
Y. Shao*, E. Wall, Y. Misra, X. Qian, R. Blauwiekel, T. McFadden, and F.-Q. Zhao, Laboratory of Lactation Physiology, Department of Animal Science, University of Vermont, Burlington, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.

11:30 AM 373  Lactogenic complex-induced mammary epithelial cell differentiation is associated with membrane compositional differences.
N. Argov-Argaman, K. Mida, and A. Shamay, The Robert H. Smith Faculty of Agriculture, Food and Environment, The Hebrew University, Jerusalem, Israel.

11:45 AM 374  Intravenous supplementation of acetate, glucose or essential amino acids to an energy and protein deficient diet in lactating dairy goats: effects on milk production and mammary nutrient extraction.
S. Safayi* and M. O. Nielsen, University of Copenhagen, Frederiksberg, Great Copenhagen, Denmark, Clemson University, Clemson, SC.

12:00 PM 375  Expression profiles of microRNAs from non- and lactating bovine mammary glands.
Z. Li, H. Y. Liu, and J. X. Liu, Institute of Dairy Science, College of Animal Sciences, Hangzhou, P.R. China, Key Laboratory of Molecular Animal Nutrition, Hangzhou, P.R. China.

12:15 PM 376  Variations in the mammary uptake of nutrients throughout an extended milking interval in dairy cows.
J. Guinard-Flament*, C. Hurlaud, and S. Lemosquet, UMR Production du Lait, INRA/Agrocampus Ouest, St.-Gilles, France.

Meat Science and Muscle Biology Symposium
Meat in the Diet
Chair: Kasey Carlin, North Dakota State University
296

9:30 AM 375  Meat and human cancer.
L. R. Ferguson*, The University of Auckland, Auckland, New Zealand.

10:00 AM 376  Meat lipids in human health.
S. McNeill*, National Cattlemen’s Beef Association, Centennial, CO.

10:30 AM 377  Perspective on IOM report: Strategies to reduce sodium in the United States.
C. A. Mireles DeWitt*, OSU Seafood Research & Education Center.
11:00 AM 378 Nitrite and nitrate in health and disease: A paradigm shift.
N. S. Bryan*, Institute of Molecular Medicine, UT Health Science Center, Houston, TX.

Milk Protein and Enzymes Symposium
Milk Proteins and Peptides: Bioactivity and Digestion
Chair: Rafael Jimenez-Flores, California Polytechnic State University
Sponsor: EAAP 295

9:30 AM 379 Structural bases for the nutritional and biological properties of the caseins.
H. M. Farrell*1, E. L. Malin1, E. M. Brown1, and A. Mora-Gutierrez1, USDA, ERRC, Dairy and Functional Foods RU, Wyndmoor, PA, 2USDA, ERRC, Biobased and Other Animal Coproducts RU, Wyndmoor, PA, 3Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX.

10:00 AM 380 Digestibility of whey protein aggregates and fibrils under simulated gastro-intestinal environments.
H. Singh*, M. Peram, S. Loveday, B. Libby, and Y. Aiqain, Riddet Institute, Massey University, Palmerston North, New Zealand.

11:00 AM 382 The structure of dairy products modifies the kinetics of protein hydrolysis and the release of bioactive peptides in the gut during digestion.
D. Dupont*1,2, K. Bouzerzour1,2, F. Barbe1,2, Y. Le Gouar1,2, and O. Menard1,2, National Institute for Agricultural Research, Rennes, France, 2Agrocampus Ouest, Rennes, France.

11:30 AM 383 Effects of dietary milk fat globule membrane in the gut and on systemic lipid metabolism.
R. Ward*, 1R. Jimenez-Flores2, A. Zhou1, and K. Hintze1, 1Utah State University, Logan, 2California Polytechnic State University, San Luis Obispo.

Nonruminant Nutrition
Amino Acids
Chair: David Bravo, Pancosma SA, Geneva, Switzerland
Sponsor: Archer Daniels Midland 383-385

9:30 AM 384 Effects of creep feeding and supplemental glutamine or glutamate (AminoGut) on pre- and post-weaning growth performance and intestinal health of piglets.
R. Cabrera*, J. Usry2, E. Nogueira3, M. Kutschenko3, A. Moeser1, and J. Odle1, 1North Carolina State University, Raleigh, 2Ajinomoto Heartland LLC, Chicago, IL, 3Ajinomoto Brazil, Brazil.

9:45 AM 385 Metabolomic analysis of the response to weaning and dietary L-glutamine supplementation in piglets using gas chromatography/mass spectrometry.
Y. Xiao*, T. Wu1, B. Dai2, S. Luo2, J. Feng2, and A. Chen1, 1Zhejiang University, Hangzhou, Zhejiang, China, 2Zhejiang Gomore Group, Hangzhou, Zhejiang, China.

10:00 AM 386 Feed efficiency of 7- to 16-kg pigs is maximized when additional lysine is supplied by L-Lys instead of intact protein, but is not affected when diets are supplemented with differing sources of non-essential amino acid nitrogen.
C. K. Jones*, J. A. Acosta1, M. D. Tokach1, J. L. Usry4, C. R. Neill5, and J. F. Patience1, 1Iowa State University, Ames, 1Universidad Nacional de Colombia, Bogotá, Colombia, 2Kansas State University, Manhattan, 3Ajinomoto Heartland LLC, Chicago, IL, 4Pig Improvement Company, Hendersonville, TN.

10:15 AM 387 Effect of increasing levels of lysine in the diet on growth performance and carcass and meat quality of growing-finishing pigs.
L. Cámar1, M. P. Serrano1, J. I. Morales1, E. Alcázar2, J. L. Sánchez2, and G. G. Mateos*1, 1Departamento de Producción Animal, UPM, Ciudad Universitaria, s/n. 28040, Madrid, 2S.A.T. Vallehermoso, Ctra. La Solana a Infantes, km 9. 13248, Alhambra, Ciudad Real.
10:30 AM 388 Apparent prececal digestibility of amino acids and performance of broiler chickens fed soybean meal-based diets. A. F. Agboola* and E. A. Iyayi, 1Department of Animal Science, University of Ibadan, Ibadan, Oyo, Nigeria, 2University of Ibadan, Ibadan, Oyo, Nigeria.

10:45 AM 389 Amino acid digestibility and energy content in Dried Fermentation Biomass, Peptone 50, and P.E.P. Two Plus fed to weaning pigs. R. C. Sulabo*, J. K. Mathai, J. L. Usry, B. W. Ratliff, D. M. McKilligan, and H. H. Stein, 1University of Illinois, Urbana, 2Ajinomoto Heartland LLC, Chicago, IL, 3TechMix LLC, Stewart, MN.

11:00 AM Break


11:30 AM 391 Effect of L-Trp supplementation on growth performance pigs transitioning from nursery to finisher pens in a commercial farm. Y. B. Shen*, G. Voilqué, D. Kendall, D. Sykes, and S. W. Kim, 1North Carolina State University, Raleigh, 2Murphy-Brown LLC, Rose Hill, NC.

11:45 AM 392 Effect of L-Trp supplementation on growth and stress responses of nursery pigs fed diets varying large neutral amino acid concentrations. Y. B. Shen*, G. Voilqué, and S. W. Kim, North Carolina State University, Raleigh.

12:00 PM 393 Feeding modality affects muscle protein synthesis but not degradation in muscle of neonatal pigs. S. W. El-Kadi*, A. Suryawan, M. C. Gazzaneo, R. A. Orellana, N. Srivastava, H. V. Nguyen, R. Murgas-Torrazza, G. E. Lobley, and T. A. Davis, 1USDA/ARS Children’s Nutrition Research Center, Dept. Pediatrics, Baylor College of Medicine, Houston, TX, 2Division of Obesity and Metabolic Health, Rowett Institute of Nutrition and Health, University of Aberdeen, Aberdeen, UK.

12:15 PM 394 Arginine deficiency is responsible for high rates of mortality in low-birth-weight piglets. G. Wu*, X. L. Li, R. Rezaei, and D. A. Knabe, Texas A&M University, College Station.

Physiology and Endocrinology
Growth and Metabolism
Chair: Kelly Lynn Perfield, Elanco Animal Health


10:00 AM 396 Blood metabolites and hormones as potential markers of body reserves dynamic and energetic balance in ruminants. E. González-García*, N. Debus, P. Hassan, S. Camous, M.-R. Aurel, F. Bocquieri, and F. Barillet, INRA UMR868, Systèmes d’Élevage Méditerranées et Tropicaux (SELMET), Montpellier, France, INRA UMR1198, Biologie du Développement et Reproduction (BDR), Domaine de Vilvert, Jouy-en-Josas Cedex, France, INRA UE0321, Domaine Expérimental de La Fage, Roquefort-Sur-Soulzon, France, INRA UR0631, Station d’Amélioration Génétique des Animaux (SAGA), Chemin de Borde Rouge, Auzeville, BP 52627, Castanet-Tolosan Cedex, France.


10:45 AM 399 Alterations in the somatotropic axis during a dual stress and M. haemolytica challenge in beef steers. S. M. Falkenberg*, J. A. Carroll, J. A. Stewart, M. A. Ballou, J. L. Sartín, J. O. Buntyn, T. Elsasser, S. Kahl, and T. B. Schmidt, 1Mississippi State University, Mississippi State, 2Livestock Issues Research Unit, USDA-ARS, Lubbock, TX, 3University College of Veterinary Medicine, Auburn, AL, 4Bovine Functional Genomics Lab, USDA-ARS, Beltsville, MD, 5Texas Tech University, Lubbock.
11:00 AM  Break

11:15 AM  400  Effects of plane of nutrition and 2,4-thiazolidinedione on insulin responses and adipose tissue gene expression in dairy cattle during late gestation.
K. M. Schoenberg* and T. R. Overton, Cornell University, Ithaca, NY.

11:30 AM  401  Effects of overstocking on glucocorticoid production and analytes associated with energy metabolism.
J. M. Huzzey*1, D. V. Nydam1, R. J. Grant3, and T. R. Overton1; 1Cornell University, Ithaca, NY, 2W. H. Miner Institute, Chazy, NY.

11:45 AM  402  Effect of milking frequency and feeding level in early lactation on metabolites in grazing dairy cows.

12:00 PM  403  Insulin-glucose clamps and intramammary LPS challenge: cross reactions between metabolism and mammary immune response.
M. C. M. B. Vernay, L. Kreipe, H. A. van Dorland, R. M. Bruckmaier, and O. Wellnitz*, Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland.

12:15 PM  404  Insulin sensitivity in tropically adapted cattle selected for residual feed intake.
G. L. Shafer*1, 2, A. W. Lewis1, L. C. Caldwell2, A. N. Hafla2, G. E. Carstens2, T. D. A. Forbes3, T. H. Welsh2, and R. D. Randell1, 1Texas AgriLife Research, Overton, 2Texas AgriLife Research, College Station, 3Texas AgriLife Research, Uvalde.

Production, Management and the Environment & Forages and Pastures Joint Symposium
Environmental Impact of Beef and Dairy Systems
Chairs: Juan Tricarico, Innovation Center for U.S. Dairy, and J. W. Schroeder, North Dakota State University
Sponsor: Dairy Research Institute/Innovation Center for U.S. Dairy

9:30 AM  405  An overview of the environmental impact of beef and dairy systems.
J. L. Capper*, Washington State University, Pullman.

10:15 AM  406  Whole farm assessment—Using precision agriculture to assess, measure, and mitigate environmental impacts of on-farm practices.
Y. Wang*, Innovation Center for U.S. Dairy, Rosemont, IL.

11:00 AM  407  Measurement strategies for reducing enteric methane from beef and dairy production.
K. A. Beauchemin* and S. M. McGinn, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

11:45 AM  Lunch

2:00 PM  408  Dairy cropping systems and air quality.
F. M. Mitloehner*, University of California, Davis.

2:45 PM  409  Cow of the future—A research roadmap for mitigating enteric methane emissions from dairy cattle.
W. R. Wailes*, 1 J. R. Knapp, and M. D. Welch3, 1Colorado State University, Fort Collins, 2Fox Hollow Consulting LLC, Columbus, OH, 3Dairy Research Institute, Rosemont, IL.

3:30 PM  410  Diet formulation as an effective tool for mitigating the environmental impact of dairy and beef cattle operations.
A. N. Hristov*, Pennsylvania State University, University Park.

4:15 PM  411  Managing the environmental impact of pasture production systems.
K. A. Johnson* and C. D. Gambino, Washington State University, Pullman.

Ruminant Nutrition
Beef: Vitamin and Minerals
Chair: Jon Schoonmaker, Purdue University

9:30 AM  412  Ruminal degradable sulfur from organic and inorganic sources in beef cattle finishing diets.
J. O. Sarturi*, G. E. Erickson, T. J. Klopfenstein, and C. D. Buckner, University of Nebraska, Lincoln.
10:45 AM 413 Effects of trace mineral injections on measures of growth and trace mineral status of pre-weaned beef calves.
J. D. Arthington1 and L. J. Havenga2, 1University of Florida, Range Cattle Research and Education Center, Ona, 2Multimin USA Inc., Fort Collins, CO.

10:00 AM 414 Effect of chromium supplementation on finishing Nellore bulls performance, carcass characteristics, and liver abscesses.
R. S. Marques1, A. M. Pedroso*, C. T. S. Dias1, L. R. M. Pinto1, and F. A. P. Santos1, 1University of Sao Paulo, College of Agricultural Sciences, Piracicaba/SP, Brazil, 2Embrapa Cattle Southeast, Sao Carlos/SP, Brazil.

10:15 AM 415 Meta-analysis of the effect of dietary sulfur on feedlot health.
C. A. Nichols*, V. R. Bremer*, A. K. Watson*, C. D. Buckner*, J. L. Harding1, D. R. Smith1, G. E. Erickson1, and T. J. Klopfenstein1, 1Department of Animal Science, University of Nebraska-Lincoln, Lincoln, 2School of Veterinary Medicine and Biomedical Sciences, University of Nebraska-Lincoln.

10:30 AM 416 Effect of delaying the feeding of high sulfur diets to feedlot cattle until after adaptation to a finishing diet.
M. E. Drewnoski* and S. L. Hansen, Iowa State University, Ames.

10:45 AM 417 Effects of zinc and copper source and concentration on feedlot performance and carcass characteristics in yearling steers.
M. G. Dib*, J. J. Wagner1, K. Perryman1, J. W. Spears3, and T. E. Engle1, 1Colorado State University, Fort Collins, 2Micronutrients, Indianapolis, IN, 3North Carolina State University, Raleigh.

11:00 AM 418 Effects of supplemental copper and Linpro on performance and carcass characteristic of beef heifers.
C. A. Alvarado*, C. C. Aperce, K. A. Miller, C. L. van Bibber, S. Uwituze, and J. S. Drouillard, Kansas State University, Manhattan.

11:15 AM 419 Chromium supplementation alters the performance and health of feedlot cattle during the receiving period.
B. C. Bernhard*, R. J. Rathmann1, D. N. Finck1, W. Rounds1, and B. J. Johnson1, 1Texas Tech University, Lubbock, 2Remin Industries Inc., Des Moines, IA.

11:30 AM 420 Chromium supplementation alters the glucose and lipid metabolism of feedlot cattle during the receiving period.
B. C. Bernhard*, N. C. Burdick1, R. J. Rathmann1, D. N. Finck1, J. A. Carroll1, A. N. Loyd2, and B. J. Johnson1, 1Texas Tech University, Lubbock, 2Livestock Issues Research Unit, USDA-ARS, Lubbock, TX.

Ruminant Nutrition
Dairy: Forages and Fiber
Chair: James Caldwell, Lincoln University
293

9:30 AM 421 Milk production responses to soybean meal and canola meal in dairy cows fed grass silage based diets—A meta-analysis.
P. Huhtanen*1, M. Hetta3, and C. Swensson2, 1Swedish University of Agricultural Sciences, Umeå, Sweden, 2Swedish Dairy Association, Lund, Sweden.

9:45 AM 422 Intake and milk production of dairy cows fed diets including low lignin/high fiber digestibility corn silage.
N. B. Litherland*1, H. G. Jung12, and J. G. Linn1, 1University of Minnesota, St Paul, 2USDA-ARS, St Paul, MN.

10:00 AM 423 Effects of supplementing starch or sugar pre-and postpartum to dairy cows fed TMR with wheat straw or grass hay prepartum: Performance, metabolism and health.
N. B. Litherland*1, L. Davis1, S. Emanuele1, and H. Bialock1, 1University of Minnesota, St Paul, 2Quality Liquid Feeds Inc., Dodgeville, WI.

10:15 AM 424 Alternative models of kinetics impact indigestible neutral detergent fiber and estimates of ruminal digestibility.
D. R. Mertens*, Mertens Innovation & Research LLC, Belleville, WI.

10:30 AM 425 Comparison of alternative methods, sample grinds, and fermentation times for determining indigestible neutral detergent fiber.
J. Boyd*1 and D. R. Mertens2, 1US Dairy Forage Research Center, Madison, WI, 2Mertens Innovation & Research LLC, Belleville, WI.

10:45 AM 426 Effects of daily ingredient dry matter adjustment of total mixed ration using Intelligent Ration Monitoring (IRM) NIR forage analyzer on commercial dairy farm performance.
D. N. L. da Silva1, A. Barbi2, A. Ghiroldi2, D. Allen3, and N. B. Litherland1, 1University of Minnesota, St Paul, 2Dinamica Generale, Poggio Rusco, Italy, 3Gar-Lin Dairy, Eyota, MN.
Effects of prepartum supplementation of starch or sugar to dairy cows fed TMR with thirty percent wheat straw or grass hay on colostrum yield and composition.
N. B. Litherland*, L. Davis, S. Emanuele, and H. Blalock. 1University of Minnesota, St Paul, 2Quality Liquid Feeds Inc., Dodgeville, WI.

Effects of corn gluten feed and effective NDF on ruminal pH and productivity of lactating dairy cattle.
M. L. Sullivan*, K. N. Grigsby, and B. J. Bradford. 1Department of Animal Science and Industry, Kansas State University, Manhattan, 2Cargill Incorporated, Blair, NE.

Feeding forage cubes to identify divergence for residual feed intake in dairy cows.

A mathematical model to predict the size and rate of digestion of a fast and slow pool of NDF and the indigestible NDF.

Effect of yeast culture and direct-fed microbes on the growth performance of lambs.

Mineral profile of lactating West African Dwarf ewe fed Mexican sunflower leaf meal based diets.
A. H. Ekeocha*, University of Ibadan, Ibadan, Oyo, Nigeria.

Mineral profile of pregnant West African Dwarf ewe fed Mexican sunflower leaf meal based diets.
A. H. Ekeocha*, University of Ibadan, Ibadan, Oyo, Nigeria.
Swine Species
Chair: Bradley V. Lawrence, Novus International Inc.
386-387

9:30 AM 441 Nutritive value of palm kernel cake-brewers dried grain (PKC-BDG) based diets supplemented with exogenous enzymes for growing-finishing pigs.
A. O. K. Adesehinwa1, O. O. Obi1, M. A. Adesina2, B. A. Makanjuola1, O. O. Oluwole1, T. O. Olurongbohungunmi3, and O. Fagbiye1, 1Institute of Agricultural Research and Training, Obafemi Awolowo University, Ibadan, Oyo State, Nigeria, 2National Agricultural Extension & Research Liaison Services, Ahmadu Bello University, Zaria, Kaduna State, Nigeria, 3Federal College of Animal Health & Production Technology, Ibadan, Oyo State, Nigeria.

9:45 AM 442 The influence of low and standard energy diets on efficiency, carcass value, and pork quality in Berkshire swine.
M. J. Bishop*,1 H. N. Zerby2, S. J. Moeller3, P. S. Kuber1, J. M. DeRouchey4, and K. S. Betts1, 1The Ohio State University, Columbus, 2Kansas State University, Manhattan.

10:00 AM 443 Effects of ractopamine on performance, carcass and meat quality in purebred Berkshire swine.
K. S. Betts*,1 S. J. Moeller1, H. N. Zerby1, J. M. DeRouchey1, M. D. Cressman1, M. J. Bishop1, A. S. Gress1, and F. L. Fluharty1, 1The Ohio State University, Columbus, 2Kansas State University, Manhattan.

10:15 AM 444 The effects of diet ingredients on gastric ulceration and salivary pH in gestating sows.
S. L. Wisdom*,1 B. T. Richert1, J. S. Radcliffe1, D. C. Lay2, and J. N. Marchant-Forde3, 1Purdue University, West Lafayette, IN, 2USDA-ARS-LBRU, West Lafayette, IN.

10:30 AM 445 Effect of dietary glutenine supplementation on the apparent total tract digestibility of energy and nutrients and jejunal gene expression in weaned piglets.
A. Chen*, Y. Xiao, T. Wu, Q. Hong, and C. Yang, Zhejiang University, Hangzhou, Zhejiang, China.

10:45 AM 446 Effect of feeding Bt (MON810) maize to pigs from 12 days post-weaning for 110 days on growth performance, body composition, carcass characteristics, organ weights and intestinal morphology.
S. G. Buzoianu1,2, M. C. Walsh1, G. E. Gardiner1, M. C. Rea1, R. P. Ross1, and P. G. Lawlor3, 1Pig Development Department, Moorepark Animal and Grassland Research and Innovation Centre, Teagasc, Fermoy, Co. Cork, Ireland, 2Department of Chemical and Life Sciences, Waterford Institute of Technology, Waterford, Ireland, 3Moorepark Food Research Centre, Teagasc, Fermoy, Co. Cork, Ireland.

11:00 AM 447 Effect of feeding genetically modified Bt (MON810) maize to pigs from 12 days post-weaning for 110 days on serum and urine biochemistry.
S. G. Buzoianu1,2, M. C. Walsh1, G. E. Gardiner1, M. C. Rea1, R. P. Ross1, and P. G. Lawlor3, 1Pig Development Department, Moorepark Animal and Grassland Research and Innovation Centre, Teagasc, Fermoy, Co. Cork, Ireland, 2Department of Chemical and Life Sciences, Waterford Institute of Technology, Waterford, Ireland, 3Moorepark Food Research Centre, Teagasc, Fermoy, Co. Cork, Ireland.

11:30 AM 448 Supplementation of xylanase to improve DDGS and corn germ meal utilization by finishing pigs as measured by performance and carcass yield in a commercial environment.
D. D. Hall1,2, M. U. Steidinger2, J. C. Remus1, M. Hruby3, and A. J. Veldkamp3, 1Hall Farms Consulting, LLC, Noblesville, IN, 2Swine Nutrition Services, Anchor, IL, 3Danisco Animal Nutrition, Waukesha, WI.

11:45 AM 449 Monitoring muscle proteolysis in pig plasma.
K. L. Price* and J. Escobar, Virginia Polytechnic Institute and State University, Blacksburg.

12:00 PM 450 Effect of independent laboratory assessment, freezing volume, and other factors influencing post-thaw quality of frozen boar sperm.
J. M. Ringwelski* and R. V. Knox, Department of Animal Sciences, University of Illinois, Champaign-Urbana.

12:15 PM 451 Characteristics of the work habits and demographics of caretakers on swine finishing facilities in Ohio.
S. M. Crawford*,1 S. J. Moeller1, P. H. Hemsworth1, C. C. Croney1, N. A. Botheras1, and H. N. Zerby1, 1Ohio State University, Columbus, 2University of Melbourne, Melbourne, Victoria, Australia.

ADSA Foundation Scholar Lecture – Dairy Foods
Chair: Albert DeVries, University of Florida
Sponsor: ADSA Foundation
397

10:30 AM Introduction

10:40 PM ADSA Foundation Scholar Lecture: Dairy food quality and safety: Entering the “omics” era.
M. Yeung*, California Polytechnic State University, San Luis Obispo.
ADSA Foundation Scholar Lecture – Production
Chair: Albert DeVries, University of Florida
Sponsor: ADSA Foundation

2:00 PM
Introduction

2:10 PM
ADSA Foundation Scholar Lecture: The need for applied research and decision support tools in dairy farm management and decision-making.
V. E. Cabrera*, University of Wisconsin, Madison.

Animal Behavior and Well-Being 3
Chair: Cassandra Tucker, University of California-Davis

2:00 PM 452
Survey of animal welfare and dairy management practices on 91 Organic Valley dairy farms.
W. K. Fulwider*, CROPP Cooperative, LaFarge, WI.

2:15 PM 453
A dairy quality assurance program for New Mexico dairy producers.
F. A. Rivera*, G. R. Hagevoort1, M. L. Kinsel1, and M. A. Smith; 1NMSU Ag Science Center, Clovis, NM, 2Agricultural Information Management Inc., Ellensburg, WA.

2:30 PM 454
Effect of prior grazing experiences on grazing behavior and performance of lactating cows.
F. Lopes*1, N. M. Esser1, P. C. Hoffman1, W. K. Cobleitz1, and D. K. Combs1; 1Department of Dairy Science, University of Wisconsin, Madison, 2USDA-ARS, Marshfield, WI.

2:45 PM 455
Effects of acute and chronic stress on immune- and inflammatory-response gene expression in beef calves.

3:00 PM 456
Estimation of genetic parameters for gait in Canadian Holstein cows.
N. Chapinal*1, 2, E. Miglior1, 2, A. Sewalem1, 4, A. M. de Passille1, J. Rushen1, M. A. G. von Keyserlingk1, and D. M. Weary2; 1Department of Population Medicine, University of Guelph, Guelph, ON, Canada, 2Animal Welfare Program, University of British Columbia, Vancouver, BC, Canada, 3Guelph Food Research Centre, Agriculture and Agri-Food Canada, Guelph, ON, Canada, 4Canadian Dairy Network, Guelph, ON, Canada.

3:15 PM 457
Automatic estimation of body condition score from digital images.
M. Caccamo*1, 2, G. Azzaro1, 3, G. Gallo1, 3, G. Guarnera1, 2, J. L. Ferguson1, 3, and G. Licitra1, 2, 3; 1CROPP Cooperative, Ellensburg, WA, 2Columbia University, New York, NY, 3CIP, Catania University, Catania, Italy.

3:30 PM 458
Use of infrared thermography to identify thermoregulatory differences between heat-sensitive and heat-tolerant breeds of Bos taurus cattle.
R. E. Chaffin1, K. J. Hoernig2, J. S. Johnson1, J. K. Bryant1, B. Scharf1, D. K. Kishore1, P. A. Eichen1, E. S. Dierenfeld1, and D. E. Spiers1; 1University of Missouri, Columbia, 2Novus International, Inc., St. Charles, MO.

3:45 PM 459
Effect of climatic on body temperature of dairy cows.
J. C. Lees* and J. B. Gaughan, The University of Queensland, Australia.

4:00 PM 460
Repeatability of subjective and objective measures of exit velocity as an indicator of temperament in feedlot cattle.

4:15 PM 461
Group pasture versus stall housing effects on cortisol and DHEA concentrations in young Quarter Horses.

4:30 PM 462
Cortisol and DHEA concentrations in foals identified as high versus low behavioral responders during weaning.

4:45 PM 463
Preference for condensed tannins by sheep in response to challenge infection with Haemonchus contortus.
J. Juhnke1, J. Miller2, F. Provenza2, J. Hall3, and J. Villalba1, 2Utah State University, Department of Wildland Resources, Logan, 3Louisiana State University, Department of Pathobiological Sciences, Baton Rouge, 4Utah State University, Department of Animal Dairy and Veterinary Sciences, Logan.

5:00 PM 464
Lack of acclimation in Holstein calves exposed to repeated transport.
Bioethics Symposium
The Ethical Food Movement: What Does it Mean for Animal Agriculture?
Chair: Candace Croney, The Ohio State University
Sponsors: Elanco Animal Health, Monsanto Co.

2:00 PM
Introduction
C. Croney, The Ohio State University.

2:05 PM 465
Food production using animals: The roles of media coverage and societal values in shaping opinions about ethics.
S. Priest*, University of Nevada, Las Vegas.

2:40 PM 466
The (mis)appropriation of science in framing the ethics of animal production: Environmental issues.
J. L. Capper*, Washington State University, Pullman.

3:15 PM
Break

3:25 PM 467
What did they just say? Science, politics, and animal welfare.
J. A. Mench*, University of California, Davis.

4:00 PM 468
The (mis)appropriation of science in framing the ethics of animal production: The use of antibiotics.
M. D. Apley*, Kansas State University, Manhattan.

4:35 PM
Panel Discussion

Breeding and Genetics
Dairy Cattle Breeding I
Chair: Christian Maltecca, North Carolina State University
Sponsors: BSAS, EAAP

2:00 PM 469
Assessing accuracy of heat detection in dairy herds.
H. Seegers*, D. Billon1, E. Bossard-Apper2, C. Ponsart1, B. Grimard4, and N. Bareille1, 1Research Group Epidemiology and Risk Analysis Oniris-INRA, Nantes, France, 2Agriculture School, Angers, France, 1UNCEIA, Maisons-Alfort, France, 4Veterinary School, Maisons-Alfort, France.

2:15 PM 470
Heritability and repeatability estimates for twinning rate in the Irish dairy and beef cattle.
A. M. Doyle1, R. D. Evans2, and A. G. Fahey*, 1University College Dublin, Belfield, Dublin 4, Ireland, 2Irish Cattle Breeding Federation, Bandon, Co. Cork, Ireland.

2:30 PM 471
Genetic analysis of ovulatory disorders in Austrian Fleckvieh cows: A comparison between linear models and survival analysis.
A. Koeck*1,2, B. Fuerst-Waltl3, J. Sölkner3, C. Egger-Danner1, and G. Meszaros3, 1Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, 2Division of Livestock Sciences, University of Natural Resources and Life Sciences, Vienna, Austria, 3ZuchtData EDV-Dienstleistungen GmbH, Vienna, Austria.

2:45 PM 472
Montbeliarde-sired crossbred cows compared to pure Holstein cows for production, SCS, days open, and survival during their first three lactations.

3:00 PM 473
Joint estimation of genetic parameters for test day somatic cell count and mastitis using a random regression model in the United Kingdom.
R. Mrode*, T. Pritchard, M. Coffey, and E. Wall, Scottish Agricultural College, Penicuik, Midlothian, UK.

3:15 PM 474
Estimation of genetic parameters for health and survival in Canadian Holstein calves.
C. E. McCorquodale*, F. Miglior1,2, A. Sewalem1,2, D. Kelton1, A. Robinson1, and K. E. Leslie1, 1Department of Population Medicine, University of Guelph, Guelph, Ontario, Canada, 2Guelph Food Research Centre, Agriculture and Agri-Food Canada, Guelph, Ontario, Canada, 3Canadian Dairy Network, Guelph, Ontario, Canada, 4Department of Animal and Poultry Science, University of Guelph, Guelph, Ontario, Canada.

3:30 PM 475
Genetic parameters of lactation yield in the tropical carora breed with random regression test-day models.
E. Tullo*, S. Biffani2, C. Maltecca2, and R. Rizzi1, 1University of Milan, Faculty of Veterinary Medicine, Department of Veterinary Science and Technology for Food Safety, Milan, Italy, 2Parco Tecnologico Padano, Lodigiani, Italy, 3Department of Animal Science, North Carolina State University, Raleigh.
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<td>2:00 PM</td>
<td>476</td>
<td>Cooperation under directional selection with kinship-based groups.</td>
<td>F. Siewerdt*, A. D. Franklin, J. A. Carrilo, A. K. Sasikala-Appukuttan, A. Schierholt, T. E. Callicrate, M. A. Campbell, and H. L. M. Moreira, 1University of Maryland, College Park, MD, 2Universidade Federal Rural da Amazônia, Belém, PA, Brazil, 3Universidade Federal de Pelotas, Pelotas, RS, Brazil.</td>
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<td>2:15 PM</td>
<td>477</td>
<td>A recursive binomial model for piglet mortality.</td>
<td>L. Varona*, D. Sorensen, 1Unidad de Genetica Cuanstitativa y Mejora Animal, Universidad de Zaragoza, Zaragoza, Spain, 2Department of Genetics and Biotechnology, University of Aarhus, Tjele, Denmark.</td>
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<td>2:30 PM</td>
<td>478</td>
<td>Genetic correlation between purebred piglet birth weight and crossbred performance.</td>
<td>C. Y. Chen*, I. Misztal, T. Sursuta, J. Holl, W. O. Herring, and M. Culbertson, 1Department of Animal and Dairy Science, University of Georgia, Athens, 2Newsham Choice Genetics, Chesterfield, MO, 3Smithfield Premium Genetics Group, Rose Hill, NC.</td>
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<td>2:45 PM</td>
<td>479</td>
<td>Construction of individual breeding values for feed intake of Plétrain boars based on mean pen feed intake, weight and weight gain test station records.</td>
<td>M. Dufrasne*, V. Jaspart, J. Wavreille, and N. Gengler, 1Animal Science Unit, University of Liege, GxABT, Gembloux, Belgium, 2Walloon Pig Breeders Association, Ciney, Belgium, 3Walloon Agricultural Research Centre, Gembloux, Belgium, 4National Fund for Scientific Research, Brussels, Belgium.</td>
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<td>3:00 PM</td>
<td>480</td>
<td>Genetic correlations between purebred Limousin and F1 Limousin*Angus.</td>
<td>R. Davis*, I. Misztal, M. Lukaszewicz, S. Sursuta, and J. K. Bertrand, 1University of Georgia, Athens, 2Polish Academy of Sciences, Institute of Genetics and Animal Breeding, Jastrzebiec, Poland.</td>
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<td>3:15 PM</td>
<td>481</td>
<td>The heritability of lean color and its influence on beef tenderness.</td>
<td>P. Johnson*, D. Moser, and M. Miller, 1Texas Tech University, Lubbock, 2Kansas State University, Manhattan.</td>
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<td>4:00 PM</td>
<td>484</td>
<td>Searching for causal relationships among five traits of European quails.</td>
<td>B. D. Valente*, G. J. M. Rosa, M. A. Silva, R. B. Teixeira, and R. A. Torres, 1Department of Animal Sciences, University of Wisconsin, Madison, 2Departamento de Zootecnia, Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil, 3Department of Biostatistics and Medical Informatics, University of Wisconsin, Madison, 4Departamento de Zootecnia, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil.</td>
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<td>485</td>
<td>Withdrawn</td>
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Companion Animals Symposium
Living Beyond 20: Discoveries in Geriatric Companion Animal Biology
Chair: Cheryl L. Morris, Omaha’s Henry Doorly Zoo
Sponsors: Hill’s Science Diet, Nestlé Purina, Proctor and Gamble

2:00 PM 486  Living beyond 20: Discoveries in geriatric companion animal management, nutrition and behavior.
C. L. Morris*, Omaha’s Henry Doorly Zoo, Omaha, NE.

2:05 PM 487  Longevity, not production: When rate of gain is not the focus.
T. A. Faber and G. C. Fahey*, University of Illinois, Urbana.

2:40 PM 488  Obesity: What is wrong with being fat?
D. P. Lafframme*, Nestle Purina PetCare Research, St. Louis, MO.

3:15 PM 489  Cognition and behavior in geriatric animals: If they had Sudoku what would it look like?
K. L. Overall*, University of Pennsylvania, Philadelphia.

3:50 PM 490  Skinny old critters: Managing diet and expectations.
C. L. Morris1 and J. Cline**, 1Omaha’s Henry Doorly Zoo, Omaha, NE, 2Nestle Purina Petcare Product Technology Center, St. Louis, MO.

4:25 PM 491  Bones and joints: Improving mobility in senior years.
B. Lussier*1,2, 1Department of Clinical Sciences, Faculty of Veterinary Medicine, University of Montreal, St-Hyacinthe, Quebec, Canada, 2University Hospital Research Center, University of Montreal, Montreal, Quebec, Canada.

Dairy Foods Symposium
Innovations in Dairy Processing Unit Operations
Chair: Brandon Nelson, Daisy Brand

2:00 PM 492  Plate heat exchangers.
J. C. Bohn*, AGC Heat Transfer Inc., Bristow, VA.

2:40 PM 493  Dairy processing efficiency and safety gains from double-seat valve technology.
L. W. Clem*, Electrol Specialties Company, South Beloit, IL.

3:20 PM 494  Innovations in homogenizer and separator technology for the modern dairy plant.
W. Rowlands*, Rowlands Sales Co. Inc.

4:00 PM 495  Filtration systems.

Dairy Foods
Microbiology and Probiotics
Chair: Tony Schoenfuss, University of Minnesota

2:00 PM 496  Use of high pressure processing to control Listeria monocytogenes in packaged Queso Fresco.
P. Tomasula**, L. Leggett†, R. Kwoczak‡, D. Van Hekken¹, M. Tunick¹, J. Renye¹, M. Toht³, S. Mukhopadhyay³, A. Porto-Fett³, and J. Luchansky¹, 1USDA/ARS/ERRC/Dairy and Functional Foods Research Unit, Wyndmoor, PA, 2USDA/ARS/ERRC/Residue Chemistry and Predictive Microbiology Research Unit, Wyndmoor, PA, 3USDA/ARS/ERRC/Food Safety Interventions Research Unit, Wyndmoor, PA.

2:15 PM 497  High-pressure processing of lowfat Cheddar cheese.
M. Ozturk*, S. Govindasamy-Lucey², J. J. Jaeggi², K. Houck², M. E. Johnson², and J. A. Lucey¹, ¹University of Wisconsin, Madison, 2Wisconsin Center for Dairy Research, Madison.

2:30 PM 498  The effect of UV light treatment and processing method on the microbial reduction of pasteurized whole milk.
Tina wooden vat biofilms used in Sicilian PDO Ragusano cheese provide a new cluster of Streptococcus thermophilus strains. V. Florence, C. Delorme, C. Pedilligieri, M.-N. Madec, V. Chuat, G. Licitra, INRA, UMR1253, STLO, Rennes, France, 2Agrocampus Ouest, UMR1253, STLO, Rennes, France, 3INRA, Micalis, Jouy en Josas, France, 4CoRFiLaC, Ragusa, Sicily, Italy.

Molecular identification and characterization of Lactococcus lactis ssp. lactis and Lactococcus lactis ssp. cremoris by FTIR and its utilization for Cheddar cheese production. H. U. Rehman*, M. Nasir, S. U. Rehman, M. A. Jabbar, 1University of Veterinary & Animal Sciences, Lahore, Punjab, Pakistan, 2University of Agriculture Faisalabad, Faisalabad, Punjab, Pakistan.

Transcriptional and physiological responses of Bifidobacterium animalis ssp. lactis strains to hydrogen peroxide stress. T. S. Oberg*, R. E. Ward, J. L. Steele, and J. R. Broadbent, 1Utah State University, Logan, 2University of Wisconsin, Madison.

Fresh cheese containing higher inoculation of L. acidophilus and its effect on the functionality and metabolism of probiotic culture. A. Cruz, J. Faria*, W. Castro, R. Cadena, and H. Bolini, University of Campinas (UNICAMP).

Microbiological and physico-chemical properties of probiotic whey beverages processed with different whey concentrations. W. Castro, A. Cruz, J. Faria*, M. Bisinotto, and R. Celeghini, University of Campinas (UNICAMP).

Extension Education
Dairy and Livestock
Chair: Brett Barham, University of Arkansas
389

A dairy safety program: Considering human and animal safety. M. A. Smith*, G. R. Hagevoort, and F. A. Rivera, NMSU Ag Science Center, Clovis.

Assessing a comprehensive dairy cattle economic program for practicing dairy veterinarians. G. M. Schuennemann*, D. Shoemaker, D. Breece, S. Bas, and J. D. Workman, Department of Veterinary Preventive Medicine, The Ohio State University, Columbus.

III. Dairy calving management: Assessment of a comprehensive program for dairy personnel. G. M. Schuennemann*, S. Bas, E. Gordon, and J. Workman, Department of Veterinary Preventive Medicine, The Ohio State University, Columbus.


Evaluating cow efficiency at the producer level: The Northwest Minnesota Beef Improvement Program. R. S. Walker*, S. L. Bird, G. I. Crawford*, and A. DiCostanzo, 1LSU AgCenter, Homer, LA, 2University of Minnesota North Central Research & Outreach Center, Grand Rapids, 3University of Minnesota Extension, Hutchinson, MN, 4University of Minnesota, St. Paul.

The benefits of using StockPlan to assist producers make management decisions before and during dry spells or drought. M. J. McPhee*, M. B. Whelan, B. L. Davies, G. P. Meaker, P. Graham, and P. M. Carberry, 1Industry and Investment NSW, Armidale, NSW, Australia, 2Southern Cross University, Lismore, NSW, Australia, 3Industry and Investment NSW, Paterson, NSW, Australia, 4Industry and Investment NSW, Goulburn, NSW, Australia, 5Industry and Investment NSW, Yass, NSW, Australia, 6Formerly Industry and Investment, Cala, NSW, Australia.

4:15 PM 513  SowBridge: A breeding herd distance education program allowing on-farm delivery.  
M. H. Whitney*, University of Minnesota Extension, Mankato.

4:30 PM 514  Content appraisal: A tool for analyzing web content and its effectiveness.  
J. Nadeau*, N. Heidorn1, and N. Broady1, 1University of Connecticut, Storrs, 2Louisiana State University, Baton Rouge,  
1University of Kentucky, Lexington.

4:45 PM 515  Challenges and benefits of the participation of youth in creating youth-friendly material: Horses and Humans for a Healthy Habitat.  

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**Growth and Development Symposium**

**Understanding and Mitigating the Impacts of Inflammation on Animal Growth and Development**

**Chairs:** Sally Johnson, University of Florida, and Erin Connor, USDA-ARS, Beltsville, MD

**Sponsors:** Elanco Animal Health, Pfizer Animal Health

2:00 PM 516  Containing inflammation is essential for animal growth and health.  
T. A. Niewold*, Nutrition and Health Unit, Department of Biosystems, Faculty of Bioscience Engineering, Katholieke Universiteit Leuven, Heverlee, Belgium.

2:40 PM 517  Impacts of inflammation on cattle growth and carcass merit.  
C. R. Krehbiel*, C. L. Maxwell, C. A. Gifford, and R. L. Mills, Oklahoma State University, Stillwater.

3:15 PM 518  Endotoxin, inflammation, and intestinal function in swine.  
N. K. Gabler*, L. H. Baumgard, and V. Mani, Iowa State University, Ames.

3:50 PM 519  The role inflammation plays during clinical mastitis on the performance and health of dairy cows.  
M. A. Ballou*, Department of Animal and Food Sciences, Texas Tech University, Lubbock.

4:25 PM 520  Nutritional costs of inflammation and consequences for animal growth and production.  
K. C. Klasing*, University of California at Davis, Davis.

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**Meat Science and Muscle Biology**

**Beef Quality and Muscle Biology**

**Chair:** Steven Lonergan, Iowa State University

2:00 PM 521  Warner-Bratzler and slice shear force measurements of three beef muscles in response to various aging periods following anabolic implant and zilpaterol hydrochloride supplementation of finishing beef steers.  
A. J. Garmyn*, L. F. Hightower1, J. C. Brooks1, B. J. Johnson1, S. L. Parr1, R. J. Rathmann1, J. D. Starkey1, D. A. Yates2,  
J. M. Hodgen2, J. P. Hutcheson2, and M. F. Miller1, 1Texas Tech University, Lubbock, 2Intervet/Schering-Plough Animal Health, DeSoto, KS.

2:15 PM 522  The effects of anabolic growth implant and restricted feed intake on proliferation of bovine primary skeletal muscle cells.  

2:30 PM 523  Identification of tough beef carcasses from epigenetic changes detectable in blood.  
M. S. Updike*, C. Zhao, Y. Yu, F. Tian, and J. Song, University of Maryland, College Park.

2:45 PM 524  Carcass and production characteristics of grass-fed Angus cattle through spring, summer, winter and fall.  
C. Zhao, J. Song, B. Bequette, and M. S. Updike*, University of Maryland, College Park.

525  Withdrawn
**Nonruminant Nutrition Symposium**

**Nutrient and Neuroendocrine Regulation of Gastrointestinal Function**

Chair: Soraya P. Shirazi-Beechey, University of Liverpool, UK

Sponsors: EAAP, Pancosma

2:00 PM 529

**Involvement of gut neural and endocrine systems in pathological disorders.**

J. B. Furness*, Department of Anatomy and Cell Biology, University of Melbourne, Melbourne, Australia.

2:40 PM 530

**Neurogastroenterology and food allergies.**

J. D. Wood*, Department of Physiology & Cell Biology and Internal Medicine The Ohio State University, Columbus.

3:20 PM

Break

3:30 PM 531

**Nutrient and neuroendocrine regulation of intestinal glucose absorption.**

S. P. Shirazi-Beechey*, A. W. Moran1, D. M. Bravo2, and M. Al-Rammahi1, University of Liverpool, Liverpool, United Kingdom, Pancosma, Geneva, Switzerland.

4:10 PM 532

**The role of GLP-2 in controlling intestinal function in human infants: Regulator or bystander?**

D. Sigalet*, Alberta Children's Hospital / University of Calgary, Calgary, AB, Canada.

4:50 PM

Questions

**Physiology and Endocrinology Symposium**

**Factors Controlling Puberty in Beef Heifers**

Chair: Paul Fricke, University of Wisconsin

2:00 PM

Introduction

2:05 PM 533

**Management implications associated with the onset of puberty and persistence of estrous cycles in beef heifers.**

G. C. Lamb*, K. M. Bischoff1, T. E. Black1, V. R. G. Mercadante1, G. H. L. Marquezini1, R. F. Cooke2, and N. DiLorenzo1, 1North Florida Research and Education Center, University of Florida, Marianna, 2Eastern Oregon Agricultural Research Center, Oregon State University, Burns.

2:45 PM 534

**How SNP chips will advance our knowledge of factors controlling puberty and aid in selecting replacement females.**

W. M. Snelling*, R. A. Cushman1, G. L. Bennett1, J. W. Keele1, L. A. Kuehn1, T. G. McDaneld1, R. M. Thallman1, and M. G. Thomas2, 1USMARC, USDA-ARS U.S. Meat Animal Research Center, Clay Center, NE, 2New Mexico State University, Las Cruces.

3:25 PM

Break

3:40 PM 535

**Nutritional aspects of developing replacement heifers.**

R. N. Funston*, University of Nebraska West Central Research and Extension Center, North Platte.

4:20 PM 536

**Harnessing basic knowledge of factors controlling puberty to improve synchronization of estrus and fertility in heifers.**

G. A. Perry*, South Dakota State University, Department of Animal and Range Sciences, Brookings.
Physiology and Endocrinology I
Chair: Kristi Kammack, University of Wyoming
393

2:00 PM 537 Estimation of heritability and non-genetic factors influencing calf temperament.
A. N. Loyd*, D. G. Riley, D. A. Neuendorff, A. W. Lewis, R. C. Vann, T. H. Welsh, and R. D. Randle, Texas AgriLife Research, College Station, Texas AgriLife Research, Overton MAFES, Mississippi State University, Raymond.

2:15 PM 538 Effects of transportation and lipopolysaccharide (LPS) challenge on vaginal temperature in crossbred heifer calves.
A. N. Loyd*, R. C. Vann, J. P. Banta, T. H. Welsh, J. A. Carroll, and R. D. Randle, Texas AgriLife Research, College Station, MAFES, Mississippi State University, Raymond, Texas AgriLife Extension, Overton, Livestock Issues Research Unit, USDA-ARS, Lubbock, TX, Texas AgriLife Research, Overton.

2:30 PM 539 Chromium supplementation enhances the metabolic response of steers to lipopolysaccharide (LPS) challenge.
N. C. Burdick*, B. C. Bernhardt, J. A. Carroll, A. N. Loyd, D. N. Finck, R. J. Rathmann, and B. J. Johnson, Livestock Issues Research Unit, USDA-ARS, Lubbock, TX, Department of Animal and Food Sciences, Texas Tech University, Lubbock.

2:45 PM 540 Effects of transportation and lipopolysaccharide (LPS) challenge on body weight and feed intake of crossbred heifers.
A. N. Loyd*, R. C. Vann, J. P. Banta, T. H. Welsh, J. A. Carroll, and R. D. Randle, Texas AgriLife Research, College Station, MAFES, Mississippi State University, Raymond, Texas AgriLife Extension, Overton, Livestock Issues Research Unit, USDA-ARS, Lubbock, TX, Texas AgriLife Research, Overton.

3:00 PM Break

3:15 PM 541 Microbial diversity in bovine papillomatous digital dermatitis in Holstein dairy cows from upstate New York.
T. Santos and R. Bicalho*, Cornell University, Ithaca, NY.

3:30 PM 542 Non-steroidal anti-inflammatory drug administration and repeated muscle biopsies affect the phosphorylation of translation initiation factors.

3:45 PM 543 Infusion of interferon-τ into the uterine vein protects the corpus luteum from prostaglandin F2α induced down-regulation of cell survival genes.
A. Q. Antoniazzi*, T. R. Hansen, Animal Reproduction and Biotechnology Laboratory, Department of Biomedical Sciences, Colorado State University, Fort Collins.

4:00 PM 544 The influence of the addition of heparin binding protein and tissue inhibitors of metalloproteinases-2 to sexed bovine semen on conception rate and pregnancy rate.
B. J. Agado*, D. A. Neuendorff, G. L. Shafer, M. E. Kjelland, J. Moreno, M. A. Lammoglia, S. Romo, A. W. Lewis, T. H. Welsh, and R. D. Randle, Texas A&M University, College Station, Texas AgriLife Research-Overton, Overton, Texas AgriLife Research, College Station, College Station, Sexing Technologies, Navasota, TX, Universidad Autonoma de Veracruz, Tuxpan, Veracruz, Mexico, Universidad Nacional Autonoma de Mexico, Cuautitlan, Estado de Mexico, Mexico.

4:15 PM 545 Effects of acclimation to handling on performance, reproductive, and physiological responses of Bos taurus beef heifers.

4:30 PM 546 Effects of temperament on reproductive and physiological responses of beef cows.

Production, Management and the Environment
Beef Production I
Chair: Shane Gadberry, University of Arkansas
386-387

2:00 PM 547 Relationships between feedlot morbidity, performance, and carcass quality in Angus steers.
M. L. Hands, L. R. Corah, T. T. Marston, D. W. Moser, and C. D. Reinhardt*, Kansas State University, Manhattan, Certified Angus Beef, Manhattan, KS, University of Nebraska, Norfolk.
Impact of beef heifer development systems on ADG, reproduction, and feed efficiency.

Late gestation supplementation impacts primiparous beef heifers and progeny.

Cattle performance comparison in three feedlot facility designs in South Dakota.
B. P. Holland*, E. R. Lo, and R. H. Pritchard, Department of Animal and Range Sciences, South Dakota State University, Brookings.

Season of arrival affects feedlot performance, health, and carcass traits of Angus steers.
M. L. Hands¹, T. T. Marston², L. R. Corah³, D. W. Moser², and C. D. Reinhardt*,¹,²Kansas State University, Manhattan,¹University of Nebraska, Norfolk,²Certified Angus Beef, Manhattan, KS.

Relationships between feedlot performance, yield grade, and quality grade in Angus steers.
M. L. Hands¹, T. T. Marston², L. R. Corah³, D. W. Moser², and C. D. Reinhardt*,¹Kansas State University, Manhattan,¹University of Nebraska, Norfolk,²Certified Angus Beef LLC, Manhattan, KS.

Relationship of feed efficiency of replacement beef heifers to subsequent feed efficiency as 3-year old suckled beef cows.
T. E. Black*,¹, K. M. Bischoff³, V. R. G. Mercadante¹, G. H. L. Marquezini¹, C. C. Chase¹, S. W. Coleman², and G. C. Lamb¹,¹North Florida Research and Education Center, University of Florida, Marianna,¹USDA-ARS, SubTropical Agricultural Research Station, Brooksville, FL.

Effect of injectable trace minerals on the humoral immune response to multivalent vaccine administration in beef calves.
J. D. Arthington*¹ and L. J. Havenga²,¹University of Florida, Range Cattle Research and Education Center, Ona,²Multimin USA Inc., Fort Collins, CO.

The effect of beta-agonists on feedlot performance and carcass merit in yearling steers.
R. K. Peterson*,¹, J. J. Wagner¹, T. E. Engle¹, and T. C. Bryant²,¹Colorado State University, Fort Collins,²JBS Five Rivers Cattle Feeding, Greeley, CO.

Moderate exercise alters blood constituents, growth performance, and carcass characteristics in finishing heifers.
A. D. Stickel¹, L. N. Edwards¹, T. A. Houser¹, J. R. Jaeger¹, T. G. Rozell¹, L. D. Hollis¹, S. Uwituze¹, C. L. Van Biber¹, K. A. Miller¹, J. J. Higgins¹, and J. S. Drouillard*,¹Kansas State University, Manhattan,²Kansas State University, Hays.

Ruminant Nutrition
Beef: Proteins and Carbohydrates
Chair: Sara Winterholler, South Dakota State University

Acidosis challenge effects on ruminal pH and temperature in beef cattle.

Fatty acid profile of muscle and subcutaneous fat of Red Norte bulls fed ionophores and lipids sources.

Effects of energetic supplementation strategies on performance of growing cattle grazing tropical forage and on animal performance during the feedlot finishing phase.

Effect of rate of gain on fat deposition during grazing and final carcass characteristics in growing beef cattle.

Nutrient mass balance and performance of feedlot cattle fed barley based diets with and without dried distillers grains plus solubles.
E. M. Hussey*, G. E. Erickson¹, R. E. Peterson³, and L. O. Burciaga-Robles²,¹University of Nebraska-Lincoln, Lincoln,²Feedlot Health Management Services Ltd., Okotoks, AB, Canada,³Western Feedlots Ltd., High River, AB, Canada.
Effects of levels of energetic supplementation on forage intake and ruminal fermentation in beef cattle grazing tropical pastures.
J. R. R. Dórea¹, L. R. D. Agostinho Neto¹, V. N. Gouvêa¹, M. A. C. Danês¹, L. G. R. Pereira¹, J. A. G. Azevêdo¹, and F. A. P. Santos*,¹, University of Sao Paulo/ESALQ, Piracicaba, São Paulo, Brazil, ²Embrapa Dairy Cattle, Juiz de Fora, Minas Gerais, Brazil, ³State University of Santa Cruz, Ilhéus, Bahia, Brazil.

The relationship between rumen acidosis resistance and expression of genes involved in regulation of intracellular pH in rumen epithelial cells in steers.
N. Schlau*, L. L. Guan, and M. Oba, University of Alberta, Edmonton, AB Canada.

Evaluation of diet net energy calculations on intake and gain compared to prediction equations for finishing steers.
M. F. Wilken*, L. L. Berger, G. E. Erickson, and K. J. Hanford, University of Nebraska-Lincoln, Lincoln.

Effect of finishing system (feedlot or pasture) on energy requirements of Zebu cattle.
M. L. Chizzotti*¹, M. I. Marcondes², S. C. Valadares Filho¹, M. P. Gionbelli², P. V. R. Paulino², and M. F. Paulino², ¹Universidade Federal de Lavras, Lavras, MG, Brazil, ²Universidade Federal de Viçosa, Viçosa, MG, Brazil.

A chemical evaluation of the chemical composition of four corn milling co-products with focus on fatty acids.
C. S. Dose*¹, P. J. Kononoff¹, T. C. Jenkins¹, L. O. Tedeschi¹, and K. Karges¹, ¹Department of Animal Science, University of Nebraska-Lincoln, Lincoln, ²Department of Animal and Veterinary Sciences, Clemson University, Clemson, SC, ¹Department of Animal Science, Texas A&M University, College Station, ¹Dakota Gold Research Association, Sioux Falls, SD.

Evaluation of polyclonal antibodies in cattle adapted or not to highly fermentable carbohydrates diets.
T. Barros¹, C. Marino*¹, P. R. Pacheco¹, F. Ferreira¹, F. Perna¹, E. Cassiano¹, M. Martins¹, M. Arrigoni², and P. Rodrigues¹, ¹University of Sao Paulo, FMVZ-USP, Pirassununga, Sao Paulo, Brazil, ²University of Sao Paulo State, FMVZ-UNESP, Botucatu, Sao Paulo, Brazil.

Evaluation of polyclonal antibodies in cattle adapted or not to highly fermentable carbohydrates diets after an acidosis challenge.
T. Barros¹, C. Marino*¹, P. R. Pacheco¹, F. Ferreira¹, F. Perna¹, E. Cassiano¹, M. Martins¹, M. Arrigoni², and P. Rodrigues¹, ¹University of Sao Paulo, FMVZ-USP, Pirassununga, Sao Paulo, Brazil, ²University of Sao Paulo State, FMVZ-UNESP, Botucatu, Sao Paulo, Brazil.

Ruminant Nutrition
Dairy: Ruminal Metabolism
Chair: Juan Loor, University of Illinois
293

Optimizing barley grain feeding and processing for postmodern dairy cows.
A. Nikkhah*, University of Zanjan, Zanjan, Iran.

Potassium reduces the accumulation of trans-10, cis-12 conjugated linoleic acid and trans-18:1 in continuous cultures of mixed ruminal microorganisms regardless of dietary fat level.
T. C. Jenkins*¹, E. Block², and P. H. Morris¹, ¹Clemson University, Clemson, SC, ²Arm & Hammer Animal Nutrition, Princeton, NJ.

Metabolic effects of feeding supplemental tallow to lactating Nili-Ravi buffalo.
H. Nawaz¹, M. Yaqoob*², J. I. Sultan¹, M. Sarwar¹, and M. Younas², ¹Institute of Animal Nutrition and Feed Technology, University of Agriculture, Faisalabad, Pakistan, Faisalabad, Punjab, Pakistan, ²Faculty of Animal Husbandry, Dept. Livestock Management, University of Agriculture, Faisalabad, Pakistan, Faisalabad, Punjab, Pakistan.

Use of a mechanistic, dynamic model of metabolism to investigate the biological basis for variation in genetics of feed conversion efficiency in lactating dairy cattle.
J. Onken¹, G. Hoggood², S. L. Sheilds*², and J. P. McNamara¹, ¹Washington State University, Pullman, ²North Carolina State University, Raleigh.

Ruminal Mg transport and assessment of Mg intake in dairy cows: Two sides of one coin.
H. Martens* and F. Stumpff, Dept. of Veterinary Physiology/Freie Universitaet Berlin, Berlin-Germany.

Effects of direct-fed microbes and their combinations with yeast culture on in vitro rumen fermentation characteristics.
S. P. Doto* and J. X. Liu, Institute of Dairy Science, College of Animal Sciences, Zhejiang University, Hangzhou, P.R. China.
3:30 PM 575 Effects of grain, fructose and histidine on ruminal pH, fermentation products and histamine in an induced subacute acidosis protocol.
H. M. Golder1,2, P. Celi1, A. Rabiee1,2, C. Heuer3, E. Bramley4, D. W. Miller4, R. King5, and I. J. Lean4,5, 1University of Sydney, Faculty of Veterinary Science, Camden, New South Wales, Australia, 2SBScibus, Camden, New South Wales, Australia, 3Massey University, Epicentre, Institute of Veterinary, Animal and Biomedical Sciences, Palmerston North, New Zealand, 4Murdock University, School of Veterinary and Biomedical Sciences, Murdoch, Western Australia, Australia, 5Dairy Australia, Southbank, Victoria, Australia.

3:45 PM 576 Dry matter intake, ruminal pH and fermentation capacity of rumen fluid in heifers fed temperate pasture, total mixed rations or both.

4:00 PM 577 Protein and fertility in lactating dairy cattle: A meta-analysis and meta-regression.
I. J. Lean*, P. Celi, J. McNamara, H. Raadsma, and A. Rabiee, 1Faculty of Veterinary Science, The University of Sydney, Camden, New South Wales, Australia, 2SBScibus, Camden, New South Wales, Australia, 3Department of Animal Sciences, Washington State University, Pullman.

4:15 PM 578 Effect of increasing proportions of energy concentrates on in vitro gas production estimates.

4:30 PM 579 Hypophagic effects of propionate are greater for cows with elevated hepatic acetyl CoA concentration.
S. E. Stocks* and M. S. Allen, Michigan State University, East Lansing.

4:45 PM 580 Effects of added direct-fed microbials on rumen microbial fermentation in continuous culture.
W. L. Braman* and I. Knap, Chr. Hansen Animal Health and Nutrition, Milwaukee, WI, and Horsholm, Denmark.

Small Ruminant Production

Chair: Govind Kannan, Fort Valley State University

2:00 PM 581 Evaluation of weaning hair sheep lambs at 63 or 120 d of age in an accelerated lambing system in the tropics.
R. W. Godfrey* and A. M. Hogg, University of the Virgin Islands, Agricultural Experiment Station, St. Croix, VI.

2:15 PM 582 Comparison of two forage systems for performance of lactating doe and kid meat goats in Kentucky.
K. Andries* and E. Sherrow, Kentucky State University, Frankfort.

2:30 PM 583 Effect of synchronization protocols (Ovsynch vs 2PG) and GnRH on reproductive performance in goats.
N. Ahmad*, H. Riaz, and M. Abdullah, University of Veterinary and Animal Sciences, Lahore, Punjab, Pakistan.

2:45 PM Break

3:00 PM 584 Carcass fat and muscle measurements in terminally sired F1 lambs.
M. R. Mousel*, T. D. Leeds1, D. R. Notter1, H. N. Zerby1, S. J. Moeller1, and G. S. Lewis1, 1USDA, ARS, US Sheep Experiment Station, Dubois, ID, 2USDA, ARS, National Center for Cool and Cold Water Aquaculture, Leetown, WV, 3Virginia Polytechnic Institute and State University, Blacksburg, 4The Ohio State University, Columbus.

3:15 PM 585 Compositions of volatile compounds in fat tissues from male and female Hu sheep.

3:30 PM 586 Chemical composition of milk of West African Dwarf (WAD) ewe fed Mexican sunflower leaf meal based diets during early and late lactation.
A. H. Ekeocha*, University of Ibadan, Ibadan, Oyo, Nigeria.
Wednesday, July 13
POSTER PRESENTATIONS

Animal Health III
Sponsor: Elanco Animal Health

W1 Effects of low doses lipopolysaccharide infusion on plasma proteome in lactating cows using comparative proteomics.
T. J. Yuan*, J. Q. Wang*, Y. X. Yang, D. P. Bu, S. S. Li, and P. Sun, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.

W2 Evaluation of endotoxin (LPS) activity in bovine blood using neutrophil dependent chemiluminescence.

W3 Evaluation of yeast nucleotides on intestinal barrier function in vitro.
A. Ganner*, M. Werner, S. Henikl, and G. Schatzmayr, BIOMIN Research Center, Tulln, Lower Austria, Austria.

W4 Oral treatment of pregnant cows with lipopolysaccharide and lipoteichoic acid modulated selected plasma metabolites and innate immunity in newborn calves.

W5 Repeated oral administration of lipopolysaccharide and lipoteichoic acid modulated post-treatment plasma metabolites and innate immunity of prepartal dairy cows.

W6 Diets enriched in barley grain treated with lactic acid and heat lowered rumen endotoxin and improved innate immunity in dairy cows.

W7 Oral administration of bacterial lipopolysaccharide and lipoteichoic acid modulated milk composition and efficiency in transition dairy cows.

W8 Oronasal exposure to lipopolysaccharide differentially affected blood metabolites in multiparous dairy cows.

W9 Oral administration of lipopolysaccharide and lipoteichoic acid modulated plasma metabolites and decreased the risk of metabolic diseases in periparturient dairy cows.

W10 Bovine acute-phase response following different doses of corticotrophin-releasing hormone (CRH) challenge.

W11 Feasibility of high immune response technology as a health management tool to characterize immune response profiles of dairy cattle.
L. C. Wagter*, S. Cartwright, and B. A. Mallard, Ontario Veterinary College, University of Guelph, Guelph, Ontario, Canada.

W12 Influence of blood sample storage temperature and latency until analyzed on various ex vivo innate immune response assays in Holstein heifers.
M. A. Ballou*1 and L. E. Hulbert*1, 2Department of Animal and Food Sciences, Texas Tech University, Lubbock, 2Department of Animal Science, University of California at Davis, Davis.

W13 Caprylic acid fractionation of serum followed by refractometry to predict serum IgG in preweaned calves.

W14 Development of a rapid method to estimate IgG in bovine colostrum.
K. M. Morrill*, J. D. Quigley, A. Lago, and H. D. Tyler, 1Iowa State University, Ames, 2APC Inc., Ankeny, IA.
The effect of treatment with long-acting antibiotic upon arrival at a custom heifer rearing facility on non-specific fever, otitis media, neonatal calf diarrhea complex and growth.
A. L. Stanton*, S. J. LeBlanc1, L. K. Fox3, J. Wormuth3, D. F. Kelton3, and K. E. Leslie3, 1University of Guelph, Guelph, Ontario, Canada, 2Washington State University, Pullman, 3CY Heifer Farm, Elba, NY.

Immune status of calves that naturally suckle their dams in dairy farms of Costa Rica.
J. A. Elizondo-Salazar*, J. Sánchez-Salas1, J. Rodríguez-Zamora1, and A. J. Heinrichs2, 1Estación Experimental Alfredo Volio Mata, Facultad de Ciencias Agroalimentarias, Universidad de Costa Rica, 2The Pennsylvania State University, University Park.

Determining the heritable component of dairy cattle foot lesions.
A. M. Oberbauer*, S. L. Berry, J. M. Belanger, and T. R. Famula, Department of Animal Science, University of California, Davis.

Effects of cold pasteurizing colostrum with formic acid on bacteria counts and calf IgG absorption.

Allelic variations in the bovine vitamin D receptor gene: Correlations with periparturient hypocalcemia?
M. Reiche, C. Deiner, A. Mösch, and H. Martens*, Institute of Veterinary Physiology, Faculty of Veterinary Medicine, FU Berlin, Institute of Veterinary Physiology, Faculty of Veterinary Medicine, FU Berlin, Berlin, Germany.

Strategies to control the cattle tick, Rhipicephalus microplus, in dairy herds in the Brazilian Southwestern Amazon region: Technical recommendations.
L. G. Brito*, F. da Silva Barbieri1, and M. C. de Sena Oliveira2, 1Embrapa Rondônia, Porto Velho, RO, Brazil, 2Southeast Embrapa, São Carlos, SP, Brazil.

Ruminal binding characteristics of Mycopurge against various aflatoxins in vitro.
M. R. Akkaya1, M. A. Bal1, and V. Akay*, 1Kahramanmaras Sutcu Imam University, Turkey, 2Global Nutritech Ltd., Kocaeli, Turkey.

Beef Species
Beef Cattle Production

Factors affecting the selling price of calves sold in Texas livestock markets.
K. J. Stutts, M. M. Beverly*, S. F. Kelley, and B. M. Freel, Sam Houston State University, Huntsville, TX.

Sources of sire-specific genetic variance for birth weight and weaning weight in the Bruna dels Pirineus beef cattle breed.
M. Fina*, L. Varona1, J. Piedraflita1, and J. Casellas1, 1G2R, Departament de Ciencia Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Departamento de Anatomía, Embriología y Genética Animal, Universidad de Zaragoza, Zaragoza, Spain.

Relationships between feed efficiency traits and body weight, age, backfat, rumpfat and circulating serum metabolites in pregnant beef cows.

Effect of preconditioning days, feeder cattle grade, and sire breed type on growth performance and carcass characteristics of beef cattle participating in a calf to carcass program in southwest Louisiana.
D. M. Gandy*, D. R. Goodwin, T. H. Shields, W. A. Storer, and F. M. LeMieux, McNeese State University, Lake Charles, LA.

Effect of castration status on arrival of ultra-high risk calves on feedlot performance and health during a 61-d preconditioning program.
L. Clark1, C. Flaig1, O. C. Schunicht1, M. L. May1, R. E. Peterson1, C. W. Booker1, C. R. Krebiel1, G. K. Jim3, and L. O. Burciaga-Robles*, 1Feedlot Health Management Services Ltd., Okotoks, Alberta, Canada, 2Department of Animal Science, Oklahoma State University, Stillwater.

Breeding and Genetics
Beef and Small Ruminant Breeding

Effects of Bos indicus breeding on plasma pregnancy-associated glycoprotein (PAG) concentrations and fetus size in early gestation.
P. M. Morelli*, D. O. Rae2, S. E. Johnson1, and A. D. Ealy3, 1University of Florida, Department of Animal Sciences, Gainesville, 2University of Florida, Department of Large Animal Clinical Sciences, Gainesville.
Genetic parameters and genetic trends for growth and reproductive traits in a Colombian multibreed beef cattle population.
O. D. Vergara1 and M. A. Elzo2, 1University of Cordoba, Monteria, Colombia, 2University of Florida, Gainesville.

Combining ability of nine tropically adapted and temperate breeds for growth and ultrasound traits in Colombia.
C. A. Martinez, 1C. Manrique, M. A. Elzo1, and A. Jimenez, 1Universidad Nacional de Colombia, Bogota, Colombia, 2University of Florida, Gainesville.

Genetic parameters and trends for age at first calving in Brahman cows raised in Brazil.
J. C. DeSouza1, M. Silva1, M. A. Pereira1, P. B. Frazza Filho1, J. A. DeFreitas1, R. M. DaSilva1, C. H. M. Malhado1, 2C. H. M. Cavallari1, M. F. Mota1, H. J. Fernandez1, and W. R. Lamberson1, 1Mato Grosso do Sul Federal University, CPAQ/Animal Science, MS, Brazil, 2Student of Msc. of animal science course, UFMS, Campo Grande, Brazil, 3Brazilian Association of Zebu Breeders, Uberaba, Brazil, 4Mato Grosso do Sul Federal University, Tres Lagoas, Brazil, 5Parand Federal University, Palotina, Brazil, 6South Bahia State University, Jequié, Brazil, 7Paranaense University - UNIPAR, Umuarama, Brazil, 8State University of Mato Grosso do Sul, Aquidauana, MS, Brazil, 9University of Missouri, Columbia, 10Scholarship - CNPQ, Brazil.

Allometric growth study of Guzerá cattle under a performance test on grazing regimen.
R. C. Sousa1, I. G. Pereira1, P. V. R. Paulino2, S. D. J. Villela1, R. A. M. Oliveira1, A. P. L. Tonaco1, 1Universidade Federal do Vale do Jequitinhonha e Mucuri, Diamantina, MG, Brazil, 2Universidade Federal de Viçosa, Viçosa, MG, Brazil, 3Colorado State University, Fort Collins.

Growth curves of Guzerá bulls on grass regimen under performance test.
R. C. Sousa1, I. G. Pereira1, P. V. R. Paulino2, A. V. Pires1, F. F. Silva1, R. A. M. Oliveira1, A. P. L. Tonaco2, 1Universidade Federal do Vale do Jequitinhonha e Mucuri, Diamantina, MG, Brazil, 2Universidade Federal de Viçosa, Viçosa, MG, Brazil, 3Colorado State University, Fort Collins.

Variance components in growth traits of Guzerá cattle breed with different models.
I. S. Silva1, I. U. Packer1, C. M. R. Meo1, L. O. C. Silva1, and R. A. A. Torres Junior2, 1University of Brasilia - UnB, Brasilia /DF, Brazil, 2University of São Paulo - USP/ESALQ, Piracicaba/SP, Brazil, 3University of Santa Catarina - UFSC, Florianópolis/SC, Brazil, 4Embrapa Gado de Corte, Embrapa Gado de Corte, Campo Grande/MS, Brazil.

Estimates genetic parameters for growth traits of Guzerá cattle breed by single-trait and two-trait analysis.
I. S. Silva1, I. U. Packer1, C. M. R. Meo1, L. O. C. Silva1, and R. A. A. Torres Junior2, 1University of Brasilia - UnB, Brasilia /DF, Brazil, 2University of São Paulo - USP/ESALQ, Piracicaba/SP, Brazil, 3Federal University of Santa Catarina - UFSC, Florianópolis/SC, Brazil, 4Embrapa Gado de Corte, Campo Grande/MS, Brazil.

Real-time ultrasound measurements for the selection of growing animals of Bruna dels Pirineus beef cattle breed.
M. Fina, J. Torres, and J. Piedrafita*, Grup de Recerca en Remugants, Departament de Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra (Barcelona), Spain.

Linear B-splines to model longitudinal weight records in Tabapuã cattle.
G. R. O. Menezes1, 2, R. A. Torres2, R. A. A. Torres Júnior1, L. O. C. Silva1, A. Gondo2, and R. F. Euclides2, 1Embrapa Beef Cattle, Campo Grande, MS, Brazil, 2Federal University of Viçosa, Viçosa, MG, Brazil.

Genetic variability for calf mortality in Nellore cattle.

Selection effect for growth traits in reproduction energy requirements of females in three production cycles.
I. D. P. Solar Díaz1, 2, F. R. de Araujo Neto1, G. M. Ferreira de Camargo1, R. Barbosa Lobo1, and H. N. de Oliveira1, 1São Paulo State University, Jaboticabal, Sao Paulo, Brazil, 2São Paulo State University, Ribeirão Preto, Sao Paulo, Brazil.

Effect of model structure on direct and maternal (co)variance and heritability estimates for 210 d weight in Nellore cattle.
L. Pascoa1, 2, A. de los Reyes1, M. A. Elzo1, J. L. Ferreira1, L. A. F. Bezerra2, and R. B. Lobo2, 1Federal Institute of Brasilia, Planaltina, Distrito Federal, Brazil, 2Federal University of Goias, Goiânia, Goiás, Brazil, 3University of Florida, Gainesville, 4Federal University of Tocantins, Araguatina, Tocantins, Brazil, 5National Association of Farmers and Researchers, Ribeirão Preto, São Paulo, Brazil.

Age of dam as phenotypic source of variation for body weight in Nellore beef cattle.
D. A. Lino1, 2, S. Tsuruta2, I. Misztal1, E. N. Martins2, and L. O. C. Silva1, 1University of Georgia, Athens, 2State University of Maringá, Maringá, PR, Brazil, 3Embrapa Gado de Corte, Campo Grande, MS, Brazil.

Additive genetic variation of residual feed intake and its components in Nellore cattle.

Relationships among beef cattle temperament and tenderness traits using repeated performance records.
T. T. Taxis*, W. R. Shafer*, L. B. Berger1, D. B. Faulkner1, J. E. Beevers1, M. M. Roif1, D. L. Dow1, J. F. Taylor1, C. L. Lorenzen1, and R. L. Weaver1, 1University of Missouri, Columbia, 2American Simmental Association, Beazem, MT, 3University of Nebraska, Lincoln, 4University of Illinois, Urbana.

Carcass and meat palatability trends in cattle ranging from 100% Angus to 100% Brahman.
Role of cytoplasmic inheritance on preweaning traits in a closed breeding nucleus Angus herd.
J. A. Carrillo* and F. Siewerdt, University of Maryland, College Park.

Heritability and effect of breed and diet on complementary feed utilization traits in Simmental, Angus and crossbred steers.
N. V. L. Serão**1, J. E. Beever2, D. B. Faulkner2, M. Pérez-Enciso2, and S. L. Rodriguez-Zas3, 4University of Illinois at Urbana-Champaign, Urbana, 5Universitat Autònoma de Barcelona, Barcelona, Catalonia, Spain.

Comparison of body weight genetic evaluation accuracy by random regression with splines and multi-trait model in Limousins.
M. Łukaszewicz*1, I. Misztal2, A. H. Nelson2, J. P. Sánchez2, and J. K. Bertrand1, 1University of Georgia, Athens, 2Institute of Genetics and Animal Breeding, Jastrzebiec, Poland.

Growth curves for buffaloes (*Bubalus bubalis*) using random regression mixed models with different structures of residual variances.
D. M. Bolivar2, 3, M. F. Ceron-Muñoz2, M. A. Elzo3, 4 E. J. Ramirez2, and D. A. Agudelo4, 1National University of Colombia, Medellin, Colombia, 2University of Antioquia, Medellin, Colombia, 3University of Florida, Gainesville, 4Lasallian University Corporation, Caldas, Colombia.

Estimates of genetic and phenotypic trends for body weight traits of Zandi sheep obtained by a univariate and multivariate animal model analysis.
H. Mohammadi* and M. Moradi Shahrebak, Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

Genetic and phenotypic correlations between reproduction and production traits in Zandi sheep.
H. Mohammadi* and M. Moradi Shahrebak, Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

Estimation of genetic trend for some reproductive traits in Zandi sheep breed.
H. Mohammadi* and M. Moradi Shahrebak, Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

Estimates of genetic and phenotypic trends for body weight traits of Zel sheep obtained by univariate and multivariate animal model analysis.
H. Mohammadi* and M. Sadeghi, Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

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**Breeding and Genetics**

**Genomic Selection and Whole-Genome Association**

Accuracy and bias of multiple-trait genomic evaluations for linear type traits in US Holsteins.
S. Tsuruta*, 1 I. Misztal1, I. Aguilar2, and T. Lawlor3, 1University of Georgia, Athens, 2Instituto Nacional de Investigación Agropecuaria, La Piedras, Canelones, Uruguay, 3Holstein Association USA Inc., Brattleboro, VT.

Genomic imputation and evaluation using 342 high-density Holstein genotypes.
P. M. VanRaden1, D. J. Null1, 2 G. R. Wiggins3, T. S. Sonstegard4, and E. E. Connor2, 1Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD, 2Bovine Functional Genomics Laboratory, ARS, USDA, Beltsville, MD.

Genomic evaluation of Angus-Brahman multibreed cattle for feed efficiency and postweaning growth using the Illumina 3k chip.
M. A. Elzo**1, G. C. Lamb2, D. D. Johnson1, M. G. Thomas1, I. Misztal1, D. O. Rae1, J. G. Wasdin3, and J. D. Driver4, 1University of Florida, Gainesville, 2North Florida Research and Education Center, Marianna, 3New Mexico State University, Las Cruces, 4University of Georgia, Athens.

A neural network approach for association between a low-density whole genome SNP marker panel for 19 traits in beef cattle.
E. Hay**, 1 H. Wang1, X. Liu2, B. Woodward3, S. Bauck4, and R. Rekaya4, 1University of Georgia, Athens, 2Merial Limited, Duluth, GA.

Whole genome association analyses for ultrasound and carcass merit traits in beef cattle.

Large-scale SNP association analyses for somatic cell score in Canadian Holstein cattle.
H. Li**, 1 Z. Wang1, F. S. Schenkel2, M. Sargolzaei3, S. S. Moore4, and P. Stothard1, 1University of Alberta, Edmonton, Alberta, Canada, 2University of Guelph, Guelph, Ontario, Canada, 3Department of Animal Sciences, National University of Colombia, Medellin, Colombia, 4Department of Dairy Science, University of Wisconsin, Madison.

Comparison of selective genotyping strategies for prediction of breeding values in a population undergoing selection.
A. A. Boligon*1, 2, N. Long1, L. G. Albuquerque1, K. A. Weigel1, D. Gianola2, 3, and G. J. M. Rosa2, 1Department of Animal Sciences, Sao Paulo State University, Jaboticabal, SP, Brazil, 2Department of Animal Sciences, University of Wisconsin, Madison, 3Department of Dairy Science, University of Wisconsin, Madison.
Dairy Foods

Cheese

W61 effect of the use of rennet substitute on composition and yield of Minas Padrão cheese.
J. Camisa¹, S. T. Di Cicco¹, K. Sivieri¹, P. C. B. Vianna⁎*, and C. M. V. B. De Rensis², ¹UNOPAR, Londrina, PR, Brazil, ²UNESP, Araraquara, SP, Brazil.

W62 Effects of gelation temperature and cutting time on the rheology and quality of curd made from buffalo milk: A comparison with cows' milk.
I. Hussain⁎*, J. Yan, A. E. Bell, and A. S. Grandison, Department of Food and Nutritional Sciences, University of Reading, Reading, Berkshire, UK.

W63 Cheese making properties of milk protein concentrate powder as affected by storage at high temperature.
N. Rémiillard and M. Britten⁎*, Food Research and Development Centre, Agriculture and Agri-Food Canada, St-Hyacinthe, (QC), Canada.

W65 Effects of high pressure processing on the chemical, functional and rheological properties of fresh Queso Fresco.

W66 ACE-inhibitory activity of commercial Wisconsin Cheddar cheeses during ripening.

W67 Influence of cooking temperature on the behavior of enterococci and the production of diacetyl in Coalho cheese.

W68 Identification of the main esterase involved in lipolysis by Propionibacterium freudenreichii.
M. C. Abeijón Mukdsi³,4, H. Falentin¹,2, M.-B. Maillard¹,2, R. B. Medina¹,4, S. Parayre¹,2, S.-M. Deutsch¹,2, S. Lortal⁎¹,2, and A. Thierry¹,2, ¹INRA, UMR1253, Rennes, France, ²Agrocampus Ouest, Rennes, France, ³CERELA-CONICET, Tucumán, Argentina, ⁴Universidad Nacional de Tucumán, Tucumán, Argentina.

W69 Characteristics of the chemical composition and lipolysis during ripening of Emmental cheese.

W70 Oxidative stability of Prato cheese added with lutein.

W71 Comparison of texture and sensory attribute between Gouda cheese and cholesterol-removed Gouda cheese during ripening.
H. J. Jung⁎*, E. J. Ko, and H. S. Kwak, Sejong University, Seoul, South Korea.

W72 Influence of pH on flavor of low fat Cheddar cheese.
M. M. Motawee⁎¹ and D. J. McMahon⁎², ¹National Organization for Drug Control and Research, Cairo, Egypt, ²Western Dairy Center, Utah State University, Logan.

W73 Free fatty acid compositions of low-fat and full-fat goat milk cheeses stored under refrigeration for three months.
W. Nouira¹, Z. Guler¹, and Y. W. Park⁎¹, ¹Fort Valley State University, Fort Valley, GA, ²Mustafa Kemal University, Hatay, Turkey.

W74 Increasing functionality of low fat mozzarella cheese using polysaccharides.
E. N. Oberg⁎*, W. R. McManus, and D. J. McMahon, Utah State University, Logan.
POSTERS

Dairy Foods
Products

W75 The effects of incorporating sweet potato and peanut flours on sensory properties of probiotic yogurt in Mwanza, Tanzania.
S. Hekmat* and S. Varriano, Brescia University College, London, Ontario, Canada.

W76 Riboflavin photodegradation in yogurt with added lutein.

W77 The physicochemical and sensory properties of milk supplemented with dispersable nanoginseng during storage.
Y. J. Ahn* and H. S. Kwak, Sejong University, Seoul, Korea.

W78 Optimum condition for crosslinked β-cyclodextrin and recycling for cholesterol removal in milk and cream.
Y. K. Lee* and H. S. Kwak, Sejong University, Seoul, South Korea.

W79 Optimization of water in oil in water (W/O/W)-microencapsulated iron for milk fortification (I).
S. Y. Lee*, S. I. Ahn, and H. S. Kwak, Sejong University, Seoul, South Korea.

W80 Water in oil in water (W/O/W)-microencapsulation iron for milk fortification (II).
S. Y. Lee*, S. I. Ahn, and H. S. Kwak, Sejong University, Seoul, South Korea.

W81 Development and characterization of sybiontic quark cheese.
A. F. Carvalho*1, M. M. Gonçalves1, G. M. Tavares1, J. Y. Suda1, N. F. Nogueira Silva1, and J. B. P. Chaves1, 1Federal University of Viçosa, Viçosa, MG, Brazil, 2Institut National de la Recherche Agronomique STLO, Rennes, Bretagne, France.

W82 Comparison of quantitative neutral volatile compounds in regular cream cheese and cholesterol-removed cream cheese.

W83 Comparison of lipolytic and proteolytic changes between commercial bovine milk and caprine milk yogurts stored under refrigeration.
J. Oglesby and Y. W. Park*, Fort Valley State University, Fort Valley, GA.

W84 Impact of protein content, total solids, and milk protein solids on the functionality of nonfat yogurt.
K. N. Shah* and L. E. Metzger, Midwest Dairy Foods Research Center, Dairy Science Department, South Dakota State University, Brookings.

W85 Sensory evaluation of various probiotic yogurts in Mwanza, Tanzania.
S. Hekmat1,2, J. Hemsworth1, H. Soltani1, and G. Reid1, 1Brescia University College, London, Ontario, Canada, 2Canadian Research and Development Center for Probiotics, London, Ontario, Canada.

W86 Effect of pasture feeding and dairy cattle breed on vitamin E and β-carotene content in milk.
V. M. Marino1, I. Schadt1, S. La Terra1, M. Caccamo1, G. Licitra1,2, and S. Carpino*, 1CorFiLaC, Regione Siciliana, Ragusa, Italy, 2DISPA, Catania University, Catania, Italy.

W87 The fatty acid composition and properties of summer and winter butter.
O. Tsissaryk*, Lviv National University of Veterinary Medicine and Biotechnologies, Lviv, Ukraine.

W88 Hungarian Trappist (Trapista) cheese production from Holstein and Jersey cows’ milk.
L. Varga*, Department of Dairy Science, Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyarovar, Hungary.

W89 Long-term ethanol or acetic acid supplementation do not impair sensory milk quality.
J. L. P. Daniel*, L. G. Nussio, M. H. F. Spotto, T. L. Cardoso, A. Sá Neto, and M. Zopollatto, University of Sao Paulo, College of Agriculture "Luiz de Queiroz", Piracicaba, SP, Brazil.

Forages and Pastures
Improving Forage Conservation and Quality

W90 Dry matter yield and silage nutritive value of winter cereals in the southern High Plains.
F. E. Contreras-Govea*, H. Gonzalez Garcia1, D. M. VanLeeuwen1, and J. Idowu1, 1New Mexico State University, Plant and Environmental Sciences Department, Artesia, 2Universidad Autonoma de Ciudad Juarez, Departamento de Ciencias Veterinarias, Ciudad Juarez, Chihuahua, Mexico, 3New Mexico State University, Agricultural Biometrics Service, Las Cruces, 4New Mexico State University, Extension Plant Sciences Department, Las Cruces.

W91 The effects of substituting corn silage and alfalfa hay with Master Graze on feed intake, milk yield and milk composition.
A. Salamone*, A. A. AbuGhazaleh1, C. Stuemke1, R. Atkinson1, and B. Dodd1, 1Southern Illinois University, Carbondale, 2Masterschoice, Anna, IL.
Ruminal degradability of *Albizia lebbeck* silage.

Characterization and identification of *Lactobacilli* strains from tropical grasses.
J. P. S. Rigueira1, O. G. Pereira4, K. G. Ribeiro1, A. S. Cezaríó1, and W. F. Souza1, 2Federal University of Viçosa, Viçosa, Minas Gerais, Brazil, 1Universidade Federal dos Vales do Jequitinhonha e Mucuri, Diamantina, Minas Gerais, Brazil.

Milk production response to feeding alfalfa silage inoculated with *Lactobacillus plantarum*.

Biomin BioStabil Plus enhances the fermentation characteristics, aerobic stability, and intake by rams of native tropical grass silage.
C. Rosario1, A. A. Rodriguez*, and Y. Acosta-Aragon3, 4University of Puerto Rico, Mayaguez, PR, 3Biomin Holding GmbH2, Herzogenburg, Austria.

Fermentation characteristics and aerobic stability of tropical corn ensiled with additives containing homo-fermentative or hetero-fermentative bacterial strains.
V. Rivera1, L. Solorzano2, and A. Rodriguez*, 1University of Puerto Rico, Mayaguez, PR, 2University of Wisconsin-Madison, Wisconsin, WI.

The aerobic stability and dry matter losses of high moisture corn ensiled as whole or ground grain using *Lactobacillus buchneri* alone or in association with *Lactobacillus plantarum*.
R. Couadure1, J. G. Cazaux1, F. Skiba1, E. Chevaux2*, V. Demey2, and J. Sindou2, 1Arvalis - Institut du végétal, Montardon, France, 2Institut de Biotechnologie et de Biologie de L’Environnement du Sud-Ouest (BBSOE), Blagnac, France.

Effect of dry matter density on fermentation and nutrient preservation in brown mid-rib (BMR) corn silage within bunker silos.
K. Griswold1, K. Craig2, J. Graybill3, and R. Ward4*, 1Penn State Cooperative Extension, Dauphin, 2Penn State Cooperative Extension, Montandon, 3Cumberland Valley Analytical Services, Maugansville, MD.

Effects of the levels of silage additives on the fermentation quality and in situ digestibility of reed (*Phragmites australis* Cav.) silage harvested at different maturity stages.
B. W. Kim*, K. I. Sung, and J. S. Shin, College of Animal Life Sciences, Kangwon National University, Chuncheon, Kangwon-Do, South Korea.

Ruminal parameters of sheep fed corn silage inoculated with *Lactobacillus buchneri* and *L. buchneri* associated with *L. plantarum*.
F. C. Basso*, P. A. R. Salvo, F. H. Kamada, J. P. R. Costas, W. L. da Silva, and R. A. Reis, Animal Science Department, College of Agriculture and Veterinary Sciences, São Paulo State University, Jaboticabal, São Paulo, Brazil.

In vitro fermentation on cactus forage (*Opuntia* spp.) inoculated with *Kluyveromices lactis* yeast.

Comparison of an inoculant and enzymes, separate and in combination, on the fermentation of alfalfa silage.
S. J. Z. Hansen* and A. H. Smith, Danisco, Waukesha, WI.

Effects of sodium bisulfate on alfalfa silage preservation.
M. Terré1, D. Seale1, C. Knueven1, and A. Bach2, 1Institut de Recerca i Tecnologia Agroalimentàries, Castelldefels de Montbui, Barcelona, Spain, 2DS AgriTech Ltd., Reading, Berkshire, UK.

Nutritive value and fermentation parameters of *Tifton 85* bermudagrass and *Mulato II* brachiariagrass silage in Florida.
A. D. Aguilar1, J. M. B. Vendramini1, A. T. Adesogan2, L. E. Sollenberger2, O. Ruiz-Barrera1, F. Salvador-Torres1, G. Corral1, S. Mena2, R. Copado-Garcia1, and L. Duran1, 1Universidad Autónoma de Chihuahua, Chihuahua, México, 2Universidad de Guadalajara, Jalisco, México.

Effect of new mixtures of silage additives in grass and maize on fermentation quality and aerobic stability.
J. Jatkauskas1, V. Vrotniakiene1, C. Ohlsson2, and B. Lund3*, 1Institute of Animal Science of Lithuanian University of Health Sciences, Baisogala, Lithuania, 2Chr Hansen A/S, Hoersholm, Denmark.

Identification and characterization of spoilage yeasts from high moisture corn and corn silages.
M. C. Santos*, C. Goit1, R. D. Joerger1, G. D. Mechow1, and L. Kung1, University of Delaware, Newark, 2Elanco Animal Health, Greenfield, IN.

Ruminal parameters of cattle fed corn silage inoculated with microbial additive.
P. A. R. Salvo*, F. C. Basso, F. H. Kamada, J. V. Yamaguchi, V. V. Naves, and R. A. Reis, Animal Science Department, College of Agriculture and Veterinary Sciences, São Paulo State University, Jaboticabal, São Paulo, Brazil.

Investigation of microbial additives on fermentation quality of alfalfa silage.
F. Kazemi, M. Dehghan-Banadaky*, A. Zali, and K. Rezayazdi, Animal Science Department, Campus of Agricultural and Natural Resources, University of Tehran, Karaj, Tehran, Iran.
W109  Volatile organic compounds emissions from different silages and cattle feed.
I. L. Malkina¹, R. B. Franco², A. Kumari³, P. G. Green⁴, and F. M. Mitloehner⁵, ¹Department of Animal Science, University of California-Davis, ²Crocker Nuclear Laboratory, University of California-Davis, Davis, ³Department of Civil and Environmental Engineering, University of California-Davis, Davis.

W110  Production and quality of corn silage cultivated on integrated crop-livestock-forest system in a Cerrado region of Minas Gerais, Brazil.
M. C. M. Viana¹, W. Botelho¹, P. A. Viana², D. S. Queiroz³, E. A. Silva⁴, M. S. Viana⁵, and C. G. Guimarães⁶, ¹EPAMIG - Minas Gerais Agricultural Research Corporation, Belo Horizonte, Minas Gerais, Brazil, ²Embrapa Maize and Sorghum, Sete Lagoas, Minas Gerais, Brazil, ³UFVJM University, Diamantina, Minas Gerais, Brazil, ⁴FEAD University, Belo Horizonte, Minas Gerais, Brazil.

W111  Effect of molasses, starch and enzyme enrichment of sorghum and corn silage on chemical composition and rumen degradability.
M. Dehghan-Banadaky*, M. Ghiasvand, and S. Sadeghi, Animal Science Department, Campus of Agricultural and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

W112  Effect of processed and unprocessed canola straw on growth performance, feeding behavior and rumen metabolites in Holstein feedlot calves.
M. Ghiasvand, M. Dehghan-Banadaky*, and K. Rezayazdi, Animal Science Department, Campus of Agricultural and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

W113  Kinetics of solid-state fermentation of waste peach (Prunus persica) to be used as animal feed.
Y. Castillo¹, O. Ruiz², J. C. Gomez³, E. Perú³, H. Gonzalez⁴, A. Orozco⁵, C. Angulo⁶, I. Ramos⁷, and M. R. Murphy⁸, ¹División multidisciplinaria, UACJ, Nuevo Casas Grandes, Chihuahua, Mexico, ²Facultad de Zootecnia y Ecología, UACH, Chihuahua, Chih., Mexico, ³Instituto de Ciencia Biológicas, UACJ, Ciudad Juárez, Chihuahua, Mexico, ⁴Animal Science Department, University of Illinois, Urbana.

W114  Chemical additives on sugarcane ensilage: Fermentation parameters, digestibility and intake by sheep.
A. F. Pedroso*, S. N. Esteves¹, W. Barioni¹, G. B. Souza¹, C. Carbell⁰, and G. G. Chiquitin², ¹Brazilian Agricultural Research Corporation - Embrapa, São Carlos, SP, Brazil, ²Fund. Educacional de Andradina; Andradina, SP, Brazil.

W115  Effects of the form of applying virgin lime and the treatments duration on the temperature and pH of sugarcane.
E. Z. Ramos*, M. D. S. Oliveira, A. C. Rego, M. P. R. Sforcinì, and V. B. Ferrari, UNESP, Jaboticabal, São Paulo, Brazil.

E. O. Young¹, C. S. Ballard²*, and S. Mishra³, ¹William H. Miner Agricultural Research Institute, Chazy, NY, ²TETRA Technologies, Inc., The Woodlands, TX.

W117  In vitro ruminal fermentation of dairy cows with eight yeast strains isolated from apple byproducts.
D. Díaz-Plascencia¹, C. Rodríguez-Muela², P. Mancillas-Flores³, F. Salvador-Torres⁴, C. Arzola⁵, L. Durán⁶, J. Jiménez⁷, and S. Mena⁸, ¹Universidad Autónoma de Chihuahua, Chihuahua, México, ²Universidad de Guadalajara, Jalisco, México.

W118  Effect of exogenous fibrolytic enzymes on in vitro ruminal fermentation kinetics and energy utilization of three Mexican tree fodder species.
D. López¹, R. Rojo², A. Z. M. Salem¹, J. Cedillo-Monroy¹, B. Albarrán¹, A. González¹, J. L. Martínez-Benites¹, J. Morales-Díaz¹, and J. Tino-Cardillo, ¹Centro Universitario UAEM-Temascaltepec, Universidad Autónoma del Estado de México, Temascaltepec, Estado de México, México, ²Universidad Autónoma de Tamaulipas, Cd. Victoria, Tamaulipas México.

W119  Effects of pH and temperature on fibrolytic enzyme activities of various commercial exogenous enzyme preparations.

W120  Fiber digestibility of cool-season grasses.
T. W. Downing*, Oregon State University, Corvallis.

W121  Comparison of chemical composition and digestibility among wheat straws treated with Pleurotus djamur.
O. D. Montañez-Valdez*, J. A. Reyes-Gutiérrez², J. A. Martinez-Ibarra², G. Rocha-Chavez², J. M. Tapia-Gonzalez², C. E. Guerra-Medina¹, J. J. Martinez-Tinajero¹, and J. H. Avellaneda-Cevallos¹, ¹Centro Universitario del Sur, Ciudad Guzmán, Jalisco, México, ²Centro Universitario de la Costa Sur, Autónoma de la Grana, Jalisco, México, ³Facultad de Ciencias Agrícolas, Universidad Autónoma de Chiapas, México, ⁴Universidad Técnica de Estatal de Quevedo, Quevedo, Los Rios, Ecuador.

W122  Effect of crude protein content on intake and digestion of coastal bermudagrass hays by horses.
C. L. Spurgin, J. A. Coverdale, K. N. Winscos*, and T. A. Wickersham, Texas A&M University, College Station.

W123  The effect of silage nutrient variations on milk prediction outcomes of the Cornell Net Carbohydrate and Protein System.
C. T. Hill⁴, M. J. Tetreault⁵, and H. M. Dann¹, ¹Poulin Grain Inc., Newport, VT, ²William H. Miner Agricultural Research Institute, Chazy, NY.

W124  Partially replacing alfalfa and corn silages with fescue silages maintained fat corrected milk production.

W125  Processed and unprocessed canola straw in Holstein male calves diets changed blood parameters and carcass characteristics.
M. Ghiasvand, K. Rezayazdi, and M. Dehghan-Banadaky*, Animal Science Department, Campus of Agricultural and Natural Resources, University of Tehran, Karaj, Tehran, Iran.
Chromium acetate induces adipogenesis of bovine intramuscular adipocytes through reduced phosphorylation of adenosine monophosphate–activated protein kinase α.

Palmitoleic acid regulation of lipid metabolism in primary bovine adipocytes could involve genes associated with fatty acid oxidation.
A. K. G. Kadegowda*, T. A. Burns, S. L. Pratt, and S. K. Duckett, Clemson University, Clemson, SC.

Effect of anabolic implant and quality grade on lipogenic gene expression in subcutaneous adipose tissue.
S. K. Duckett*, S. L. Pratt, and J. W. Long, Clemson University, Clemson, SC.

Signaling pathways mediating the effects of insulin-like growth factor-1 on proliferation, protein synthesis, and protein degradation in bovine satellite cells.

Effects of energy intake and age on the expression of adipogenic genes in subcutaneous and intramuscular fat in bovine Spanish Pirenaica breed.
B. Soret*, F. Tiberio, A. Arana, JA Mendizabal, and L. Alfonso, Universidad Publica de Navarra, Pamplona, Navarra, Spain.

Age post weaning but not birth weight and sex affects the small intestinal glutathione redox status of piglets.
J. Michiels*1,2, E. Claeyse2, A. Ovyn2, and S. De Smet1, 1Faculty of Biosciences and Landscape Architecture, University College Ghent, Ghent, Belgium, 2Laboratory for Animal Nutrition and Animal Product Quality, Department of Animal Production, Ghent University, Melle, Belgium.

Feed restriction alters reactivity of body fat after catabolic stimulation in growing pigs.

M. Mohammadi*, A. Towhidi, H. Moravej, and A. Zareh Shahne, Department of Animal Science, University of Tehran, Karaj, Alborz, Iran.

Effects of dietary supplementation of sodium stearoyl-2-lactylate in a low-energy density diet on growth performance, blood profiles, and relative organ weight in broilers.
S. M. Hong*, J. P. Wang, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

Insulin-like growth factor-1 (IGF1), IGF binding proteins (IGFBP), and growth hormone receptor (GHR) mRNA concentration in fetal liver and duodenum in response to variable maternal nutrition during gestation.
M. Field*, R. Anthony, T. Engle, S. Archibeque, and H. Han, Colorado State University, Fort Collins.

Effects of variable maternal undernutrition on uterine and umbilical IGF-I, insulin, and ghrelin concentrations in near-term sheep twin pregnancies.
M. Field*, R. Anthony, T. Engle, S. Archibeque, and H. Han, Colorado State University, Fort Collins.

Transfer of omega-3 fatty acids from dams to calves in dairy cows.
M. Zachut1,2, A. Romanenco1,2, H. Lehrer1, A. Arieli1, and U. Moollem1, 1Agriculture Research Organization, Bet Dagan, Israel, 2Faculty of Agriculture, Hebrew University, Rehovot, Israel.

Temporal changes in the proteome of the uterine histotroph in cattle.
M. P. Mullen*, A. C. O. Evans2, G. Elia3, M. Hilliard4, N. Forde2, M. H. Parr1, M. G. Diskin1, and M. A. Crowe2, 1Animal and Bioscience Research Department, Animal and Grassland Research and Innovation Centre, Teagasc, Athenry, Co. Galway, Ireland, 2School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin , Ireland, 3Conway Mass Spectrometry Resource, University College Dublin, Belfield, Dublin , Ireland.

Effect of maternal diet on the ontogenetic development of the hepatic proteome in intrauterine growth-restricted porcine offspring.
M. Peters, B. Kuhla, I. S. Lang, E. P. Rudolph, and C. C. Metges*, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany.

Changes in plasma amino acid concentrations in preterm and term born calves.
J. Steinhoff-Wagner*, S. Görs, I. Flor, C. C. Metges, and H. M. Hammon, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany.

Placental and fetal plasma amino acid uptake and release in mid and late pregnancy of gilts fed limited- and excess-protein diets associated with intrauterine growth retardation (IUGR).
Lactation Biology 2

W142 Hormonal regulation of suspected components of bovine IgG1 transcytosis mechanism in primary bovine mammary cells in vitro. A. Stark1, E. Vaschko2, O. Wellnitz2*, R. M. Bruckmaier1, and C. R. Baumrucker3, 1Veterinary Physiology, Vetsuisse Faculty, University of Bern, Switzerland, 2Trakia University, Stara Zagora, Bulgaria, 3Penn State University, State College.

W143 Reducing metabolic stress of dairy cows during the transition period by partial milking or nursing. E. Carbonneau1*, A.-M. De Passillè6, J. Rushen5, B. G. Talbot5, and P. Lacasse4, 1Université de Sherbrooke, Sherbrooke, QC, Canada, 2AAFC-Pacific Agri-Food Research Centre, Agassiz, BC, Canada, 3AAFC-Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada.


W147 Effect of prolactin-release inhibition on milk production and mammary gland involution at drying-off. S. Olillier*, X. Zhao1, and P. Lacasse1, 1AAFC-Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada, 2Department of Animal Science, McGill University, Sainte-Anne-de-Bellevue, QC, Canada.

W148 Expression of novel, putative stem cell markers in prepubertal and lactating bovine mammary glands. (see Abstract 78). R. K. Choudhary1, C. M. Evock-Clover2, and A. V. Capuco1*, 1Department of Animal Sciences, University of Maryland, College Park, 2Bovine Functional Genomics Lab, USDA-ARS, Beltsville, MD.

W149 Putative stem/progenitor cell markers in lactating and re-developing bovine mammary glands. E. Brijs*, K. Singh, and A. Molenaar, AgResearch Ltd., Ruakura Research Centre, Hamilton, New Zealand.


Meat Science and Muscle Biology

W151 Traceability of animal byproducts in quail (Coturnix coturnix japonica) tissues using carbon-13 and nitrogen-15 stable isotopes. C. Mori1*, E. A. Garcia1, C. Ducatti1, J. C. Denadai1, and K. Pelicia1, 1São Paulo State University, Botucatu, São Paulo, Brazil, 2São Paulo State University, Registro, São Paulo, Brazil.

W152 Meat quality of Pelibuey sheep finished with different levels of alfalfa. V. Resendiz-Cruz1, O. Hernandez-Mendo1, J. Gallegos-Sanchez1, I. Guerrero-Legarreta2, P. A. Martinez-Hernandez3, and G. Aranda-Osorio1*, 1Colegio de Postgraduados, Montecillos, Estado de Mexico, Mexico, 2Universidad Autonoma Metropolitana-Iztapalapa, Mexico D.F., Mexico, 3Universidad Autonoma Chapingo, Chapingo, Estado de Mexico, Mexico.

W153 Meat quality of lambs fed fresh or dehydrated spineless cactus (Opuntia ficus-indica). M. I. Aguilar-Yañez1, O. Hernandez-Mendo1, G. Aranda-Osorio1*, J. E. Ramirez-Bribiesca1, I. Guerrero-Legarreta4, and M. M. Crosby-Galvan1, 1Colegio de Postgraduados, Montecillos, Estado de Mexico, Mexico, 2Universidad Autonoma Chapingo, Chapingo, Estado de Mexico, Mexico, 3Universidad Autonoma Metropolitana-Iztapalapa, Mexico D.F., Mexico.

W154 Qualitative characteristics of meat from lambs fed with sunflower seeds and vitamin E. F. A. Almeida*1, A. G. Silva Sobrinho, G. M. Manzi, N. L. L. Lima, N. M. B. L. Zeola, V. Endo, and J. C. Barbosa, Universidade Estadual Paulista - Unesp/ Campus de Jaboticabal, Jaboticabal, São Paulo, Brasil.


W156 Maternal dietary protein affects transcriptional regulation of myostatin gene distinctively at weaning and finishing stages in skeletal muscle of Meishan pigs. X. Liu, J. Wang, R. Li, X. Yang, Q. Sun, and R. Zhao*, Nanjing Agricultural University, Nanjing, P. R. China.
Effect of kidney matrix on the detection of β-lactam and tetracycline residues by UPLC-MS/MS.
M. P. Almeida1,2, M. O. Leite2, S. V. Cançado2, M. R. Souza2, and M. M. O. P. Cerqueira2, 1Agropecuária, 2Escola de Veterinária - Universidade Federal de Minas Gerais.

Extent of μ-calpain autolysis differs depending on the extent of destructered tissue in the ham.
M. Müller1, C. Bioley2, P. Silacci2, and G. Bee2, 1Agroscope Liebefeld Posieux Research Station (ALP), Posieux, Switzerland, 2Swiss College of Agriculture, Shl, Zollikofen, Switzerland.

Early adaptation of sarcoplasmic reticulum Ca2+ pump in bovine myofiber under chronic low-frequency electrical stimulation.
T. Sakurada3, E. Kitagawa4, M. Miyake5,6, S. Ohwada4, H. As04, and K. Watanabe4, 1Tohoku University, Sendai, Japan, 2The University of Tokushima, Tokushima, Japan.

Effects of temperament classification on carcass characteristics, tenderness and value in Angus-based composite steers.
J. W. Behrens*, R. K. Miller1, D. S. Hale1, J. T. Walter1, J. C. Bailey1, A. N. Hafia1, T. Machado1, L. O. Tedeschi1, and G. E. Carstens1, 1Texas A&M University, College Station, 2Texas A&M University at Kingsville, Kingsville.

Rump measurements as related to others carcass traits.
M. N. Bonin*, S. L. Silva, J. B. S. Ferraz, D. P. D. Lanna, F. Manicardi, R. C. Gomes, M. H. A. Santana, V. N. Barbosa, F. Novais, J. H. A. Campo, and F. Syuffi, 1University of Sao Paulo, College of Animal Science and Food Engineering, Pirassununga, Sao Paulo, Brazil, 2University of Sao Paulo, College of Agricultural Sciences, Piracicaba, Sao Paulo, Brazil.

Effect of finishing heifers on tall fescue, tall fescue with grain, or alfalfa on: I. carcass and LM quality.
S. K. Duckett*, M. C. Miller, T. A. Burns, and M. L. Wahlberg, 1Clemson University, Clemson, SC, 2Virginia Tech University, Blacksburg.

Effect of finishing heifers on tall fescue, tall fescue with grain, or alfalfa on: II. fatty acid composition and lipid oxidation in ground beef.
S. K. Duckett*, M. C. Miller, T. A. Burns, and M. L. Wahlberg, 1Clemson University, Clemson, SC, 2Virginia Tech University, Blacksburg.

Gene expression profile of M. longissimus in Japanese Black, Holstein, and Charolais steers fed a high-energy diet.
E. Albrecht*, S. Ponsuksili, K. Wimmers, T. Gotoh, and S. Maak, 1Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany, 2Kyushu University, Kyu Agricultural Research Center, Kuju-cho, Oita, Japan.

Effect of genotype on fatty acid composition of bovine muscles fattened with maize silage and flaxseed supplemented concentrate.

Quality characteristics of dried meat laver made from different beef muscle types.
G. D. Kim*, E. Y. Jung, H. U. Seo, J. Y. Jeong, S. J. Hur, H. S. Yang, and S. T. Joo, 1Division of Applied Life Science (BK21 Program), Gyeongsang National University, Jinju, Republic of Korea, 2Swine Scientific and Technology Center, Gyeongnam National University of Science and Technology, Jinju, Republic of Korea, 3College of Biomedical and Health Science, Department of Applied Biochemistry, Konkuk University, Chungju, Republic of Korea.

Carcass characteristics of bullocks of different genotype finished under feedlot conditions.

Relationship between meat quality and the expression of related genes in the muscle of two different genetic groups of cattle.
J. Giusti*, E. P. Castan, S. R. Baldini, M. D. B. Arrigoni, M. Dal Pai-Silva, and H. N. Oliveira*, 1State University of Sao Paulo, Jaboticabal, Sao Paulo, Brazil, 2State University of Sao Paulo, Botucatu, Sao Paulo, Brazil.

Measurement of loin muscle in the carcass of Nellore breed on Brachiaria brizantha ‘Marandu’ with two levels of concentrate supplementation.

Frame size and sex effects on meat quality characteristics of Nellore cattle.

Carcass traits obtained at the fifth rib level to predict retail cuts in Nellore (B. indicus) cattle.
W173 The influence of two levels of supplementation on the yield of hindquarter cuts of Nellore in Brachiaria brizantha ‘Marandu’.
R. V. Oliveira*a, F. A. Barbosa,a J. M. S. Diogo,b G. S. Firmino,a J. F. A. Oliveira,a J. F. B. Guedes,a I. S. Silva,a and G. A. Carneiro,a 1Faculty of Agronomy and Veterinary Medicine, University of Brasilia - UnB, Brasilia, DF, Brazil, 2School of Veterinary Medicine, Federal University of Minas Gerais - UFMG, Belo Horizonte, MG, Brazil.

W174 Influence of two levels of supplements on the characteristics of cuts yields of carcass in Nellore cattle grazing Brachiaria brizantha ‘Marandu’.
R. V. Oliveira*a, J. F. A. Oliveira,a F. A. Barbosa,a F. F. Gouveia,a G. A. Carneiro,a J. M. S. Diogo,a J. F. B. Guedes,a and R. A. Mandarino,a 1Faculty of Agronomy and Veterinary Medicine, University of Brasilia - UnB, Brasilia, DF, Brazil, 2School of Veterinary Medicine, Federal University of Minas Gerais - UFMG, Belo Horizonte, MG, Brazil.

W175 Effect of different levels of whole raw soybean meal on performance and meat characteristics of feedlot finished Nellore steers.

W176 Genetic group and slaughter weight influence on meat color of feedlot cattle.
R. Mello*a, A. C. de Queiroza, R. D. Resende,a L. A. de Miranda Gomide,a P. B. Costa,a and W. da Silva Cotrim,a 1Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 3Agência Paulista de Tecnologia dos Agronegócios, Colina, São Paulo, Brazil.

W177 C18:1,2,3 fatty acid isomers from intramuscular fat influenced by genetic group and slaughter weight.
R. Mello*a, A. C. de Queiroza, F. D. de Resende,a D. P. D. Lanna,a M. H. de Faria,a and E. da Costa Eifert,a 1Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 3Agência Paulista de Tecnologia dos Agronegócios, Colina, São Paulo, Brazil, 4Universidade de São Paulo – Escola Superior de Agricultura ‘Luiz de Queiroz’, Piracicaba, São Paulo, Brazil.

W178 Fatty acids profile of intramuscular fat from crossbreed young bulls slaughtered at different body weights.
R. Mello*a, A. C. de Queiroza, F. Dutra de Resende,a D. P. D. Lanna,a M. H. de Faria,a and E. da Costa Eifert,a 1Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 3Agência Paulista de Tecnologia dos Agronegócios, Colina, São Paulo, Brazil, 4Universidade de São Paulo – Escola Superior de Agricultura ‘Luiz de Queiroz’, Piracicaba, São Paulo, Brazil.

W179 Effects of modified wet corn distillers grains containing 6.7% fat on beef quality and rib fat composition.
J. L. Veracini*a, M. H. de Faria,a L. A. de Miranda Gomide,a P. B. Costa,a E. N. Andrade,a T. L. S. Corvino,a H. L. Evans,a V. S. Silva,a S. L. Johnston,a W. R. Yang,a and F. F. Gouveia,a 1School of Animal Sciences and Technology, Shandong Agricultural University, Taian, Shandong, China, 2Amlan International, Chicago, IL.

W180 Diet and genotype effects on the quality index of beef Nellore and F1 Nellore × Brahman produced in feedlot.
R. A. Mandarino*, F. A. Barbosa,a I. S. Silva,a S. L. S. Cabral Filho,a J. L. Vilela,a and C. F. Lobo,a 1University of Brasilia, Brasilia, DF, Brazil, 2Federal University of Minas Gerais, Belo Horizonte, MG, Brazil.

W181 Beef quality parameters of Nellore bulls finished with cottonseed cake as fat source.
A. P. Neto*a, J. H. Branco,a S. F. M. Bonilha,a T. L. S. Corvino,a E. N. Andrade,a and R. de Oliveira Roça,a 1Universidade Federal do Mato Grosso, Sinop - Mato Grosso/Brazil, 2Universidade Estadual Paulista, Botucatu - São Paulo/Brazil, 3CAPTA Bovinos de Corte - Instituto de Zootecnia, Sertãozinho - São Paulo/Brazil.

W182 Meat tenderness of Nellore cattle classified for residual feed intake.
R. Mello*a, F. M. Bonilha,a L. T. Egawa,a E. Magnani,a and M. E. Z. Mercadante*a, 1Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, São Paulo, Brasil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brasil, 3Instituto de Zootecnia, Sertãozinho, São Paulo, Brasil.

Nonruminant Nutrition

Health

W183 Effects of purified zearalenone on serum reproductive hormone, immunoglobulin, antibody titer and spleen pro-inflammatory cytokines mRNA in young gilts.
S. Z. Jiang*a, Z. B. Yang,a W. R. Yang,a S. L. Johnston,a and F. Chi,a 1Department of Animal Sciences and Technology, Shandong Agricultural University, Taian, Shandong, China, 2Amlan International, Chicago, IL.

W184 Ameliorate effect of Calibrin Z enterosorbent on serum reproductive hormone, immunoglobulin, antibody titer in young pigs fed purified zearalenone.
S. Z. Jiang*a, Z. B. Yang,a S. L. Johnston,a and F. Chi,a 1Department of Animal Sciences and Technology, Shandong Agricultural University, Taian, Shandong, China, 2Amlan International, Chicago, IL.
**W185** Dietary effect of short-chain organic acids on growth performance, mortality, and development of intestinal lymphoid tissues in young non-medicated rabbits.
C. Romero*, P. G. Rebollar, A. Dal Bosco, C. Castellini, and R. Cardinalli, Universitas Politecnica de Madrid, Spain, Università degli Studi di Perugia, Italy.

**W186** Casein glycomacropeptide and mannan-oligosaccharides reduce the enterotoxigenic E. coli (ETEC K88) adhesion to IPEC-J2 cell line.

**W187** The effects of a galactoglucomannan-arabinoylan complex on eimeria acervulina infection in broiler chicks.

**W188** The effects of feed-borne Fusarium mycotoxins on performance, serum chemistry, and hematology of fryer rabbits.
M. A. Hewitt*, M. Brash, and T. K. Smith, University of Guelph, Guelph, Ontario, Canada.

**W189** Effects of plant extracts on peripheral blood immune cells and inflammatory mediators of weaned pigs experimentally infected with a pathogenic E. coli.

**W190** Acute toxicity of aqueous extract of Moringa oleifera leaf in growing poultry.
J. O. Ashong* and D. L. Brown, Cornell University, Ithaca, NY.

**W191** Effects of spray-dried plasma on growth and reproductive responses of pregnant mice to lipopolysaccharide as a model for inflammation in sows.
M. Song*, Y. Liu, J. A. Soares, J. J. Lee, T. M. Che, J. M. Campbell, J. Polo, J. C. O’Connor, and J. E. Pettigrew, University of Illinois, Urbana, APC Inc., Ankeny, IA, University of Texas Health Science Center, San Antonio.

**W192** Effects of spray-dried plasma on immune responses of pregnant mice to lipopolysaccharide as a model for inflammation in sows.

**W193** Wheat bran and casein glycomacropeptide may regulate the immune response of IPEC-J2 cells challenged with enterotoxigenic E. coli (ETEC K88).

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**Nonruminant Nutrition Management**

**W194** Importance of evaluating piglet daily weight gain during the first week after weaning.
G. J. M. M. Lima* and L. S. Lopes, Embrapa, Brazil.

**W195** Acquisition of garlic conditioned preference enhances the flavor hedonic power of porcine digestive peptides (PDP) in post-weaned piglets.

**W196** Nutrient composition changes in pigs and associated liver from birth to 21 days of age.
Y. L. Ma*, M. D. Lindemann, J. L. Pierce, and G. L. Cromwell, University of Kentucky, Lexington, Alltech Inc., Nicholasville KY.

**W197** Evaluating performance of dairy replacement calves housed in different group numbers with the same space/calf.

**W198** Comparison of moisture determination methods for feed ingredients.

**W199** The effect of diet and creep feed on feed intake by weaning pigs.
J. Shea, D. A. Gillis, and A. D. Beaulieu*, Prairie Swine Centre, Inc., Saskatoon, SK, Canada.

**W200** Effects of creep feed frequency on pre-weaning and post-weaning growth performance and behavior of piglet and sow.
J. H. Cho*, S. Zhang, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.
**Nonruminant Nutrition**

**Mineral**

W201  Effect of a partial replacement of limestone by a CaSO4-zeolite mixture combined with a slight protein reduction on production indices, egg quality and excreta pH in laying hens.

C. Romero*, M. Vazquez-Anon*, M. Bichl, A. A. Richardson, and A. Gueye, 1, 1 *Department of Animal Nutrition and Sow Nutrition, University of Missouri, Columbia, MO.

W204  Bioavailability of zinc from zinc propionate in chicks.

M. A. Arnold*, E. Isaacs*, K. Roneker, and X. G. Lei, 

Effects of copper concentration and source on performance, bile components, copper metabolism and gastrointestinal microbial distribution in nursery swine.


W206  Different levels of chelated selenium (Se) addition on the performance, and internal and external quality of Japanese quail eggs.


W207  Recovery of bone mineralization and strength after a marginal dietary calcium deficiency in growing pigs.


W208  Ionomic profile changes in the intestine, liver, kidney, serum and gall bladder contents due to Cu source and concentration.

B. Aldridge*, R. F. Power*, K. A. Dawson*, and S. Radcliffe*, 1 Purdue University, Department of Animal Science, West Lafayette, IN, 2 Center for Animal Nutrigenomics and Applied Animal Nutrition, Nicholasville, KY.

W209  Microarray analysis of commonly regulated genes in the jejunum of weanling pigs given dietary Cu proteinate or CuSO4.


**Nonruminant Nutrition**

**Mineral and Sow Nutrition**

W210  A lactation curve model in sows.

A. V. Hansen*, A. B. Strathie, E. Kebreab, and P. K. Theil, 1 Department of Animal Science, University of California, Davis, 2 Department of Animal Health and Bioscience, Faculty of Agricultural Sciences, Aarhus University, Blichers Allé 20, 8830 Tjele, Denmark.

W211  Impact of ergot infested sorghum on the reproductive performance of sows.

G. M. Abdelrahim*, R. C. Richardson*, and A. Gueye, 1 Alabama A&M University, Normal, 2 Texas State University, San Marcos, 3 Mt. Ida College, Newton, MA.

W212  Improved retention rates and reduced culling for lameness for sows fed a chelated trace mineral blend.


W213  A blend of chelated trace minerals improved sow cumulative reproduction and farrowing rate.


W214  Improved progeny performance from sows fed a chelated trace mineral blend.

J. Zhao*, M. Vazquez-Anon, C. D. Knight, and R. J. Harrel, Novus International Inc, St Charles, MO.
Comparison of serum progesterone concentrations from new and used CIDR in Holstein heifers.
J. T. Whitley* and C. S. Whisnant, North Carolina State University, Raleigh.

Correlation between residual feed intake and metabolic parameters of Nellore heifers.

Follicular and ovulatory responses following superovulation treatment with rFSH and HMG in dairy cattle.
P. Brookings, South Dakota State University, Brookings, SD.

Effect of short-term supplementation and temporary weaning on follicular liquid composition in first-calved Hereford cows.
L. Veloz¹,², M. E. Trobo³,², C. García Pintos¹,², C. Viñoles⁴, and M. Carriquiry*⁵, ¹School of Agronomy, UdelaR, Montevideo, Uruguay, ²National Research Institute for Agriculture, Tracuarembó, Uruguay.

Estrus quantification of early lactation cow cervix physiology: An economical farm innovation.
J. C. Dalton*¹, L. L. C. Trigoso², D. A. G. Oliveira², L. A. Lekatz¹, ¹Mississippi State University, Mississippi State, ²Alta Genetics, Inc., Watertown, WI.

Influence of bovine uterine pH.
J. K. Grant*¹,², P. Steichen², C. L. Wright³, K. A. Vonnahme³, M. L. Bauer³, J. S. Jennings³, and G. A. Perry¹, ¹Department of Animal and Range Sciences, South Dakota State University, Brookings, ²Department of Animal Science, North Dakota State University, Fargo, ³Hettinger Research Extension Center, North Dakota State University, Hettinger, SD.

Influence of nitrogen and sulfur intake on bovine uterine pH.
J. K. Grant*¹,², P. Steichen², C. L. Wright³, K. A. Vonnahme³, M. L. Bauer³, J. S. Jennings³, and G. A. Perry¹, ¹Department of Animal and Range Sciences, South Dakota State University, Brookings, ²Department of Animal Science, North Dakota State University, Fargo, ³Hettinger Research Extension Center, North Dakota State University, Hettinger, SD.

Influence of sperm fertility-associated antigen status on nulliparous Nelore heifer fertility at first-service timed AI.
C. M. Perdomo and L. Badinga*, ¹Instituto de Zootecnia, Sertãozinho, São Paulo, Brasil, ²Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, São Paulo, Brasil.

Feeding rumen-protected polyunsaturated fatty acids (PUFA) to high-producing dairy cows: I. Effects on milk production and reproductive performance.
M. M. Reis¹, R. F. Cooke², S. Soriano³, F. L. Aragon³, M. B. Veras³, and J. L. M. Vasconcelos*⁴, ¹UNESP – Faculdade de Medicina Veterinária e Zootecnia, Botucatu, SP, Brazil, ²Oregon State University–Eastern Oregon Agricultural Research Center, Burns, ³Pioneiros Veterinary Clinic, Carambeí, PR, Brazil, ⁴Colorado Dairies, Araras, SP, Brazil.

Feeding rumen-protected polyunsaturated fatty acids (PUFA) to high-producing dairy cows: II. Effects on serum concentrations of progesterone and insulin.
M. M. Reis¹, R. F. Cooke², S. Soriano³, F. L. Aragon³, M. B. Veras³, and J. L. M. Vasconcelos*⁴, ¹UNESP – Faculdade de Medicina Veterinária e Zootecnia, Botucatu, SP, Brazil, ²Oregon State University–Eastern Oregon Agricultural Research Center, Burns, ³Pioneiros Veterinary Clinic, Carambeí, PR, Brazil, ⁴Colorado Dairies, Araras, SP, Brazil.

Puberty induction in Nelore heifers receiving eCG and/or estradiol cypionate at the end of the estrus synchronization protocol.
A. Rodrigues¹, R. Peres*², A. Lemes¹, T. Martins¹, F. Aono¹, M. Pereira¹, H. Graff¹, E. Carvalho¹, and J. L. M. Vasconcelos¹, ¹FVMZ-UNESP, Botucatu, SP, Brazil, ²ESALQ-USP, Piracicaba, SP, Brazil, ³Agropecuária Fazenda Brasil, Barra do Garças, MT, Brazil.

Repeated exposure to human chorionic gonadotropin causes development of antibodies in some lactating dairy cows.
J. O. Giordano*, M. C. Willbank, and P. M. Fricke, Department of Dairy Science, University of Wisconsin-Madison, Madison.
W223  Prepartum 2,4-thiazolidinedione administration increases plasma tumor necrosis factor alpha in transition dairy cows.

W224  Effect of dietary β-glucan on growth performance, fecal microbial shedding and immunological responses after lipopolysaccharide challenge in weaned pigs.
T. X. Zhou*, B. U. Yang, and I. H. Kim, Dankook University, Cheonan, Choongnam, South Korea.

W225  Difference in the expression of components of the GHR/IGF-1 axis in follicular granulosa cells and corpus luteum in cows.
A. Schneider1,2, L. F. M. Pfeifer3, M. N. Corrêa3, and W. R. Butler*, 1Universidade Federal de Pelotas, Pelotas, RS, Brazil, 2Cornell University, Ithaca, NY.

W226  Functional genomics of liver in purebred beef cows in two forage allowances during gestation and lactation period.

W227  Conjugated linoleic acids (CLA) and lactation related changes in serum amyloid A3 (SAA3) and IL-6 mRNA abundance in different bovine tissues with a focus on different adipose depots.

W228  Role of nuclear receptors in the metabolism of boar taint compounds in Leydig cells.
M. A. Gray* and E. J. Squires, University of Guelph, Guelph, Ontario, Canada.

W229  Effects of heat stress on Na+/K+ ATPase activity in growing pigs.

W230  Serum shock did not synchronize clock gene expression in primary bovine hepatocyte cultures.

W231  Effect of short-term supplementation in hepatic gene expression in cycling Hereford cows grazing native pastures.
F. Bialade1, A. L. Astessiano*, M. P. Grignola1, J. Laporta2, C. Viñoles2, and M. Carriquiry*, 1School of Agronomy, UDELAR, Montevideo, Uruguay, 2Research Institute for Agriculture, Tacuarembó, Uruguay.

W232  Effect of charcoal extracted bovine follicular and testicular fluids on testes and endocrine organ weights of pre-pubertal male rabbits.
A. H. Ekoecha*, University of Ibadan, Ibadan, Oyo, Nigeria.

W233  Caspase 3 is upregulated in murine spermatogonia and Leydig cells treated with aflatoxin B1.

W234  Muscle resident adipogenic progenitors are fiber type specific, Pax3/Myf5-independent and form white adipocytes by default.
Y. Q. Liu* and S. H. Kuang, Dankook University, Cheonan, Choongnam, South Korea.

W235  Synchronization of dairy heifers with a modified 5-day CIDR-PGF2α-GnRH timed AI protocol.
J. Howard*, K. Carnahan, C. Autran3, J. Bransen2, R. Kasimanickam3, G. Sasser, and A. Ahmadzadeh, 1University of Idaho, Moscow, 2BioTracking LLC, Moscow, ID, 3Washington State University, Pullman.
Production, Management and the Environment II

W251 Injection of 100µg of GnRH 31 d after AI does not reduce pregnancy loss in lactating dairy cows.
A. L. A. Scanavez*, L. G. D. Mendonça, P. R. B. Silva, J. G. N. Moraes, and R. C. Chebel, Department of Veterinary Population Medicine, University of Minnesota, St. Paul.

W252 Replacing grain and silage with wheat distiller grains affects feeding behavior of finishing beef cattle.
W. Z. Yang*1, T. A. McAllister1, J. J. McKinnon2, and K. A. Beauchemin3, 1Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB, Canada, 2Department of Animal & Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada.

W253 Inclusion of anti-phospholipase A2 antibody (aPLA2) to backgrounding diet enhanced feed efficiency in growing beef calves.

W254 Productive performance during fattening phase of Nelore fed diets with two concentrate levels.
G. S. Firmino*1, I. S. Silva1, F. A. Barbosa1, S. L. S. Cabral Filho1, J. F. B. Guedes1, G. A. Carneiro1, F. F. Gouveia1, and J. F. A. Oliveira1, 1University of Brasilia - UnB, Brasilia, DF, Brazil, 2Federal University of Minas Gerais - UFMG, Belo Horizonte, MG, Brazil.

W255 Effect of maternal feed efficiency as growing heifers and lactating cows on feed intake and performance of their suckling offspring.
K. M. Bischoff*1, T. E. Black1, V. R. G. Mercadante1, G. H. L. Marquezini1, C. C. Chase1, S. W. Coleman1, and G. C. Lamb1, 1North Florida Research and Education Center, University of Florida, Marianna, 2USDA-ARS, SubTropical Agricultural Research Station, Brooksville, FL.

W256 Temperament evaluation of Nelore (Bos indicus) cattle in Brazilian commercial cow-calf operations.
M. Meneghetti*1, R. F. Cooke1, B. I. Cappellozza2, D. W. Bohnert3, and T. C. Losi1, 1Oregon State University–Eastern Oregon Agricultural Research Center, Burns, 2Pfizer Animal Health, São Paulo, SP, Brazil, 3Lageado Consultoria Agropecuária, Mineiros, GO, Brazil.

W257 Influence of propionate salt levels on young cow reproductive performance.
J. A. Walker*, G. A. Perry, and K. C. Olson, South Dakota State University, Brookings.

W258 Methane emission potential and nutritional composition of four Panicum sp. forage genotypes in the Brazilian Cerrado region.

W259 Methodology for estimating intermuscular, subcutaneous, and intramuscular fat in primal cuts.
M. J. McPhee*1, 2, J. P. Siddell1, 2, B. J. Walmsley1, 2, W. H. Johns1, 2, and P. L. Greenwood1, 2, 1Cooperative Research Centre for Beef Genetic Technologies, Armidale, NSW, Australia, 2Institute and Investment NSW, Armidale, NSW, Australia.

W260 The influence of two levels of concentrate on the performance characteristics and carcass yield in Nellore cattle in Brachiaria brizantha compared to Marandu pastures.
G. A. Carneiro*2, F. A. Barbosa1, S. L. S. Cabral Filho1, R. V. Oliveira1, G. S. Firmino1, C. E. Souza1, F. F. Gouveia1, and J. F. A. Oliveira1, 1University of Brasilia, Brasilia, DF, Brazil, 2Federal University of Minas Gerais, Minas gerais, MG, Brazil.

W261 Two methods to estimate milk yield in beef cattle grazing systems.
A. C. Espasandin*, A. Casal, V. Gutierrez, M. Cadenazzi, and M. Carriquiry, School of Agronomy, UdelaR, Uruguay.

W262 Comparison of spring and fall calving beef herd grazing endophyte-infected tall fescue.
B. T. Campbell*1, W. M. Backus1, M. C. Dixon1, R. J. Carlisle1, and J. C. Waller1, 1The University of Tennessee, Knoxville, 2Research and Education Center at Ames Plantation, Grand Junction, TN.

W263 Influence of winter and spring pasture allowance on growth and reproductive performance on beef replacement heifers.
B. L. Bailey*, K. M. Krause, and T. C. Griggs, West Virginia University, Morgantown.

W264 Cow and calf separation to improve reproductive performance of first-calf Nellore beef cows under tropical conditions.
P. G. M. A. Martins*1, 2, C. A. A. Torres1, A. B. Mancio1, W. F. Souza1, G. C. Lamb1, and J. D. Arthington1, 1Universidade Federal de Viçosa, Departamento de Zootecnia, Viçosa, Minas Gerais, Brazil, 2University of Florida, Range Cattle Research and Education Center, Ocala, 1University of Florida, North Florida Research and Education Center, Marianna.

W265 Relationships between performance and residual feed intake in Bonsmara heifers when confinement fed or on pasture.
L. M. Wiley*1, 2, T. D. A. Forbes1, A. N. Hafla2, C. M. Hensarling1, B. G. Warrington1, and G. E. Carstens2, 1Texas AgriLife Research, Uvalde, 2Texas A&M University, College Station.
W266 Effect of birth weight, early feed intake, and average daily gain of calves before weaning on their performance after weaning and during first lactation.
C. M. Matuk1, M. Chahine1, A. Bach2,3, B. Ozer1, M. E. de Haro Marti4, J. B. Glaze1, and T. Fife1, 1University of Idaho, Twin Falls, 2IRTA, Caldes de Montbui, Spain, 3ICREA, Barcelona, Spain, 4University of Idaho, Gooding.

W267 Different periods offering chromium oxide (Cr\textsubscript{2}O\textsubscript{3}) as external marker to evaluate the intake of cattle treated with different diets under feedlot.
R. A. Mandarino1, 2, F. A. Barbosa3, I. S. Silva1, C. F. Lobo1, S. L. S. Cabral Filho1, G. A. Carneiro1, and G. S. Firmino1, 1University of Brasilia, Brasilia, DF, Brazil, 2Federal University of Minas Gerais, Minas Gerais, MG, Brazil.

W268 Total and inorganic phosphorus content of an array of feedstuffs.
J. P. Jarrett1, M. D. Hanigan1, R. Ward1, P. Siros2, and K. F. Knowlton1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Cumberland Valley Analytical Services, Inc., Maugansville, MD, 3Dairy One, Ithaca, NY.

W269 Protein-energy mineral supplementation of Nellore bulls in the growing phase at Brachiaria brizantha ‘Marandu’ during the rainy season.
C. F. Lobo1, 2, F. A. Barbosa3, R. A. Mandarino1, G. A. Carneiro1, and S. L. S. Cabral Filho1, 1University of Brasilia, Brasilia, DF, Brazil, 2Federal University of Minas Gerais, Minas Gerais, MG, Brazil.

W270 Requirements for continuous ammonia-NH\textsubscript{3} sampling when using relaxed eddy accumulation from concentrated animal feeding operations.
C. D. Gambino1, J. M. Ham1, E. Allwine1, P. O’Keeffe1, S. N. Pressley1, B. K. Lamb1, and K. A. Johnson1, 1Washington State University, Pullman, 2Colorado State University, Fort Collins.

W271 Effects of weaning strategy on growth and stress in beef calves.
M. E. Howe*, L. B. Krebs, and E. G. Brown, Stephen F. Austin State University, Nacogdoches, TX.

W272 Whole herd enteric methane emission estimates in three contrasting dairy systems.
S. Utsumi1, 2, D. Beede3, S. Zimmerman2, and P. Zimmerman2, 1Michigan State University, East Lansing, 2C-Lock Technology Inc., Rapid City, SD.

W273 Withdrawn

W274 Effect of feeding frequency and protein supplementation on methane production by Holstein cows.

W275 Withdrawn

W276 Effect of Quebracho-chestnut tannin extracts at two forage levels on dairy cow lactation performance and emission of methane and ammonia.
M. J. Aguerre1, 2, M. C. Capozzolo1, M. A. Wattiaux1, and J. M. Powell2, 1University of Wisconsin-Madison, Madison, 2U.S. Dairy Forage Research Center, Madison, WI.

W277 Effect of fiber on greenhouse gas emissions from stored manure.
Q. Huang1, K. Perano2, M. Tenuta1, C. M. Nyachoti1, A. Strathe2, and E. Kebreab2, 1University of Manitoba, Winnipeg, MB, Canada, 2University of California, Davis, Davis.

W278 Evaluation of SF\textsubscript{6} emission for determination of methane in ruminants.
A. C. Ruggieri1, 2, N. C. Meister, I. P. Carvalho de Carvalho, N. L. Santos, V. Costa e Silva, F. de Oliveira Alari, and K. T. de Resende, UNESP-Univesidade Estadual Paulista, Jaboticabal, São Paulo, Brazil.

W279 Effect of dietary protein level and greenhouse gas emissions from dairy manure.
C. Lee1, A. N. Hristov1, C. J. Dell2, G. W. Feyereisen1, J. Kaye1, and D. Beegle2, 1Pennsylvania State University, University Park, 2USDA-ARS-PSWMRU, University Park, PA, 3USDA-ARS-SWMRU, St. Paul, MN.

W280 Use of an activity monitoring system as part of the Cal Poly dairy breeding protocol.
T. Nutcher* and S. Henderson, Department of Dairy Science, California Polytechnic State University, San Luis Obispo.

W281 Seasonal and diel changes of air emissions from cross-ventilated dairy freestall barns in Midwestern United States.
F. Y. Ayadi1, 2, E. L. Cortus1, L. D. Jacobsen1, F. P. Hetchler2, and A. J. Heber3, 1South Dakota State University, Brookings, 2University of Minnesota, St. Paul, 3Purdue University, West Lafayette, IN.
Ruminant Nutrition

Beef Cattle

W282  Effect of oat maturity and variety on yield and nutritive value for grazing cattle.
M. L. Drewery*,1, L. A. Redmon1, and T. A. Wickersham1,1 Texas A&M University, College Station, 2Texas AgLife Extension, College Station.

W283  Replacing grain and silage with wheat distiller grains: effects on feed intake, daily gain, carcass characteristics, and blood metabolites in finishing beef cattle.
W. Z. Yang*,1, T. A. McAllister1, J. J. McKinnon2, and K. A. Beauchemin1, 1Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB, Canada, 2Department of Animal & Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada.

W284  Effects of restricted versus conventional dietary adaptation over periods of 14 and 21 days on feedlot performance and carcass characteristics of Nellore cattle.
D. D. Millen*,1,2, F. S. Parra1, J. R. Ronchesel1, M. D. B. Arrigoni1, C. L. Martins1, R. S. Barducci1, L. M. N. Sarti1, R. D. L. Pacheco1, L. C. Vieira Júnior1, M. C. S. Franzó1,2, R. Espigolan1, J. M. P. Silva1, M. F. Val1, F. P. Luiz2, E. A. Chacon Filho1, 1São Paulo State University (UNESP), Botucatu, São Paulo, Brazil, 2São Paulo State University (UNESP), Dracena, São Paulo, Brazil, Supported by FAPESP, São Paulo, São Paulo, Brazil.

W285  Effect of three diets on carcass quantitative traits in cattle Nellore and crossbreed F1 Nellore × Brahman.
I. S. Silva*, F. A. Barbosa, S. L. S. Cabral Filho, R. A. Mandarino, and P. C. A. C. Alves, Faculty of Agronomy and Veterinary Medicine, University of Brasília-UnB, Brasília/DF, Brazil.

W286  Effects of supplementing an exogenous proteolytic enzyme on growth performance in finishing beef steers.
J. M. Vera*,1, C. T. Noviandi1, A.-H. Smith1, D. R. ZoBell1, and J.-S. Eun1, 1Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan, 2Danisco USA, Inc., Waukesha, WI.

W287  Effects of supplementing an exogenous proteolytic enzyme in beef finishing diets on ruminal fermentation in continuous cultures.
J. M. Vera1, T. Astuti1, A.-H. Smith1, D. R. ZoBell1, and J.-S. Eun1, 1Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan, 2Faculty of Animal Science, Andalas University, Padang, West Sumatra, Indonesia, 3Danisco USA, Inc., Waukesha, WI.

W288  Fecal and urinary excretion of N, P and S with increasing feeding wheat distillers dried grains with solubles (DDGS) in finishing beef heifers.
Y. L. Li1,2, C. Li1,3, W. Z. Yang1, T. A. McAllister1, and K. A. Beauchemin1, 1Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB, Canada, 2Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China, 3College of Animal Science, Inner Mongolia Agricultural University, Hohhot, Inner Mongolia, China.

W289  Effect of Optaflexx when fed as a topdress on performance and carcass traits of finishing steers.

W290  Effects of crude glycerin on in vitro gas production dry matter disappearance, VFA profiles, and composition of fermentative gasses.
E. H. C. B. van Cleef*, S. Uwutuzi1, and J. S. Drouillard1, 1Kansas State University, Manhattan, 2São Paulo State University, Jaboticabai, São Paulo, Brazil.

W291  Effects of ginger root (Zingiber officinale) on blood oxidative stability of beef cattle.
M. J. Liu*, Z. B. Yang, and W. R. Yang, Shandong Agricultural University, Shandong, Taian, China.

W292  Oro-sensory preferences for mixtures of protein and energetic ingredients in weaned calves.
C. Montoro*1, I. Ipharraguerre2, and A. Bach1,3, 1Ruminant Production, IRTA, Caldes de Montbui, Barcelona, Spain, 2Lucta S.A., Montornés del Vallès, Barcelona, Spain, 3ICREA, Barcelona, Spain.

W293  Evaluation of cotton ginning by-product value added feed as a supplement for grazing beef cattle.
J. D. Rivera*, L. W. Fitzgerald, M. L. Gipson, K. L. Odom, and R. G. Gipson, South MS Branch Experiment Station, Poplarville, MS.

W294  Influence of addition of tannins-extract in low concentration of dietary dry matter on feedlot-performance of bulls.
R. Barajas*,1, B. J. Cervantes1, A. Camacho1, M. Verdugo1, M. A. Espino1, L. R. Flores1, J. A. Romo1, E. A. Velazquez2, and J. J. Lomeíi1, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacán, Sinaloa, México, 2Ganadera Los Migueles S.A. de C.V., Culiacán, Sinaloa, México.

W295  Influence of addition of tannins-extract in low concentration of dietary dry matter on carcass characteristics of bull-calves.
A. Camacho*,1, B. J. Cervantes2, M. A. Espino1, M. Verdugo1, L. R. Flores1, J. A. Romo1, and R. Barajas1, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacán, Sinaloa, México, 2Ganadera Los Migueles S.A. de C.V., Culiacán, Sinaloa, México.

W296  Effect of length feeding additional tannins-extract on feedlot-performance of finishing-bulls.
R. Barajas*,1, B. J. Cervantes1, S. C. Arechiga1, M. A. Espino1, L. R. Flores1, A. Camacho2, and J. A. Romo1, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacán, Sinaloa, México, 2Ganadera Los Migueles S.A. de C.V., Culiacán, Sinaloa, México.

W297  Effect of length feeding additional tannins-extract on carcass traits of finishing-bulls.
S. C. Arechiga*,1, B. J. Cervantes1, M. A. Espino1, L. R. Flores1, A. Camacho1, J. A. Romo1, and R. Barajas1, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacán, Sinaloa, México, 2Ganadera Los Migueles S.A. de C.V., Culiacán, Sinaloa, México.
W300

**Feedlot performance and carcass traits of yearling bulls fed polyclonal antibody preparations, yeast or monensin.**
E. Rodrigues1,2, F. S. Parra1, M. D. B. Arrigonii, C. L. Martins1, D. D. Millen*, R. D. L. Pacheco1, R. S. Barducci1, L. M. N. Sarti1, J. R. Ronchese1, A. L. Campanini1, and D. Tomazella1, 2São Paulo State University (UNESP), Botucatu, São Paulo, Brazil, 2São Paulo State University (UNESP), Dracena, São Paulo, Brazil, Supported by FAPESP, São Paulo, São Paulo, Brazil.

W301

**Rumen papillae alterations of feedlot yearling bulls fed polyclonal antibody preparations, yeast or monensin.**
E. Rodrigues1,2, F. S. Parra1, M. D. B. Arrignonii, C. L. Martins1, D. D. Millen*, R. D. L. Pacheco1, R. S. Barducci1, L. M. N. Sarti1, J. R. Ronchese1, A. L. Campanini1, and D. Tomazella1, 2São Paulo State University (UNESP), Botucatu, São Paulo, Brazil, 2São Paulo State University (UNESP), Dracena, São Paulo, Brazil, Supported by FAPESP, São Paulo, São Paulo, Brazil.

W302

**Fatty acid profiles in adipose tissue of grazing and feedlot beef steers.**
C. T. Naviandi1, R. E. Ward2, J.-S. Eun1, D. M. Pearson1, T. Astuti1, B. L. Waldron1, and M. D. Peel1, 1Department of Animal, Dairy, and Veterinary Sciences, 2Department of Nutrition, Dietetics, and Food Sciences, Utah State University, Logan, USA.

W303

**Chromium propionate supplementation on feedlot performance of bulls.**
M. A. Espino1, B. J. Cervantes2, P. W. Rounds1, F. Valdez1, E. A. Velazquez1, J. A. Romo1, and R. Barajas1, 1FMVZ-Universidad Autonóma de Sinaloa, Culiacán, Sinaloa, Mexico, 2Ganadera Los Migueles S.A. de C.V., Culiacán, Sinaloa, Mexico.

W304

**Creatinine to estimate the quantity of carcass muscle and crude protein in the empty body weight.**
L. F. Costa e Silva, S. de C. Valadares Filho, P. P. Rotta*, R. F. D. Valadares, and D. Zanetti, Universidade Federal de Viçosa, Viçosa, São Paulo, Brazil.

W305

**Effect of glycerin on intake and digestion of bermudagrass hay in beef cattle.**
T. A. Wickersham*, K. M. Bodenstein, M. L. Drewery, R. O. Dittmar, and J. E. Sawyer, Texas A&M University, College Station.

W306

**Effect of methanol on intake and digestion in beef cattle.**
K. N. Winsco*, N. M. Kenney, R. O. Dittmar, J. A. Coverdale, J. E. Sawyer, and T. A. Wickersham, Texas A&M University, College Station.

W307

**Effects of purified lignin on growth performance of feedlot cattle.**
Y. Wang*, J. H. Lora1, and T. A. McAllister2, 1Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, Alberta, Canada, 2GreenValue Enterprises LLC, Media, PA.

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**Ruminant Nutrition**

**Dairy Cattle**

W308

**Protein balance alters expression of key genes for protein and lysine catabolism in liver of lactating dairy cattle.**
H. A. Tucker*, S. L. Koser1, P. H. Doane2, and S. S. Donkin1, 1Purdue University, West Lafayette, IN, 2Archer Daniels Midland Company, Decatur, IL.

W309

**Effects of OmniGen-AF on performance and economics of a veal operation.**
O. Bewley*, J. D. Chapman1, K. P. Zanzalari1, Y. Q. Wang2, and N. E. Forsberg1, 1Prince Agri Products, Quincy, IL, 2OmniGen Research, Corvallis, OR.

W310

**Determining methionine bioavailability in commercial dairy herds.**
D. Stucker1, J. R. Knapp2, and N. R. St-Pierre3, 1Venture Milling, Salisbury, MD, 2Fox Hollow Consulting LLC, Columbus, OH, 3The Ohio State University, Columbus.

W311

**Effect of returned milk (Nutri-Gold) on performance of veal calves.**
D. Vermeire*, Nouriiche Nutrition Ltd., Lake St. Louis, MO.

W312

**Antioxidant activity in milk of dairy cows fed diets containing propolis-based products.**
S. M. Cottica1, S. C. de Aguiar1, E. M. de Paula1, R. B. Samensari1, L. P. P. de Moura1, S. L. Franco1, J. V. Visentainer1, G. T. dos...
Ruminal fermentation of acidosis induced cows treated with monensin or polyclonal antibodies against target ruminal bacteria.

Effect of a combined supplement of vitamin B12 and folic acid on vitamin B12 concentration in milk of dairy cows.
M. Duplessis*, D. Pellerin, and C. L. Girard, Université Laval, Département des sciences animales, Québec, QC, Canada, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada.

Effects of cornmeal or molasses supplemented with different protein sources on milk production and nitrogen utilization of organic dairy cows.

Antioxidant activity of calf milk replacers.
M. A. Soberon*, D. J. R. Cherney, and R. H. Liu, Cornell University, Ithaca, NY.

Effects of essential oils, yeast and enzyme additive to milk replacer and starter on dairy calf performance.

Milk production responses of grazing cows to partial mixed rations.
M. J. Auldists*, J. L. Jacobs, L. C. Marett, J. S. Greenwood, and W. J. Wales, Department of Primary Industries, Ellinbank, Victoria, Australia.

Evaluation of a rumen protected carbohydrate supplement prototype feed with fresh lactation dairy cows.

Effects of balancing for methionine and lysine in a lactation diet containing high concentrations of wet corn gluten feed.

Effects of subacute ruminal acidosis (SARA) challenges on bacteria in the digestive tract of dairy cows.
S. Li*, J. C. Plaizier, E. Khafipour, and D. O. Krause, University of Manitoba, Winnipeg, MB, Canada.

Interactions between mild protein imbalance and taste preference in young ruminants.

Evaluation of RumeNext-D and monensin in early lactation diets for dairy cattle.

Comparing a 40-d dry period with a single close-up diet with a 60-d dry period with far-off and close-up diets on glucose, lactate, and calcium in the blood plasma of dairy cows.

A meta-analysis on the effects of supplementing exogenous fibrolytic enzyme products in dairy diets on productive performance in early lactation.
J. S. Eun*, C. M. Williams, and A. J. Young, Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan, Department of Soil and Crop Sciences, Colorado State University, Fort Collins.

Evaluation of dietary fat from dried distillers grains in the diet Holstein heifers on growth and dry matter intake.

Bee pollen and its polysaccharides, the new feed additives in milk replacer of preruminant calves.
Y. Tu*, G.-F. Zhang, N.-F. Zhang, C.-G. Jiang, and Q.-Y. Diao, Key Laboratory of Feed Biotechnology of Ministry of Agriculture/Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, P.R. China.

Effect of lipopolysaccharides on immune parameters and nitrogen metabolism in preruminant calves.
N.-F. Zhang, H. Li, Y. Tu, C.-G. Jiang, and Q.-Y. Diao, Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, P.R. China.
W329 Partially replacing barley grain with wheat factory sewage in the dairy cow diets did not affect digestion and milk production.
M. Khorvash1, S. Kargar1, G. R. Ghorbani1, M. Boroumand-Jari2, A. Ghaempour1, and W. Z. Yang1, 3, 4, Isfahan University of Technology, Isfahan, Iran, 1Jahad-Agriculture Institute of Scientific-Applied Higher Education, Isfahan, Iran, 2Agriculture and Agri-Food Canada, Research Centre, Lethbridge, Alberta, Canada.

W330 Effects of dietary crude protein level on eating pattern and performance of Holstein calves.
G. Araujo1, M. Devant1, A. Merou2, I. Ipharragueurre2, and A. Bach2, 3, 4, 5, 6, 7, Departamento de Ruminant Production, Institut de Recerca i Tecnologia Agroalimentàries (IRTA), Barcelona, Spain, 2Lucta, S.A., Barcelona, Spain, 3Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain.

W331 Feeding distiller’s grains as an energy source to gestating and lactating heifers: Impact on calving and pre-weaning progeny performance.
P. J. Gunn*, 1, J. P. Schoonmaker1, R. P. Lemenager1, and G. A. Bridges2, 3, 4, Purdue University, West Lafayette, IN, 5University of Minnesota, Grand Rapids.

W332 Feeding distiller’s grains as an energy source to gestating and lactating heifers: Impact on milk production, composition, and fatty acid profile.
P. J. Gunn*, 1, J. P. Schoonmaker1, R. P. Lemenager1, and G. A. Bridges2, 3, 4, Purdue University, West Lafayette, IN, 5University of Minnesota, Grand Rapids.

W333 Effect of extruded flax products on dairy cow milk and steer tissue fatty acid composition.
D. A. Christensen*, P. Yu, J. J. McKinnon, and A. Foth, University of Saskatchewan, Saskatoon, SK, Canada.

W334 Grain source and alfalfa hay particle size effects on fecal fermentability and particle size in midlactation Holsteins.
A. Nikkhah1, 4, S. M. Nasrollahi1, M. Khorvash2, and G. R. Ghorbani1, 2University of Zanjan, Zanjan, Iran, 3Isfahan University of Technology, Isfahan, Iran.

W335 Textured versus ground starter effects on Holstein calves chewing behavior.
A. Nikkhah1, 4, S. M. Nasrollahi1, B. Raad2, S. Khorsandi2, M. Forootan3, and S. P. Emami Panaahi2, 3University of Zanjan, Zanjan, Iran, 4Foeka Agriculture and Dairy Corporation, Isfahan, Iran.

W336 Changes in long-chain polyunsaturated fatty acid status of dairy cows during the periparturient period based on erythrocyte-membrane fatty acids.
C. L. Preseault1, H. M. Dann2, and A. L. Lock3, 4, Michigan State University, East Lansing, 5William H. Miner Agricultural Research Institute, Chazy, NY.

W337 A 40-d dry period with a single close-up diet and a 60-d dry period with far-off and close-up diets differ in their effects on lipolysis and liver triacylglycerol.
H. Khazaneheh1, 6, S. Li, D. O. Krause, M. L. Connor, L. Lippins, and J. C. Plaizier, University of Manitoba, Winnipeg, MB, Canada.

W338 Reduced protein for late-lactation dairy cows.
A. B. D. Pereira1, 2, L. K. Zeringue3, C. Leonardi2, M. E. McCormick2, and V. R. Moreira1, 2, Louisiana State University Agricultural Center, Baton Rouge, 3Louisiana State University - Health Sciences Center, New Orleans.

W339 Comparison of in vivo and in vitro NDF digestibility data in dairy cows.
S. Colombini1, 7, G. Galassi, L. Rapetti, and G. M. Crovetto, University of Milan, Department of Animal Science, Milano, Italy.

W340 Effect of two different non-forage fiber sources on performance and feeding behavior of Holstein calves.
L. I. Castells1, 2, A. Bach1, 2, G. A. Pirisino3, and M. Terré1, 2, Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, 3ICREA, Barcelona, Spain.

W341 Morphology of the rumen of dairy cows fed high or low grain content diets before parturition.

W342 Effects of menonins on metabolic parameters, feeding behavior, and productivity of transition dairy cows. (see Abstract 73).
C. R. Mullins1, 2, L. K. Mamedova1, M. J. Brouk1, 2, C. E. Moore1, 2, H. B. Green1, 2, K. L. Perfield1, 2, J. F. Smith1, 2, and J. P. Harner1, 2, Kansas State University, Manhattan, 1Ellanco Animal Health, Greenfield, IN.

W343 Energy efficiency and performance of lactating dairy cows fed ethanol and acetic acid.

W344 Effect of an essential oil compound based on ruminal disappearance of proteins, fiber and starch and fermentation parameters in dairy cow.
D. Éclache, P. Etienne, and V. Noirot*, Phodé Laboratoires, Terssac, France.

W345 Milk fatty acid profile from dairy cows fed tropical forage-based TMR containing increasing levels of sunflower oil.
M. A. S. Gama1, 2, C. G. S. Ribeiro1, 2, F. C. F. Lopes1, 2, M. M. Almeida1, 2, E. F. Motta1, 2, M. T. Ribeiro1, 2, and J. M. Griniari1, 2, Brazilian Agricultural Research Corporation, Juiz de Fora, Minas Gerais, Brazil, 3The University of Juiz de Fora, Juiz de Fora, Minas Gerais, Brazil, 4Swedish University of Agricultural Sciences, Uppsala, Sweden, 5The University of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil.
Effects of grinding or steam rolling of starter grains on nutrient digestibility of Holstein suckling calves.
N. Jalali-Farahani, M. Dehghan-Banadaky*, K. Rezayazdi, and M. Ganjkhanlou, Animal Science Department, Campus of Agriculture and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

Investigation of grinding or steam rolling of starter grains on growth performance of Holstein suckling calves.
N. Jalali-Farahani, M. Dehghan-Banadaky*, K. Rezayazdi, and M. Ganjkhanlou, Animal Science Department, Campus of Agriculture and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

Investigation of chewing activity in cows fed diet with different ratios of alfalfa hay and corn silage.
A. Akbaj, A. Zali, M. Ganjkhanlou, and M. Dehghan-Banadaky*, Animal Science Department, Campus of Agriculture and Natural Resources, University of Tehran, Karaj, Tehran, Iran.

A non activated charcoal reduced diarrhea of calves subject to Escherichia coli compared to a conventional treatment after 9 days of treatment.
C. Ionescu*, P. Ferretti, and D. M. Bravo, 1Pancosma, Geneva, Switzerland, 1NanoAgro, Buenos Aires, Argentina.

A new method for individually feeding a supplement to dairy cows in a free stall.
E. M. Ramsing*, C. M. Shriver-Munsch, J. R. Males, W. K. Sanchez, I. Yoon, and G. Bobe, 1Department of Animal Science, Oregon State University, Corvallis, 1Diamond V Mills, Cedar Rapids, IA.

Effect of dietary escape microbial protein (DEMP) and degradable protein level on fermentation, digestion, and N flow in rumen-simulating fermenters.

Effect of dietary escape microbial protein (DEMP) on fermentation, digestion, and N flow in rumen-simulating fermenters.

Odd- and branched-chain fatty acid (OBCFA) composition of plasma in response to N underfeeding and energy source in dairy cows and their distribution among plasma lipid classes.
R. Gervais*, B. Vlaeminck*, A. Fanchone*, P. Nozière*, M. Doreau, and V. Fievez, 1Département des sciences animales, Université Laval, Québec, Québec, Canada, 1Lanupro, Ghent University, Melle, Belgium, 1Unité de Recherches Zootechniques, INRA, Petit Bourg, Guadeloupe, France, 1Unité de Recherche sur les Herbivores, INRA, Theix, St-Génès-Champanelle, France.

Effect of dietary escape microbial protein (DEMP) and degradable protein level on fermentation, digestion, and N flow in rumen-simulating fermenters.

Enhancing antioxidant properties of milk using a programmed, nutritional approach.

Mineral metabolism in pregnant dairy goats.

Effect of various dosages of Saccharomyces cerevisiae fermentation product on milk production of multiparous dairy cows.
E. M. Ramsing*, C. M. Shriver-Munsch, J. R. Males, W. K. Sanchez, I. Yoon, and G. Bobe, 1Department of Animal Science, Oregon State University, Corvallis, 1Diamond V, Cedar Rapids, IA.

Prediction of enteric methane output from milk fatty acid composition, intake and rumen fermentation parameters.
R. Mohammed*, S. M. McGinn, and K. A. Beauchemin, AAFC, Lethbridge Research Centre, Lethbridge, AB, Canada.

Effect of dietary starch content in early lactation on the lactational performance of dairy cows.

A fibrolytic enzyme additive for lactating dairy cow diets: ruminal fermentation, pH, bacterial populations and enteric methane emissions.
Y.-H. Chung*, L. Holtshausen, T. W. Alexander, M. Oba, and K. A. Beauchemin, 1Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB, Canada, 2Department of Animal Science, University of Vermont, Burlington, 2Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada.
Nutritional and seasonal factors causes milk fat concentration variability in dairy cows.
A. S. Atzori*1, P. Carta2, G. Gaspa3, and A. Cannas1, 1Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari 07100, Italy, 2Associazione Regionale Allevatori della Sardegna, Nuraxinieddu, OR, Italy.

Replacing soybean meal with Upland cottonseed, Pima cottonseed or extruded Pima cottonseed cake on production of lactating dairy cows.

The effects of feeding high-fiber byproduct feedstuff on productivity of dairy cows in early lactation.
Y. Q. Sun* and M. Oba, University of Alberta, Edmonton, Alberta, Canada.

Ruminant Nutrition

Ruminal Metabolism

Determination of the metabolizable methionine contributions of three different sources of lipid coated methionine.
E. Devillard1, F. Rouffineau1, and B. Sloan*2, 1Adisseo France, Commentry, France, 2Adisseo North and Central America, Alpharetta, GA.

In vitro degradation of melamine in rumen liquor.
T. Calitz and C. W. Cruywagen*, Stellenbosch University, Stellenbosch, South Africa.

Characterization of lipase-producing bacteria in the presence of varying energy substrates in vitro.
H. D. Edwards*1, R. C. Anderson1, R. K. Miller1, T. M. Taylor2, M. D. Hardin3, S. B. Smith4, N. A. Krueger1, and D. J. Nisbet5, 1Texas A&M University, College Station, 2United States Department of Agriculture/Agricultural Research Service, Southern Plains Agricultural Research Center, College Station, TX, 3IEH Laboratories & Consulting Group, Lake Forest Park, WA.

Exogenous fibrolytic enzymes: Unlocking nutrients from fiber for ruminant production.
W. F. J. van de Vyver*1 and C. W. Cruywagen, Stellenbosch University, Stellenbosch, Western Cape, South Africa.

Comparison rumen degradability of Sedilizitia rosmarinus, Halocnemum strobilaceum and Kochia scoparia with wheat straw and alfalfa hay.
M. Mahmoudi-Abyane*, R. Valizadeh, A. A. Nasierian, and A. Koocheki, Ferdowsi University of Mashhad.

Comparison rumen degradability of Phragmites australis, Nitraria schoberi and Atriplex canescens species with wheat straw and alfalfa hay.
M. Mahmoudi-Abyane*, R. Valizadeh, A. A. Nasierian, and A. Koocheki, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran.

The comparison of chemical composition of Pragmates australis ensiled forage by various feed additives.
R. Valizadeh, M. Mahmoudi-Abyane*, and A. Salahi, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran.

The comparison of qualitative characteristics of Pragmates australis ensiled forage by various feed additives.
R. Valizadeh, M. Mahmoudi-Abyane*, and A. Salahi, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran.

A comparison of methods to analyze physical effectiveness fiber.
R. S. Goulart*1, L. G. Nussio, A. V. Pirez, J. L. P. Daniel, R. C. do Amaral, and V. P. Santos, University of Sao Paulo/ESALQ, Piracicaba, Sao Paulo, Brazil.

Rumen degradability of sugarcane (Saccharum spp.) treated with different hydrolysates agents used in Brazilian farms.
S. L. S. Cabral Filho*1,2, D. C. Pinto1, and R. A. Mandarino1, 1Universidade de Brasilia, Brasilia, Distrito Federal, Brasil, 2Fazenda Experimental Agua Limpa, Brasilia, Distrito Federal, Brasil.

Effect of dietary fish oil level on selected strains of rumen bacteria in continuous culture fermenters.
A. Ishlak*, A. A. AbuGhazaleh, P. Gudla, and D. Hastings, Southern Illinois University, Carbondale.

Effects of rumen-protected niacin on lipid metabolism, oxidative stress and production of transition dairy cows during summer in Wisconsin.
K. Yuan*2, R. Shaver1, S. Bertics1, M. Espineira1, and R. Grummer2, 1Department of Dairy Science, University of Wisconsin-Madison, Madison, 2Balchem Corporation, New Hampton, NY.

Using rumen microbes for consolidated bioprocessing to convert plant fiber to ethanol or other biofuels.
R. A. Kohn* and S.-W. Kim, University of Maryland, College Park.

Fiber-digesting rumen bacteria that predominantly produce propionate or butyrate.
S.-W. Kim* and R. A. Kohn, University of Maryland, College Park.

The combination of garlic oil and cinnamaldehyde modify rumen fermentation profile reducing methane production.
P. W. Cardozo*1, M. Blanch1, M. D. Carro2, and J. M. Ranilla2, 1Novus International Inc., St. Charles, MO, 2Deptartamento de
**W381**  
**Ruminal kinetics of the diets with increasing levels of crude propane-1,2,3-triol.**  

**W382**  
**Effect of various semi-arid medicinal plant essential oils on in vitro ruminal methane emission and feed fermentation efficiency.**  
H. Jahani-Azizabadi**, M. Danesh Mesgarani, A. R. Vakili, and K. Rezayazdi, 1Dept. of Animal Science, Excellence Center for Animal Science, Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavi, Iran, 2Dept. of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Tehran, Iran.

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**Rumen parameters and digestibility of diets with different levels of crude propane-1,2,3-triol.**  

**W384**  
**Dose response effects of a garlic oil chemical compound propyl-propyl thiosulfate (PTSO) on rumen microbial fermentation in a dual flow continuous culture system.**  
A. Foskotos*, A. F. De Souza†, M. Rodríguez-Prado†, A. Ferret‡, D. Bravo‡, and S. Calsamiglia†, 1Animal Nutrition, Management and Welfare Research Group, Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Pancosma, Geneva, Switzerland.

**W385**  
**Estimation of protein fractions of tropical grasses by near infrared reflectance spectroscopy.**  

**W386**  
**Commodity blood meal variation: digestible RUP and amino acids.**  
R. Brown*, J. R. Knapp‡, and N. R. St-Pierre‡, 1Venture Milling, Salisbury, MD, 2Fox Hollow Consulting, LLC, Columbus, OH, 3The Ohio State University, Columbus.

**W387**  
**Tannin content and rate of ruminal protein degradation of legume hays.**  
S. Colombini*, G. A. Broderick, J. H. Grabber, and W. K. Coblentz, 1University of Milan, Milan, Italy, 2U.S. Dairy Forage Research Center, Madison, WI, 3U.S. Dairy Forage Research Center, Marshfield, WI.

**W388**  
**Evaluation of acid-insoluble ash and indigestible neutral-detergent fiber as total tract digestibility markers.**  

**W389**  
**Nutritional value of Smallanthus sonchifolius and Moringa oleifera tropic forage as alternative in ruminant feeding.**  
L. C. Bernal Bechara*, Universidad de La Salle, Bogotá, Colombia.

**W390**  
**Postprandial hypoglycemia after feeding of alcohol-fermented apple pomace silage.**  

**W391**  
**Inclusion of substrate of Pleurotus ostreatus on kinetics of in vitro fermentation of Brachiaria hay.**  
S. L. S. Cabral Filho*, R. S. Oliveira, R. A. Mandarino, and C. A. Lobo, 1Universidade de Brasilia, Brasilia, Distrito Federal, Brazil, 2Fazenda Experimental Agua Limpa, Brasilia, Distrito Federal, Brazil.

**W392**  
**Evaluation of protein fractions of tropical grasses by near infrared reflectance spectroscopy.**  
R. G. Basurto†, G. Buendia-Rodríguez, S. S. González-Muñoz*, R. E. Ramirez, M. A. Barrón, J. J. G. Bustamante, R. E. Santos†, J. M. Maldonado*, and C. J. J. Maldonado, 1CENID Fisiología Animal-INIFAP, Queretaro, Mexico, 2CE Huimanguillo-INIFAP, Tabasco, Mexico, 3CE Santiago Ixcuintla-INIFAP, Nayarit, Mexico, 4CE Iguala-INIFAP, Iguala, Guerrero, Mexico, 5CE Rosario Izapa-INIFAP, Chiapas, Mexico, 6Colegio de Postgraduados, Montecillo, Estado de Mexico, Mexico.

**W393**  
**The effect of storage structure on haylage and corn silage fermentation.**  
C. Rasmussen*, D. Petri, S. Jens, and A. H. Smith, Danisco USA, Waukesha, WI.

**W394**  
**The effect of direct fed lactic acid bacteria combined with monensin.**  

**W395**  
**Morphological response of the ruminal and omasal mucosae to the variation in the energy of the diet.**  

**W396**  
**Determination of solubility of alternate magnesium sources and their impact on pH with an optimized in vitro rumen fermentation protocol.**  
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W397 Influence of Salix babylonica and Leucaena leucocephala extracts on ruminal fermentation activities in growing lambs.  

W398 Effect of live yeast Saccharomyces cerevisiae (strain Sc 47) on ruminal growth of growing Mehraban lambs.  
N. Baleghi, A. Taghizadeh, A. FarahAvar, and H. Khalivandi-Behroozy, Islamic Azad University, Maragheh Branch, University of Tabriz, University of Tehran, Urmia University.

W399 Intake and digestibility by wethers fed a fresh ryegrass-based diet intraruminally infused with Acacia mearnsii tannins.  
F. Hentz, C. J. Harter, G. V. Kozloski, S. C. Avila, and D. S. Castagnino, Universidade Federal de Santa Maria, Santa Maria, RS, Brazil, Universidade Estadual Paulista, Jaboticabal, SP, Brazil.

W400 Effect of sorghum grain supplementation on glucose metabolism 2: Oxine.  
M. Aguerre, C. Cajarville, A. L. Astessiano, M. Carriquiry, and J. L. Repetto, Departamento de Bovinos, Facultad de Veterinaria, Universidad de la República, Montevideo, Uruguay, Departamento de Nutrición Animal, Facultad de Veterinaria, Universidad de la República, Montevideo, Uruguay, Departamento de Producción Animal y Pasturas, Facultad de Agronomía, Universidad de la República, Montevideo, Uruguay.

W401 Inter-individual variability in in vitro methane production by ruminal microorganisms from sheep fed different diets.  

W402 Influence of sugar cane molasses levels on apparent digestibility of diets for finishing lambs.  

W403 Influence of additional tannins-extract level on feedlot-performance of finishing lambs.  

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Carcass, Genetics, Management, and Reproduction

W404 Carcass evaluations of sheep supplemented with brewer waste (ensiled and dried) grazing under the rainy season in tropics.  
F. P. Portilho, S. L. S. Cabral Filho, H. Louvandini, A. M. Menezes, and B. S. L. Dallago, Universidade de Brasilia, Brasilia, DF, Brazil, Agrodefesa, Rio Verde, GO, Brazil.

W405 Feed efficiency and carcass traits in crossbred Katahdin lambs supplemented with hydroponic green wheat.  

W406 Effect of diet and finishing weight on performance and carcass traits of meat goat kids.  

W407 Feedlot productive performance and carcass traits by hybrid lambs.  

W408 Evaluation of carcass characteristics of feedlot lambs receiving repeated doses of zeranol.  

W409 Performance and carcass characteristics of lambs fed with diets including protected fat and vitamin E.  
Feeding system and breed affect goat kid growth and carcass composition.
M.-E. Brassard*, L. Tessier, R. Gervais, E. Pouliot, C. Gariepy, G. F. Tremblay, R. Berthiaume, P. Y. Chouinard, and D. Cinq-Mars, Département des sciences animales, Université Laval, Québec, QC, Canada, 1AAFC, Food Research and Development Centre, Saint-Hyacinthe, QC, Canada, 2AAFC, Soils and Crops Research and Development Centre, Québec, QC, Canada, 4AAFC, Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada.

Molecular survey of Trypanosoma vivax infection in Nigerian goats.

Gene expression changes in goat testes during development and in sperm during the breeding and nonbreeding seasons.
A. N. Faucette*, P. K. Riggbs, D. W. Forrest, L. Nuti, G. R. Newton, and N. H. Ingii, 1Prairie View A&M University, Cooperative Agriculture Research Center, Prairie View, TX, 2Texas AgriLife Research, College Station.

Feeding management affect the occurrence of self-suckling in dairy goats.

Withdrawn

Finishing performance of lambs fed fresh or dehydrated spineless cactus (Opuntia ficus-indica).

Finishing performance of Pelibuey sheep fed with different levels of alfalfa.
V. Resendiz-Cruz, O. Hernandez-Mendo, J. Gallegos-Sanchez, P. A. Martinez-Hernandez, G. Aranda-Osorio*, C. Sanchez-Del Real, and S. S. Gonzalez-Muñoz, 1Colegio de Postgraduados, Montecillos, Estado de Mexico, Mexico, 2Universidad Autonoma Chapingo, Chapingo, Estado de Mexico, Mexico.

Evaluation of feedlot male lamb performance receiving repeated doses of Zeranol.

Effect of using different performance traits to estimate residual feed intake.

Increased nutritional level positively influences the onset of the breeding season and the reproductive performance of native male goats in northern Mexico.

Response of sexually inactive French Alpine bucks to the stimulus of estrous goats.

Contact with estrogenized female goats influences the end of sexual activity of young bucks but not adult bucks in northern Mexico.

NCSynch: A protocol for ovulation synchronization and timed artificial insemination in goats.

Comparison of two ovulation synchronization methods for timed artificial insemination in goats.
N. C. Whitley*, C. E. Farin, W. B. Knox, L. Townsend, J. R. Horton, K. Moulton, and S. Nusz, 1North Carolina A&T State University, Greensboro, 2North Carolina State University, Raleigh, 3NCDA, UMRS, Laurel Springs, NC, 4Redlands Community College, El Reno, OK.
W424  
Effect of flushing and (or) exposure to estrogenized does upon reproductive performance of anovulatory range goats exposed to male effect.
M. A. De Santiago-Miramontes*, J. R. Luna-Orozco¹, F. G. Véliz-Deras¹, R. Rodríguez-Martínez¹, P. A. Robles-Trillo¹, C. A. Meza-Herrera¹, and M. Mellado³, ¹Universidad Autónoma Agraria Antonio Narro, ²Centro de Bachillerato Tecnológico Agropecuario N° 1, ³Universidad Autónoma Chapingo, Unidad Regional Universitaria de Zonas Áridas.

W425  
Exposure of does in estrus to bucks subsequently induces estrus in anestrus females.
S. Marcelino-León*, J. R. Luna-Orozco¹, F. G. Véliz-Deras¹, L. Gaytán-Alemán¹, C. A. Meza-Herrera¹, R. Rodríguez-Martínez¹, M. Mellado¹, and M. A. De Santiago-Miramontes¹, ¹Universidad Autónoma Agraria Antonio Narro, ²Centro de Bachillerato Tecnológico Agropecuario N° 1, ³Universidad Autónoma Chapingo, Unidad Regional Universitaria de Zonas Áridas.

W426  
Influence of sexually inactive bucks subjected to either long photoperiod or testosterone upon the induction of estrus in anovulatory goats.
J. M. Guillén-Muñoz*, J. R. Luna-Orozco², L. M. Tejeda-Ugarte³, M. A. De Santiago-Miramontes¹, M. Mellado¹, F. G. Véliz¹, R. Rodríguez-Martínez¹, and C. A. Meza-Herrera¹, ¹Universidad Autónoma Agraria Antonio Narro, Torreón, Coahuila, México, ²Centro de Bachillerato Tecnológico Agropecuario No 1, Torreón, Coahuila, México, ³Universidad Autónoma Chapingo, Unidad Regional de Zonas Áridas, Bermejillo, Dgo., México.

W427  
Nutritional supplementation before or after the breeding season does not improve the productive and reproductive response of goats managed under a marginal production system in Northern Mexico.
C. G. Orta-Castillón¹, C. A. Meza-Herrera², G. Arellano-Rodríguez³, P. A. Robles-Trillo¹, M. A. De Santiago-Miramontes¹, R. Rodríguez-Martínez², M. Mellado³, and F. G. Véliz¹, ¹Universidad Autónoma Agraria Antonio Narro, Torreón, Coahuila, México, ²Universidad Autónoma Chapingo, Unidad Regional Universitaria de Zonas Áridas, Bermejillo, Durango, México, ³Universidad Autónoma Agraria Antonio Narro, Saltillo, Coahuila, México.
### Animal Health Symposium
#### Lipid Metabolism
**Chair:** Pedram Rezamand, University of Idaho  
**Sponsors:** Elanco Animal Health, Pfizer Animal Health

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<td><strong>Introduction</strong></td>
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<td>10:40 AM</td>
<td><strong>Lipid metabolism and inflammation in monogastric animals.</strong></td>
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<td>K. Ajuwon, Purdue University, West Lafayette, IN.</td>
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<tr>
<td>11:15 AM</td>
<td><strong>Lipids, antioxidants and longevity.</strong></td>
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<td>R. Hontecillas-Magarzo, Virginia Bioinformatics Center.</td>
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<td>11:50 AM</td>
<td><strong>Lipids and inflammation related to lactation.</strong></td>
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<td>M. A. McGuire, University of Idaho, Moscow.</td>
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### Animal Health
#### Swine and Other Species
**Chair:** Tanya Gressley, University of Delaware

**288-289**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 10:30 AM | **Comparison of porcine cathelicidin expression between Jinhua and Landrace pigs.**  
|          | Y. Gao*, S. An, Y. Xie, Y. Liu, F. Han, C. Luan, and Y. Wang, Institute of Feed Science, Zhejiang University, Hangzhou, Zhejiang Province, China.  |
| 10:45 AM | **The effect of prenatal stress and dominance order on immune function in response to a DTH and LPS challenge in pigs.**  
|          | B. L. Davis*, M. A. Sutherland¹, and M. A. Ballou¹, ¹Texas Tech University, Lubbock, ¹Ruakura Research Centre, AgResearch, Hamilton, New Zealand.  |
| 11:00 AM | **Effects of Lactobacillus fermentum** I5007 on the redox state of healthy and oxidative-stressed piglets.**  
|          | C. J. Cai*, A. N. Wang, L. C. Chu, S. Y. Qiao, and D. F. Li, China Agricultural University, Beijing, China.  |
| 11:15 AM | **In vitro antibacterial activity, cytotoxicity and mechanisms of cathelicidin peptides against enteric pathogens in weaning piglets.**  
|          | Y. Liu*, S. An, C. Luan, and Y. Wang, Institute of Feed Science, Zhejiang University, Hangzhou, Zhejiang Province, China.  |
| 11:30 AM | **Microbial transmission and assembly of the gut microbiota in neonatal pigs on day 7 and 14 postfarrowing.**  
|          | E. E. Hinkle*, I. Martinez, J. Walters, P. S. Miller, and T. E. Burkey, University of Nebraska-Lincoln, Lincoln.  |
| 11:45 AM | **Viability of Parascaris equorum eggs intermittently exposed to the interior of a windrow composting system.**  
|          | J. C. Gould*, E. T. Lyons, L. M. Lawrence, and M. G. Rossano, University of Kentucky, Lexington.  |
| 12:00 PM | **Effect of a yeast nucleotide product on performance and health status of broilers.**  
|          | A. Ganner*, S. Schaumberger, J. Uhlik, and G. Schatzmayr, BIOMIN Research Center, 3430 Tulln, Lower Austria, Austria.  |
| 12:15 PM | **The effect of Vernonia amygdalina leaf extract on Alloxan-induced diabetic rats.**  
Breeding and Genetics Symposium
Is There Space for Genomic Selection in Small Populations?
Chairs: Christian Maltecca, North Carolina State University, and Catherine Ernst, Michigan State
University
Sponsors: EAAP, Genus Plc, Pfizer Animal Health
286-287

10:30 AM 595 Is genomic selection a one size fits all?
I. Misztal*, University of Georgia, Athens.

11:00 AM 596 Is there value in maintaining small populations? Example of the Dual-Purpose Belgian Blue breed.
N. Gengler*1,2, H. Soyeurt1,2, C. Bastin1, B. Buske1, S. Vanderick1, and F. Colinet1; 1ULg - GxABT, Gembloux, Belgium,
2FNRS, Brussels, Belgium.

11:30 AM 597 Overview of genomic selection in dairy cattle populations.
P. M. VanRaden*1 and J. R. O'Connell2, 1Animal Improvement Programs Laboratory, ARS, USDA, Beltsville, MD,
2University of Maryland School of Medicine, Baltimore.

11:50 AM 598 Overview of genomic selection in small populations of beef cattle.
Center, Clay Center, NE.

12:10 PM 599 Overview of genomic-assisted selection in swine populations.
S. Forni*, Genus Plc, Hendersonville, TN.

12:30 PM 600 Delivering livestock genetic improvement in a genomics era: Evolving roles and responsibilities.
W. Herring* and K. Andersen, Pfizer Animal Genetics, Kalamazoo, MI.

Dairy Foods
Impact of Salt Reduction on Cheese
Chair: Donald McMahon, Utah State University
296

10:30 AM 601 Influence of salt-in-moisture of full fat and low fat Cheddar cheese on microflora and flavor.
D. J. McMahon*, C. J. Oberg1, L. V. Moyes1, R. E. Miracle3, and M. A. Drake3, 1Western Dairy Center, Utah State
University, Logan, 2Department of Microbiology, Weber State University, Ogden, UT, 3Southeast Dairy Foods Research
Center, North Carolina State University, Raleigh.

10:45 AM 602 Manufacture and sensory analysis of reduced and low sodium Cheddar cheeses.
B. Ganesan*, K. Brown, D. Irish, C. Brothersen, and D. J. McMahon, Western Dairy Center, Department of Nutrition,
Dietetics and Food Sciences, Utah State University, Logan.

11:00 AM 603 Growth and metabolism of Lactobacillus casei in a ripening Cheddar cheese model varying salt, lactate, and
lactose concentrations.
J.-H. Oh*, M. F. Budinich1, M. A. Drake3, R. E. Miracle3, J. R. Broadbent2, and J. L. Steele3, 1Department of Food
Science, University of Wisconsin-Madison, Madison, 2Department of Nutrition, Dietetics, and Food Sciences, Utah
State University, Logan, 3Department of Food Science, North Carolina State University, Raleigh.

11:15 AM 604 Manufacture and sensory analysis of reduced and low sodium pasta filata style Mozzarella cheeses.
B. Ganesan*, K. Brown, D. Irish, C. Brothersen, and D. J. McMahon, Western Dairy Center, Department of Nutrition,
Dietetics and Food Sciences, Utah State University, Logan.

11:30 AM 605 Informatic prediction of alterations to Cheddar cheese flavor reactions and pathways due to sodium substitution.
B. Ganesan* and K. Brown, Western Dairy Center, Department of Nutrition, Dietetics and Food Sciences, Utah State
University, Logan.

11:45 AM 606 The effect of NaCl substitution with KCl on Nabulsi cheese: Chemical composition, total viable count,
microstructure and texture profile.
N. P. Shah* and M. Ayyash, School of Biomedical and Health Sciences, Victoria University, Melbourne, Victoria, Australia.

12:00 PM 607 The effect of NaCl substitution with KCl on low moisture mozzarella cheese: Chemical composition, organic acid
profile, soluble calcium content, functional properties, proteolysis, lactic acid bacterial population, and ACE-
inhibitory peptides.
N. P. Shah* and M. M. Ayyash, School of Biomedical and Health Sciences, Victoria University, Melbourne, Victoria, Australia.
Dairy Foods
Yogurt and Ice Cream
Chair: Young Park, Fort Valley State University 295

10:30 AM 608 The impact of pectin types on the rheological and physical properties of yogurt.
S. S. Mohamed*1,2 and J. A. Lucey1, 1University of Wisconsin, Madison, 2University of Kafrelsheikh, Egypt.

10:45 AM 609 Engineering yoghurt texture: Interactions between texturing lactic acid bacteria and processing conditions in low fat stirred yoghurt.
K. B. Qvist*, C. Gilleladen, J. Trihaas, and C. Svane, Chr. Hansen, Hoersholm, Denmark.

11:00 AM 610 Yogurts made from milk where heating was performed at different pH values.
T. Ozcan1,2 and J. Lucey*, 1University of Wisconsin-Madison, Madison, 2Uludag University, Bursa, Turkey.

11:15 AM 611 Dextran addition to model acid gels to explore the mechanism by which EPS influence yogurt texture.
U. Pachekrepol* and J. A. Lucey, University of Wisconsin - Madison, Madison.

11:30 AM 612 Effect of the addition of glucose/glucose oxidase and packagings with different permeability oxygen rates on some characteristics of probiotic yogurts.
A. Cruz1, J. Assis*, D. Granato2, S. Bogusz Junior1, and H. Godoy1, 1University of Campinas (UNICAMP), 2University of São Paulo (USP).

11:45 AM 613 Effect of increased concentration of glucose oxidase in probiotic stirred yogurt on functionality, proteolytic pattern, and metabolic products.
A. Cruz, W. Castro, and J. Assis*, University of Campinas (UNICAMP).

12:00 PM 614 Impact of adding galactooligosaccharides on the physical and optical characteristics and sensory acceptance of vanilla ice cream.
A. Cruz, J. Faria*, W. Castro, R. Cadena, and H. Bolini, University of Campinas (UNICAMP).

12:15 PM 615 Physical properties and functionality of probiotic vanilla ice creams manufactured with different overruns levels.
A. Cruz, J. Faria*, W. Castro, R. Cadena, and H. Bolini, University of Campinas (UNICAMP).

Extension Education Symposium
Enhancing Educational Approaches for Future Changes in Biosecurity and Antibiotic Use in Animal Agriculture
Chair: Tamilee Nennich, Purdue University 389

10:30 AM 617 Overview—The importance of biosecurity and animal production.

11:00 AM 618 Biosecurity at the farm level: The role of extension in preventing animal disease introduction.
R. Daly*, South Dakota State University, Brookings.

11:30 AM Changes in Antibiotic Use in Europe.
A. Mathew.

12:00 PM 619 The Future of Antibiotic Use in the United States.
S. Clark.

12:30 PM 619 Extension and outreach programs that address contemporary issues in food animal production.
P. D. Ebner*, Purdue University Department of Animal Sciences, West Lafayette, IN.
**Horse Species**  
Equine Advancements  
Chair: J. S. McCann, Virginia Tech  

**290**

10:30 AM  620  
**Novel approach to measuring internal scrotal temperature in stallions utilizing a thermal sensory device.**  

10:45 AM  621  
**Electrolyte and pH response to submaximal training in Quarter and Miniature Horses.**  
R. M. Legere* and J. S. Pendergraft, Sul Ross State University, Alpine, TX.

11:00 AM  622  
**Effects of intra-articular lipopolysaccharide injection on circulating leukocyte population in yearling horses.**  

11:15 AM  623  
**Role of cellular sodium transport in nonglandular equine gastric ulcer disease.**  
F. Andrews*1, A. Peretich2, R. Reese1, L. Abbott2, and M. Dhar3, 1Louisiana State University, Baton Rouge, 2University of Tennessee, Knoxville.

11:30 AM  624  
**Effect of concentrate form on gastric ulcer syndrome in horses.**  
L. R. Huth*, D. H. Sigler, C. A. Cavinder, and N. D. Cohen, Texas A&M University, College Station.

11:45 AM  625  
**Evaluation of a granulated paper waste product as a suitable bedding material for horses.**  
A. G. Youngblood*, L. O. Tedeschi, and D. H. Sigler, Texas A&M University, College Station.

12:00 PM  626  
**Equine grazing preferences of twelve cool season grasses.**  

12:15 PM  627  
**A comparison of two conventional horse feeders with the Pre-Vent feeder.**  
M. Carter*, T. Friend, J. Coverdale, S. Garey, A. Adams, and C. Terrill, Texas A&M University, College Station.

12:30 PM  628  
**International Animal Agriculture**  
Chair: Harvey Blackburn, USDA-ARS  

**388**

10:30 AM  629  
**Evaluating varying dietary energy levels for optimum growth and early puberty in Sahiwal heifers under sub tropical environment.**  
M. Abdullah*, M. Fiaz1, M. Nasir1, M. E. Babar1, J. A. Bhatti1, T. N. Pasha1, and M. A. Jabbar1, 1University of Veterinary & Animal Sciences, Lahore, Punjab, Pakistan, 2University of Veterinary and Animal Sciences, Lahore, Punjab, Pakistan.

10:45 AM  630  
**Performance of Sahiwal calves raised on whole milk, blend or milk replacer with or without calf starter supplementation.**  
M. Abdullah*, J. A. Bhatti1, Z. Iqbal1, and K. Hayat1, 1University of Veterinary and Animal Sciences, Lahore, Pakistan, 2Livestock Experiment Station, Jhangirabad, Khanewal, Pakistan.

11:00 AM  631  
**Withdrawn**

11:15 AM  632  
**Financial and energy analysis spanning the first decade of the pioneer organic beef enterprise in the Mexican tropics.**  
P. Fajersson*1 and P. Parada1, 1EcoAgroPec, Hueytamalco, Puebla, Mexico, 2Carnes La Rumorosa, Poza Rica, Veracruz, Mexico.

11:15 AM  633  
**Expansion of meat rabbit projects in disaster-stricken Haiti.**  
S. D. Lukefahr*, M. Kaplan-Pasternak2, J. I. McNitt3, and Benito Migny Jasmin4, 1Texas A&M University, Kingsville, 2Nicasio, CA, 3Southern University Agricultural Research and Extension Center, Baton Rouge, LA, 4Cap Haitian, Haiti.
Meat Science and Muscle Biology Symposium
Biochemical Mechanisms influencing Postmortem Proteolysis and the Identification of Protein Markers for Predicting Tenderness
Chair: Brian Bowker, USDA-ARS, Beltsville, MD
Sponsor: EAAP
297
10:30 AM 634 The role of the muscle cell microenvironment on postmortem proteolysis. E. Huff-Lonergan* and S. Lonergan, Iowa State University.
11:05 AM 635 Orchestration of postmortem proteolysis following apoptosis onset. B. Yasmine2, B. Samira2, G. Mohamed2, and O. Ahmed*1, 1INRA de Clermont-Theix, St Genes Champanelle, France, 2University of Constantine, Constantine, Algeria.

Nonruminant Nutrition
DDGS
Chair: Mike Rincker, DPI Global
386-387
10:30 AM 637 Growth and physiological responses of growing pigs to co-fermented wheat and corn distillers dried grains with solubles. D. Ayoade*, E. Kiarie, B. Slominski, and CM Nyachoti, University of Manitoba, Winnipeg, Manitoba, Canada.
10:45 AM 638 High-protein distillers dried grains can replace soybean meal in the diets for growing-finishing pigs. L. Ma*1 and G. Allee1, 1Chia Tai Investment Co., Ltd., Beijing, China, 2University of Missouri, Columbia.
11:00 AM 639 Effects of including tallow, palm kernel oil, corn germ, or glycerol to diets containing distillers dried grains with solubles on pork fat quality of growing-finishing pigs. J. W. Lee*, B. D. Keever, J. Killefer, F. K. McKeith, and H. H. Stein, University of Illinois, Urbana.
11:15 AM 640 The impact of feeding corn distillers dried grains with solubles to sows on plasma and milk vitamin E and selenium levels. S. A. Crowder* and M. E. Johnston, JBS United Inc., Sheridan, IN.
11:30 AM 641 Evaluation of various corn distillers dried grains with solubles (DDGS) feeding strategies in nursery pigs. N. L. Horn*, C. R. Little, and J. D. Spencer, JBS United Inc., Sheridan, IN.

Nonruminant Nutrition Symposium
Nutrition’s Role in Environmental Management and Meeting Government Regulations
Chair: W. Randy Walker, DPI Global
Sponsor: EAAP
383-385
10:30 AM 643 An update on current environmental regulations and standards for livestock facilities. D. Porter*, Environmental Protection Agency, Region 7, Kansas City, KS.
11:00 AM 644 Environmental management regulations in Europe. N. Penlington*, BPEX, Warwickshire, UK.
11:30 AM 645 Nutritional practices that affect the environment-excretion of nitrogen, phosphorus, and sulfur; and emissions of odors and greenhouse gases from swine production facilities. B. J. Kerr*, USDA-ARS-NLAE, Ames, IA.
Physiology and Endocrinology II  
Chair: Jason Ross, Iowa State University  
393

10:30 AM 647 Can prenatal social stress impact sex characteristics in piglets?  
L. A. Mack*, S. D. Eicher1, A. K. Johnson1, D. C. Lay1, B. T. Richert1, and E. A. Pajor*, 1Purdue University, W. Lafayette, IN, 2LBRU, USDA-ARS, W. Lafayette, IN, 3Iowa State University, Ames, 4University of Calgary, Calgary, AB, Canada.

10:45 AM 648 Heat stress increases small intestinal permeability and circulating endotoxin in growing pigs.  

11:00 AM 649 The effect of naloxone on reproductive behavior and plasma prolactin levels in third lactation sows.  
V. O. Fuentes Hernandez*, R. Orozco Hernandez, and A. Bernal Canseco, Centro Universitario de los Altos, Universidad de Guadalajara, tepatitlan Jalisco, Mexico.

11:15 AM 650 Differential expressed proteins in porcine follicular fluid during folliculogenesis.  
J. M. Feugang*, K. Pendarvis1, S. T. Willard1, and P. L. Ryan4, 1Department of Animal and Dairy Sciences, Mississippi State University, Mississippi State, 2Life Science Biotechnology Institute, Mississippi State University, Mississippi State, 3Department of Biochemistry and Molecular Biology, Mississippi State University, Mississippi State, 4Department of Pathobiology and Population Medicine, Mississippi State University, Mississippi State.

11:30 AM 651 Effects of glucuronic acid supplementation on the in vitro maturation and fertilization of pig oocytes.  
A. R. Clark* and B. D. Whitaker, The University of Findlay, Findlay, OH.

11:45 AM 652 Vitrification versus freezing for cryopreserving bovine embryos.  
S. G. Kruse* and G. E. Seidel, Colorado State University, Fort Collins.

12:00 PM 653 Effects of cyanocobalamin supplementation on frozen-thawed boar spermatozoa.  
A. M. Hyde, L. E. Elsea*, and B. D. Whitaker, The University of Findlay, Findlay, OH.

12:15 PM 654 GnRH therapeutics to advance the timing of pregnancy in the seasonally anovulatory mare.  
J. F. Thorson*, L. D. Prezotto1,2, R. D. Cardoso1,2, B. R. C. Alves1, M. Amstalden1, and G. L. Williams1,2, 1Texas AgriLife Research, Beeville, 2Texas A&M University, College Station.

Production, Management and the Environment Production  
Chair: John Comerford, Penn State University  
391

10:30 AM 655 Adaption of a kinetic chromogen LAL test system to investigate the incidence of endotoxins on pig farms.  
S. Schaumberger*, C. Ratzinger, L. Krüger, and G. Schatzmayr, BIOMIN Research Center, Tulln, Austria.

10:45 AM 656 Effect of day of mixing gestating sows on measures of reproduction and animal well-being.  
M. Hopgood*, L. Greiner1, J. Connor1, J. Salak-Johnson1, and R. Knox1, 1University of Illinois, Urbana, 2Carthage Veterinary Service, Carthage, IL.

11:00 AM 657 A pig growth model for assessment of environmental footprint from swine operations: Effect of dietary energy and lysine supply.  
A. B. Strathe*, A. Danfaer1, H. Jorgensen2, and E. Kebreab1, 1Department of Animal Science, University of California, Davis, 2Department of Animal Health and Bioscience, Faculty of Agricultural Sciences, Aarhus University, Blichers Allé 20, 8830 Tjele, Denmark.

11:15 AM 658 Evaluating the biological and economic differences between light- and heavy-birth weight piglets.  
D. A. Widmar*, N. J. Olynk, A. P. Schinckel, B. T. Richert, and K. A. Foster, Purdue University, West Lafayette, IN.

Withdrawn

Withdrawn
Doe reproductive rates among Boer F$_1$ and four purebred genotypes including Myotonic in the southeastern United States.
A. Nguluma*1, R. Browning1, A. Pellerin1, J. Groves1, and M. Leite-Browning1, 1Tennessee State University, Nashville, 2Alabama A&M University, Huntsville.

Survival rates within a breeding population of Boer, Kiko, and Spanish does managed in the southeastern United States.
A. Pellerin*1, R. Browning1, M. Leite-Browning2, and M. Byars1, 1Tennessee State University, Nashville, 2Alabama A&M University, Huntsville.

Ruminant Nutrition
Dairy: Fats, Proteins, and Carbohydrates
Chair: Stephanie Ward, Mississippi State University

The effect of increasing the nutrient and amino acid concentration of whole milk diets on dairy heifer individual feed intake, growth, development and lactation performance.
J. K. Margerison*, IFNHH Massey University, Private Bag 11 222, Palmerston North, New Zealand.

Integration of cyclic GMP-dependent protein kinase (PKG) and phosphatidylinositol 3-kinase (PI3K) on rumen protozoal chemotaxis to glucose and soluble peptides.
H. L. Diaz* and J. L. Firkins, The Ohio State University, Department of Animal Science, Columbus.

Evaluation of specificity of hydrolysis methods for separation of water-soluble carbohydrates.
M. B. Hall*, US Dairy Forage Research Center, USDA-ARS, Madison, WI.

Effect of dietary protein level and rumen-protected amino acid supplementation on dietary amino acid apparent digestibility and recovery in milk in lactating dairy cows.
C. Lee*, A. N. Hristov1, T. Cassidy1, K. Heyler1, H. Lapierre1, G. A. Varga1, and C. Parys1, 1Pennsylvania State University, University Park, 2Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 3Evonik Degussa GmbH, Hanau, Germany.

Microbiome analysis of the rumen, cecum, and feces of dairy cows with subacute ruminal acidosis.
E. Khafipour1, S. Li*, J. C. Plaizier1, S. E. Dowd2, and D. O. Krause1, 1University of Manitoba, Winnipeg, MB, Canada, 2Medical Biofilm Research Institute, Lubbock, TX.

The effect of diet on milk fatty-acid profiles in Holstein dairy cattle on commercial dairy farms.
R. W. Swidan*1, Y. Chouinard2, R. Lacroix1,3, D. Lefebvre3, and K. M. Wade1, 1McGill University, Montreal, QC, Canada, 2Laval University, Quebec City, QC, Canada, 3Valacta, Ste. Anne de Bellevue, QC, Canada.

Effects of close-up dietary energy strategy and prepartal dietary monensin on production and metabolism in Holstein cows.
J. A. Vasquez*1, K. L. Perfield2, H. B. Green1, and J. K. Drackley1, 1University of Illinois, Urbana, 2Elanco Animal Health, Greenfield, IN.

Effects of close-up dietary energy strategy and prepartal dietary monensin on rumen dynamics and fermentation in Holstein cows.
B. F. Richards*1, J. A. Vasquez1, K. L. Perfield2, H. B. Green1, M. R. Murphy1, and J. K. Drackley1, 1University of Illinois, Urbana, 2Elanco Animal Health, Greenfield, IN.

Feeding a C16:0-enriched fat supplement increased the yield of milk fat and improved feed efficiency.

Ruminant Nutrition Symposium
Modulation of Metabolism Through Nutrition and Management
Chair: Masahito Oba, University of Alberta

Optimizing production of the offspring: Nourishing and managing the dam and the calf early in life.
A. Bach*1,2, 1Department of Ruminant Production, IRTA, Barcelona, Spain, 2ICREA, Barcelona, Spain.
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<th>Authors</th>
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<tr>
<td>11:00 AM</td>
<td>672</td>
<td>Optimizing production of the dairy cow: Nutrition and management during late pregnancy.</td>
<td>J. K. Drackley*, University of Illinois, Urbana.</td>
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<td>11:40 AM</td>
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<td>12:30 PM</td>
<td>674</td>
<td>Optimizing production during heat stress: Nutrition and Management.</td>
<td>L. H. Baumgard** and R. P. Rhoads¹, Iowa State University, Ames, University of Arizona, Tucson.</td>
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<tr>
<td>10:30 AM</td>
<td>675</td>
<td>Toxicokinetic and carry-over of ochratoxin A in lactating goats.</td>
<td>R. Blank*, M. Looff², M. Mobashar¹, A. Westphal¹, and K.-H. Südekum¹, University of Kiel, Germany, University of Bonn, Germany.</td>
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<tr>
<td>10:45 AM</td>
<td>676</td>
<td>Effects of replacing rolled barley grain with wheat dried distillers’ grains with solubles in Merino sheep rations.</td>
<td>A. S. O’Hara*, A. V. Chaves¹, E. Jonas¹, A. Tanner¹, D. Palmer¹, and R. D. Bush¹, Faculty of Veterinary Science, The University of Sydney, Sydney, NSW, Australia, Faculty of Agriculture, Food and Natural Resources, The University of Sydney, Sydney, NSW, Australia.</td>
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<td>11:30 AM</td>
<td>679</td>
<td>Iron carbonate supplementation of lambs administered high-sulfur water.</td>
<td>A. M. Jons*, K. L. Kessler¹, K. J. Austin¹, C. Wright¹, and K. M. Cammack¹, University of Wyoming, Laramie, South Dakota State University, Brookings.</td>
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<tr>
<td>11:45 AM</td>
<td>680</td>
<td>Effect of supplementing ewes during late gestation with metabolizable protein on wether lamb feedlot performance, carcass characteristics, and nitrogen balance.</td>
<td>M. L. Van Emon¹, K. A. Vonahme¹, S. E. Eckerman¹, L. A. Lekatz¹, K. R. Maddock Carlin¹, M. M. Thompson¹, and C. S. Schauer¹, Department of Animal Sciences, North Dakota State University, Fargo, Hettinger Research Extension Center, North Dakota State University, Hettinger.</td>
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<td>12:00 PM</td>
<td>681</td>
<td>Effect of increasing dietary inclusion of dried distillers grains with solubles on nutrient digestion and retention in growing lambs.</td>
<td>T. L. Felix* and S. C. Loerch, The Ohio State University, Wooster.</td>
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<td>12:30 PM</td>
<td>683</td>
<td>Use of Megasphaera elsdenii NCIMB 41125 during introduction of sheep on corn crop residues and un-harvested corn lands.</td>
<td>P. H. Henning* and F. M. Hagg, MS Biotech, Centurion, South Africa.</td>
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**Ruminant Nutrition**  
**Small Ruminants**  
Chair: Darrell Rankins, Auburn University  
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<tr>
<td>10:30 AM</td>
<td>684</td>
<td>White blood cell populations in goat kids and lambs during the first four days of life, with special reference to CD4 and CD8.</td>
<td>A. Arguello¹, L. E. Hernandez-Castellano¹, A. Morales delaNuez¹, I. Moreno-Indias¹, J. Capote¹, N. Castro¹, Universidad de Las Palmas de Gran Canaria, Arucas, Las Palmas, Spain, Instituto Canario de Investigaciones Agrarias, La Laguna, Tenerife, Spain.</td>
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**Small Ruminant**  
**Health and Genetics**  
Chair: Rebecca Cockrum, University of Wyoming  
392

<table>
<thead>
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<td>10:00 AM</td>
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<td>White blood cell populations in goat kids and lambs during the first four days of life, with special reference to CD4 and CD8.</td>
<td>A. Arguello¹, L. E. Hernandez-Castellano¹, A. Morales delaNuez¹, I. Moreno-Indias¹, J. Capote¹, N. Castro¹, Universidad de Las Palmas de Gran Canaria, Arucas, Las Palmas, Spain, Instituto Canario de Investigaciones Agrarias, La Laguna, Tenerife, Spain.</td>
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10:45 AM 685 Immune status of goat kids fed cow’s milk with an exogenous source of DHA.
I. Moreno-Indias*, L. E. Hernández-Castellano1, A. Morales delaNuez1, A. Torres2, D. Sánchez-Macias1, N. Castro1, and A. Argüello1, 1Universidad de las Palmas de Gran Canaria, Arucas, Las Palmas, Spain, 7Instituto Canario de Ciencias Agrarias, La Laguna, Santa Cruz de Tenerife, Spain.

11:00 AM 686 Effects of feeding sericea lespedeza as a natural anthelmintic for Haemonchus contortus in lactating does.
J. L. Vest*, M. A. Brown4, J. D. Kohler4, M. D. Hudson4, S. R. Nusz5, J. M. Burke6, J. E. Miller7, C. T. Mackown6, and E. L. Walker8, 1Missouri State University, Springfield, 2Louisiana State University, Baton Rouge, 3Dale Bumpers Small Farms Research Center, USDA-ARS, Booneville, AR, 4Grazinglands Research Laboratory, USDA-ARS, El Reno, OK, 5Redlands Community College, El Reno, OK.

11:15 AM Break

11:30 AM 687 Polymorphisms in the melanocortin-1 receptor (MC1R) gene in Nigerian indigenous goats.
M. A. Adefenwa1, B. Oboh1, G. O. Williams1, M. Wheto1, C. O. N. Ikeobi2, K. Adekoya1, M. Okpeku1, M. De Donato4, and I. G. Imumorin4, 1Dept of Cell Biology and Genetics, University of Lagos, Lagos, Nigeria, 2Dept of Animal Breeding and Genetics, University of Agriculture, Abeokuta, Nigeria, 3Dept of Livestock Production, Niger Delta University, Amassoma, Nigeria, 4Dept of Animal Science, Cornell University, Ithaca, NY.

11:45 AM 688 Molecular identification of Trypanosoma vivax Infection and physiological indices in Nigerian sheep.
G. O. Onasanya1, M. A. Adefenwa2, B. O. Agaviezor3, C. O. N. Ikeobi2, M. Wheto1, M. Okpeku1, A. Yakubu3,5, M. I. Takeet6, M. De Donato7, and I. G. Imumorin7, 1Dept of Cell Biology and Genetics, University of Agriculture, Abeokuta, Nigeria, 2Dept of Cell Biology and Genetics, University of Lagos, Lagos, Nigeria, 3Dept of Animal Science and Fisheries, University of Port Harcourt, Port Harcourt, Nigeria, 4Dept of Livestock Production, Niger Delta University, Amassoma, Nigeria, 5Department of Animal Science, Nasarawa State University, Lafia, Nigeria, 6Dept of Veterinary Microbiology and Parasitology, University of Agriculture, Abeokuta, Nigeria, 7Dept of Animal Science, Cornell University, Ithaca, NY.

12:00 PM 689 Polymorphism in the ovine TNXB gene and association with morphological traits and physiological status in Nigerian Indigenous sheep.
O. Ajayi1, M. A. Adefenwa2,6, B. O. Agaviezor1,6, C. O. N. Ikeobi2, M. Wheto1, M. Okpeku1, A. Yakubu3,5, M. De Donato6, and I. G. Imumorin6, 1Dept of Animal Breeding and Genetics, University of Agriculture, Abeokuta, Nigeria, 2Dept of Animal Breeding and Genetics, University of Lagos, Lagos, Nigeria, 3Dept of Animal Science and Fisheries, University of Port Harcourt, Port Harcourt, Nigeria, 4Dept of Livestock Production, Niger Delta University, Amassoma, Nigeria, 5Dept of Animal Science, Nasarawa State University, Lafia, Nigeria, 6Dept of Animal Science, Cornell University, Ithaca, NY.

12:15 PM 690 Lean lamb production during the process of grading up to hair sheep genetics.

OTHER EVENTS

Mixed Models
390
10:30 AM - 5:00 PM

The Mixed Models workshop provides a comprehensive exposition of proper statistical data analysis and power determinations of commonly used experimental designs in the animal sciences; our approach is example-driven and primarily based on the various mixed model analysis procedures available in SAS software.
SYMPOSIA AND ORAL SESSIONS

Alpharma Beef Cattle Nutrition Symposium
Enhancing Beef Production Efficiency with New Knowledge and Technologies:
Building the Bridges for Future Collaboration
Chair: Darrin L. Boss, Montana State University
Sponsors: Alpharma Animal Health, ASAS Foundation

291-292

2:00 PM  691  Implications of nutritional management for beef cow/calf systems.
R. N. Funston*, University of Nebraska, West Central Research and Extension Center, North Platte.

2:35 PM  692  Altering the ruminal microbiome and its potential impact on animal nutrition and performance.
S. L. Lodge-Ivey*, New Mexico State University, Las Cruces.

3:10 PM  693  Nutrition and the genome.
H. L. Neibergs*, Washington State University, Pullman.

3:45 PM  694  Impacts of health status and disease prevention with nutrition and performance of beef cattle.
B. P. Holland*, and L. O. Burciaga-Robles, Department of Animal and Range Sciences, South Dakota State University, Brookings; Feedlot Health Management Services Ltd., Okotoks, Alberta, Canada.

4:20 PM  695  Interactions with beef cattle nutrition and metabolism: Developing an integrated across discipline approach to research; building the bridges for future collaboration, summary.
D. L. Boss*, Montana State University, Bozeman.

Animal Health
Dairy I
Chair: Pedram Rezamand, University of Idaho

298-299

2:00 PM  696  Effect of a micronutrient supplement on the functional capacity of neutrophils harvested from the blood of dairy cows during the periparturient period.
X. S. Revelo*, A. L. Kenny, N. M. Barkley, and M. R. Waldron, University of Missouri, Columbia.

2:15 PM  697  Multiple Mycoplasma spp. detected in bulk tank milk samples using real-time PCR and conventional culture, and agreement between test methods.
D. J. Wilson*, A. Justice-Allen, J. D. Trujillo, and G. Goodell, Utah State University, Logan; Arizona Game and Fish Department, Phoenix; Iowa State University, Ames; The Dairy Authority, Greeley, CO.

2:30 PM  698  Multiple tests based estimates of Mycobacterium avium ssp. paratuberculosis prevalence in domestic ruminant population suspected for Johne’s disease.

2:45 PM  699  Evaluation of a BVD milk ELISA test detecting anti-p80 antibody and comparison with ear notch testing for PI cattle.
D. J. Wilson*, K. A. Rood, and G. Goodell, Utah State University, Logan; The Dairy Authority, Greeley, CO.

3:00 PM  700  Biophotonic imaging as a method to evaluate efficacy of intramammary antibiotics against Staphylococcus aureus in vitro.

3:15 PM  701  Experimental induction of Streptococcus uberis mastitis in bred dairy heifers: A challenge model.

3:30 PM  702  Effects of OmniGen-AF on enhancing immunity in dairy heifers vaccinated with a Staphylococcus aureus bacterin.
V. J. Eubanks*, N. E. Forsberg, Y. Q. Wang, K. Zanzalari, J. Chapman, D. J. Hurley, F. M. Kautz, L. O. Ely, and S. C. Nickerson, University of Georgia, Athens; Oregon State University, Corvallis; Prince Agri Products Inc., Quincy, IL.
Breeding and Genetics

Dairy Cattle Breeding II
Chair: John B. Cole, Animal Improvement Programs Laboratory, ARS-USDA, Beltsville, MD

2:00 PM 707 Methods for the assessment of milk coagulation properties: a genetic analysis.
A. Cecchinato*, M. Penasa, M. De Marchi, C. Cipolat Gotet, I. Bazzoli, N. Cologna, and G. Bittante, Department of Animal Science, University of Padova, Viale dell’Università 16, 35020 Legnaro, Padova, Italy.

2:15 PM 708 Genetic relationships between fertility and content of major fatty acids in milk for first-parity Walloon Holstein cows. C. Bastin*, N. Gengler1,2, and H. Soyeurt1,2, University of Liège, Gembloux Agro-Bio Tech, Animal Science Unit, Gembloux, Belgium, 2National Fund for Scientific Research, Brussels, Belgium.

2:30 PM 709 Relationships between mortality and 305-d milk yield of Holstein cows in three regions in US. K. Tokuhisa*, S. Tsuruta, and I. Misztal, University of Georgia, Athens.

2:45 PM 710 Genetic parameters of body condition score and other traits in Canadian Holsteins. S. Loker*, C. Bastin, F. Miglior1,2, A. Sewalem1,2, L. R. Schaeffer1, J. Jamrozik1, and V. Osborne1, 1CGIL, Dept. of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, 2University of Liège, Gembloux Agro-Bio Tech, Gembloux, Belgium, 3Guelph Food Research Centre, Agriculture and Agri-Food Canada, Guelph, ON, Canada, 4Canadian Dairy Network, Guelph, ON, Canada, 5Centre for Nutrition Modelling, Dept. of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada.

3:00 PM 711 Relationship between body condition score, locomotion and dairy strength with functional longevity in Canadian Holsteins. A. Sewalem1,2, F. Miglior1,2, and G. Kistemaker1, 1Agriculture and Agri-Food Canada, Guelph, Ontario, Canada, 2Canadian Dairy Network, Guelph, Ontario, Canada.


3:30 PM 713 Genetic association of days open with feed intake and efficiency. J. E. Vallimont1, C. D. Dechow2*, J. M. Daubert1, M. W. Dekleva2, and J. W. Blum2, 1Pennsylvania State University, University Park, 2University of Bern, Bern, Switzerland.

Breeding and Genetics

Molecular Genetics
Chair: Catherine W. Ernst, Michigan State University

2:00 PM 714 A comparison of six protocols for isolation of high quality and quantity ovine genomic DNA suitable for microarray analysis. A. Psifidi1, C. I. Dova2, G. Bramis1, G. Arsenos1, and G. Banos*1, 1Department of Animal Production, Faculty of Veterinary Medicine, Aristotle University of Thessaloniki, GR 54124, Thessaloniki, Greece, 2Laboratory of Microbiology and Infectious Diseases, Faculty of Veterinary Medicine, Aristotle University of Thessaloniki, GR 54124, Thessaloniki, Greece.
2:15 PM 715 Association between the ghrelin gene with milk production traits in Murrah buffaloes (*Bubalus bubalis*).

2:30 PM 716 Relationship between horn fly infestation and polymorphisms in cytochrome P450 and prolactin promoter genes in beef cows.
A. R. Boyer*1, M. A. Brown1, M. L. Looper4, A. H. Brown1, C. D. Steelman1, and C. F. Rosenkrans1, 1*University of Arkansas, Fayetteville, 1USDA-ARS, Grazinglands Research Laboratory, El Reno, OK, 1USDA-ARS, Dale Bumpers Small Farms Research Center, Booneville, AR*.

2:45 PM 717 Gene expression analysis and fatty acid profiling in concentrate and pasture based beef finishing systems.
J. W. Buchanan*1, A. J. Garmyn1, G. G. Hilton1, D. L. VanOverbeke2, Q. Duan1, D. C. Beitz1, and R. G. Mateescu1, 1Oklahoma State University, Stillwater, 1Iowa State University, Ames.

3:00 PM 718 Expression analysis of key genes of bovine fat metabolism indicated correlated trans regulatory mechanisms in a bovine resource population segregating for two major genes affecting growth and lipid deposition.

3:15 PM 719 Sound and efficient designs and models for RNA-seq experiments with application in animal genomics.
J. P. Steibel* and P. Reeb, *Michigan State University, East Lansing*.

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**Dairy Foods**

**Cheese**

**Chair: Randy Brandsma, Schreiber Foods**

2:00 PM 720 Microbial and sensory evaluation of fresh Mozzarella cheese.
B. Ganesan*, D. Irish, C. Brothersen, and D. J. McMahon, *Western Dairy Center, Department of Nutrition, Dietetics and Food Sciences, Utah State University, Logan*.

2:15 PM 721 CheddarCyc: A database of Cheddar cheese flavor reactions and pathways.
B. Ganesan* and K. Brown, *Western Dairy Center, Department of Nutrition, Dietetics and Food Sciences, Utah State University, Logan*.

2:30 PM 722 New approaches to understand cheese ripening.
S. Lortal*1,2, V. Gagnaire1,2, S. Jeanson1,2, J. Floury1,2, and M.-N. Madec1,2, 1INRA, Rennes, France, 2Agrocampus-Ouest, Rennes, France.

2:45 PM 723 In situ proteolytic activity of *Lactobacillus helveticus* and stretchability of Swiss-type cheese.
L. Sadat-Mekmene1,2, R. Richoux3, L. Aubert-Frogerais3, M.-N. Madec1,2, C. Corre1,2, M. Piot1,2, J. Jardin1,2, S. Lortal*1,2, and V. Gagnaire1,2, 1INRA, Rennes, France, 2Agrocampus Ouest, Rennes, France, 3Actilait, Rennes, France.

3:00 PM 724 Influence of Hofmeister salts on the textual and rheological properties of nonfat process cheese.
J. A. Stankey* and J. A. Lucey, *University of Wisconsin, Department of Food Science, Madison*.

3:15 PM 725 Impact of reforming on low-fat cheese texture as influenced by pH.
C. Akbulut* and J. A. Lucey, *Department of Food Science, University of Wisconsin, Madison*.

3:30 PM 726 Recovery of ω-3 fatty acids in Cheddar cheese curd and long-term stability of ω-3 fatty acids in whey powder.
B. Ganesan*, C. Brothersen, and D. J. McMahon, *Western Dairy Center, Department of Nutrition, Dietetics and Food Sciences, Utah State University, Logan*.

3:45 PM 727 Rheology, microstructure and quality of curd made from buffalo milk: A comparison with ultrafiltered cows’ milk.
I. Hussain*, A.S. Grandison, and A.E. Bell, *Department of Food and Nutritional Sciences, University of Reading, Reading, Berkshire, UK*. 
Dairy Foods
Chemistry and Dairy Product Analysis
Chair: Kerry Kaylegian, Penn State University

2:00 PM 728 Effect of milk processing on the MFGM proteins and phospholipids.
X. Elias-Argote* and R. Jiménez-Flores, California Polytechnic State University, San Luis Obispo.

2:15 PM 729 Focus on milk fat globule membrane proteins from goat milk.

2:30 PM 730 Identification of major milk fat globule membrane proteins from pony mare’s milk highlights the molecular diversity of lactadherin across species.

2:45 PM 731 Effect of methane emission reducing diet on coagulation properties of bovine milk.
A. Aprianita*, O. N. Donkor, P. J. Moate, M. J. Auldist, J. S. Greenwood, W. J. Wales, and T. Vasiljevic, School of Biomedical and Health Sciences, Faculty of Health, Engineering and Science, Victoria University, Melbourne, Victoria, Australia.

3:00 PM 732 Development of a method to determine the susceptibility of raw milk to oxidation.
J. K. Amamcharla* and L. E. Metzger, Midwest Dairy Foods Research Center, Dairy Science Department, South Dakota State University, Brookings.

3:15 PM 733 Measurement of a milk gelation time constant using laser-scanning fluorescence confocal microscopy and image processing techniques.
R. Hennessy* and R. Jimenez-Flores, Cal Poly Biomedical Engineering, San Luis Obispo.

3:30 PM 734 Mid-infrared predictions of lactoferrin content in bovine milk.

3:45 PM 735 First assessment of diffusion coefficients in model cheese by fluorescence recovery after photobleaching (FRAP) analysis.

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Growth and Development
Animal Performance and Cellular Differentiation

Chairs: John Blanton, The Samuel Roberts Noble Foundation, and Nicholas Gabler, Iowa State University

2:00 PM 736 Repeated transport influences feed intake, but not feed efficiency in Holstein calves.

2:15 PM 737 Effects of serum protein-based arrival formula and serum protein supplement (Gammulin) on plasma metabolites in transported dairy calves.
2:30 PM 738
Digestive function and plasma oxidative status of intra–uterine growth retarded fully weaned piglets.
J. Michiels*1,2, M. De Vos1, J. Missotten1, A. Ovyn1, S. De Smet1, and C. Van Ginneken1, 1Faculty of Biosciences and Landscape Architecture, University College Ghent, Ghent, Belgium, 2Laboratory for Veterinary Anatomy, Embryology and Pathology, Department of Veterinary Sciences, University of Antwerp, Wilrijk, Belgium, 3Laboratory for Animal Nutrition and Animal Product Quality, Department of Animal Production, Ghent University, Melle, Belgium.

2:45 PM 739
Effect of dietary energy manipulation on mares and their foals: Glucose and insulin dynamics.
K. N. Winsco*, J. L. Lucia1, C. J. Hammer2,3, and J. A. Coverdale1, 1Department of Animal Science, Texas A&M University, College Station, 2Department of Animal Sciences, North Dakota State University, Fargo, 3Center for Nutrition and Pregnancy, North Dakota State University, Fargo.

3:00 PM 740
Expression of key transcription factors during differentiation of equine bone marrow mesenchymal stem cells into osteoblast cells.
E. R. Ackell*, A. Sanchez2, C. Mora1, S. A. Zinn1, T. A. Hoagland1, and K. E. Govoni1, 1Department of Animal Science, University of Connecticut, Storrs, 2Cummings School of Veterinary Medicine, Tufts University, North Grafton, MA.

3:15 PM 741
Inter-relationship of BW with linear body measurements in Hissardale sheep at different stages of the life cycle.
M. Abdullah*, U. Younas, J. A. Bhatti, T. N. Pasha, M. Nasir, and M. A. Jabbar, University of Veterinary & Animal Sciences, Lahore, Punjab, Pakistan.

3:30 PM 742
Gene expression of Red Angus sired steers and heifers evaluated for residual feed intake.
C. M. Welch*, G. K. Murdoch1, C. S. Schneider2, K. C. Chapalamadugu1, K. J. Thornton1, J. K. Ahola2, J. B. Hall1, and R. A. Hill1, 1University of Idaho, Moscow, 2Colorado State University, Fort Collins.

3:45 PM 743
Effects of timing of an initial implant on performance of feedlot heifers.
M. R. McDaniel*, W. C. Murdock1, K. M. Taylor1, N. P. Miller2, B. H. Carter1, F. Castillo1, N. A. Elam3, D. U. Thomson2, and C. A. Loest1, 1New Mexico State University, Las Cruces, 2Kansas State University, Manhattan, 3Nutrition Services Associates, Hereford, TX.

4:00 PM 744
Effect of feeding 25-hydroxycholecalciferol on porcine fetal myoblast proliferation and differentiation.
E. A. Hines1, J. D. Coffey+, M. A. Vaughn1, C. W. Starkey1,2, J. K. Chung+, and J. D. Starkey*, 1Texas Tech University, Lubbock, 2DSM Nutritional Products Asia Pacific Pte. Ltd., Singapore.

4:15 PM 745
Early postnatal myofiber increase in pig muscle results from myofiber elongation and tertiary myofiber formation.
J. Bérard*1,2, D. Loesel1, A. Tuchscherner2, C. Rehfeldt1, and C. Kalbe1, 1Leibniz Institute for Farm Animal Biology (FBN), Research Unit Muscle Biology and Growth, Dummerstorf, Germany, 2Leibniz Institute for Farm Animal Biology (FBN), Research Unit Genetics and Biometry, Dummerstorf, Germany, 3Institut Agricole Régional, Aosta, Italy.

Meat Science and Muscle Biology
Lamb and Pork Quality and Muscle Biology and Meat Products
Chair: Kasey Carlin, North Dakota State University

2:00 PM 746
Carcass and meat attributes of Red Sokoto buck goats as influenced by post-slaughter processing methods.
A. B. Omoloja*1, S. E. Apata1, and O. O. Olusola1, 1University of Ibadan, Ibadan, Oyo State, Nigeria, 2Gobisi Onabanjo University, Ago Iwoye, Ogun State, Nigeria, 3University of Ibadan, Ibadan, Oyo State, Nigeria.

2:15 PM 747
Yield of West African dwarf buck goats slaughtered at different weights.
A. B. Omoloja*, S. Attaah1, and O. O. Olusola1, 1University Of Ibadan, Ibadan, Nigeria, 2University of Agriculture, Markurdi, Nigeria, Markurdi, Nigeria, 3University of Ibadan, Ibadan, Nigeria.

2:30 PM 748
Fatty acid composition of muscles from Sarda suckling lamb reared indoor and outdoor.

2:45 PM 749
Nutritive and organoleptic characteristics of kilishi as affected by meat type and ingredient formulation.
O. O. Olusola*, A. B. Omoloja, and A. O. Okubanjo, University of Ibadan, Ibadan, Oyo, Nigeria.

3:00 PM 750
Over-nutrition during pregnancy increases collagen content in the skeletal muscle of mature male offspring.

3:15 PM 751
Intrauterine crowding impairs formation as well as growth of secondary myofibers.
C. E. Pardo1,2, A. Koller-Bähler1, M. Kreuzer2, and G. Bee**, 1Agrroscope Liebefel Posieux, Posieux, Switzerland, 2Department of Agricultural and Food Science, Zurich, Switzerland.
Microarray analysis of the differentially expressed genes in adipose tissues between Jinhua pigs and Landrace pigs.
T. Wu*, Z. Yuan, Y. Wang, and T. Shan, Institute of Feed Science, Zhejiang University, Hangzhou, Zhejiang province, China.

SIFT-MS identifies unique volatile masses in 24 h post-mortem loins from Berkshire- and Landrace-influenced swine.

Nonruminant Nutrition
Feed Ingredients/Feed Additives
Chair: Brian Kerr, USDA-ARS-NLAE, Ames, IA
386-387

A partial replacement of soybean meal by whole or defatted algal meal in diet for weanling pigs does not affect their plasma biochemical indicators.
E. Isaacs*, K. Roneker1, M. Huntley2, and X. G. Lei1, 1Cornell University, Ithaca, NY, 2Cellana, Kailua-Kona, HI.

Effects of soybean meal of different origins and micronization of high protein soybean meal on nutrient digestibility and productive performance of weanling pigs.

Effects of adding cracked corn to a pelleted supplement for nursery and finishing pigs.
C. B. Paulk*, A. C. Fahrenholz1, J. M. Wilson1, L. J. McKinney1, J. D. Hancock1, K. C. Benhke1, J. C. Ebert2, and J. J. Ohlde2, 1Kansas State University, Manhattan, 2Key Feeds, Clay Center, KS.

Inulin, alfalfa and citrus pulp in diets for piglets: Effects on digestibility and metabolism of N.
S. Brambillasca*, E. Menezes1, P. Zunino2, and C. Cajarville1, 1Departamento de Nutrición Animal, Facultad de Veterinaria, UdelaR, Montevideo, Uruguay, 2Departamento de Microbiología, Instituto de Investigaciones Biológicas Clemente Estable, MEC, Montevideo, Uruguay.

Nannochloropsis oculata meal did not alter nutrient usage and had no adverse health effects when fed to rabbits as a protein source.
B. A. Howe*1, I. N. Roman-Muniz1, B. D. Willson2, and S. L. Archibeque1, 1Colorado State University, Department of Animal Sciences, Fort Collins, 2Colorado State University, Department of Mechanical Engineering, Fort Collins.

Impact of tylosin phosphate and ractopamine hydrochloride alone or in combination on growth performance, feed efficiency and water intake in finishing pigs.
C. M. Pilcher*, R. Arentson2, and J. F. Patience1, 1Iowa State University, Ames, 2Elanco Animal Health, Greenfield, IN.

Dietary nucleotides as an alternative to antibiotic growth promoters (AGP) for nursery pigs.

In vitro fermentative characteristics of citrus pulp, apple pomace and inulin combined in increasing levels with a pre-digested dog food.
Nonruminant Nutrition Symposium
Nutrition and Gut Microbiome
Chair: James E. Pettigrew, University of Illinois
Sponsors: EAAP, Pancosma

383-385

2:00 PM  764  Whole-body systems approaches for gut microbiota-targeted, preventive healthcare.
L. Zhao*, Shanghai Jiao Tong University, Shanghai, China.

2:30 PM  765  Dietary modulation of the gut microbiota by prebiotics and probiotics.
G. R. Gibson*, University of Reading, Reading, UK.

3:00 PM  766  Effect of dietary change on equine and swine gut microbiota.
K. Daly*, A. Darby, N. Hall, C. Proudman, D. Bravo, and S. P. Shirazy-Beechey,
1Department of Molecular and Cellular Physiology, University of Liverpool, Liverpool, UK,
2Department of Functional and Comparative Genomics, University of Liverpool, Liverpool, UK,
3Equine Division, Department of Veterinary Clinical Sciences, University of Liverpool, Liverpool, UK,
4Pancosma, Geneva, Switzerland.

3:30 PM

3:45 PM  767  Dietary manipulation of canine and feline microbiota.
K. S. Swanson*, Department of Animal Sciences and Division of Nutritional Sciences, University of Illinois, Urbana.

4:15 PM  768  Rumen microbiota, assessed by evolving techniques.
R. J. Wallace*, Rowett Institute of Nutrition and Health, University of Aberdeen, Aberdeen, UK.

4:45 PM  Questions

Physiology and Endocrinology
Nutritional Physiology
Chair: Kevin Harvatine, Penn State University

393

2:00 PM  769  Effect of short-term supplementation and temporary weaning in hepatic gene expression in Hereford cows grazing native pasture.
A.L. Astessiano*, F. Bialade, M.P. Grignola, J. Laporta, C. Viñoles, and M. Carriquiry,
1School of Agronomy, UDELAR, Montevideo, Uruguay,
2National Research Institute for Agriculture, Tacuarembo, Uruguay.

2:15 PM  770  Feeding distillers grains as an energy source to gestating and lactating heifers: Impact on ovarian function and reproductive efficiency.
P. J. Gunn*, J. P. Schoonmaker, R. P. Lemenager, and G. A. Bridges,
1Purdue University, West Lafayette, IN,
2University of Minnesota, Grand Rapids.

2:30 PM  771  Comparison of Brahman females evaluated for residual feed intake (RFI) as heifers and reevaluated for RFI as gestating cows.
1Texas AgriLife Research, Overton, 2Texas AgriLife Research, College Station,
3Texas AgriLife Research, Uvalde.

2:45 PM  772  Effect of temperament on response to cannulation and glucose challenge in Brahman heifers.
B. L. Bradbury*, L. C. Caldwell, A. W. Lewis, D. A. Neuendorff, R. C. Vann, T. H. Welsh, and R. D. Randel,
1Texas AgriLife Research, Overton, 2Texas AgriLife Research, College Station, 3MAFES-Brown Loam Experiment Station, Raymond, MS.

3:00 PM  773  The role of parathyroid hormone and calcitonin in the prevention of hypocalcemia under induced metabolic acidosis in cattle.
E. M. Rodríguez*, A. Bach, and A. Arís,
1Department of Ruminant Production, IRTA, Caldes de Montbui, Spain,
2ICREA, Barcelona, Spain.

3:15 PM  774  Molecular control of puberty as affected by nutrition and leptin infusion in zebu heifers.
J. Diniz-Magalhães*, M. V. Carvalho, A. B. S. Machado, M. A. V. Silva Júnior, and L. F. P. Silva,
Universidade de São Paulo, Pirassununga, São Paulo, Brazil.

3:30 PM  Break
Energy balance alters leptin but not adiponectin mRNA in Holstein cows.
D. A. Koltes* and D. M. Spurlock, Iowa State University, Ames.

Effect of a high-energy diet after weaning on luteinizing hormone secretion in Holstein bulls.
M. Maquivar*, L. A. Helser1, M. D. Utt1, L. H. Cruppe1, F. M. Abreu1, G. E. Fogle1, J. M. DeJarnette1, and M. L. Day1, 1The Ohio State University, Columbus, 2Select Sires Inc., Plain City, OH.

Effects of volatile fatty acid infusions on angiopoietin-like protein 4 concentration in plasma and ruminal papillae of cattle.
S. H. Li*, B. J. Bradford, and L. K. Mamedova, Kansas State University, Manhattan.

Incorporation of essential and non-essential fatty acid into distinct lipid classes in cultured bovine and porcine small intestine and muscle explants.
C. Caldari-Torres* and B. A. Corl, Virginia Polytechnic Institute and State University, Blacksburg.

Hepatokine, growth hormone, and PPARα-regulated gene network expression in liver of peripartal cows fed two levels of dietary energy prepartum.
J. Khan*, D. Graugnard1, D. H. Keisler2, B. J. Bradford3, L. K. Mamedova3, J. K. Drackley1, and J. J. Loor1, 1University of Illinois, Urbana, 2University of Missouri, Columbia, 3Kansas State University, Manhattan.

Production, Management and the Environment Dairy Facilities
Chair: Stephanie Hill, Mississippi State University

Herd turnover and mortality in low profile cross-ventilated and naturally ventilated dairy barns in the Upper Midwest.

Mortality and herd turnover rates in dairy herds utilizing recycled manure solids for bedding freestalls.

Effectiveness of fly traps and baits at three primary fly sites on Florida dairy farms.
M. E. Sowerby1 and J. A. Hogsette2, 1University of Florida, Gainesville, 2USDA-ARS-CMAVE, Gainesville.

Chemical and bacteriological characteristics of digested, composted, and separated raw manure solids prior to use as freestall bedding.

Chemical and bacteriological characteristics of digested, composted, and separated raw manure solids used as freestall bedding.

Temperature and humidity in cross-ventilated and naturally ventilated dairy barns in the upper Midwest.

A one-year comparison of house fly and stable fly populations at three different types of dairy facilities in the Texas Panhandle.
S. L. Swiger1, K. J. Lager2, T. R. Bilby1, B. R. Henderson2, R. G. S. Bruno1, and E. R. Jordan1, 1Texas AgriLife Extension and Research, Stephenville, 2Texas AgriLife Extension, Canyon, 3Texas AgriLife Extension and Research, Dallas.

Ruminant Nutrition Dairy: Minerals, Vitamins, and Other Stuff
Chair: Jose Santos, University of Florida

Effect of sodium chloride intake on urea concentration in milk from dairy cows.
J. W. Spek*, J. Dijkstra1, J. J. G. C. van den Borne1, and A. Bannink2, 1Wageningen University, Wageningen, the Netherlands, 2Wageningen UR Livestock Research, Lelystad, the Netherlands.
2:15 PM 788 2010 National survey of barriers related to precision phosphorus feeding. J. H. Harrison*, R. James¹, C. Stallings², E. Whitefield³, M. Hanigan¹, and K. Knowlton¹, ¹Washington State University, Puyallup, ²Virgina Tech, Blacksburg.

2:30 PM 789 Evaluation of ruminally protected niacin on thermal regulation and productivity of high-producing dairy cows during summer heat stress. S. R. Wrinkle*, P. H. Robinson¹, and J. E. Garrett¹, ¹Department of Animal Science, University of California, Davis, ²Quali Tech Inc., Chaska, MN.

2:45 PM 790 Effects of feeding a rumen protected lysine (AjiPro-L) from calving to the fourth week of lactation on production of high-producing dairy cows. J. E. Nocek*, T. Takagi², and I. Shinzato², ¹Spruce Haven Farm and Research Center, Auburn, NY, ²Ajinomoto Co., Inc., Tokyo, Japan.

3:00 PM 792 Characterizing the effect of Amaferm on forage NDF digestibility. J. E. Nocek* and H. Jensen², ¹Spruce Haven Farm and Res. Ctr, Auburn, NY, ²Biozyme Inc., St Joseph, MO.

3:15 PM 793 Methionine availability to dairy cows when added to mechanically extracted soybean meal with soy gums. D. W. Brake*, E. C. Titgemeyer², B. J. Bradford¹, J. F. Smith¹, and C. A. Macgregor², ¹Kansas State University, Manhattan, KS, ²Grain States Soya Inc., West Point, NE.

3:30 PM 794 Effects of chromium propionate fed through the periparturient period and starch source fed postpartum on productive performance and dry matter intake of Holstein cows. R. J. Rockwell* and M. S. Allen, Michigan State University, East Lansing.

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Small Ruminant Symposium
Advancements in Genetic Selection of Small Ruminants for Performance and Parasite Resistance
Chair: Kenneth Andries, Kentucky State University
Sponsors: AAPA, AMPA

2:00 PM 297 Advancements in genetic selection of small ruminants for performance and parasite resistance: Introduction and purpose. K. Andries*, Kentucky State University, Frankfort.

2:15 PM 795 Genetic evaluation: Lessons learned in the beef industry. J. K. Bertrand*, University of Georgia, Athens.


3:35 PM 798 Advancements in genomics: Application and potential for small ruminant research. P. K. Riggs*, Texas A&M University, College Station.


4:55 PM Roundtable Discussion

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Teaching/Undergraduate and Graduate Education Symposium
Adapting Our Teaching to Meet Current and Emerging Societal Needs
Chair: Wesley Greene, Ohio State University, Wooster

2:00 PM 388 Effecting change in teaching and learning in the agricultural sciences. R. Kirby Barrick*, University of Florida.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Code</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>2:40 PM</td>
<td>801</td>
<td>Perspectives on using values-based communications as a tool for preparing animal science students to address consumer trust issues challenging the animal industry.</td>
<td>J. L. Garrett*, JG Consulting Services LLC, Dowling, MI.</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>802</td>
<td>Course and activities based learning teams: A method of enhancing the first-year university experience.</td>
<td>M. D. Kenealy*, Iowa State University.</td>
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<tr>
<td>3:20 PM</td>
<td>Break</td>
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<tr>
<td>3:30 PM</td>
<td>803</td>
<td>Innovative and effective practices for student development—What are the difference makers?</td>
<td>D. Mulvaney*, Auburn University, Auburn, AL.</td>
</tr>
<tr>
<td>3:50 PM</td>
<td>804</td>
<td>Best practices in designing undergraduate research experiences in animal science curricula.</td>
<td>C. Rosenkrans*, University of Arkansas, Fayetteville.</td>
</tr>
<tr>
<td>4:10 PM</td>
<td>805</td>
<td>Casting a Line—Creating a national Scholarship of Teaching and Learning (SoTL) for animal sciences: Adapting to the gaps through SoTL and networking.</td>
<td>M. A. Wattiaux*, University of Wisconsin-Madison, Madison.</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>806</td>
<td>Casting a Line—Multi-institutional collaborations to enhance animal science education.</td>
<td>D. L. Boggs*, Kansas State University, Manhattan.</td>
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<tr>
<td>4:50 PM</td>
<td>Discussion</td>
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**ADSA Production Division Symposium**

**Current and Future Determinants of Dairy Product Pricing**

**Chair:** Tony Capuco, USDA, ARS

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<th>Time</th>
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<th>Session Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>3:00 PM</td>
<td>807</td>
<td>Factors that are important in determining US milk prices.</td>
<td>D. S. Brown*, Food and Agricultural Policy Research Institute, University of Missouri, Columbia.</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>809</td>
<td>Producing for a global export market.</td>
<td>M. Piper*, Fonterra (USA) Inc., Rosemont, IL.</td>
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<tr>
<td>5:15 PM</td>
<td>Discussion</td>
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</table>
### Thursday, July 14

#### OTHER EVENTS

**ASAS Poster and Oral Presentation Workshop**

288-289

8:00 AM - 5:00 PM

Write Winning Grants, conducted by Grant Writer’s Seminars and Workshops, LLC, sponsored by ASAS

386-387

8:00 AM - 3:00 PM

#### SYMPOSIA AND ORAL SESSIONS

**Animal Health**

**Dairy II**

**Chair: Todd Bilby, Texas AgriLife Research and Extension**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:30 AM</td>
<td>810 I. Dairy calving management: Dystocia and timing for intervention.</td>
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<tr>
<td></td>
<td>G. M. Schuenemann*, I. Nieto, S. Bas, K. N. Galvao, and J. Workman,</td>
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<td></td>
<td>Department of Veterinary Preventive Medicine,</td>
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<td>The Ohio State University, Columbus.</td>
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<tr>
<td>8:45 AM</td>
<td>811 II. Dairy calving management: Effect of perineal hygiene scores on</td>
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<td></td>
<td>metritis.</td>
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<td></td>
<td>G. M. Schuenemann*, I. Nieto, S. Bas, K. N. Galvao, and J. Workman,</td>
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<td>Department of Veterinary Preventive Medicine,</td>
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<td>The Ohio State University, Columbus.</td>
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<td>9:00 AM</td>
<td>812 Dam heat load affects neonatal calves' bacterial levels and innate</td>
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<td></td>
<td>immunity.</td>
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<td></td>
<td>D. Pan*, C. N. Lee1, M. H. Rostagno, and S. D. Eicher2,</td>
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<td></td>
<td>Purdue University, W Lafayette, IN, USDA- ARS, W Lafayette, IN, University</td>
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<td>of Hawaii, Honolulu.</td>
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<td>9:15 AM</td>
<td>813 Antisecretory factor counteracts calf diarrhea and increases daily</td>
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<td>weight gain.</td>
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<td>B. E. O. Johansson*, E. Johansson1, and S. Lange1,2,</td>
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<td></td>
<td>Lantmännen Lantbruk, Liåköping, Västra Götaland, Sweden,</td>
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<td>Bacteriological Laboratory, Sahlgrenska University Hospital, Gothenburg,</td>
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<td></td>
<td>Västra Götaland, Sweden, Institute of Biomedicine, Department of Infectious</td>
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<td></td>
<td>Diseases, Section of Clinical Bacteriology, University of Gothenburg,</td>
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<td>Gothenburg, Västra Götaland, Sweden.</td>
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<td>9:30 AM</td>
<td>814 Innate immune function of Holstein calves after commingling.</td>
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<td>L. E. Hulbert*, C. J. Cobb1, L. R. Schwertner1, and M. A. Ballou1,</td>
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<tr>
<td></td>
<td>Department of Animal and Food Sciences, Texas Tech University, Lubbock,</td>
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<td></td>
<td>Department of Animal Sciences, University of California-Davis, Davis.</td>
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<td>9:45 AM</td>
<td>815 Risk factors and impact of postpartum anovulation in dairy cows.</td>
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<td>J. Dubuc*, T. F. Duffield, K. E. Leslie1, J. S. Walton1, and S. J. LeBlanc2,</td>
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<td></td>
<td>Faculté de médecine vétérinaire, Université de Montréal, St-Hyacinthe,</td>
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<td></td>
<td>Québec, Canada, Department of Population Medicine, University of Guelph,</td>
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<td>Guelph, Ontario, Canada, Department of Animal and Poultry Science,</td>
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<td></td>
<td>University of Guelph, Guelph, Ontario, Canada.</td>
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<td>10:00 AM</td>
<td>816 Inflammation and infection of the reproductive tract in dairy cows.</td>
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<td>T. Osawa*, R. C. Neves1, and S. J. LeBlanc2, University of Guelph,</td>
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<td>Guelph, ON, Canada, Iwate University, Morioka, Japan.</td>
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<td>10:15 AM</td>
<td>817 Physiological and behavioral characteristics related to vitality of</td>
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<td>newborn dairy calves and the efficiency of absorption of immunoglobulins.</td>
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<td>C. Murray*, D. Viera1, A. Nadalin1, V. Bielmann1, and K. Leslie1,</td>
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<td></td>
<td>Department of Population Medicine, University of Guelph, Guelph,</td>
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<td>Ontario, Canada, Agriculture and Agri-Food Canada, Agassiz, British</td>
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<td>Columbia, Canada.</td>
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<td>10:30 AM</td>
<td>818 The effect of omega-3 supplementation on the immune response of</td>
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<td>Holstein calves.</td>
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<td>E. L. Karcher*, T. M. Hill1, N. Vito1, L. M. Sordillo1, H. G. Bateman2,</td>
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<td>R. L. Schlotterbeck1, M. J. VandeHaar1,</td>
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<td>Michigan State University, East Lansing, Nurture Research Center, Provinc</td>
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<td>North America, Lewisburg, OH.</td>
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<td>10:45 AM</td>
<td>819 Impact of intrauterine dextrose therapy on conception of lactating</td>
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<td>dairy cows with clinical endometritis.</td>
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<td>T. A. Brick*, S. Bas, J. B. Daniels, C. Pinto, D. M. Rings, and G. M.</td>
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<td>Schuenemann, The Ohio State University, Columbus.</td>
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<td>11:00 AM</td>
<td>820 Effect of propylene glycol in fresh cows diagnosed with subclinical</td>
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<td>ketosis on milk yield and resolution of ketosis.</td>
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<td>J. A. A. McArt*, D. V. Nydam1, P. A. Osipina1, G. R. Oetzel1, Cornell</td>
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<td>University, Department of Population Medicine and Diagnostic Science,</td>
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<td></td>
<td>Ithaca, NY, Cornell University, Department of Animal Science, Ithaca,</td>
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<td>NY, School of Veterinary Medicine, University of Wisconsin, Madison.</td>
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</tbody>
</table>
Association between serum metabolite concentrations in the transition period and milk production in dairy cows. N. Chapinal*1,2, M. E. Carson1, S. L. Leblanc1, K. E. Leslie1, S. Godden1, M. Capel1, J. E. P. Santos1, M. W. Overton6, and T. F. Duffield1. 1Department of Population Medicine, University of Guelph, Guelph, ON, Canada, 2Animal Welfare Program, University of British Columbia, Vancouver, BC, Canada, 3Department of Veterinary Population Medicine, University of Minnesota, St. Paul, 4Perry Veterinary Clinic, Perry, NY, 5Department of Animal Science, University of Florida, Gainesville, 6Department of Population Health, University of Georgia, Athens.

**Dairy Foods**

**Milk Protein & Enzymes**

Chair: Rafael Jimenez-Flores, Cal Poly, San Luis Obispo

298-299

8:30 AM 822

Whey protein nanoparticles prepared by desolvation: Encapsulation capacity and interfacial activity.
I. Gülseren* and M. Corredig, University of Guelph, Dept. of Food Science, Guelph, Ontario, Canada.

8:45 AM 823

Comparative proteomic analysis of whey proteins between healthy and subclinical mastitic cows.
J. Bian, Q.-Z. Li*, and X.-J. Gao, Key Laboratory of Dairy Science of Ministry of Education, Northeast Agricultural University, P.R. China.

9:00 AM 824

Controlling whey proteins spontaneous self assembly.
T. Croguennec*, D. Salvatore1, T. Nicolai1, V. Forge1, and S. Bouhallab1, 1UMR 1253, INRA- Agrocampus Ouest, Science et Technologie du Lait et de l'Oeuf, F-35000 Rennes, France, 2Laboratoire de Chimie et Biologie des Métaux, CEA-Grenoble, F-38057 Grenoble, France, 3UMR CNRS-Université du Maine, Polymères, Colloïdes, Interfaces, F-72085, Le Mans, France.

9:15 AM 825

Study of the combined acidification and rennet gelation behaviour of casein micelles using single Streptococcus thermophilus strains, with high or very low exopolysaccharide production.
Z. Miao*, E. Kristo, and M. Corredig, University of Guelph, Guelph, Ontario, Canada.

9:30 AM 826

In situ structural investigations of the milk fat globule membrane revealing heterogeneities and sphingomyelin-rich domains.
C. Lopez*, INRA-STLO, Rennes, France.

9:45 AM 827

Fractionation of glycomacropeptide and beta lactoglobulin using positively charged ultrafiltration membranes in staged configurations.
S. Gemili* and M. R. Etzel, University of Wisconsin-Madison, Madison.

10:00 AM 828

Antimicrobial role of serum amyloid A3 in goat milk.
A. Domènech*, J. G. Raynes3, A. Arís1, A. Bach1,3, and A. Serrano1, 1Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, 2Immunology Unit, Department of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, London, United Kingdom, 3ICREA, Barcelona, Spain.

**Horse Species Symposium**

Disaster Preparedness—Insights to Aid the Equine and Livestock Industries

Chair: Julia McCann, Virginia Tech

297

8:30 AM

Introduction

8:35 AM

Disaster readiness: Real life in Louisiana.
R. S. McConnico, Department of Veterinary Clinical Sciences, School of Veterinary Medicine, Louisiana State University.

9:10 AM

Reducing the impact of a disaster through planning.
R. M. Dwyer, Maxwell H. Gluck Equine Research Center, University of Kentucky.

9:45 AM

Agricultural extension’s role in large animal emergency management assessment and recovery plans.
D. H. Sigler, Texas A&M University, College Station.

10:20 AM

Discussion of case scenarios and question/answer session
Lactation Biology 2  
Chair: Darryl Hadsell, Baylor College of Medicine  
388

8:30 AM  829  Effects of short- and long-chain fatty acids on expression of lipogenic genes in bovine mammary epithelial cells.  
A. A. A. Jacobs*, J. S. Liesman², M. J. VandeHaar¹, J. Dijkstra¹, A. M. van Vuuren¹, and J. van Baal³, ¹Wageningen University, Wageningen, the Netherlands, ²Michigan State University, East Lansing.

8:45 AM  830  Effect of timing of feed intake on circadian pattern of milk synthesis.  

9:00 AM  831  Long term effect of feeding rumen protected fish oil or microalgae on mammary gene expression in Holstein cows managed under pasture or confinement systems.  
P. Vahmani*¹, K. Glover², L. A. MacLaren², J. Green-Johnson³, and A. Fredeen², ¹Dalhousie University, Halifax, NS, Canada, ²Nova Scotia Agricultural College, Truro, NS, Canada, ³University of Ontario Institute of Technology, Oshawa, ON, Canada.

9:15 AM  832  Reduced milking frequency increases the concentration of host-defense proteins in milk.  
K. Stelwagen*¹, M. K. Broadhurst¹, K. Kim², A. J. Molenaar², D. P. Harris², and T. T. Wheeler², ¹Agri-Search Ltd., Hamilton, New Zealand, ²AgResearch Ltd., Hamilton, New Zealand.

9:30 AM  833  Effect of milking frequency early post-partum on energy metabolism in grazing dairy cows.  
C. V. C. Phyn¹, T. M. Grala¹, J. K. Kay¹, A. G. Rius¹, S. R. Morgan¹, and J. R. Roche*¹, ¹DairyNZ Ltd., Hamilton, New Zealand, ²DairyNZ Ltd., C/- ViaLactia Biosciences (NZ) Ltd., Auckland, New Zealand.

9:45 AM  834  Regulation of STAT and IGF signaling during reversible and irreversible involution of the bovine mammary gland.  
K. Singh*¹, J. Dobson¹, K. Oden¹, A. Molenaar¹, R. Murney¹, K. Swanson¹, and K. Stelwagen¹, ¹AgResearch Ltd., Ruakura Research Centre, Hamilton, New Zealand, ²Agri-Search Ltd., Hamilton, New Zealand.

10:00 AM  836  Effect of heat stress during the dry period on insulin sensitivity of multiparous dairy cows.  

10:15 AM  837  Dry period seasonal effects on the subsequent lactation.  

Meat Science and Muscle Biology Symposium  
Extracellular Matrix in Skeletal Muscle Development and Meat Quality  
Chair: Min Du, University of Wyoming  
290

8:30 AM  838  Stem cell niche and postnatal muscle growth.  
S. Kuang*, Purdue University, West Lafayette, IN.

9:05 AM  839  Extracellular matrix regulation of skeletal muscle formation and growth.  
S. Velleman*, The Ohio State University/OARDC, Wooster.

9:40 AM  840  The influence of extracellular matrix on intramuscular and extramuscular adipogenesis.  
G. J. Hausman*, USDA ARS, Athens, GA.

10:15 AM  841  Connective tissue turnover and meat quality.  
P. P. Purslow*, Department of Food Science, University of Guelph, Guelph, ON, Canada.

Nonruminant Nutrition  
Energy and Dietary Fat  
Chair: Mariela Lachmann, Land O’Lakes Purina Feed LLC  
383-385

8:30 AM  842  Determining the energy digestibility of mold damaged corn selected for low mycotoxin content in finishing pigs.  

8:45 AM  843  Effects of dietary energy density on performance and lean deposition of growing-finishing pigs raised in a commercial environment.  
L. C. Chu*, C. J. Cai, G. J. Zhang, S. Y. Qiao, and D. F. Li, China Agricultural University, Beijing, China.
9:00 AM 844  
Effect of feeding soy and sunflower based reconstituted fat or monoestearate as fat sources in piglet diets.  
J. J. Mallo1, J. Alcañiz1, M. I. Gracia2, and C. Millán2, 1Norel, S.A., Madrid, Spain, 2Imasde Agroalimentaria, S.L., Madrid, Spain.

9:15 AM 845  
Impact of fat source on nutrient digestibility and performance in nursery pigs.  
S. M. Mendoza* and E. van Heugeten, North Carolina State University, Raleigh.

9:30 AM 846  
Effect of altering the dietary omega-6 to omega-3 fatty acid profile of sow diets on the immune responses of their offspring when challenged with E. coli lipopolysaccharide.  
L. Eastwood1,2, A. D. Beaulieu1,2, and P. Leterme3, 1Prairie Swine Centre Inc, Saskatoon, SK, Canada, 2Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada, 3Cargill - R & D Centre Europe, Havenstraat, Vilvoorde, Belgium.

9:45 AM 847  
Impact of dietary fat on milk composition, milk output and apparent digestibility is fat source dependent in lactating sows.  
D. S. Rosero*, E. van Heugeten1, J. Odle1, V. Fellner1, and R. D. Boyd2, 1Department of Animal Sciences, North Carolina State University, Raleigh, 2Hanor Company Inc., Franklin, KY.

Production, Management and the Environment  
Environmental Quality
Chair: Julie Wittman, Elanco Animal Health  
286-287

8:30 AM 848  
Ammonia emissions from a commercial feedyard measured using passive samplers and a box model.  
N. A. Cole1, R. W. Todd2, D. B. Parker3, M. Rhoades1, and A. Mason1, 1USDA-ARS, Conservation & Production Research Lab, Bushland, TX, 2USDA-ARS-MARC, Clay Center, NE, 3West Texas A&M University, Canyon.

8:45 AM 849  
Effects of feeding birdsfoot-trefoil on greenhouse gases emissions from fresh and land incorporated dairy manure.  
Q. Wang*, R. Franco, Y. Zhao, Y. Pan, and F. Mitloehner, University of California, Davis, Davis.

9:00 AM 850  
Prediction of individual methane emission by dairy cattle from milk mid-infrared spectra.  
A. Vanlierde1,2, C. Delfosse1, F. Dehareng3, E. Froidmont3, H. Soyeurt1,4, M. Hammida1, J.-M. Romnee1, and P. Dardenne1, 1Walloon Agricultural Research Centre, Quality Department, Gembloux, Belgium, 2Walloon Agricultural Research Centre, Department of Production and Sectors, Gembloux, Belgium, 3University of Liège Gembloux Agro-Bio Tech, Animal Science Unit, Gembloux, Belgium, 4National Fund for Scientific Research, Brussels, Belgium.

9:15 AM 851  
Effects of biotechnology on greenhouse gases, volatile organic compounds, and ammonia from feedlot cattle.  
K. R. Stackhouse*, M. S. Calvo, S. E. Place, T. L. Armitage, Y. Pan, Y. Zhao, and F. M. Mitloehner, University of California, Davis.

9:30 AM 852  
Life cycle assessment of greenhouse gas emissions from beef production systems in California.  
K. R. Stackhouse*, C. A. Rotz1, and F. M. Mitloehner1, 1University of California, Davis, 1USDA/Agriculture Research Service, Pasture Systems and Watershed Management Research Unit, University Park, PA.

9:45 AM 853  
Effects of calf hutch flooring on air quality and exposure.  
M. S. Calvo1,3, M. van der Voort1, J. A. McGarvey2, J. P. Reynolds3, T. L. Armitage1, E. A. M. Bokkers1, and F. M. Mitloehner1, 1Department of Animal Science, University of California, Davis, 2Department of Animal Sciences, Wageningen University, Wageningen, the Netherlands, 3USDA Agriculture Research Service, Plant Mycotoxin Reassessment Unit, Albany, CA, 1Veterinary Medicine Teaching & Research Center, University of California, Davis, Tulare.

10:00 AM 854  
Feeding saponins to reduce air emissions from steers.  
W. Li* and W. J. Powers, Department of Animal Science, Michigan State University, East Lansing.

10:15 AM 855  
Supplementary concentrate type affects nitrogen balance in early lactation dairy cows offered grazed pasture.  
S. J. Whelan*, K. M. Pierce, J. J. Callan, B. Flynn, and F. J. Mulligan, School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland.

10:30 AM 856  
Development of a user-friendly online system to quantitatively measure metabolic gas fluxes from ruminants.  
P. Zimmerman*, S. Zimmerman1, S. Utsumi2, and D. Beede1, 1C-Lock Inc, Rapid City, SD, 2Michigan State University, East Lansing.

10:45 AM 857  
Effects of oxygenated drinking water on gaseous emissions, rumen microorganisms and milk production in dairy cattle.  
C. J. Neumeier*, J. A. McGarvey2, Y. Pan1, Y. Zhao2, and F. M. Mitloehner1, 1Department of Animal Science, University of California-Davis, Davis, 2United States Department of Agriculture, Agricultural Research Service, Albany, CA.
Effects of residual feed intake classification and breed type on carcass characteristics, tenderness and value in feedlot heifers.
J. W. Behrens1*, R. K. Miller1, J. C. Bailey1, J. T. Walter1, A. N. Hafla2, E. D. Mendes2, D. S. Hale1, T. Machado1, L. O. Tedeschi1, and G. E. Carstens1, 1Texas A&M University, College Station, 2Texas A&M University at Kingsville, Kingsville.

Effects of residual feed intake classification and breed type on feed efficiency and feeding behavior traits in heifers fed a high-grain diet.

Analysis of the ruminant microbial ecosystem in cattle divergent for residual feed intake using next generation sequencing technology.
C. A. Carberry*1,2, D. A. Kenny1, C. J. Creevey1, and S. M. Waters1, 1Animal and Bioscience Department, Animal and Grassland Research and Innovation Centre, Teagasc, Grange, Dunsany, Co. Meath, Ireland, 2School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland.

Association of myostatin with weight and carcass traits in crossbred heifers adjusted to different endpoints.

Effects of varying forage levels in diets containing whole flint corn and benefits of steam flaking the corn on finishing Nellore bulls performance, carcass characteristics, and liver abscesses.
R. S. Marques1, R. R. Dórea1, A. M. Pedroso2, A. W. Bispo1, C. G. Martins2, W. F. Angolini1, and F. A. P. Santos1*, 1University of Sao Paulo, Piracicaba, SP, Brazil, 2Embrapa Cattle Southeast, Sao Carlos SP, Brazil.

Evaluation of two complete-feed receiving diets.
C. J. Schneider*, B. L. Nuttelman1, K. M. Rolfe1, W. A. Griffin1, T. J. Klopfenstein1, R. A. Stock2, and G. E. Erickson1, 1University of Nebraska, Lincoln, 2Cargill Inc, Blair, NE.

Rumen degradable protein supply effects microbial efficiency in continuous culture and growth in crossbred Angus steers.
M. A. Brooks1,2, R. M. Harvey1, N. F. Johnson1, and M. S. Kerley1, 1North Carolina State University, Raleigh, 2University of Missouri - Columbia, Columbia.

Beef cow performance when fed cotton co-product and distillers grain blocks as a hay replacement.
G. M. Hill1*, A. N. Franklin, G. W. Stone, and B. G. Mullinix, University of Georgia, Athens.

Effects of energy supplementation frequency and forage quality on performance of replacement beef heifers.
P. Moriel1, R. F. Cooke1, F. N. T. Cooke1, E. Alves2, L. Custodio2, D. W. Bohnert3, J. M. B. Vendramini4, and J. D. Arthington2, 1Oregon State University–Eastern Oregon Agricultural Research Center, Burns, 2University of Florida–Range Cattle Research and Education Center, Ong.

Impact of rumen digesta inoculation on feeding value of urea-molasses treated wheat straw.

Effect of sorghum grain supplementation on glucose metabolism 1: Bovine.
M. Aguerre1, M. Carrquiry1, A. L. Astessiano1, C. Cajarville1, and J. L. Repetto1, 1Departamento de Bovinos, Facultad de Veterinaria, Universidad de la República, Montevideo, Uruguay, 2Departamento de Producción Animal y Pasturas, Facultad de Agronomía, Universidad de la República, Montevideo, Uruguay, 3Departamento de Nutrición Animal, Facultad de Veterinaria, Universidad de la República, Montevideo, Uruguay.

Response to increased sorghum grain supplementation levels: comparison between cattle and sheep.
M. Aguerre1, C. Cajarville1, and J. L. Repetto1, 1Departamento de Bovinos, Facultad de Veterinaria, Universidad de la República, Montevideo, Uruguay, 2Departamento de Nutrición Animal, Facultad de Veterinaria, Universidad de la República, Montevideo, Uruguay.
Ruminant Nutrition Symposium

Mycotoxins – Prevalence, Impact, and Control Strategies in Ruminant Diets

Chair: Allan Chestnut, Provimi North America

291-292

8:30 AM 883 Major mycotoxins in ruminant diets.

9:10 AM 884 Impact of mycotoxins on the immune system.
T. K. Smith*, University of Guelph, Guelph, ON, Canada.
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THURSDAY

ORALS

9:50 AM  Break

10:00 AM  885  Prevalence of mycotoxins in feedstuffs.
D. Taysom*, Dairyland Laboratories Inc., Arcadia, WI.

10:30 AM  886  Evaluation of feed additives for reducing mycotoxins.
I. P. Oswald*, INRA, ToxAlim Research Center, 31027 Toulouse Cedex 03, France.

Teaching/Undergraduate and Graduate Education
Chair: Wesley Greene, Ohio State University, Wooster

389

8:30 AM  887  Perceptions of livestock practices by students entering introductory animal science courses.
G. A. Holub*, C. T. Boleman1, and S. W. Ramsey1, 1Texas A&M University, College Station, 2Texas AgriLife Extension, College Station.

8:45 AM  888  Demographics and eating habits of students entering introductory animal science courses.
G. A. Holub*, C. T. Boleman1, and S. W. Ramsey1, 1Texas A&M University, College Station, 2Texas AgriLife Extension, College Station.

9:00 AM  889  Incorporating an issues survey assignment into an introductory animal science course.
J. A. Sterle*, Texas A&M University, College Station.

9:15 AM  890  Improving learning through integration of an upper division class with an introductory class in companion animals.
J. P. McNamara*, Washington State University, Pullman.

9:30 AM  891  Internships and international collaboration in beef cattle reproductive management.
K. G. Pohler*, D. A. Mallory1, D. J. Patterson1, M. F. Smith1, J. L. M. Vasconcelos2, R. F. G. Peres3, and E. R. Vilela4,
1University of Missouri, Columbia, 2FMVZ - UNESP, Botucatu, SP, Brazil, 3Agropecuária Fazenda Brasil, Barra do Garças, MT, Brazil, 4Lageado Agricultural Consulting LTD, Mineiros, GO, Brazil.

9:45 AM  892  Predictors of performance in an Animal Nutrition classroom.
M. A. Soberon*, D. J. R. Cherney, and R. C. Kiely, Cornell University, Ithaca, NY.

10:00 AM  893  Attitudes and knowledge of high school students about the department of animal industry of the University of Puerto Rico at Mayaguez.
G. Ortiz-Colón*, J. M. Huerta-Jiménez, E. Jiménez-Cabán, and M. Pagán-Morales, University of Puerto Rico at Mayaguez, Mayaguez, PR.

10:15 AM  894  Mentoring underrepresented students through agricultural related research projects.
J. S. Pendergraft*, R. M. Legere1, and A. Rodríguez2, 1Sul Ross State University, Alpine, TX, 2University of Puerto Rico, Mayaguez, PR.

10:30 AM  895  Graduate student course curriculum in animal science departments.
R. F. Leuer* and H. M. White1, 1University of Minnesota, St. Paul, 2Indiana University, Indianapolis.

10:45 AM  896  Increasing awareness of the Multimedia Educational Resource for Learning and Online Teaching (MERLOT) website.
J. Bertrand*1 and M. Rieger2, 1University of Georgia, Athens, 2University of Florida, Gainesville.

OTHER EVENTS

Mixed Models

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8:30 AM - 11:30 AM

The Mixed Models workshop provides a comprehensive exposition of proper statistical data analysis and power determinations of commonly used experimental designs in the animal sciences; our approach is example-driven and primarily based on the various mixed model analysis procedures available in SAS software.
Number following names refer to abstract numbers; a number alone indicates an oral presentation, an M prior to the number indicates a Monday poster, a T indicates a Tuesday poster, and a W indicates a Wednesday poster.

The author index is created directly and automatically from the submitted abstracts. If an author’s name is typed differently on multiple abstracts, the entries in this index will reflect those discrepancies. Efforts have been made to make this index consistent; however, error from author entry contributes to inaccuracies.
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July 8–12

2014
Kansas City, Missouri
July 20–24