Welcome Letter

Welcome to the First Joint Meeting of ADSA, ASAS, and AMPA

Dave Beede  
ADSA President

Jim Lauderdale  
ASAS President

Assefaw Tewolde  
AMPA President

Welcome to the first joint meeting of the American Society of Animal Science and the American Dairy Science Association with the Mexican Association of Animal Production (AMPA). We hope the venue provides optimal opportunities for professional networking and scientific information exchange on leading edge research in animal agriculture and animal food products. We particularly hope you will take this unique opportunity to renew acquaintances and develop new relationships with our Mexican colleagues. AMPA will be meeting June 22-23 and will be joining ADSA and ASAS for the remainder of the meeting ending at noon on June 26.

New Poster Format: Each day will start with a 2-hour block of time for poster display (7:30 to 9:30 AM). Neither symposia nor oral sessions will be scheduled during this time slot. Plan your morning coffee with colleagues discussing the latest research in your specialty area. Let us know what you think about the new format.

A Solid Line-up of Symposia, Posters and Oral Presentations. From the Triennial Reproduction Symposium on Sunday to the dairy lactation and swine nutrition symposia on Thursday, there is a strong line-up of informative symposia. In addition, this is the first year we are presenting an extensive companion animal nutrition program, which we hope will leverage into future ASAS/ADSA meetings being the preferred forum for presentation of high-quality companion animal nutritional research. Over 25 symposia have been organized by the ADSA/ASAS program committees, in addition to several invited speakers. Your fellow scientists will be presenting about 1450 abstracts as either posters or oral presentations.

Thanks to the ADSA/ASAS program committees and staff of FASS, ADSA, and ASAS. Special thanks to Chuck Schwab, 2003 Program Co-chair, Larry Benyshek, 2004 Program Chair, and all of the large group of program committees and chairs (please take a moment to thank your colleagues who took time to put this program together). A special thanks to the staff at ASAS, ADSA, and FASS for their dedicated work behind the scenes. We thank all of the many people involved, but I would particularly give my appreciation to Amy Kemp and Kim Surles, to Keely Roy and Lorena Nicholas, and to ADSA ED Brenda Carlson and to ASAS ED Ellen Bergfeld (who has not only provided great assistance for this meeting but has provided a legacy of accomplishments at ASAS that will be difficult to match).

Look forward to seeing you in Phoenix.

Dave Anderson, Overall Program Chair
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www.fass.org/phoenix03

## IMPORTANT MESSAGE

In the event that protestors interrupt your meetings, please ignore them. Their goal is to attract attention. Any attention you give them will only help them. Please ignore them and continue your regular business. Convention staff has a plan in place to handle these situations, and they depend on your cooperation. If you are approached by the media for an interview, please politely refuse and direct them to the convention’s media room where spokespersons are available. Keep your cool and walk the other way.

*Thank you for your cooperation.*
General Information

REGISTRATION HOURS

Registration will be located in Lobby 2 of the Phoenix Civic Plaza. Registration hours for the 2003 ADSA-ASAS Joint Meeting, including special symposia and other events, will be as follows:

Saturday, June 21 (pre-registered only) ......................................3 pm - 5 pm
Sunday, June 22 ...........................................................................7 am - 7 pm
Monday, June 23 .........................................................................6:30 am - 4 pm
Tuesday, June 24 ...........................................................................6:30 am - 3:30 pm
Wednesday, June 25 .....................................................................7 am - 3 pm
Thursday, June 26 .........................................................................8 am - 10 am

IMPORTANT PHONE NUMBERS

Hyatt Regency Phoenix ............................................................... 602-252-1234
Wyndham Phoenix (formerly Crowne Plaza) ........................... 602-333-0000
Ramada Inn Phoenix Downtown .............................................. 602-258-3411
Hotel San Carlos .......................................................................... 602-253-4121
Spring Hill Suites by Marriott .................................................... 602-307-9929
Ambulance, Fire, Police ...............................................................911
Phoenix Civic Plaza .................................................................... 602-262-6225
Greater Phoenix Convention and Visitors Bureau ............... 602-254-6500

MEETING INFORMATION

Publicity/Public Relations/Media Center

Yuma 33 will serve as the Publicity and Public Relations Center. Publicity and news releases will be issued from this location.

Business Center

Enterkey Business Services is located in Lobby 1 of the Phoenix Civic Plaza for all your business needs. Services include copying, faxing, computer workstations, cellular phone/pager rentals, Internet access, small shipping and receiving and miscellaneous office supplies.
Speaker Ready Room

Yuma 31 will be set for you to preview your slides and test your computer with an LCD projector before your presentation. You will need to provide your own slide carousel and laptop computer.

Poster Presentations

We have dedicated a two-hour block each morning for poster presentations only. The “open posters” will be from 7:30 am – 9:30 am Monday, Tuesday, and Wednesday in the Convention Center, Exhibit Hall D. Oral sessions will not begin until 9:30 am Monday and Tuesday, and 10:30 am on Wednesday.

Each poster presentation will be scheduled for public viewing for the entire day, with the presenting authors available during the “open posters” time (7:30 am – 9:30 am). All posters should be mounted on the board one-half hour prior to the beginning of the day’s session (posters open at 7:30 am). The exhibit hall will open at 6:15 am on Monday, June 23 – Wednesday, June 25. Posters must be removed by 5 pm each day.

The poster board surface area is 48” high and 96” wide. The top of the poster space should include the abstract number, title, authors, and affiliations. The lettering for this section should be at least 1” high. Presenters must furnish their own tacks or push pins. (Velcro may or may not work.)

Locating the Correct Poster Board

Please look for the poster board number as noted in the program. Each poster board will have a number, which corresponds to the number in the program. Monday posters will have an “M”, Tuesday a “T”, and Wednesday a “W” preceding the board number.

ARPAS Continuing Education Units

The ADSA-ASAS Joint Annual Meeting has been approved for up to 28 continuing education units (CEUs) for the American Registry of Professional Animal Scientists certification requirements.

Sign up to take an ARPAS Exam and proceed to Yuma 34 during the posted exam time.

Placement Center

A Placement Center will be located in the Phoenix Civic Plaza. Employers are invited to bring 20 copies of all position descriptions, and prospective employees are invited to bring 30 copies of brief (2-page) resumes to the meeting.

The job center announcements and resumes will be organized into the following categories for posting and distribution

Animal Health, Environment, and Behavior

Breeding and Genetics

Extension

Food Science

International Animal Agriculture

Growth and Development

Lactation

Meat Science and Muscle Biology
Nutrition Nonruminant Nutrition
Pharmacology and Toxicology Production and Management
Reproduction Reproductive Physiology
Ruminant Nutrition Teaching

Should you have any questions please contact the business office at 217-356-3182.

ADSA-ASAS will provide an On-Line Placement Center for the benefit of the membership. This opportunity will be in addition to the traditional placement center, where printed position descriptions are displayed on poster board.

The on-line placement center will be a web site where prospective employees can review your job description; go directly to your company, university, or agency web site; or even respond immediately via e-mail to your ad. The cost to include your company's listing on the On-Line Placement Center will be $20, which covers a three-week listing (June 13- July 4), an active link to your web site, and an active e-mail link to your contact person.

Announcements should include the name of your organization; position title; description of the position, including requirements, duties, and salary; deadline for applications; and start date, if appropriate. Please do not include logos or other artwork and try to contain the ad to a single paragraph.

The procedure for submitting a position opening is completely electronic. Visit the meeting web site at www.fass.org/phoenix03 and click on the On-Line Placement Center. The submission form will be available beginning May 1, 2003, and job announcements will be accepted through June 9, 2003.

At the time the form is submitted, you may choose to pay the $20 fee via our SecureBuy system or you may send payment to FASS Headquarters at 1111 N. Dunlap Ave., Savoy, IL 61874 (attention: Jessica Murray Bressner) and indicate that payment is for the placement of an ad with the on-line placement center in conjunction with the 2003 ADSA-ASAS Annual Meeting. Submissions will be received only from May 1, 2003 to June 9, 2003.

If you have any questions or comments about this service or submission process, please contact Jessica Murray Bressner (jessicab@assochq.org).

**Cyber Café**

Let technology keep you caught up with work and in touch with friends and family during the ADSA-ASAS Annual Meeting. Meeting attendees can attend knowing they can easily keep up with business activities by visiting the Cyber Café. At the Cyber Café, meeting attendees can check email and meet with colleagues to exchange information found on the Internet. The Cyber Café will be conveniently located in the Exhibit Hall.

**PHOENIX INFORMATION**

See the Greater Phoenix Convention & Visitors Bureau kiosk located in the Phoenix Civic Plaza. A GPCVB representative will be available to assist you with locating attractions and activities in the Phoenix area.
EXHIBITS

Commercial exhibits will be located in the Phoenix Civic Plaza, Exhibit Hall D.

Sunday, June 22 (set up) ........................................... 8:00 am – 5:00 pm
Sunday, June 22 .......................................................... 8:00 pm – 10:00 pm
Monday, June 23 ......................................................... 7:30 am – 5:00 pm
Tuesday, June 24 ......................................................... 7:30 am – 3:00 pm
Tuesday, June 24 (tear-down) ...................................... 3:00 pm – 6:00 pm

Current List of Exhibitors (as of May 20, 2003)

Acadian Agritech (Booth 105)
Adisseo (Booth 235)
Aerotech Laboratories, Inc. (Booth 233)
Alltech (Booths 133, 135, 232, 234)
ALOKA (Booth 125)
ANKOM Technology (Booth 329)
APC, Inc. (Booth 428)
Arm & Hammer Animal Nutrition Group (Booth 224)
Bar Diamond, Inc. (Booth 427)
Bioproducts, Inc. (Booth 334)
BioZyme, Inc. (Booth 333)
CABI Publishing (Booth 326)
Canadian Bovine Mastitis Research Network (Booth 219)
Chelated Minerals Corp. (Booth 434)
Chr. Hansen BioSystems (Booth 332)
Cotton Incorporated (Booth 324)
CottonFLOZ, LLC. @ Buckeye Technologies Inc. (Booth 220)
Council for Agricultural Science and Technology (CAST) (Booth 429)
Daiichi Fine Chemicals, Inc. (Booth 124)
Dairy One Forage Lab (Booth 327)
Dairy Records Management Systems (Booth 435)
Dalex Computer Systems, Inc. (Booth 213)
Diamond V (Booths 109, 111, 113)
Elsevier (Booth 432)
FARME Institute, Inc. (Booth 526)
FDA/Center for Veterinary Medicine (Booth 328)
Feedstuffs Newspaper (Booth 208)
GrowSafe Systems Ltd. (Booth 228)
Innofeed, Inc. (Booth 225)
International Ingredient Corporation (Booth 325)
Iowa State Press (Booth 121)
LignoTech USA, Inc. (Booth 227)
Management Recruiters of Tucson, AZ (Booth 212)
Midland BioProducts Corp. (Booth 530)
Milk Products, Inc. (Booth 433)
Milk Specialties Company (Booth 119)
Nottingham University Press (Booth 231)
Omega Protein, Inc. (Booth 424)
Pfizer (Booth 218)
Poultry Protein & Fat Council (Booth 216)
Prentice Hall (Booth 103)
ProbioTech International Inc. (Booth 210)
Quali Tech Inc. (Booths 437, 536)
Roche Vitamins Inc. (Booth 426)
Saf Agri/Lesaffre Feed Additives (Booth 217)
SoyBest (Booths 425, 524)
Spherix Incorporated (Booth 534)
Universal Ultrasound (Booth 221)
Varied Industries Corp (Booth 126)
West Central Soy (Booth 335)
Zinpro Corporation (Booth 211)
Special Events

ADSA SAD Farm/City Tour

Saturday, June 21
1:00 pm to 5:00 pm
Depart from Convention Center Lobby 2 Entrance

This year’s student tour is planned for Saturday, June 21. The tour will begin with an air-conditioned motor coach ride to the Paul Rovey Dairy, located in metro Phoenix area. This dairy has been in the Rovey family for generations, and the city has actually built itself around them. The Rovey’s have partnered with University of Arizona on numerous occasions on research projects related to dry lot feeding, heat stress, cooling equipment, water conservation, and more. After the dairy farm, the students will enjoy a guided bus tour of the Phoenix metropolitan area, complete with refreshments. The guide will present history, trivia, and food and entertainment suggestions for the students during their stay in Phoenix, seeing such landmarks as Arizona State campus, Old Town Scottsdale, Fashion Square, Camelback Mountain, and more. The tour will conclude by 5:00 p.m. This is a great way to get to know your fellow students and to get acquainted with the city early in the meeting!

ADSA SAD Dairy Quiz Bowl

Sunday, June 22
1:00 pm to 5:00 pm Preliminary Rounds
6:30 pm to 7:00 pm Final Round
Convention Center, Phoenix 13-15 and 16-17

Calling all Dairy Clubs! Get your team together now and brush up on your knowledge of the dairy industry. All schools are encouraged to enter a 4-person team in this event. A seating test will be given on Sunday, June 22 at 1:00 pm. The competition will begin immediately following the seating and will continue throughout the afternoon. The final round will be held immediately prior to the Opening Session Sunday evening.

Opening Session

Sunday, June 22
7:00 pm – 8:30 pm
“Animal Agriculture and Emerging Social Ethics for Animals”
Convention Center, Ballroom

Dr. Bernard E. Rollin, University Distinguished Professor, Professor of Philosophy, Professor of Biomedical Sciences, Professor of Animal Sciences, and University Bioethicist at Colorado State University, will be the 2003 Opening Session Speaker on Sunday, June 22 to open the 2003 ADSA-ASAS-AMPA Annual Meeting in Phoenix, Arizona. Rollin taught the first course ever done in the world in veterinary medical ethics and as a pioneer in reforming animal use in surgery teaching and laboratory exercises in veterinary colleges. Rollin has addressed over 10,000 ranch-
ers and farmers on animal rights and animal agriculture in forums ranging from
the Houston Livestock show to local extension meetings. He is designated as
state animal welfare extension specialist by CSU dairy extension. Make plans
now to attend the Opening Session to hear Rollin and then join your colleagues
at the Opening Reception sponsored by Alpharma, Soy Best, and Elanco Animal
Health, that follows.

Opening Reception
Sunday, June 22
8:30 pm - 10:00 pm
Convention Center, Exhibit Hall D

ADSA Town Hall Meeting
Monday, June 23
5:15 pm to 6:30 pm
Convention Center, Tucson 40-41

The ADSA Board of Directors invites you to a Town Hall Meeting on Monday, June
23 from 5:15 pm to 6:30 pm in the Convention Center, Tucson Room 40-41. Light
snacks will be offered. This is your opportunity to express concerns and
praises of the Association. The ADSA Board also seeks your vision of ADSA’s future
needs and directions. This is an informal event and all registrants interested in
ADSA are welcome.

ASAS Awards Program
Monday, June 23
7:00 pm – 8:30 pm
Wyndham, Grand Ballroom

All meeting participants, families and friends are invited to the 2003 ASAS Awards
Program. Please join us in congratulating all 2003 ASAS awardees. Also, please
note that this event is again being held Monday evening.

Graduate Student Mixer
Monday, June 23
9:00 pm
TBA
Undergraduate Student Mixer Goes Xtreme!
Monday, June 23
9:30 pm
AMF Thunderbird Bowling Center
2430 W. Indian School Road, Phoenix

Ready for something Xtreme?? Try your hand at Xtreme bowling Monday night, June 23. The Thunderbird Bowling Center will be the venue for this year’s Student Mixer. All the rage in Phoenix, Xtreme Bowling will be some of the wildest bowling you’ll ever do! The music goes up, the lights go down, the disco ball spins, and everything, including your bowling ball and pins glow in the dark. A $5 cover charge gets you in the door. Plus, you’ll enjoy Xtreme Quarter Blitz: snacks, games, bowling, and more are only 25 cents! Plan now to be a part of this wild and cheap night of bowling, music, drinks, and a great time with other university students!

ADSA SAD Student Careers Symposium
Congressional Insights Program Comes To SAD
Tuesday, June 24
8:45 am to 11:45 am
Convention Center, Phoenix 19

After a successful hands-on media training program in 2002, the SAD is pleased to announce plans to bring the popular Congressional Insights Program to the students on Tuesday, June 24. The Congressional Insights program is a novel, state-of-the-art, interactive computer model designed to simulate a two-year term of office in Congress. This computer simulation and educational tool introduces participants to the legislative and political process on Capitol Hill. It illustrates why politicians must (or should) make some of the decisions they do.

The program will introduce you to the pressures faced by members of Congress, show you the demands placed on their time, help you to understand that legislators are public officials whose actions are open to public scrutiny, and provide you with a better understanding of the role of elected officials and their staff.

Participants are actively involved in this program. Participation is open to all student attendees and advisors. Experience with the political process is not needed to participate in this program.

ADSA SAD Awards Luncheon
Tuesday, June 24
12:00 pm to 2:00 pm
Convention Center, Phoenix 11-12

The Student Affiliate Division luncheon will be held on Tuesday, June 24. Both students and professionals are encouraged to attend. The keynote speaker for the luncheon will be Dr. Barbara Glenn, Executive VP - Scientific Liaison for the Federation of Animal Science Societies. There will also be an awards program for the students. This is a wonderful chance to get to know the next generation of the dairy industry.
Spouses’ Luncheon
Tuesday, June 24
12:00 pm to 2:00 pm
Wyndham, South Ballroom

This is a great opportunity to catch up with old friends while enjoying a delicious lunch followed by entertainment from the Yellowbird Productions. This group will perform their award-winning Native American intertribal dances with appropriate interpretation, authentic and colorful regalia along with flute playing, and the world champion hoop dancer. Come join in the fun!

ADSA Awards Program
Tuesday, June 24
7:00 pm to 8:30 pm
Hyatt Regency, Regency Ballroom

All meeting participants, families, and friends are welcome to attend the 2003 ADSA Awards Program. Please join us at this special event in congratulating all of our award winners.

2003 Joint Ice Cream Social and
ADSA Foundation Auction and Raffle
Following the ADSA Awards Program
Hyatt Regency, Regency Ballroom and Foyer

Ice Cream Social: All meeting participants, families, friends, and award donors are invited to join us for the 2003 Joint Ice Cream Social sponsored by Arm & Hammer Nutrition Group and Soy Best. This is an excellent opportunity to visit and congratulate the 2003 ASAS and ADSA award recipients as well as enjoy a bowl of ice cream.

ADSA Foundation Auction and Raffle: Also while enjoying your ice cream, take one more look at the silent auction items and place your last bid. The 2003 auction promises to be more exciting than ever, with more opportunity to get your hands on some fantastic items while catching up with old friends and making new acquaintances. More than 40 items have been donated to this year’s event. Items include an array of milk bottles, framed art, dairy collectibles and much more.

New this year is the Foundation Raffle. Win one of many exceptional prizes, including a computer, a golf vacation at the historic Sheraton San Marcos in Phoenix, Palm powered handhelds, $100 Circuit City Gift Card, a print from Bonnie Mohr’s new Barns Across America series, and more. The raffle ticket winners will be drawn during the Foundation Auction. You need not be a member to enter, and you need not be present to win.
Dairy Management Inc. Research Summit

*Wednesday, June 25*
1:00 pm – 5:00 pm

*Thursday, June 26*
8:00 am - 12:00 pm

*Hyatt Regency, Phoenix Ballroom*

This by-invitation only session is designed to help shape DMI’s product research priorities by eliciting input from industry and university researchers on the most urgent needs. In addition to this summit, input is also gathered regularly from DMI research forums conducted in the various areas in which research is concentrated; from the advisory boards that serve DMI’s six Dairy Foods Research Centers and from DMI’s applications and technical support programs. For more information, contact Bill Haines, DMI’s vice president of business to business marketing (billh@rosedmi.com)

Retirees Social

*Wednesday, June 25*
2:30 pm – 3:30 pm

*Convention Center, Yuma 32*

All retirees and their spouses are cordially invited to attend a social gathering to relax, reminisce, and enjoy refreshments.

International/Closing Reception

*Wednesday, June 25*
4:30 pm – 6:00 pm

*Convention Center, Exhibit Hall D*

Meet colleagues from around the world Wednesday evening during the 5th Annual International Reception. Nearly 400 individuals will be in attendance to partake in conversation with new and old friends.

Reception for Larry Satter

*Wednesday, June 25*
5:00 pm to 6:00 pm

*Convention Center, Tucson 40-41*

A reception honoring the scientific contributions of Larry Satter, who retired in early 2003, will follow the symposium “Impact of Animal Feeding Operations on the Environment”. Vita Plus and the 4-State Dairy Extension are sponsors of the reception.
2003 Joint Annual Meeting
Schedule of Events

Saturday, June 21, 2003

8 am – 4 pm Modeling Nutrient Use in Farm Animals (for information contact John McNamara - mcnamara@wsu.edu) Hyatt, Russell

8 am – 5 pm ADSA Board of Directors Meeting Hyatt, Cowboy Artist’s Room

8 am – 5 pm ASAS Board of Directors Meeting Wyndham, Navajo AB

1 pm – 5 pm ADSA-SAD Farm/City Tour Off site

3 pm – 5 pm Registration Open (pre-registered badge & material pick up only) Convention Center, Lobby 2

7 pm – 10 pm Triennial Reproduction Symposium Reception and Poster Session Convention Center, Tucson 40-41

7:30 pm – 9 pm ARPAS Executive Committee Meeting Wyndham, Mohave B

Sunday, June 22, 2003

7 am – 7 pm Registration Open Convention Center, Lobby 2

8 am – 12 pm ADSA/ASAS Joint Board of Directors Meeting Wyndham, Navajo ABC

8 am – 5 pm Triennial Reproduction Symposium Convention Center, Tucson 40-41

8 am – 5 pm ARPAS Governing Board Meeting Wyndham, Hopi A

8 am – 5 pm Commercial Exhibits Set Up/SAD Exhibit Set Up Convention Center, Exhibit Hall D

11 am – 12 pm ADSA - SAD Officers and Advisor Meeting Convention Center, Phoenix 12

11 am – 12 pm ADSA JDS Editors Meeting Hyatt, Remington

12 pm – 1 pm ADSA - SAD Club Welcome Pizza Party and Orientation Convention Center, Phoenix 11

12 pm – 1 pm ADSA JDS Editors and Journal Management Committee Luncheon Hyatt, Remington

1 pm – 5 pm ADSA Journal Management Committee Meeting Hyatt, Remington

1 pm – 5 pm ADSA – SAD Quiz Bowl Seating/Preliminary Rounds Convention Center, Phoenix 13-17

2 pm – 3 pm ADSA Production Division Council Meeting Convention Center, Yuma 25

2 pm – 3:30 pm ADSA Foundation Board of Trustees Meeting Wyndham, Navajo D

2 pm – 3:30 pm ASAS Foundation Trustees Meeting Wyndham, Apache

2 pm – 4 pm ADSA Committee on Evaluation of Dairy Products Convention Center, Tucson 36

3 pm – 4 pm ADSA 2006 Centennial Task Force Committee Meeting Convention Center, Tucson 37

3 pm – 4 pm ADSA Production Division Nominating Committee Convention Center, Tucson 38

3 pm – 4 pm ADSA Production Division Resolutions Committee Convention Center, Yuma 25

3 pm – 5 pm ADSA – ASAS 2003 and 2004 Program Chairs and Vice Chairs Meeting Convention Center, Yuma 26-27

3:30 pm – 5 pm ADSA-ASAS Joint Foundation Board of Trustees Meeting Wyndham, Apache
Monday, June 23, 2003

6:15 am - 7:30 am Poster set up

6:30 am – 4 pm Registration Open

6:30 am – 8 am ADSA Production Division Extension Breakfast

6:30 am – 8 am ADSA Journal Editorial Board Breakfast/Meeting

6:30 am – 8 am Virginia Tech Breakfast

7:15 am – 8:15 am ADSA - SAD Exhibit Set up

7:30 am – 9:30 am Poster Sessions

7:30 am – 5 pm Commercial Exhibits & ADSA SAD Exhibits Open

8:30 am – 9:30 am ADSA Centennial Publications Committee Meeting

9 am – 9:30 am ADSA - SAD Business Meeting

9:30 am – 10:30 am ADSA - SAD Judging of Yearbooks, Scrapbooks, Annual Reports, and Centennial Celebration Entries

9:30 am – 10:30 am ADSA - SAD Interviews for Outstanding Student and Advisor Awards

9:30 am – 10:30 am ADSA - SAD Activities Symposium

10 am – 12 pm ARPAS Exam

11 am – 12:30 pm ADSA - SAD Undergraduate Paper Presentations

11 am – 1 pm ASAS Publications Committee Luncheon

11:30 am – 2 pm ADSA Past President’s Luncheon

12 pm – 1 pm Posters attended by authors/co-authors if possible

12 pm – 2 pm Michigan State University Lunch

1:30 pm - 3 pm ADSA DISCOVER Steering Committee Meeting

1:30 pm – 5 pm ADSA - SAD Undergraduate Paper Presentations

5 pm – 7 pm ASAS Award Winners Reception and Photo Session

5:15 pm – 6:30 pm ADSA Town Hall Meeting

7 pm – 9 pm ASAS/B&B/NCBA Collegiate Livestock Leaders Institute Dinner

7 pm – 8:30 pm ASAS Awards Program

8 pm – 11 pm Iowa State Social

9 pm - 12 am ASAS/ADSA Graduate Student Mixer

9:30 pm – 11:30 pm SAD Student Mixer
Tuesday, June 24, 2003

6:15 am – 7:30 am  Poster set up  Convention Center, Exhibit Hall D
6:30 am – 3:30 pm  Registration Open  Convention Center, Lobby 2
6:30 am – 8 am  ADSA Dairy Foods Division Extension Breakfast  Hyatt, Remington AB
6:30 am – 8 am  University of Illinois Breakfast  Wyndham, Navajo AB
6:30 am – 8 am  Kentucky Breakfast  Wyndham, Navajo CD
6:30 am – 8 am  Penn State Breakfast  Wyndham, Hopi
6:30 am – 8:30 am  ASAS New Board Orientation Breakfast  Wyndham, Apache A
7:30 am – 9:30 am  Poster Sessions  Convention Center, Exhibit Hall D
7:30 am – 3 pm  Commercial Exhibits & ADSA SAD Exhibits Open  Convention Center, Exhibit Hall D
8 am – 5 pm  ASAS/B&B/NCBA Collegiate Livestock Leaders Institute  Wyndham, Apache B
8 am – 8:30 am  ADSA - SAD Business Meeting – Election of Officers  Convention Center, Phoenix 13-15
8:45 am – 11:45 am  ADSA – SAD Student Careers Symposium: Congressional Insights Program  Convention Center, Phoenix 19
9:30 am – 5 pm  Scientific Sessions and Symposia  Convention Center
11 am – 12 pm  ARPAS Business Meeting  Convention Center, Yuma 21-22
11 am – 12 pm  ADSA Dairy Foods Division Business Meeting  Convention Center, Phoenix 18
12 pm – 1 pm  NE ADSA/ASAS Executive Committee Luncheon  Convention Center, Yuma 32
12 pm – 1 pm  ADSA Dairy Foods Division Program Planning Lunch  Hyatt, Remington A
12 pm – 1 pm  Posters attended by authors/co-authors if possible  Convention Center, Exhibit Hall D
12 pm – 1:30 pm  ASAS Section Editors Luncheon  Wyndham, Mohave B
12 pm – 2 pm  2003 Spouse’s Luncheon  Wyndham, South Ballroom
12 pm – 2 pm  ADSA - SAD Awards Luncheon  Convention Center, Phoenix 11-12
12 pm – 2 pm  ASAS Past President’s Luncheon  Wyndham, Navajo B
1 pm – 5 pm  Southern Branch ADSA Symposium and Business Meeting  Convention Center, Phoenix 20
1:30 pm – 3:30 pm  ARPAS Exam  Convention Center, Yuma 34
2 pm – 3 pm  ADSA SAD Award Photos  Convention Center, Phoenix 11-12
2 pm – 3 pm  SAD Committee Meeting – Old and New Officers & Advisors  Convention Center, Phoenix 13-15
3 pm – 4 pm  ADSA 2006 Centennial Planning and Budget Committee  Convention Center, Phoenix 13-15
3 pm – 6 pm  Commercial Exhibits Dismantle  Convention Center, Hall D
3:30 pm – 5:30 pm  ASAS New Section Editors Meeting  Wyndham, Navajo CD
5 pm – 6:30 pm  ADSA Award Donor Dinner  Hyatt, Phoenix Ballroom
5 pm – 7 pm  Informal Calf Gathering  Hyatt, Sundance
7 pm – 9:30 pm  ADSA Awards Program & Foundation Auction & Raffle  Hyatt, Regency Ballroom
8:30 pm – 9:30 pm  2003 Joint Ice Cream Social  Hyatt, Regency Ballroom & Foyer
**Wednesday, June 25, 2003**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
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<tbody>
<tr>
<td>6:15 am – 7:30 am</td>
<td>Poster set up</td>
<td>Convention Center, Exhibit Hall D</td>
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<tr>
<td>6:30 am – 8 am</td>
<td>Purdue Breakfast</td>
<td>Wyndham, Navajo A</td>
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<td>7 am – 3 pm</td>
<td>Registration Open</td>
<td>Convention Center, Lobby 2</td>
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<td>7:30 am – 9:30 am</td>
<td>Poster Sessions</td>
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<td>9:30 am – 10 am</td>
<td>FASS Business Meeting</td>
<td>Convention Center, Yuma 28-29</td>
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<td>(Joint ADSA/ASAS Business Meeting)</td>
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<td>10 am – 10:30 am</td>
<td>ADSA Business Meeting</td>
<td>Convention Center, Yuma 23-24</td>
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<td>10 am – 10:30 am</td>
<td>ASAS Business Meeting</td>
<td>Convention Center, Yuma 28-29</td>
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<tr>
<td>10:30 am – 1 pm</td>
<td>ASAS Board of Directors Meeting</td>
<td>Wyndham, Navajo CD</td>
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<tr>
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<td>Scientific Sessions and Symposia</td>
<td>Convention Center</td>
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<tr>
<td>11 am – 1 pm</td>
<td>ADSA Board of Directors Meeting</td>
<td>Hyatt, Russell</td>
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<tr>
<td>11 am – 1 pm</td>
<td>NE ADSA/ASAS Business Meeting and Awards Luncheon</td>
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<tr>
<td>11:30 am – 1 pm</td>
<td>ADSA DF Division Milk Proteins &amp; Enzyme Committee</td>
<td>Hyatt, Remington C</td>
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<tr>
<td>12 pm – 1 pm</td>
<td>Poster attended by authors/co-authors if possible</td>
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<tr>
<td>12 pm – 2 pm</td>
<td>WSASAS Business Meeting and Awards Luncheon</td>
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<tr>
<td>12 pm – 2 pm</td>
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<td>Wyndham, Navajo CD</td>
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<tr>
<td>1 pm – 3 pm</td>
<td>ARPAS Exam</td>
<td>Convention Center, Yuma 34</td>
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<tr>
<td>1 pm – 5 pm</td>
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<td>Hyatt, Phoenix Ballroom</td>
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<tr>
<td>2:30 pm – 3:30 pm</td>
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<tr>
<td>4:30 pm – 6 pm</td>
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<tr>
<td>5 pm – 6 pm</td>
<td>Reception for Larry Satter</td>
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<tr>
<td>6 pm – 9 pm</td>
<td>Korean Scientists and Students Dinner</td>
<td>TBA</td>
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**Thursday, June 26, 2003**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
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<tr>
<td>8 am – 10 am</td>
<td>Registration Open</td>
<td>Convention Center, Lobby 2</td>
</tr>
<tr>
<td>8 am – 12 pm</td>
<td>DMI Dairy Research Summit</td>
<td>Hyatt, Phoenix Ballroom</td>
</tr>
<tr>
<td>8 am – 12 pm</td>
<td>Scientific Sessions and Symposia</td>
<td>Convention Center</td>
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</table>
2003 Joint Annual Meeting
ADSA Student Affiliate Division
Schedule of Events

Saturday, June 21
1 pm – 5 pm  SAD Farm/City Tour, depart from Convention Center Lobby 2 Entrance
Free evening – informal SAD gathering: location to be announced at tour

Sunday, June 22
8 am - 5 pm  Student Dairy Clubs Set Up Exhibits  Convention Center, Exhibit Hall D
11 am – 12 pm  Advisor-Officer Meeting  Convention Center, Phoenix 12
12 pm - 1 pm  SAD Club Welcome Pizza Party and Orientation  Convention Center, Phoenix 11
1 pm - 5 pm  Quiz Bowl Seating and Preliminary Rounds  Convention Center, Phoenix 13-17
6:30 pm - 7 pm  Quiz Bowl Final Round  Convention Center, Phoenix 16-17
7 pm - 8:30 pm  ADSA-ASAS Opening Session  Convention Center, Ballroom
8:30 - 10:30 pm  ADSA-ASAS Opening Reception  Convention Center, Exhibit Hall D

Monday, June 23
7:15 am - 8:15 am  Student Dairy Clubs Set Up Exhibits  Convention Center, Exhibit Hall D
9 am - 9:30 am  Student Affiliate Division Business Meeting  Convention Center, Phoenix 13-15
9:30 am – 10:30 am  Student Affiliate Judging of Yearbooks, Scrapbooks, Annual Reports, Centennial Celebration Entries Convention Center, Phoenix 11
9:30 am – 10:30 am  Interviews for Outstanding Student and Advisor Awards  Convention Center, Phoenix 12
9:30 am – 10:30 am  Student Activities Symposium  Convention Center, Phoenix 13-15
11 am - 12:30 pm  SAD Undergraduate Paper Presentations  Convention Center, Phoenix 13-15
1:30 pm - 5 pm  SAD Undergraduate Paper Presentations  Convention Center, Phoenix 13-15
9:30 pm - 11:30 pm  Undergraduate Student Dance/Mixer  AMF Thunderbird Bowling Center
**Tuesday, June 24**

8 am - 8:30 am  
Student Affiliate Division Business Meeting - Election of Officers  
Convention Center, Phoenix 13-15

8:45 am - 11:45 am  
Student Careers Symposium: Congressional Insights Program  
Convention Center, Phoenix 19

12 pm - 2 pm  
Student Awards Luncheon  
Convention Center, Phoenix 11-12

2 pm - 3 pm  
SAD Pictures  
Convention Center, Phoenix 11-12

2 pm - 3 pm  
SAD Committee Meeting: Old & New Officers and Advisors  
Convention Center, Phoenix 13-15

2 pm - 5 pm  
Open to Attend Scientific Sessions  
Convention Center

2:30 pm - 4 pm  
Tear-down SAD Exhibits  
Convention Center, Exhibit Hall D

7 pm - 10 pm  
ADSA Awards Ceremony, Ice Cream Social and Foundation Auction  
Hyatt Regency, Regency Ballroom

**Wednesday, June 25**

9 am – 5 pm  
Scientific Sessions and Exhibits  
Convention Center

**Thursday, June 26**

8 am – 12 pm  
Scientific Sessions  
Convention Center
2003 Joint Annual Meeting
Collegiate Livestock Leaders Institute
Beef Class: 2003

Saturday, June 21
pm Students arrive

Sunday, June 22
Group Activity
Meeting registration
7 pm - 8:30 pm Attend Opening Session (Convention Center, Ballroom)
Keynote Speaker: Dr. Bernard Rollin

Monday, June 23
8 am – 5 pm Attend ASAS meetings
7 pm Initiation Dinner (Wyndham, Hopi A)
Speaker: Dr. Ken Odde, North Dakota State University

Tuesday, June 24
8 am – 5 pm CLLI Program (Wyndham, Apache B)
Speakers:
Dr. Dale Blazi, Kansas State University
Dr. Temple Grandin, Colorado State University
Ms. Kay Johnson, VP, Animal Agriculture Alliance
Dr. Deb Roeber, University of Minnesota
Mr. Glenn Smith, AgInfoLink
Dr. Ronnie Green, USDA-ARS

Wednesday, June 25
10:30 am - 1 pm Attend ASAS Board Meeting
12 - 1 pm Lunch with ASAS Board of Directors and/or Block and Bridle Advisors
Travel Home

2003 CLLI Students Participants:
Jaime Bard, Ohio State University
Malinda Burkhart, University of Tennessee-Knoxville
Ryan Conway, Kansas State University
Cade Davis, Utah State University
Shanna Hutchison, University of Arkansas
McKenzie Keedy, University of Missouri-Columbia
Bart Kite, Virginia Tech University
Jesse Savell, University of Florida
Nicholas Urbanek, Penn State University
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ARPAS Exam Form

ARPAS  The American Registry of Professional Animal Scientists

If you are interested in taking an exam please complete the form below and mail to the address shown.

Please indicate which meeting you will be attending: 

Please visit the ARPAS booth onsite or see the ARPAS representative for exam times and information. Information can be sent via e-mail as it becomes available – please enter your e-mail address below.

Circle which PAS exam(s) you would like to take:

5. Horses  10. Meat Science

NAME ___________________________________________________________

ADDRESS _________________________________________________________

_______________________________________________________________

PHONE ______________________ FAX ____________________________

E-MAIL ________________________________

(If you would like information on one of the College Board Certification exams, check here ______)

* Please note: If you cannot attend one of the ARPAS meetings, please let us know so we can find an ARPAS member in your area to administer the exam.

_____Yes, please contact me with a list of ARPAS members in my area.

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Savoy, IL  61874

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Fax:  217-398-4119
arpas@assochq.org
Phoenix Civic Plaza Map
Scientific Program

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Saturday, June 21, 2003

Schedule of Events

8 am – 4 pm  Modeling Nutrient Use in Farm Animals  
              (for information contact John McNamara - mcnamara@wsu.edu)  
              Hyatt, Russell

8 am – 5 pm  ADSA Board of Directors Meeting  
              Hyatt, Cowboy Artist’s Room

8 am – 5 pm  ASAS Board of Directors Meeting  
              Wyndham, Navajo AB

1 pm – 5 pm  ADSA-SAD Farm/City Tour  
              Off site

3 pm – 5 pm  Registration Open (pre-registered badge & material pick up only)  
              Convention Center, Lobby 2

7 pm – 10 pm Triennial Reproduction Symposium Reception and Poster Session  
              Convention Center, Tucson 40-41

7:30 pm – 9 pm ARPAS Executive Committee Meeting  
              Wyndham, Mohave B

Saturday, June 21, 2003

Pre-meeting Poster Session

Triennial Reproduction Symposium Poster Session

7:00 pm – 10:00 pm

Room: Tucson 40-41

Abstract Number

1  Post-thaw fertility of bovine semen aged within an AI straw for 8.5 hours. J. L. Edwards*, M. N. Malone¹, F. N. Schrick², H. H. Dowlens², H. D. Moorehead³, P. A. Lunn³, and A. M. Saxton¹, ¹The University of Tennessee, Knoxville, ²Dairy Experiment Station, Lewisburg, TN, USA.

2  Effects of presynchronization and/or post-breeding treatment with porcine LH or hCG on pregnancy rates in dairy cows. J. P. Kastelic*¹ and J. D. Ambrose¹, ¹Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, ²Alberta Agriculture Food and Rural Development, Edmonton, AB, Canada.

3  Pregnancy outcome in dairy cows fed diets supplemented with flaxseed or sunflowerseed. J.D. Ambrose*¹, J.P. Kastelic², R. Corbett⁴, P.A. Day⁴, J.A. Small⁵, and H.V. Petit⁵, ¹Alberta Agriculture Food and Rural Development, Edmonton, AB, ²Agriculture and Agri-Food Canada, Lethbridge, AB, ³Alberta Agriculture Food and Rural Development, Edmonton, AB, ⁴Agriculture and Agri-Food Canada, Lethbridge, AB, ⁵Lennoxville, QC, Canada.
4 Completion of the Midwest Consortium Project: Sequencing of 21,499 reproduction ESTs and 
comparative mapping of 721 selected genes. C.K. Tuggle*1, J.A. Green2, C. Fitzsimmons1, R. Woods2, 
R.S. Prather2, S. Malchenko3, M.B. Soares4, T. Kucaba1, K. Crouch3, and C. Smith3, 1Iowa State 
University, Ames, IA USA, 2University of Missouri-Columbia, Columbia, MO USA, 3University of 
Iowa, Iowa City, IA USA.

Effect of semen packaged in 0.25 and 0.50 cc straws on conception rate of lactating dairy cows. N. 
Michael*, C. Marti, E. Roberts, and M. Pace, ABS Global, Inc.

6 Ovarian follicular development in first parity sows subject to varied split-weaning protocols. J. 
Barry*, W. T. Dixon, and G. R. Foxcroft, Swine Research & Technology Centre, University of 
Alberta, Canada.

Do calcium-mediated cellular signalling pathways, PGE2, estrogen or progesterone receptor an-
tagonists, or bacterial toxins affect bovine placental function in vitro? C Weems*1, Y Weems2, T 
Welsh3, G Carsten4, and R Randel5, 1,2Univ. of Hawaii, 3,4,5Texas A&M Univ.

8 Does estrous synchronization affect corpus luteum (CL) function? C Weems*1, Y Weems1, S Tatman2, 
A Lewis2, D Neuendorff2, and R Randel2, 1Univ Hawaii, 2Texas A&M Univ.

Photoperiod and diet effects on heifer development. J. A. Small*1, A. D. Kennedy2, and D. R. Ward1, 
1Agriculture & Agri-Food Canada, Research Centre, Brandon, MB, Canada, 2University of Manitoba, 
Winnipeg, MB, Canada.

10 Heat shock increases glutathione in bovine oocytes. R. R. Payton*1, P. Coy2, R. Romar2, J.L. Lawrence1, 
and J.L. Edwards1, 1The University of Tennessee, Knoxville, USA, 2The University of Murcia, 
Murcia, Spain.
Sunday, June 22, 2003
Schedule of Events

7 am – 7 pm  Registration Open  Convention Center, Lobby 2
8 am – 12 pm  ADSA/ASAS Joint Board of Directors Meeting  Wyndham, Navajo ABC
8 am – 5 pm  Triennial Reproduction Symposium  Convention Center, Tucson 40-41
8 am – 5 pm  ARPAS Governing Board Meeting  Wyndham, Hopi A
8 am – 5 pm  Commercial Exhibits Set Up/SAD Exhibit Set Up  Convention Center, Exhibit Hall D
11 am – 12 pm  ADSA - SAD Officers and Advisor Meeting  Convention Center, Phoenix 12
11 am – 12 pm  ADSA JDS Editors Meeting  Hyatt, Remington
12 pm – 1 pm  ADSA - SAD Club Welcome Pizza Party and Orientation  Convention Center, Phoenix 11
12 pm – 1 pm  ADSA JDS Editors and Journal Management Committee Luncheon  Hyatt, Remington
1 pm – 5 pm  ADSA Journal Management Committee Meeting  Hyatt, Remington
1 pm – 5 pm  ADSA – SAD Quiz Bowl Seating/Preliminary Rounds  Convention Center, Phoenix 13-17
2 pm – 3 pm  ADSA Production Division Council Meeting  Convention Center, Yuma 25
2 pm – 3:30 pm  ADSA Foundation Board of Trustees Meeting  Wyndham, Navajo D
2 pm – 3:30 pm  ASAS Foundation Trustees Meeting  Wyndham, Apache
2 pm – 4 pm  ADSA Committee on Evaluation of Dairy Products  Convention Center, Tucson 36
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3 pm – 5 pm  ADSA – ASAS 2003 and 2004 Program Chairs and Vice Chairs Meeting  Convention Center, Yuma 26-27
3:30 pm – 5 pm  ADSA-ASAS Joint Foundation Board of Trustees Meeting  Wyndham, Apache
5 pm – 6 pm  ADSA Dairy Foods Division Council Meeting  Convention Center, Yuma 28-29
5 pm – 6 pm  ADSA Production Division Business Meeting  Convention Center, Tucson 37
6:30 pm – 7 pm  ADSA - SAD Quiz Bowl Final Round  Convention Center, Phoenix 16-17
7 pm – 8:30 pm  2003 Opening Session  Convention Center, Ballroom
8 pm – 10 pm  Commercial Exhibits Open  Convention Center, Exhibit Hall D
8:30 pm – 10 pm  2003 Opening Reception  Convention Center, Exhibit Hall D

OPENING SESSION

Animal Agriculture and Emerging Social Ethics for Animals

Dr. Bernard E. Rollin, Colorado State University

7:00 pm, Convention Center Ballroom
Minisymposium 1 – Regulation of Follicular Growth


8:45 am 12 (Invited) Control of follicular growth: local interactions and nutritional influences. R. Webb**, P.C. Garnsworthy†, J.G. Gong‡, and D.G. Armstrong‡, ¹University of Nottingham, Loughborough, UK, ²Roslin Institute, UK.

9:30 am Break

Minisymposium 2 – Regulation of Conceptus Growth and Development

10:00 am 13 (Invited) Uterine and placental factors regulating conceptus growth in domestic animals. Thomas E. Spencer* and Fuller W. Bazer, Texas A&M University.

10:45 am 14 (Invited) Regulation of the development of fetuses from in vitro produced and cloned embryos. C.E. Farin* and P.W. Farin, North Carolina State University, Raleigh.

11:30 am Presentation of Casida Award

12:00 pm Lunch

Breakout Session 1 (Attend 1 of 3)

1:30 pm – 2:30 pm 1. Selection of a single dominant follicle. Milo Wiltbank.
2. Sperm physiology and preservation. James Graham, and David Guthrie.

Breakout Session 2 (Attend 1 of 3)

5. Factors regulating mid to late pregnancy. Jeff Vallet.

Minisymposium 3 – Follicular and Hormonal Factors Regulating Embryonic Development and Pregnancy

4:00 pm 15 (Invited) The impact of oocyte quality on development. R.L. Krisher*, Purdue University, West Lafayette, IN USA.

4:45 pm 16 (Invited) Pre-ovulatory, post-ovulatory and post-maternal-recognition factors that affect establishment and retention of pregnancy in cattle. E. K. Inskeep*, West Virginia University, Morgantown WV/USA.
### Monday, June 23, 2003

#### Schedule of Events

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:15 am - 7:30 am</td>
<td>Poster set up</td>
<td>Convention Center, Exhibit Hall D</td>
</tr>
<tr>
<td>6:30 am – 4 pm</td>
<td>Registration Open</td>
<td>Convention Center, Lobby 2</td>
</tr>
<tr>
<td>6:30 am – 8 am</td>
<td>ADSA Production Division Extension Breakfast</td>
<td>Hyatt, Phoenix Ballroom</td>
</tr>
<tr>
<td>6:30 am – 8 am</td>
<td>ADSA Journal Editorial Board Breakfast/Meeting</td>
<td>Hyatt, Cowboy Artist’s Room</td>
</tr>
<tr>
<td>6:30 am – 8 am</td>
<td>Virginia Tech Breakfast</td>
<td>Hyatt, Sundance</td>
</tr>
<tr>
<td>7:15 am – 8:15 am</td>
<td>ADSA - SAD Exhibit Set up</td>
<td>Convention Center, Exhibit Hall D</td>
</tr>
<tr>
<td>7:30 am – 9:30 am</td>
<td>Poster Sessions</td>
<td>Convention Center, Exhibit Hall D</td>
</tr>
<tr>
<td>7:30 am – 5 pm</td>
<td>Commercial Exhibits &amp; ADSA SAD Exhibits Open</td>
<td>Convention Center, Exhibit Hall D</td>
</tr>
<tr>
<td>8:30 am – 9:30 am</td>
<td>ADSA Centennial Publications Committee Meeting</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>9 am – 9:30 am</td>
<td>ADSA - SAD Business Meeting</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>9:30 am – 10:30 am</td>
<td>ADSA - SAD Judging of Yearbooks, Scrapbooks, Annual Reports, and Centennial Celebration Entries</td>
<td>Convention Center, Phoenix 11</td>
</tr>
<tr>
<td>9:30 am – 10:30 am</td>
<td>ADSA - SAD Interviews for Outstanding Student and Advisor Awards</td>
<td>Convention Center, Phoenix 12</td>
</tr>
<tr>
<td>9:30 am – 10:30 am</td>
<td>ADSA - SAD Activities Symposium</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>9:30 am – 5 pm</td>
<td>Scientific Sessions and Symposia</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>10 am – 12 pm</td>
<td>ARPAS Exam</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>11 am – 12:30 pm</td>
<td>ADSA - SAD Undergraduate Paper Presentations</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>11 am – 1 pm</td>
<td>ASAS Publications Committee Luncheon</td>
<td>Hyatt, Curtis B</td>
</tr>
<tr>
<td>11:30 am – 2 pm</td>
<td>ADSA Past President’s Luncheon</td>
<td>Hyatt, Curtis B</td>
</tr>
<tr>
<td>12 pm – 1 pm</td>
<td>Posters attended by authors/co-authors if possible</td>
<td>Wyndham, South Ballroom</td>
</tr>
<tr>
<td>12 pm – 2 pm</td>
<td>Michigan State University Lunch</td>
<td>Wyndham, South Ballroom</td>
</tr>
<tr>
<td>1:30 pm – 3 pm</td>
<td>ADSA DISCOVER Steering Committee Meeting</td>
<td>Convention Center, Yuma 32</td>
</tr>
<tr>
<td>1:30 pm – 5 pm</td>
<td>ADSA - SAD Undergraduate Paper Presentations</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>5 pm – 7 pm</td>
<td>ASAS Award Winners Reception and Photo Session</td>
<td>Wyndham, Najavo AB</td>
</tr>
<tr>
<td>5:15 pm – 6:30 pm</td>
<td>ADSA Town Hall Meeting</td>
<td>Convention Center, Tucson 40-41</td>
</tr>
<tr>
<td>7 pm – 9 pm</td>
<td>ASAS/B&amp;B/NCBA Collegiate Livestock Leaders Institute Dinner</td>
<td>Wyndham, Hopi A</td>
</tr>
<tr>
<td>7 pm – 8:30 pm</td>
<td>ASAS Awards Program</td>
<td>Wyndham, Grand Ballroom</td>
</tr>
<tr>
<td>8 pm – 11 pm</td>
<td>Iowa State Social</td>
<td>Wyndham, Navajo A</td>
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<tr>
<td>9 pm – 12 am</td>
<td>ASAS/ADSA Graduate Student Mixer</td>
<td>TBA</td>
</tr>
<tr>
<td>9:30 pm – 11:30 pm</td>
<td>SAD Student Mixer</td>
<td>AMF Thunderbird Bowling Center</td>
</tr>
</tbody>
</table>
**Monday, June 23, 2003**

**Symposia and Oral Sessions**

**SYMPOSIUM**

**Breeding & Genetics**

**Molecular Genetics: Lessons From Past/New Directions**

Chair: Ignacy Misztal, University of Georgia  
Sponsors: ABS Global, Genetic Visions, Inc., and Monsanto  
Room: Yuma 23-24

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30 am</td>
<td>Introduction.</td>
<td>Ignacy Misztal, University of Georgia.</td>
</tr>
<tr>
<td>10:15 am</td>
<td>18</td>
<td>(Invited) Lessons from QTL analyses in mice. D Pomp*1 and E.J. Eisen1, 1University of Nebraska, 2North Carolina State University.</td>
</tr>
<tr>
<td>10:50 am</td>
<td>19</td>
<td>(Invited) Potential use of microarrays and related methodologies in animal breeding. Bruce Walsh*, University of Arizona.</td>
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<tr>
<td>11:25 am</td>
<td></td>
<td>Discussion</td>
</tr>
</tbody>
</table>

**SYMPOSIUM**

**Companion Animals**

**Nutrient Requirements of Dogs and Cats**

Chair: Donald Beitz, Iowa State University  
Room: Yuma 21-22

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>Introduction. Donald Beitz, Iowa State University</td>
</tr>
<tr>
<td>9:45 am</td>
<td>(Invited) Carbohydrates and fiber in dog and cat nutrition, George C. Fahey, Jr., University of Illinois</td>
</tr>
<tr>
<td>10:45 am</td>
<td>(Invited) Protein and amino acids: Control of food intake. James Morris, University of California-Davis.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>(Invited) Vitamins. James Morris, University of California-Davis.</td>
</tr>
</tbody>
</table>
### SYMPOSIUM
### Food Safety

**Food Safety for Animal Agriculture: What Producers Need to Know**

Chair: Gerald Jones, Virginia Tech  
Sponsor: Pfizer Animal Health  
Room: Tucson 40-41

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>10:00 am</td>
<td>21</td>
<td>(Invited) Food safety for animal agriculture: What producers need to know about causes of foodborne illness. Davey B. Griffin, Texas A&amp;M University, College Station, TX.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>22</td>
<td>(Invited) Food safety for animal agriculture: What producers need to know about drug use, resistance, and residues. Bhushan Jayarao, Pennsylvania State University, University Park, PA.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>23</td>
<td>(Invited) Food safety for animal agriculture: What producers need to know about HACCP and management practices. Gerald M. Jones, Virginia Tech, Blacksburg, VA.</td>
</tr>
<tr>
<td>11:30 am</td>
<td>24</td>
<td>(Invited) Food safety for animal agriculture: What producers need to know about quality assurance programs. James W. Oltjen, University of California, Davis, CA.</td>
</tr>
</tbody>
</table>

### SYMPOSIUM
### Growth & Development

**Alternative Aspects of Adipocyte Function**

Chair: Harry Mersmann, USDA/ARS Children’s Nutrition Research Center  
Sponsors: Elanco Animal Health, Monsanto, Pfizer Animal Health, and USDA-CSREES  
Room: Tucson 36

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>25</td>
<td>(Invited) Usefulness of in vitro and in vivo experimental models. J. Novakofski, University of Illinois, Department of Animal Sciences.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>26</td>
<td>(Invited) Role of fatty acids in adipocyte growth and development. M.J. Azain, University of Georgia.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>27</td>
<td>(Invited) Adipose tissue angiogenesis. G.J. Hausman, USDA-ARS.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>28</td>
<td>(Invited) The adipocyte as an endocrine cell. J. L. Miner* and K. M. Hargrave, University of Nebraska.</td>
</tr>
<tr>
<td>11:30 am</td>
<td>29</td>
<td>(Invited) Metabolism and development of bovine brown adipose tissue. S.B. Smith and G.E. Carstens, Texas A&amp;M University, College Station, TX.</td>
</tr>
</tbody>
</table>
### ADSA Dairy Foods Graduate Student Paper Competition and Dairy Foods*

**Chair:** Lloyd Metzger, University of Minnesota  
**Room:** Phoenix 19

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>30</td>
<td>Altered growing conditions can inhibit nisin production in lactic cultures by disrupting the signal transduction pathway. H. Li* and D. O'Sullivan, University of Minnesota.</td>
</tr>
<tr>
<td>9:45 am</td>
<td>31</td>
<td>Invasion of <em>Mycobacterium avium sub sp paratuberculosis</em> in Bovine Epithelial cells and Bovine Mammary Epithelial Cells. Dilip Patel*, Lisbeth Goddik1, and Luiz Bermudez2. 1Food Science and Technology, Oregon State University, Corvallis, OR 97331-6602, 2Department of Biomedical sciences, College of Vet Med, Oregon state Univ, Corvallis OR 97331-4804.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>34</td>
<td>Characterization of proteolysis in Cheddar cheeses produced with isogenic, thermolytic starters expressing various cell envelope proteinases. S. Myaka, L. Metzger, K. Baldwin, and L. McKay, MN-SD Dairy Foods Research Center, University of Minnesota, St. Paul, MN.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>36</td>
<td>Analysis of physico-chemical changes during early ripening of cheese utilizing FTIR Spectroscopy. P. Upreti* and L. E. Metzger, MN-SD Dairy Foods Research Center, University of Minnesota, St. Paul, MN.</td>
</tr>
<tr>
<td>11:15 am</td>
<td>37</td>
<td>Evaluation of salt whey as an ingredient in process cheese. R. Kapoor* and L. E. Metzger, MN-SD Dairy Food Research Center, University of Minnesota, St. Paul, MN.</td>
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<tr>
<td>11:45 am</td>
<td>39</td>
<td>Withdrawn</td>
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</table>

### ADSA/ASAS Northeast Graduate Student Paper Competition

**Chair:** Thomas G. Hartsock, University of Maryland  
**Room:** Phoenix 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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</table>
10:15 am 43 Abnormal udder conformation in pubertal heifers induced into lactation. E. Wall*, R. Thomason, D. Maynard, E. Brunst, and T.B. McFadden, University of Vermont, Burlington, VT.


**WSASAS Graduate Student Paper Competition**

*Chair: Dr. D.H. Crews, Jr., Agriculture and Agri-Food Canada*

**Room: Yuma 30 & 35**

<table>
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<th>Time</th>
<th>Abstract Number</th>
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<tr>
<td>9:30 am</td>
<td>45</td>
<td>Withdrawn</td>
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<tr>
<td>9:45 am</td>
<td>46</td>
<td>Effect of feeding high-linoleate safflower seeds on reproductive endocrine</td>
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<td>dynamics in postpartum beef females. M. H. J. Grant*, B. W. Hess, D. L.</td>
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<td></td>
<td></td>
<td>1University of Wyoming, Laramie, WY, 2Colorado State University, Fort</td>
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<td>Collins, CO.</td>
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<tr>
<td>10:00 am</td>
<td>47</td>
<td>Effects of barley processing, bulk density and oil type on feedlot</td>
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<td></td>
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<td>performance and carcass characteristics of finishing beef steers. M. F.</td>
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<td></td>
<td></td>
<td>Thompson, K. A. Anderson, and T. K. Blake, Montana State University,</td>
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<td></td>
<td>Bozeman, MT.</td>
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<tr>
<td>10:15 am</td>
<td>48</td>
<td>Evaluation of time to AI with a modified Co-Synch protocol and calf</td>
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<td>removal in postpartum beef cows. R.S. Walker*, P.D. Burns, G.E. Sides,</td>
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<td></td>
<td></td>
<td>and D.D. Zalesky. 1San Juan Basin Research Center, Hesperus, CO, USA,</td>
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<td></td>
<td></td>
<td>2Colorado State University, Fort Collins, CO, USA, 3Intervet, Inc.,</td>
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<td></td>
<td></td>
<td>Millsboro, DE, USA.</td>
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<tr>
<td>10:30 am</td>
<td>49</td>
<td>Glucose half-life decreased in young postpartum range cows from spring to</td>
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<td></td>
<td></td>
<td>summer. R. L. Endecott*, D. L. Dunlap, R. C. Waterman, A. C. Fitzgerald,</td>
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<td></td>
<td></td>
<td>V. A. Munn, K. L. Shirley, S. H. Cox, J. A. Hartung, C. A. Loest, and M.</td>
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<td>K. Petersen, New Mexico State University.</td>
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<tr>
<td>10:45 am</td>
<td>50</td>
<td>Withdrawn</td>
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<tr>
<td>11:00 am</td>
<td>51</td>
<td>Explant culture supports survival and proliferation of bovine spermatogonial</td>
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<td>stem cells. JM Oatley*, DJ McLean, DM de Avila, and JJ Reeves, Washington</td>
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<td></td>
<td>State University.</td>
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<tr>
<td>11:15 am</td>
<td>52</td>
<td>Undegradable true protein, and not ruminally-protected methionine,</td>
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<td></td>
<td></td>
<td>increases nutrient utilization by growing beef heifers. V. A. Munn*, C.</td>
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<td>A. Loest, C. P. Mathis, M. K. Petersen, P. J. Defoor, J. E. Sawyer, and</td>
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<td></td>
<td>C. A. Rogers, New Mexico State University, Las Cruces, NM.</td>
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<tr>
<td>11:30 am</td>
<td>53</td>
<td>Salmonella destruction in frankfurters using hydrostatic pressure and</td>
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<td></td>
<td>bacteriocins. A. W. Wolf*, S. Bandyopadhyayya, N. Kalchayanand, B. Ray,</td>
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<td></td>
<td></td>
<td>and W.J. Means, University of Wyoming, Laramie, WY, USA.</td>
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<tr>
<td>11:45 am</td>
<td>54</td>
<td>Increasing dietary high-linoleate safflower oil affects duodenal flow of</td>
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<td></td>
<td>esterified linoleate in wethers. R. L. Atkinson*, E. J. Scholljegerdes,</td>
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<td>S. L. Lake, V. Nayighugu, B. W. Hess, and D. C. Rule, University of</td>
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<td>Wyoming.</td>
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### Animal Health

**Immunity and Health**

Chair: Boon P. Chew, Washington State University  
Room: Yuma 28-29

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30 am</td>
<td>55</td>
<td>Effect of dietary organically bound selenium and D-α-tocopherol acetate bolus on serum antioxidants status of transit stressed wether lambs.</td>
<td>N. K. Chirase¹, J. B. Taylor², T. Thelen³, and L. W. Greene¹, ¹Texas Agricultural Experiment Station, Amarillo, ²West Texas A&amp;M University, Canyon, ³Agriculture Research Service, Dubois, ID.</td>
</tr>
<tr>
<td>9:45 am</td>
<td>56</td>
<td>Intracellular glutathione concentration in bovine natural killer cells after infection with bovine respiratory syncytial virus or bovine viral diarrhea virus.</td>
<td>L. Matulka¹, L. Wilkie², C. Kuszniski², S. Justice³, D. Wylie³, K.M. Eskridge³, D.R. Brink³, and C.L. Kelling³, ¹University of Nebraska, Lincoln, NE, ²University of Nebraska Medical Center, Omaha, NE.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>57</td>
<td>Effects of intravenous infusion of triglyceride emulsions varying in lipid source on lymphocyte functions in the bovine.</td>
<td>D. Scalia¹, U. Bernabucci², D. G. Mashek², B. Ronchi², R. R. Grummer², and N. Lacetera¹, ¹Università della Tuscia, Viterbo, Italy, ²University of Wisconsin, Madison.</td>
</tr>
<tr>
<td>10:15 am</td>
<td>58</td>
<td>Lymphocyte functions in obese cows during transition period.</td>
<td>U. Bernabucci¹, D. Scalia, B. Ronchi, D. Pirazzi, A. Nardone, and N. Lacetera, Università della Tuscia, Italy.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>59</td>
<td>In vitro modulation by beta-glucan and ascorbic acid of blood leukocyte toll-like receptor and acute phase cytokine expression.</td>
<td>S. D. Eicher¹, T. R. Johnson², and K. A. McMunn¹, ¹USDA-ARS, West Lafayette, IN, ²Purdue University, West Lafayette, IN.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>60</td>
<td>An evaluation of rumen-protected choline and a monensin controlled release capsule on the health and metabolic function of periparturient dairy cows.</td>
<td>L.C. Zahra¹, T.E. Duffield¹, S.J. LeBlanc¹, K.E. Leslie¹, T. Overton², and D. Putnam¹, ¹Department of Population Medicine, Guelph Ontario, Canada, ²Department of Animal Science, Ithaca NY, ³Balchem Corporation, Slate Hill NY.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>61</td>
<td>Metabolism and gastric transport of ergot alkaloids in ruminants grazing endophyte-infected tall fescue.</td>
<td>N.S. Hill¹, A.W. Ayers¹, J.A. Stuedemann², F.N. Thompson², P.T. Purinton¹, and G. Rottinghaus¹, ¹University of Georgia, ²USDA-ARS, J. Phil Campbell Natural Resources Laboratory, ³University of Missouri.</td>
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### International Animal Agriculture

Chair: Fernando Grignola, Monsanto Company  
Room: Yuma 25

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
<th>Authors</th>
</tr>
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<tbody>
<tr>
<td>9:45 am</td>
<td>63</td>
<td>Effects of the recessive naked gene on postweaning fryer performance and thermo-tolerance characters in rabbits.</td>
<td>A. D. Rogers*, A. S. Ayers*, ¹A. D. Lukefahr, Texas A&amp;M University-Kingsville.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>64</td>
<td>Study of some socioeconomic factors affecting small ruminant production in upland ranges of Balochistan.</td>
<td>A. U. Hyder¹, A. S. Lodhi², and O.U. Haider¹, ¹Department of Animal Breeding and Genetics, Faisalabad, Pakistan, ²Department of Clinical Medicine and Surgery, University of Agriculture, Faisalabad, Pakistan.</td>
</tr>
<tr>
<td>10:15 am</td>
<td>65</td>
<td>Small ruminant production in upland ranges of Balochistan-cost of enterprise.</td>
<td>A. U. Hyder¹, A. S. Lodhi², and O.U. Haider¹, ¹Department of Animal Breeding and Genetics, Faisalabad, Pakistan.</td>
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Nonruminant Nutrition

Sow Nutrition
Chair: B.V. Lawrence, Hubbard Feeds, Inc.
Room: Tucson 43

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>66</td>
<td>Nucleotides in sows colostrum and milk at different stages of lactation. C. D. Mateo*, H. H. Stein, and D. N. Peters, South Dakota State University, Brookings, SD.</td>
</tr>
<tr>
<td>9:45 am</td>
<td>67</td>
<td>Impact of milk supplementation on primiparous and multiparous females’ performance and piglets’ growth during pre and post-weaning periods. M. E. Johnston1, Rafael Cabrera2, R. D. Boyd1, and John Vignes3, 1The Hanor Company, 2Ralco-Mix Products, Inc., 3Advanced Birthright Nutrition, Inc.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>68</td>
<td>Effects of reducing particle size of corn in lactation diets on performance and nutrient utilization in multiparous sows. E. C. Baudon*, J. D. Hancock, M. D. Tokach, and J. F. Gabarrou, Kansas State University, Manhattan.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>70</td>
<td>Exogenous enzyme effects on the digestibility of gestation-lactation swine diets. A.L.P. de Souza*, M.D. Lindemann, and G.L. Cromwell, University of Kentucky, Lexington.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>71</td>
<td>Impact of increased valine:lysine ratio during lactation on sow and piglet performance. A. M. Gaines*, M. E. Johnston², G. L. Allee³, R. D. Boyd², J. L. Usry³, and K. J. Touchette³, 1University of Missouri-Columbia, 2The Hanor Company, Inc., 3Ajinomoto Heartland, Inc., Chicago, 4Merrick's Inc., Union Center, WI.</td>
</tr>
<tr>
<td>11:15 am</td>
<td></td>
<td>What have we learned? T.J. Prince, Akey</td>
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</tbody>
</table>

Production, Management, & the Environment

Chair: Kathy Soder, USDA ARS Pasture Systems and Watershed Management
Room: Tucson 37

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
</tr>
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<tbody>
<tr>
<td>9:45 am</td>
<td>74</td>
<td>Effects of sprinkler, shade, and fan cooling of preparturient Holstein cows on postparturient milk performance during summer heat stress. JH Urdaz*, MW Overton, D Moore, and JE Santos, Veterinary Medicine Teaching and Research Center University of California, Davis Tulare, CA/USA.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>75</td>
<td>A large-scale survey evaluating the effect of cooling Holstein cows on productive and reproductive performances under sub-tropical conditions. Israel Flamenbaum*¹ and Efraim Ezra², 1Ministry of agriculture, Extension service, 2Israel Cattle Breeders Association.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>77</td>
<td>Hair coat color may influence longevity of Holstein cattle in the tropics. CN Lee*¹, KS Baek¹², and A Parkhurst¹, ¹University of Hawaii-Manoa, ²National Livestock Research Institute, Suwon, S.Korea, ³University of Nebraska.</td>
</tr>
</tbody>
</table>
10:45 am  78 The impact of cooling ponds in north central Texas on milk production and culling. Michael Tomaszewski*, Marjolein de Haan², James Thompson¹, and Ellen Jordan¹, ¹Texas A&M University, ²Wageningen University.

11:00 am  79 Evaluation of drought management strategies for cow-calf enterprises. R.E. Kruse*, M.W. Tess¹, R.K. Heitschmidt², J.A. Paterson¹, and B.F. Sowell¹, ¹Department of Animal Science, Montana State University, Bozeman, MT 59717, ²USDA-ARS, Fort Keogh Livestock and Range Research Laboratory, Miles City, MT 59301.

11:15 am  80 Genetic analysis of the growth performance of Bhagnari and Droughtmaster x Bhagnari crossbred cows in Pakistan. A. U. Hyder*, A. Waheed², and M.S. Khan³, ¹Department of Animal Breeding and Genetics, University of Agriculture, Faisalabad, Pakistan., ²Department of Animal Breeding and Genetics, University of Agriculture, Faisalabad, Pakistan., ³Department of Animal Breeding and Genetics, University of Agriculture, Faisalabad, Pakistan.

11:30 am  81 The effect of protein intake on milk protein efficiency in heat-exposed cows. A. Arieli*¹ and I Bruckental², ¹Hebrew University of Jerusalem, Rehovot, Israel, ²Agricultural Research Organization, The Volcani Center, Bet Dagan, Israel.


Ruminant Nutrition
Dairy Calves and Replacement Heifers
Chair: Katharine F. Knowlton, Virginia Tech
Room: Tucson 39

9:30 am  82 Responses to feeding Apex plant extracts to neonatal calves via the milk replacer and starter. T. M. Hill*, J. M. Aldrich, and R. L. Schlotterbeck, Akey.


10:00 am  84 Characterization of a colostrum replacer containing IgG concentrate and growth factors. C. J. Hammer*, J. D. Quigley², L. Ribeiro², and H. D. Tyler¹, ¹Iowa State University, Ames, ²APC, Inc., Ames, IA.


10:30 am  86 Effect of feeding a novel direct fed microbial in a calf milk replacer. M.L. O'Brien¹, K.J. Touchette¹, J.A. Coalson¹, R.M. Costello*¹, T. Rehberger², and B. Galbraith², ¹Merrick’s Inc. Union Center, WI, ²Agtech Products, Inc. Waukesha, WI.


11:00 am  88 Effect of feeding fatty acids to prepubertal heifers on first lactation milk production. J. M. Smith*¹ and M. E. Van Amburgh², ¹University of Vermont, ²Cornell University.

### Ruminant Nutrition

**Growing Cattle**

Chair: Trey Patterson, South Dakota State University

Room: Tucson 38

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>90</td>
<td>Influence of energy source and RDP on intake and digestion in beef steers fed grass hay based diets. T. A. Baumann*, G. F. Lardy, J. S. Caton, W. W. Dvorak, and V. L. Anderson, North Dakota State University, Fargo ND.</td>
</tr>
<tr>
<td>9:45 am</td>
<td>91</td>
<td>Protein utilization of pearl millet grain supplements by growing steers. G. M. Hill*, W. W. Hanna, A. C. Coy, B. C. Hand, W. B. Forlow, and B. G. Mullinix, Jr., University of Georgia, Tifton, GA/USA, USDA-ARS, Tifton, GA/USA.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>92</td>
<td>Use of rice mill feed and soy hulls in backgrounding diets for beef calves. W.N. Stacey and D.L. Rankins, Jr., Auburn University.</td>
</tr>
<tr>
<td>10:15 am</td>
<td>93</td>
<td>Effects of supplementing corn or soybean hulls to steers consuming bermudagrass hay on intake and apparent nutrient digestibilities. A. I. Orr, B. J. Rude, D. G. St. Louis, and V. T. Nguyen, Mississippi State University, Starkville.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>95</td>
<td>Effect of supplemental energy form and frequency on forage intake and digestibility. T.W. Loy, J.C. MacDonald, T.J. Klopfenstein, and G.E. Erickson, University of Nebraska, Lincoln.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>96</td>
<td>Nitrogen metabolism of beef steers fed either Gamagrass or Orchardgrass hay with or without a supplement. K. Magee, M. Poore, J. Burns, and G. Huntington, North Carolina State University.</td>
</tr>
<tr>
<td>11:15 am</td>
<td>97</td>
<td>Supplemental protein to enhance nutrient utilization of steers fed high fiber hay. N. N. Paiva, M. A. Froetschel, and G. M. Hill, The University of Georgia, Athens, Georgia.</td>
</tr>
<tr>
<td>11:30 am</td>
<td>98</td>
<td>Effects of ammonia load on methionine utilization in growing steers limit-fed soybean hull-based diets. M. S. Awawdeh, E. C. Titgemeyer, K. C. Candler, and D. P. Gnad, Kansas State University, Manhattan.</td>
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</table>

### Teaching/Undergraduate & Graduate Education

Chair: Bryan Reiling, University of Nebraska

Room: Yuma 26-27

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<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>99</td>
<td>A partnership of universities and agri-business for an effective dairy herd management learning experience for undergraduates: the Dairy Challenge. M. Tomaszewski*, M.S. Weber Nielsen, D.K. Beede, D. Thorbahn, M. Budine, and D. Selner, Texas A&amp;M University, College Station, Michigan State University, East Lansing, Select Sires, Plain City, OH, Cargill Animal Nutrition, Mentone, IN, Shawano, WI.</td>
</tr>
<tr>
<td>9:45 am</td>
<td>100</td>
<td>Undergraduate research: a win-win proposition. C. M. Wood*, Virginia Tech.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>101</td>
<td>Biotechnology for the animal science classroom - Development of an inquiry-based curricula for undergraduate and graduate students. S.T. Willard*, T.R. Smith, and P.L. Ryan, Mississippi State University, Mississippi State, MS.</td>
</tr>
<tr>
<td>10:15 am</td>
<td>102</td>
<td>Adding value to education: an undergraduate animal sciences internship program. KE Fike* and AK Lahmers, The Ohio State University.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>103</td>
<td>Experiential learning through a short-term dairy internship program. Amin Ahmadzadeh*, M. A. McGuire, and R. Hatch, University of Idaho, Moscow, Kowz R Us Dairy, Castleford, ID.</td>
</tr>
</tbody>
</table>
10:45 am 104 Recent advances in animal welfare: a Purdue-Michigan State long distance video course. E. A. Pajor*1 and A. J. Zanella2, 1Purdue University, 2Michigan State University.

11:00 am 105 Animal welfare judging: multimedia training material. D.R. Hains* and E.A. Pajor, Purdue University.

11:15 am 106 Performance and cognitive level of questions asked by rural and urban students in a beginning Animal Science course. E. A. Beuscher* and D. R. Brink, University of Nebraska-Lincoln.

11:30 am 107 Heptachlor contamination of Oahu's fluid milk supply: A case study to teach contemporary ethical issues to undergraduate animal science majors. D. Vincent*, University of Hawaii, Honolulu.

SYMPOSIUM
Animal Health
Laminitis in Dairy Cattle
Chair: Boon P. Chew, Washington State University
Room: Yuma 23-24

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Authors</th>
</tr>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>111</td>
<td>(Invited) Biomechanical aspects of the pathogenesis of claw horn disruptions in dairy cattle. C. Lischer*1, K. Nuss2, S. Nacambo2, S. Meyer2, and P. Ossent3, 1Equine Clinic, University of Zurich, 2Farm Animal Clinic, University of Zurich, 3Institute of Veterinary Pathology, University of Zurich.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>108</td>
<td>(Invited) Subclinical laminitis, or not? The aetiology and early pathogenesis of sole and white line lesions in dairy heifers. A. J. F. Webster* and J. F. Tarlton, University of Bristol, Langford, Bristol BS405DU, UK.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>110</td>
<td>(Invited) Nutritional approaches to minimize subacute ruminal acidosis in dairy cattle. W. C. Stone*, Cornell University Ithaca, NY.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>109</td>
<td>(Invited) Environmental influences on laminitis and sub-acute ruminal acidosis (SARA) in dairy cows. Nigel B Cook* and Ken Nordlund, University of Wisconsin-Madison, School of Veterinary Medicine.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>112</td>
<td>(Invited) Monitoring techniques to minimize laminitis. K.V. Nordlund* and N.B. Cook, University of Wisconsin-Madison, School of Veterinary Medicine.</td>
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SYMPOSIUM
Companion Animals
Nutrient Requirements of Dogs and Cats
Chair: Donald Beitz, Iowa State University
Room: Yuma 21-22

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<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Authors</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td></td>
<td>(Invited) Dietary essential fatty acids in dogs and cats. John Bauer, Texas A&amp;M University.</td>
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<tr>
<td>1:30 pm</td>
<td></td>
<td>(Invited) Minerals. Francis Kallfelz, Cornell University, and Donald Beitz, Iowa State University.</td>
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<tr>
<td>2:00 pm</td>
<td></td>
<td>(Invited) How exercise and climate affect the nutrition of dogs and cats. Richard Hill, University of Florida.</td>
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<tr>
<td>2:30 pm</td>
<td></td>
<td>(Invited) Ingredients. Keith Behnke, Kansas State University, and Donald Beitz, Iowa State University.</td>
</tr>
</tbody>
</table>
3:00 pm  Break
3:30 pm  (Invited) Water, other food constituents, and special considerations. David A. Dzanis, Dzanis Consulting & Collaborations.
4:00 pm  Open forum – panel discussion with audience

SYMPOSIUM

Food Safety

Emergence of Antimicrobial Resistance and Implications to Animal Agriculture

Chair: Robin Anderson, USDA/ARS, Southern Plains Agricultural Research Center
Sponsor: Pfizer Animal Health
Room: Tucson 40-41

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<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>113</td>
<td>(Invited) Epidemiological principles relating to the study of antimicrobial resistance in animal agriculture. Randall Singer*, University of Illinois, Urbana, IL.</td>
</tr>
<tr>
<td>1:50 pm</td>
<td>114</td>
<td>(Invited) Transfer of antibiotic resistance genes from farm animals to man - how likely, how dangerous?. Abigail A. Salyers*, University of Illinois, Urbana, IL.</td>
</tr>
<tr>
<td>2:40 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>115</td>
<td>(Invited) Antimicrobial use in food animals and the search for potential alternatives. Kenneth M. Bischoff*, Todd R. Callaway, Thomas S. Edrington, Tawni L. Crippen, and David J. Nisbet, USDA-ARS, Food and Feed Safety Research Unit, College Station, TX.</td>
</tr>
<tr>
<td>3:50 pm</td>
<td>116</td>
<td>(Invited) Antimicrobial resistance in commensal and pathogenic bacteria from swine and their implications for the swine industry. Jeffrey T. Gray* and Paula J. Fedorka-Cray, USDA-ARS, Antimicrobial Resistance Research Unit, Athens, GA.</td>
</tr>
</tbody>
</table>

SYMPOSIUM

International Animal Agriculture

Sustainable Animal Agriculture, National and International Prospective

Co-Chairs: Sandra G. Solaiman, Tuskegee University, and Eric Bradford, University of California-Davis
Room: Yuma 25

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>117</td>
<td>(Invited) A global overview of sustainability in animal agriculture systems. Cornelis de Haan*, World Bank.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>118</td>
<td>(Invited) Is rangeland agriculture sustainable?. R. K. Heitschmidt*, L. T. Vermeire, and E. E. Grings, USDA-ARS, Fort Keogh LARRL, Miles City MT.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>119</td>
<td>(Invited) Contribution of animal agriculture to sustainable systems. E.R. Orskov, Macaulay Institute.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>121</td>
<td>(Invited) Redirecting government policies to ensure agricultural sustainability. John Ikerd*, University of Missouri.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td></td>
<td>Panel Discussion</td>
</tr>
</tbody>
</table>
SYMPOSIUM
Swine
Where Are We Headed? Integrating Moral Views With Biological Facts
Chair: Gretchen Myers Hill, Michigan State University
Sponsors: Danbred North America, EAAP, National Pork Board, and PIC
Room: Tucson 42

Time

1:00 pm Introduction and issues. Gretchen Myers Hill, Michigan State University, East Lansing.
1:15 pm (Invited) The sow – a biological perspective. Jeremy N. Marchant-Forde, USDA-ARS Livestock Behavior Unit, West Lafayette, IN.
2:00 pm (Invited) Housing systems for gestating sows. Hans H. Stein, South Dakota State University, Brookings, SD.
2:30 pm (Invited) Mine works – 26+ pigs per year with sow group housing. Johannes V. Hansen, Denmark.
3:15 pm Break
3:30 pm (Invited) What the genetics will provide for success. Tom Rathje, Danbred North America, Seward, NE.
4:00 pm (Invited) Challenges from a veterinarian’s perspective. David Madsen, American Association of Swine Veterinarians.

ADSA Dairy Production Graduate Student Paper Competition & Southern Division Paper Competition
Chair: John McNamara, Washington State University
Room: Phoenix 18

Time Abstract Number
1:00 pm 122 Manipulation of rumen fermentation, microbial population and blood metabolites of Holstein neonatal calves using Yeast Culture as a microbial additive. Behnam Saremi* and Abasali Naserian, Ferdowsi University of Mashhad, Khorasan, Iran.
1:45 pm 125 Implantation of a pellet containing TGF-β increases BrdU-labeling in mammary stromal cells of prepubertal heifers. S Musters*, T McFadden, T Mulvey, K Coughlan, R Maple, and K Plaut, University of Vermont, Burlington, VT USA.
2:00 pm 126 Behaviors of transition dairy cows and heifers. K. J. Daniels*, J. R. Townsend, S. S. Donkin, E. A. Pajor, A. G. Fahey, and M. M. Schutz, Purdue University, West Lafayette, IN.
2:15 pm 127 Relationship of dystocia to dairy cow health and productivity. J. E. Lombard*1, S. M. Tomlinson1, F. B. Garry1, and L. P. Garber2, 1Integrated Livestock Management, Colorado State University, Fort Collins, CO, 2USDA:APHIS:VS, CEAH, Center for Animal Health Monitoring, Fort Collins, CO.
2:30 pm 128 Effects of grazing fresh forages on milk fat CLA. S. J. Freeman*1, J. A. Bertrand1, T. C. Jenkins1, B. W. Pinkerton1, and D. L. Palmquist2, 1Clemson University, Clemson SC / USA, 2Ohio State University, Columbus OH / USA.

3:00 pm Break

3:30 pm 130 Effect of cereal grain characteristics on production performance of lactating dairy cattle. J. A. Meier*, P. Yu, J. J. McKinnon, and D. A. Christensen, University of Saskatchewan.

3:45 pm 131 Tight junction (TJ) protein expression during engorgement of rat and bovine mammary glands. C. V. Cooper*1,2, K. Stelwagen2, C. D. McMahon2, K. Singh2, V. C. Farr2, and S. R. Davis1, Dexcel Ltd., Hamilton, New Zealand, AgResearch, Hamilton, New Zealand, Massey University, Palmerston North, New Zealand.

4:00 pm 132 Effects of glucose concentration and presence of EGF and hormones on bovine oocyte maturation. D. J. Walker*, J. F. De La Torre-Sanchez, and G. E. Seidel, Jr., Colorado State University Fort Collins, CO 80523.


4:30 pm 134 Leptin, body condition, and intake regulation of lactating dairy cows in the transition phase. D. Kumar*, M. A. Froetschel1, T. D. Dringle1, D. Keisler2, and J. K. Bernard1, The University of Georgia, The University of Missouri.

4:45 pm 135 The ability of amide versus calcium salts of soybean oil to increase unsaturated fatty acid concentration in omasal and continuous culture samples. F. P. Lundy III*, T. C. Jenkins, W. C. Bridges Jr, and J. A. Bertrand, Clemson University, Clemson, SC, 29634.

5:00 pm 136 Comparison of three estrus detection systems during summer heat stress in a large commercial dairy herd. O. A. Peralta*, R. E. Pearson, and R. L. Nebel, Virginia Polytechnic Institute and State University, Blacksburg.

WSASAS Graduate Student Paper Competition

Chair: Dr. D. H. Crews, Jr., Agriculture and Agri-Food Canada

Room: Yuma 30 & 35

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>137</td>
<td>Evaluation of perennial ryegrass straw as a forage source for ruminants. M. J. Fisher*, D. W. Bohnert1, C. J. Ackerman2, C. S. Schauer3, T. DelCurto1, A. M. Craig4, D. L. Harmon1, and N. F. Schrick1, Eastern Oregon Agriculture Research Center, Burns, Oregon State University, Corvallis, University of Kentucky, Lexington, The University of Tennessee, Knoxville.</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>138</td>
<td>Risk factors associated with culling females in a composite beef herd. Phoenix Rogers*, Charles Gaskins1, Kristen Johnson1, and Michael MacNeil2, Washington State University, USDA-ARS LARRL.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>140</td>
<td>Effects of fluxin meglumine on embryonic loss in stressed beef cows. M. L. Merrill*, R. P. Ansotegui1, N. E. Wamsley2, P. D. Burns2, and T. G. Geary3, Montana State University, Bozeman, MT, Colorado State University, Fort Collins, CO, USDA-ARS, Miles City, MT.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>141</td>
<td>The effects of cattle gender on feedlot performance, carcass characteristics and muscle tenderness. W. T. Choat*, J. A. Paterson1, B. M. Rainey1, M. C. King1, R. J. Lipsey2, K. E. Belk3, and G. C. Smith3, Montana State University, American Simmental Association, Colorado State University.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>142</td>
<td>Influence of protein supplementation frequency on cows consuming low-quality forage: performance, grazing time, distance traveled, distance from water, and distribution. C. S. Schauer*, D. W. Bohnert1, and D. C. Ganskopp2, Eastern Oregon Agriculture Research Center, Oregon State University, Burns, OR, Eastern Oregon Agriculture Research Center, ARS-USDA, Burris, OR.</td>
</tr>
</tbody>
</table>
2:30 pm  143  Livestock response to rest-rotation, deferred-rotation, or continuous grazing systems on forested rangeland. L. G. Wood*, K. C. Olson, R. D. Wiedmeier, and J. E. Bowns, Utah State University, Logan, UT.


3:00 pm  Break


**Breeding & Genetics**

**Dairy Cattle Breeding for Production Traits**

**Chair:** Duane Norman, USDA

**Room:** Yuma 28-29

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<th>Time</th>
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<tr>
<td>1:00 pm</td>
<td>147</td>
<td>Individual curve fitting of Italian Simmental cow milk test day data. N. P.P Macciotta*, D. Vicario2, G. Pulina1, and A. Cappio-Borlino, 1Université di Sassari, 2Italian Association of Simmental cow Breeders.</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>148</td>
<td>Estimates of genetic parameters and lactation curves with a cubic spline model for Holstein cows treated with bovine somatotropin. B. J. DeGroot*, J. F. Keown1, S. D. Kachman1, and L. D. Van Vleck2, 1University of Nebraska, Lincoln, NE, 2USDA, ARS, USMARC, Lincoln, NE.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>150</td>
<td>Estimation of genetic parameters for test-day records of French Holstein cows with an AI-REML algorithm. Tom Druet*, Florence Jaffrézic, and Vincent Ducrocq, Station de Génétique Quantitative et Appliquée, INRA.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>151</td>
<td>Estimation of genetic correlations among production, body size, udder, and productive life traits over time in Holsteins. S. Tsuruta1, I. Misztal1, T. J. Lawlor2, and L. Kle2, 1University of Georgia, Athens GA, 2Holstein Association USA Inc., Brattleboro VT.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>152</td>
<td>Identification of environments for AI progeny testing schemes that yield the highest heritability and correlation with second-crop evaluations for yield and type traits. N.R. Zwalt* and K.A. Weigel, UW-Madison, Madison, WI.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>154</td>
<td>Standardization of lactation records for variance of Mendelian sampling to reduce bias in evaluations of bull dams. G.R. Wiggans*, P.M. VanRaden, and J.L. Edwards, Agricultural Research Service, USDA, Beltsville, MD.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>155</td>
<td>Development of a selection index for the Reggiana dairy cattle breed. M Fioretti1, V Palucci*1, and F Miglior2, 1Associazione Italiana Allevatori, Rome, Italy, 2Agriculture and Agri-Food Canada, CDN, Guelph, ON, Canada.</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>156</td>
<td>Analyses of heat tolerance for milk in Holsteins using different sources of heat-stress information. I. Misztal*, S. Oseni, and S. Tsuruta, University of Georgia, Athens, GA, USA.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>157</td>
<td>Comparison of Holstein, Holstein-Jersey crossbred, and Holstein-Normande crossbred first-parity cows for milk, fat, and protein production and SCS during the first 150 days of lactation. B.J. Heins, L.B. Hansen*, and A.J. Seykora, University of Minnesota, St. Paul.</td>
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### Dairy Foods

#### Processed Cheese, Milk Powder, and Microbiology

**Chair:** K. Aryana, Louisiana State University  
**Room:** Phoenix 19

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>158</td>
<td>Comparison of pilot-scale and RVA process cheese manufacture. L. E. Metzger*, P. Lehtola, and R. Kapoor, MN-SD Dairy Foods Research Center, University of Minnesota, St. Paul, MN.</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>159</td>
<td>Salt whey ingredient. V. V. Mistry* and M. R. Acharya, South Dakota State University.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>160</td>
<td>Comparison of the melting properties of process cheese using a Rapid Visco Analyzer (RVA) and the Schreiber melt test. L. A. Rosenberg* and L. E. Metzger, MN-SD Dairy Food Research Center, University of Minnesota, St. Paul, MN.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>161</td>
<td>Effect of rice bran oil as a natural antioxidant on the storage stability of whole milk powder. L. F. Osorio*, J. U. McGregor, J. S. Godber, and N. Y. Farkye, Escuela Agrícola Panamericana, Zamorano, Tegucigalpa, Honduras, Food Science and Human Nutrition Dept., Clemson University, Clemson, SC, Food Science Dept., LSU Ag Center, Baton Rouge, Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo, CA.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>163</td>
<td>The effects of composition and processing on milk foaming characteristics as measured by steam frothing. M. Levy, J. U. McGregor, and W. Prinyawiwatkul, Chef John Folse and Company, Gonzales, LA, Clemson University, Dept. of Food Science and Human Nutrition, Clemson, SC, Food Science Dept., LSU Ag Center, Baton Rouge.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>164</td>
<td>Distribution of milk protein at air interfaces in ice cream examined by transmission electron microscopy and immunogold labeling. H. D. Goff* and Z. Zhang, University of Guelph, Guelph, ON Canada.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>165</td>
<td>Effect of pH and ionic strength on competitive protein adsorption to air bubbles in aqueous foams made with mixed milk proteins. Z. Zhang* and H. D. Goff, University of Guelph, Guelph, ON, Canada.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>Break</td>
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<tr>
<td>3:30 pm</td>
<td>166</td>
<td>Elucidation of the mechanisms of casein micelle stabilization by carrageenans extracted from <em>Gigartina lanceata</em> red seaweed. D. W. Everett* and Y. Hemar, University of Otago, Dunedin, New Zealand, Massey University, Palmerston North, New Zealand.</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>167</td>
<td>The lactose permease of <em>Streptococcus thermophilus</em> is phosphorylated by the doubly phosphorylated form of HP(_s), a phosphoprotein of the phosphoenolpyruvate:sugar phosphotransferase system. A. Cochu, M. Frenette, S. Moineau, and C. Vadeboncoeur, GREB, Faculte de Medecine dentaire et Faculte des Sciences et de Genie, Universite Laval.</td>
</tr>
</tbody>
</table>

### Dairy Foods

#### Natural Cheese and Butter

**Chair:** Jim Harper, The Ohio State University  
**Room:** Phoenix 20

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
</tr>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>168</td>
<td>Does brine temperature influence salt uptake by Ragusano cheese?. C. Melilli*, D. M. Barbano, G. Licitra, G. Portelli, G. Di Rosa, and S. Carpino, CoRFiLaC, Regione Siciliana, 97100 Ragusa, Italy, Northeast Dairy Food Research Center, Department of Food Science, Cornell University, Ithaca, NY.</td>
</tr>
</tbody>
</table>
1:15 pm 169 The influence of native pasture plants on aroma compounds in Ragusano cheese. S. Carpino*, S. Mallia1, S. La Terra1, G. Licitra1, P.J. Van Soest2, and D.M. Barbano3, 1CoRFLaC, Regione Siciliana, 97100 Ragusa, Italy, 2Department of Animal Science, Department of Food Science, Cornell University, Ithaca, NY.

1:30 pm 170 Withdrawn

1:45 pm 171 Lipolysis and proteolysis within blocks of Ragusano cheese at different brine temperatures. C. Melilli1, D. M. Barbano*, M. Manenti1, J. M. Lynch2, S. Carpino1, and G. Licitra1, 1CoRFLaC, Regione Siciliana, 97100 Ragusa, Italy, 2Northeast Dairy Foods Research Center, Department of Food Science, Cornell University, Ithaca, NY.

2:00 pm 172 Impact of pH during aging on proteolysis, texture and melting characteristics of Mozzarella cheese. M.A.S Cortez1, M.M. Furtado1, M.L. Gigante2, and P.S. Kindstedt*, 1Federal University of Víncs/CAPES, MG/Brazil, 2State University of Campinas, Campinas, SP/Brazil, 3University of Vermont, Burlington, VT/USA.

2:15 pm 173 Purchasing and consumption behaviors, attitudes and expectations of Taiwanese urbanites toward cheese. I. M. Tsai* and M. R. McDaniel, Oregon State University.

2:30 pm 174 Gas chromatographic profile of volatiles in cheese induced by different fat globule surface coatings. D. W. Everett*, J. Crowshaw1, A. Ginestet2, M. Leus1, and J.-P. Dufour1, 1University of Otago, Dunedin, New Zealand, 2Ecole nationale superieur de biologie applique a la nutrition et l'alimentation, Dijon, France.


3:00 pm Break


3:45 pm 177 Effect of supplemental dietary fish oil and soy oil on production and composition of milk and properties of butter from cows with low and high atherogenic index. G. Bobe*, S. Zimmerman1, E. G. Hammond1, A. E. Freeman1, D. H. Kelley1, J. Dedrick1, P. A. Porter2, C. M. Luhman2, and D. C. Beitz, 1Iowa State University, 2Land O'Lakes.

Marschall Rhodia International Dairy Science Award Lecture
2003 Award Chair: James W. Moran, Kraft Foods
Room: Phoenix 19

Time

4:00 pm Delivering probiotic cultures. Nagendra Shah, Victoria University of Technology, Victoria, Australia.

Forages & Pastures
Silages, Forage Composition
Chair: Peter Tozer, Penn State University
Room: Yuma 26-27

Time Abstract Number

1:00 pm 178 Evaluating chemical characteristics of mixed corn plant and tomato pomace silage using experimental silos. Reza Tahmasb1, Behnam Saremi*, and Abasali Naserian2, 1Dasht dairy farm, Neyshabour, khorasan, Iran., 2Ferdowsi university of Mashhad, khorasan, Iran.

1:15 pm 179 Chemical characteristics of alfalfa silage treated with urea and sulfuric acid. E. Khafipour, M.D. Mesgarian*, and F.E. Shahroudi, Ferdowsi University of Mashhad, Mashhad, IRAN.

1:45 pm 181 Practical methodology for applying edible coverings to bunker silos. L.L. Berger* and J.R. Sewell, University of Illinois-Urbana.

2:00 pm 182 Production response of lactating dairy cows to corn silage harvested from different varieties at different cutting heights. J. K. Bernard*, J. W. West, D. S. Trammell, and G. H. Cross, The University of Georgia, Dept. of Animal and Dairy Science.


2:30 pm 184 Chloride fertilization of corn grown for silage affects mycotoxin concentrations. D. P. Casper*, D. Spangler1, D. Schauff1, G. Clark2, and D. T. Wicklow3, 1Agri-King, Inc., Fulton, IL, 2University of Illinois Extension, 3USDA-ARS, Peoria, IL.


3:00 pm Break


3:45 pm 187 Withdrawn

Nonruminant Nutrition
Diet and Health

Co-Chairs: J.L. Pierce, Alltech, Inc. and H. Yang, ADM Alliance Nutrition, Inc.
Sponsors: Alltech, Inc., Danbred North America, and PIC

Room: Tucson 43

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>188</td>
<td>Effects of n-6/n-3 fatty acid ratios in young pig diets on performance and immune function. T. A. Meyer*, M. D. Lindemann, S. T. Franklin, M. L. Vickers, H. J. Monegue, and G. L. Cromwell, University of Kentucky, Lexington, KY.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>190</td>
<td>Oat hulls in diets for young pigs based on cooked rice or corn without antibiotics. F. Martin, M. A. Latorre, J. M. Gonzalez-Alvarado, R. Lazaro*, and G. G. Mateos, Universidad Politécnica de Madrid. Spain.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>191</td>
<td>Rice vs wheat feeding and protein level of the diet on performance of piglets from 10 to 16 kg BW. J. Bonet1, J. Coma1, M. Cortés2, P. Medel2, and G.G. Mateos*, 1Vall Companys Group, Spain, 2Imasde Agropecuaria, S.L., Spain, 3Universidad Politécnica de Madrid, Spain.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>193</td>
<td>Effects of different levels of spray dried egg and lactose on the performance of weaned pigs. C.M. Shao*, B.G. Harmon2, and M.A. Latour2, 1Wellhope Agri-Tech Co., Beijing China, 2Purdue University, West Lafayette, IN.</td>
</tr>
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</table>
2:30 pm 194 Effect of the substitution of feed growth promoter by plant extracts on the performances of broilers. D Eclache*1 and M Besson2, 1GENUOL, 2PHODE, France.

2:45 pm 195 Bioefficacy of B. coagulans in broiler and piglet diets: a comparative study. E. Esteve1, A.E. Espinel2, C. Piñeiro3, J. Gasca4, M. Cortes5, and P. Medel*6, 1IRTA, Spain, 2Norel, Spain, 3PigCHAMP, Spain, 4UAB, Spain, 6Masde Agropecuaria, Spain.

3:00 pm Break

3:00 pm 196 Effects of antibiotics and a heat-stable yeast product in diets for weanling pigs. N. Llanes*, J. D. Hancock, C. L. Jones, and C. W. Starkey, Kansas State University, Manhattan.

3:15 pm 197 Efficacy of Bio-Mos® in the nursery pig diet: A meta-analysis of the performance response. J. C. Miguel*, S. L. Rodriguez-Zas, and J. E. Pettigrew, University of Illinois at Urbana-Champaign, Urbana, IL/USA.

3:30 pm 198 Use of fermented soybean meal in nursery diets. S. W. Kim, R. L. McPherson*, and F. Ji, Texas Tech University.

3:45 pm 199 Use of probiotics and fermented soybean meal in lactation diets. J. Fei* and S. W. Kim, Texas Tech University.

4:00 pm 200 What have we learned? J.E. Pettigrew, University of Illinois.

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**Physiology

**

**Estrous Synchronization

Chair: Ray Nebel, Virginia Tech

Room: Tucson 36

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 pm</td>
<td>200</td>
<td>A comparison of the MGA® Select and 7-11 Synch protocols to synchronize estrus in postpartum beef cows. J.E. Stegner*, F.N. Kojima, M.R. Ellersieck, M.F. Smith, and D.J. Patterson, University of Missouri.</td>
<td></td>
</tr>
<tr>
<td>1:30 pm</td>
<td>202</td>
<td>Effects of CIDR in the Ovsynch protocol on AI pregnancy rate in crossbred beef cows. H. K. Baitis*, A. Garcia1, W. D. Whittier1, and J. M. DeJarnette2, 1Virginia Polytechnic Institute and State University, Blacksburg, VA/United States, 2Select Sires, Inc., Plain City, OH/United States.</td>
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<tr>
<td>1:45 pm</td>
<td>203</td>
<td>Single versus a split dose of PGF2α administered 18 or 19 d after a 14 d melengestrol acetate (MGA) treatment to synchronize estrus in Bos taurus x Bos indicus heifers. G.A. Bridges*, G.P. Fortillo, MK. Shaw, J.W. de Araujo, and J.V. Yelich, University of Florida, Gainesville.</td>
<td></td>
</tr>
<tr>
<td>2:00 pm</td>
<td>204</td>
<td>Fixed-time artificial insemination of postpartum beef cows at 72 or 80 hours after treatment with the MGA® Select protocol. J.E. Stegner*, J.F. Bader, F.N. Kojima, M.R. Ellersieck, M.F. Smith, and D.J. Patterson, University of Missouri.</td>
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<tr>
<td>2:30 pm</td>
<td>206</td>
<td>Timing of insemination and GnRH on pregnancy rates in beef cows in a modified CO-Synch estrous synchronization system. J. B. Hall*, J. M. DeJarnette2, J. C. Whittier1, and T. W. Geary4, 1Virginia Tech, Blacksburg, VA, 2Select Sires Inc., Plain City, OH, 4Colorado State University, Fort Collins, CO, 4USDA-ARS Miles City, MT.</td>
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<tr>
<td>2:45 pm</td>
<td>207</td>
<td>A timed insemination program for first service based on the use of estradiol cypionate (ECP) in lactating dairy cows. S.M. Pancarci, A. Arteche, F. Silvestre, S. Kamimura, and W.W. Thatcher*, University of Florida, Gainesville, FL, USA.</td>
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<td>3:00 pm</td>
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<td>Break</td>
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<tr>
<td>3:45 pm</td>
<td>209</td>
<td>Resynchronization of ovulation using Ovsynch to induce second timed artificial insemination service in lactating dairy cows. P. M. Fricke* and M. L. Welle¹, ¹University of Wisconsin-Madison, ²Miltrim Dairy, Athens, Wisconsin.</td>
<td></td>
</tr>
<tr>
<td>4:00 pm</td>
<td>210</td>
<td>Reproductive responses following postpartum suppression of follicular development with a Deslorelin implant during summer heat stress. F.T. Silvestre*, S. Kamimura, J.A. Bartolome, A.C.M. Arteche, S.M. Pancari, and W.W. Thatcher, University of Florida, Gainesville, FL, USA.</td>
<td></td>
</tr>
<tr>
<td>4:15 pm</td>
<td>211</td>
<td>Effect of ovulatory follicle size at time of GnRH injection or standing estrus on pregnancy rates and embryonic/fetal mortality in beef cattle. G. A. Perry*¹, M. F. Smith¹, M. C. Lucy¹, A. J. Roberts², M. D. MacNeil³, and T. W. Geary², ¹University of Missouri, Columbia, MO, ²USDA-ARS, Fort Keogh LARRL, Miles City, MT.</td>
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<tr>
<td>4:30 pm</td>
<td>212</td>
<td>Effect of hCG administration approximately 5 d after artificial insemination on progesterone concentrations and AI conception rates in beef heifers. R.N. Funston*, J.L. Olson², R.J. Lipsey³, T.W. Geary⁴, and A.J. Roberts⁴, ¹University of Nebraska, Lincoln, ²Montana State University, Bozeman, ³American Simmental Association, Bozeman, MT, ⁴USDA-ARS, Miles City, MT.</td>
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Production, Management, and the Environment

Chair: Normand St. Pierre, The Ohio State University

Room: Tucson 37

<table>
<thead>
<tr>
<th>Time</th>
<th>Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>214</td>
<td>Application of the Cornell Nutrient Management Planning System. T.P. Tylutki*, D.G. Fox¹, and M. McMahon², ¹Cornell University, Ithaca NY USA, ²McMahons EZ Acres, Homer NY USA.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>216</td>
<td>Culling rate and death loss associations with DHI production values. A.J. Young¹, S.C. Smith², and S.P. Tripp*, ¹Utah State University, Logan, ²DHI Computing Service, Provo, UT.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>217</td>
<td>The simulated economic cost of extended calving intervals in dairy herds and comparison of reproductive management programs. P. D. French*¹ and R. L. Nebel², ¹Oregon State University, Corvallis, ²Virginia Tech, Blacksburg.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>218</td>
<td>Herd management and cow productivity information from an autoregressive test-day model applied in southeastern Sicily. G. Azzaro¹, S. Ventura¹, J. Carvalheira², M. Caccamo¹, G. Licitra¹, E. Raffrenato¹,², and R.W. Blake⁴, ¹CoRFiLaC, Regione Siciliana, 97100 Ragusa, Italy, ²Universidade do Porto, Vairao, Portugal, ³D.A.C.P.A., Université di Catania, Italy, ⁴Department of Animal Science, Cornell University, Ithaca, 14853 NY, USA.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>219</td>
<td>Seasonality of productive life of dairy cows in Florida and Georgia. B. L. Butler* and A. de Vries, Department of Animal Sciences, University of Florida.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>220</td>
<td>Association between production, feed and weather on a commercial dairy - a case study. A.J. Young*³ and S.P. Tripp², ¹Utah State University, Logan, ²DHI Computing Service, Provo, Utah.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>221</td>
<td>Effects of prepartum exercise on metabolism, milk yield, and health disorders of dairy cows. J. A. Davidson* and D. K. Beede, Michigan State University, East Lansing, MI.</td>
</tr>
<tr>
<td>3:00 pm</td>
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<td>Break</td>
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<tr>
<td>3:45 pm</td>
<td>223</td>
<td>Monitoring electrical power quality effects on milk production of dairy herds. D. Hillman*, D. Stetzer², M. Graham², C. L. Goike², K. Mathson², H. H. VanHorn³, and C. J. Wilcox³, ¹Michigan State University, East Lansing, MI, ²Stetzer Electric, Inc., Blair, WI, ³University of California, Berkeley, CA, ⁴Goike Enterprises, Mason, MI, ⁵University of Florida, Gainesville, FL.</td>
</tr>
</tbody>
</table>
4:00 pm 224 Adoption of human resource management practices in dairy businesses. R.E. Stup*, L.A. Holden, and J. Hyde, Penn State University.


4:30 pm 226 Sample collection depth and physical separation by screening affect aflatoxin concentration in contaminated corn. A.E. Harper1, J.B. Meldrum2, J. Zhao*, and M.J. Estienne1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2VA-MD Regional College of Veterinary Medicine, Blacksburg.

4:45 pm 227 Investigating effects of ambient temperature and day length on milk production of first lactation Iranian Holstein heifers. Abasali Naserian1, Behnam Saremi1, and Alireza Alizadeh*, 1Ferdowsi University of Mashhad, Khorasan, Iran, 2Tarbiat Modarres University, Tehran, Iran.

**Ruminant Nutrition**

**Grazing - Rumen Metabolism - Protein**

Chair: Mike Looper, USDA-ARS

Room: Tucson 38

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<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>228</td>
<td>Effect of corn silage and grazing strategy on milk production and composition of grazing dairy cows. P. Chilibroste*, F. Elizondo, and D. A. Mattiauda, Facultad de Agronomía. Est. Exp. M. A. Cassinoni.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>231</td>
<td>Effect of grazing systems on chewing activity, ruminal pH fluctuations and pH of milk, blood and urine of dairy cows. Christoph Graf1, Michael Kreuzer1, and Frigga Dohme*, 1Swiss Federal Research Station for Animal Production, Posieux, Switzerland, 2Swiss Federal Institute of Technology, Zurich, Switzerland.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>232</td>
<td>Effect of abomasal pectin infusion on digestion and nitrogen balance in dairy cows. T. F. Dunlap* and L. E. Armentano, University of Wisconsin-Madison.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>234</td>
<td>Influence of a polyclonal antibody preparation against rumen proteolytic bacteria on rumen fermentation and yield of milk and milk components. C.R. Dahlen1, A. DiCostanzo2, B.M. Mitteness1, P. Nash1, J.E. Larson2, N. DiLorenzo2, and G.D. Marx1, 1Northwest Research and Outreach Center, University of Minnesota, 2Department of Animal and Veterinary Science, University of Minnesota, 3CAMAS, Inc.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>235</td>
<td>Urea synthesis by ruminal epithelial and duodenal mucosal cells isolated from growing sheep. M. Oba1, R. L. Baldwin, IV2, S. L. Owens1, and B. J. Bequette1, 1Department of Animal and Avian Sciences, University of Maryland, College Park, MD, 2Bovine Functional Genomics Laboratory, ANRI, USDA-ARS, Beltsville, MD.</td>
</tr>
<tr>
<td>3:00 pm</td>
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<td>Break</td>
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</tbody>
</table>
4:00 pm 238 Use of milk urea nitrogen to evaluate dietary protein on commercial dairy farms. A. B. Peterson* and R. A. Kohn, University of Maryland, College Park, Maryland.

4:15 pm 239 Effect of increased rumen-undegradable protein fed prepartum on milk production and milk protein yield in early lactation for high producing Holstein cows. K.M. Kouri*, S.M. Andrew, and T.A. Hoagland, University of Connecticut, Storrs, CT, USA.

4:30 pm 240 Strategic ration balancing by supplementing lysine, methionine, and Prolak® on efficiency of milk protein production and potential environmental impact. J. H. Harrison1, R. L. Kincaid1, W. Schager1, L. Johnson*1, D. Davidson1, L. D. Bunting2, and W. Chalupa1, 1Washington State University, 2Archer Daniels Midland Co., 3University of Pennsylvania.

4:45 pm 241 Effect of HMB and HMBi on milk production, composition, and efficiency of Holstein cows in early and mid-lactation. J. T. Sylvester*1, N. R. St-Pierre1, B. K. Sloan2, J. L. Beckman1, and S. M. Noftsger1, 1The Ohio State University, Columbus, OH, USA, 2Adisseo, Alpharetta, GA, USA.

Ruminant Nutrition
Dairy Feedstuffs
Chair: Jeffrey Carter, Nestle Purina Pet Care
Room: Tucson 39

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<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>242</td>
<td>Effect of bmr-6 and bmr-18 brown midrib genes on forage sorghum silage in lactating dairy rations. A.L. Oliver*, R.J. Grant, J.F. Pedersen, University of Nebraska, Lincoln, NE, USDA/ARS, Lincoln, NE.</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>243</td>
<td>Comparison of a corn silage hybrid with high cell wall content and digestibility with a lower cell wall hybrid on lactational performance of Holstein cows. S. K. Ivan*, R. J. Grant, D. Weakley, and J. Beck, University of Nebraska, Lincoln, NE, Purina Mills, St. Louis, MO, Syngenta Seeds, Golden Valley, MN.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>244</td>
<td>Effect of endosperm type of corn grain on starch degradability by ruminal microbes in vitro. M. S. Allen*, R. J. Grant, G. W. Roth, W. P. Weiss, and J. F. Beck, Michigan State University, University of Nebraska, Lincoln, Pennsylvania State University, University Park, The Ohio State University/OARDC, Wooster, Syngenta Seeds, Golden Valley, MN.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>245</td>
<td>Effects of corn grain endosperm type and brown midrib corn silage on milk production and feeding behavior of lactating dairy cows. C. C. Taylor* and M. S. Allen, Michigan State University, East Lansing.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>246</td>
<td>Dairy cattle performance, health, and milk composition when fed silage and grain from Bt (Cry1F) and near-isogenic control hybrids. M. A. Faust*, B. Smith, M. Hinds, and G. Dana, Iowa State University, Ames, Pioneer Hi-bred International, Inc., Johnston, IA.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>247</td>
<td>Effects of feeding corn silage produced from corn containing MON810 and GA21 genes on feed intake, milk production and composition in lactating dairy cows. S. Calsamiglia*, B. Hernandez, G. F. Hartnell, and R. H. Phipps, Universidad Autonoma de Barcelona, Spain, Monsanto Company, St. Louis, MO, University of Reading, UK.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>248</td>
<td>Effects of replacing chopped alfalfa hay with alfalfa silage in total mixed rations fed to lactating dairy cows at two levels of concentrate inclusion. M.S. Einarson*, J. M. Calberry, B.W. McBride, K.M. Wittenberg, and J.C. Plaizier, Department of Animal Science, University of Manitoba, Department of Animal and Poultry Science, University of Guelph.</td>
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<td>3:00 pm</td>
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</table>

4:00 pm 252 Linted and delinted cottonseed as feeds for lactating dairy cows. V. R. Moreira*, L. D. Satter1,2, and B. Harding3, 1U.S. Dairy Forage Research Center, Madison, USDA - Agricultural Research Service, 2Department of Dairy Science, University of Wisconsin - Madison, 3Buckeye Technologies, Memphis, TN.

4:15 pm 253 Physical effectiveness of whole cottonseed as affected by lint and particle size. M.L.M. Lima*, J.L. Firkins, J.T. Sylvester, S.K.R. Karnati, and W. Mattos, 1Escola de Veterinaria - UFG, Goiania, GO - Brazil, 2The Ohio State University, Columbus - OH, 3Universidade de Sao Paulo, ESALQ, Piracicaba - SP - Brazil.

4:30 pm 254 Effect of changes in peNDF and starch source on intake, milk production and milk composition of dairy cows. P. Berzaghi*1,2 and D.R. Mertens2, 1University of Padova, Italy, 2US Dairy Forage Research Center, Madison, WI.

**Tuesday, June 24, 2003**  
**Schedule of Events**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>6:15 am – 7:30 am</td>
<td>Poster set up</td>
<td>Convention Center, Exhibit Hall D</td>
</tr>
<tr>
<td>6:30 am – 3:30 pm</td>
<td>Registration Open</td>
<td>Convention Center, Lobby 2</td>
</tr>
<tr>
<td>6:30 am – 8 am</td>
<td>ADSA Dairy Foods Division Extension Breakfast</td>
<td>Hyatt, Remington AB</td>
</tr>
<tr>
<td>6:30 am – 8 am</td>
<td>University of Illinois Breakfast</td>
<td>Wyndham, Navajo AB</td>
</tr>
<tr>
<td>6:30 am – 8 am</td>
<td>Kentucky Breakfast</td>
<td>Wyndham, Navajo CD</td>
</tr>
<tr>
<td>6:30 am – 8 am</td>
<td>Penn State Breakfast</td>
<td>Wyndham, Hopi</td>
</tr>
<tr>
<td>6:30 am – 8:30 am</td>
<td>ASAS New Board Orientation Breakfast</td>
<td>Wyndham, Apache A</td>
</tr>
<tr>
<td>7:30 am – 9:30 am</td>
<td>Poster Sessions</td>
<td>Wyndham, Apache B</td>
</tr>
<tr>
<td>7:30 am – 3 pm</td>
<td>Commercial Exhibits &amp; ADSA SAD Exhibits Open</td>
<td>Convention Center, Exhibit Hall D</td>
</tr>
<tr>
<td>8 am – 5 pm</td>
<td>ASAS/B&amp;B/NCBA Collegiate Livestock Leaders Institute</td>
<td>Wyndham, Apache B</td>
</tr>
<tr>
<td>8 am – 8:30 am</td>
<td>ADSA - SAD Business Meeting – Election of Officers</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>8:45 am – 11:45 am</td>
<td>ADSA – SAD Student Careers Symposium: Congressional Insights Program</td>
<td>Convention Center, Phoenix 19</td>
</tr>
<tr>
<td>9:30 am – 5 pm</td>
<td>Scientific Sessions and Symposia</td>
<td>Convention Center</td>
</tr>
<tr>
<td>11 am – 12 pm</td>
<td>ARPAS Business Meeting</td>
<td>Convention Center, Yuma 21-22</td>
</tr>
<tr>
<td>11 am – 12 pm</td>
<td>ADSA Dairy Foods Division Business Meeting</td>
<td>Convention Center, Phoenix 18</td>
</tr>
<tr>
<td>12 pm – 1 pm</td>
<td>NE ADSA/ASAS Executive Committee Luncheon</td>
<td>Convention Center, Yuma 32</td>
</tr>
<tr>
<td>12 pm – 1 pm</td>
<td>ADSA Dairy Foods Division Program Planning Lunch</td>
<td>Hyatt, Remington A</td>
</tr>
<tr>
<td>12 pm – 1 pm</td>
<td>Posters attended by authors/co-authors if possible</td>
<td>Convention Center, Exhibit Hall D</td>
</tr>
<tr>
<td>12 pm – 1:30 pm</td>
<td>ASAS Section Editors Luncheon</td>
<td>Wyndham, Mohave B</td>
</tr>
<tr>
<td>12 pm – 2 pm</td>
<td>2003 Spouse’s Luncheon</td>
<td>Wyndham, South Ballroom</td>
</tr>
<tr>
<td>12 pm – 2 pm</td>
<td>ADSA - SAD Awards Luncheon</td>
<td>Convention Center, Phoenix 11-12</td>
</tr>
<tr>
<td>12 pm – 2 pm</td>
<td>ASAS Past President’s Luncheon</td>
<td>Wyndham, Navajo B</td>
</tr>
<tr>
<td>1 pm – 5 pm</td>
<td>Southern Branch ADSA Symposium and Business Meeting</td>
<td>Convention Center, Phoenix 20</td>
</tr>
<tr>
<td>1:30 pm – 3:30 pm</td>
<td>ARPAS Exam</td>
<td>Convention Center, Yuma 34</td>
</tr>
<tr>
<td>2 pm – 3 pm</td>
<td>ADSA SAD Award Photos</td>
<td>Convention Center, Phoenix 11-12</td>
</tr>
<tr>
<td>2 pm – 3 pm</td>
<td>SAD Committee Meeting – Old and New Officers &amp; Advisors</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>3 pm – 4 pm</td>
<td>ADSA 2006 Centennial Planning and Budget Committee</td>
<td>Convention Center, Phoenix 13-15</td>
</tr>
<tr>
<td>3 pm – 6 pm</td>
<td>Commercial Exhibits Dismantle</td>
<td>Convention Center, Hall D</td>
</tr>
<tr>
<td>3:30 pm – 5:30 pm</td>
<td>ASAS New Section Editors Meeting</td>
<td>Wyndham, Navajo CD</td>
</tr>
<tr>
<td>5 pm – 6:30 pm</td>
<td>ADSA Award Donor Dinner</td>
<td>Hyatt, Phoenix Ballroom</td>
</tr>
<tr>
<td>5 pm – 7 pm</td>
<td>Informal Calf Gathering</td>
<td>Hyatt, Sundance</td>
</tr>
<tr>
<td>7 pm – 9:30 pm</td>
<td>ADSA Awards Program &amp; Foundation Auction &amp; Raffle</td>
<td>Hyatt, Regency Ballroom</td>
</tr>
<tr>
<td>8:30 pm – 9:30 pm</td>
<td>2003 Joint Ice Cream Social</td>
<td>Hyatt, Regency Ballroom &amp; Foyer</td>
</tr>
</tbody>
</table>
Tuesday, June 24, 2003
Symposia and Oral Sessions

ADSA Foundation Scholar Award Lecture - Dairy Foods
Chair: Kathryn J. Boor, Cornell University
Room: Phoenix 16-17

Time

9:30 am
ADSA Foundation Scholar Award Lecture - Dairy Foods. Defining dairy flavors: Merging sensory analysis with flavor chemistry. MaryAnne Drake, North Carolina State University.

ADSA Foundation Scholar Award Lecture - Dairy Production
Chair: Kathryn J. Boor, Cornell University
Room: Phoenix 16-17

Time

10:45 am
ADSA Foundation Scholar Award Lecture - Dairy Production. It’s a girl! Exploring the impact of sexed semen on dairy cattle improvement programs. Kent A. Weigel, University of Wisconsin.

SYMPOSIUM

ARPAS/FASS

AAALAC International Accreditation at State Universities and Land Grant Colleges:
Trends, Challenges, and Potential Solutions
Chair: John McGlone, Texas Tech University
Room: Yuma 21-22

Time

9:30 am
(Invited) History of AAALAC International and general findings from AAALAC site visits at agricultural institutions. Kathryn Bayne, MS,PhD,DVM, Associate Director, AAALAC International.

10:15 am
(Invited) Analysis of arguments for and against AAALAC accreditation at agricultural institutions. Neal Merchen, PhD, University of Illinois.

10:50 am
(Invited) Veterinary care and OHS issues at agricultural institutions. Wendy Underwood, D.V.M, Director of Animal Care, Eli Lilly.

11:25 am
(Invited) ACUC, husbandry and physical plant issues at agricultural institutions. John McGlone, PhD, Texas Tech University.

12:00 pm
Panel discussion and audience questions
### SYMPOSIUM
#### Growth & Development

**Somatotropic Axis Function in Health and Disease**

Chair: Doug Burrin, Children’s Nutrition Research Center

Sponsors: Elanco Animal Health, Monsanto, Pfizer Animal Health, and USDA-CSREES

Room: Tucson 40-41

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>10:00 am</td>
<td>257</td>
<td>(Invited) A new plasmid-mediated approach to enhance somatotropin function in pigs. R. Draghia, MD, PhD*, ADViSYS Inc.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>259</td>
<td>(Invited) Alteration of somatotropic function by proinflammatory cytokines. Robert A. Frost* and Charles H. Lang, Penn State University College of Medicine.</td>
</tr>
</tbody>
</table>

### SYMPOSIUM
#### Physiology

**The Role of the AI Sire in Maintaining Reproductive Rates of Holstein Cows**

Chair: Matt Lucy, Missouri

Sponsor: Monsanto, Pfizer Animal Health, and Select Sires, Inc.

Room: Yuma 23-24

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>260</td>
<td>(Invited) Relationship between conception rate and in vitro sperm viability. J.J. Parrish*, University of Wisconsin, Madison, WI.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>261</td>
<td>(Invited) Accessory sperm and embryo quality: insights to male fertility. R. G. Saacke*, Department of Dairy Science, Virginia Tech.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>262</td>
<td>(Invited) Genetic selection for improved reproduction. Kent Weigel*, University of Wisconsin.</td>
</tr>
</tbody>
</table>
### Breeding & Genetics

**Swine, Sheep, Goat and Dog Breeding**

Chair: Brent Woodward, USDA

Room: Yuma 28-29

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>264</td>
<td>Relative importance among sow productivity traits in the selection criterion for purebred dam lines, based on a modified profit function with causal relationships between traits. V. M. Quinton*1, J. W. Wilton1, J. A. B. Robinson1, and P. K. Mathur2, 1University of Guelph, Guelph, Canada, 2Canadian Centre for Swine Improvement, Ottawa, Canada.</td>
</tr>
<tr>
<td>9:45 am</td>
<td>265</td>
<td>Comparison of two models to estimate breeding values for intramuscular fat percentage in Duroc pigs. D. W. Newcorn*1 and T. J. Baas, Iowa State University, Ames, IA.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>266</td>
<td>Evaluation of Dorset, Finnsheep, Romanov, Texel, and Montadale breeds of sheep: Productivity of F1 ewes in fall breeding seasons. E. Casas*1, B. A. Freking, and K. A. Leymaster, USDA-ARS, U.S. Meat Animal Research Center.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>268</td>
<td>Competing risks analysis of lamb mortality. B. R. Southey*1, S. L. Rodriguez-Zas1, and K. A. Leymaster2, 1University of Illinois Champaign-Urbana, Urbana, IL, 2USDA, ARS, USMARC, Clay Center, NE.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>269</td>
<td>Genetic correlations for litter weight weaned with reproduction and wool characteristics in Rambouillet, Columbia, Targhee and Polypay sheep. K. J. Hanford*1, L. D. Van Vleck1, and G. D. Snowder1, 1USDA, ARS, U.S. Meat Animal Research Center, 2Lincoln, NE, 3Clay Center, NE.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>270</td>
<td>Influence of birth weight and birth rank on lamb survivability. C.S. Welsh*1, B.L. Golden1, R.M. Enns1, D.J. Garrick1, and G.B. Nicoll2, 1Colorado State University, Fort Collins, CO, USA, 2Landcorp Farming Ltd, Rotorua, New Zealand.</td>
</tr>
<tr>
<td>11:15 am</td>
<td>271</td>
<td>Caprine genetic resource conservation program. J. M. Dzakuma*1, S. A. Ericsson2, B. L. Sayre3, T. A. Gipson4, and H. D. Blackburn5, 1Prairie View A&amp;M University, Prairie View, TX, 2Sul Ross State University, Alpine, TX, 3Virginia State University, Petersburg, VA, 4Langston University, Langston, OK, 5USDA-ARS-National Animal Germplasm Program, Fort Collins, CO.</td>
</tr>
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</table>

### Companion Animals

Chair: Gail Czarnecki-Maulden, Nestle Purina Research

Sponsor: Nestle Purina

Room: Yuma 26-27

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>273</td>
<td>Human-animal-relationship as a risk factor for overweight pets. E. Kienzle*1 and R. Bergler2, 1Chair of Animal Nutrition, Ludwig-Maximilians-University, Munich, Germany, 2Psychological Institute, University of Bonn, Bonn, Germany.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>274</td>
<td>Effect of temperament on stress response of stray adult dogs in a shelter environment. C. L. Coppola*1, T. Grandin, and R. M. Enns, Colorado State University, Fort Collins, CO USA.</td>
</tr>
</tbody>
</table>
**10:30 am 276** Investigations on the energy requirements of adult cats. G. Edtstadtler-Pietsch, R. Rudnick, and E. Kienzle. Chair for Animal Nutrition, Ludwig-Maximilians-University, Munich, Germany, Nestle Purina PetCare Research.

**10:45 am 277** Prediction of energy digestibility based on total dietary fiber (AOAC-method) in complete dry food for dogs and cats. E. Kienzle, V. Biourge, and A. Schönmeier. Chair of Animal Nutrition, Ludwig-Maximilians-University, Munich, Germany, Royal Canin, Research Center, Aimargues, France.


**Dairy Foods**

**Goat Cheeses and International Milk Sources**

Chair: Young Park, Fort Valley State University

Room: Phoenix 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>280</td>
<td>Effects of refrigeration and extended frozen-storage on organic acid profiles of commercial soft goat milk cheeses. Young W. Park, Jung H. Lee, and Sung J. Lee. Fort Valley State University, Fort Valley, GA.</td>
</tr>
<tr>
<td>9:45 am</td>
<td>281</td>
<td>Effects of 3 month frozen-storage and refrigeration on proteolysis of soft goat milk cheeses determined by SDS-PAGE and gel image analysis. Jung J. Lee, Jung H. Lee, James Rhodes, and Young W. Park. Fort Valley State University, Fort Valley, GA.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>282</td>
<td>Tocopherol concentrations and their changes in caprine milk cheeses during extended refrigeration and frozen storage. Jung H. Lee, Sung J. Lee, Bhargava L Gadiyaram, and Young W. Park. Fort Valley State University, Fort Valley, GA.</td>
</tr>
</tbody>
</table>

**Horse**

**Equine Production & Management**

Chair: Mark Arns, University of Arizona

Room: Yuma 25

<table>
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<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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</table>
10:00 am 287 Factors associated with mare reproductive loss syndrome in central Kentucky and surrounding areas. SL Gray*, DL Cross1, KE Panter2, WC Bridges1, and T Gimenez1, 1Clemson University, Clemson, SC, 2USDA Poisonous Plants Research Lab, Logan, UT.

10:15 am 288 Effects of feeding endophyte-infected tall fescue diets on embryo survival in mares during early gestation. R.C. Youngblood**, B.J. Rude1, D.L. Christiansen1, N.M. Filipov1, R. Hopper1, N.S. Hill2, B.P. Fitzgerald1, and P.L. Ryan, 1Mississippi State University, Mississippi State, MS, 2University of Georgia, Athens, GA, 3University of Kentucky, Lexington, KY.

Meat Science & Muscle Biology
Muscle Proteinases and Meat Quality
Chair: Elisabeth Huff-Lonergan, Iowa State University
Room: Tucson 42

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>10:00 am</td>
<td>290</td>
<td>The influence of calcium metabolism on beef tenderness. T. A. Walsh*, R. H. Pritchard, D. M. Wulf, and K. W. Bruns, South Dakota State University, Brookings, SD/USA.</td>
</tr>
<tr>
<td>11:15 am</td>
<td>295</td>
<td>Degradation of calcium regulating and intermediate filament proteins is related to fresh pork quality. A.E. Asmus**, E.P. Berg2, J.L. Melody1, S.M. Lonergan1, and E. Huff-Lonergan1, 1Iowa State University Ames, IA, 2University of Missouri Columbia, MO.</td>
</tr>
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Nonruminant Nutrition
Feed Ingredients
Chair: C.P.A. van de Ligt, Cargill Animal Nutrition
Sponsor: Alltech, Inc.
Room: Tucson 43

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tr>
<td>10:30 am</td>
<td>300</td>
<td>Effect of ractopamine on the performance and carcass characteristics in finishing pigs. G. He*, S.K. Baidoo, Q.M. Yang, and R.D. Walker, Southern Research and Outreach Center, University of Minnesota, Waseca.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>301</td>
<td>Comparison of grain sources (barley, white corn, and yellow corn) for swine diets and their effect on fatty acid composition and fat quality. J.F. Lampe*, T.J. Baas, and J.W. Mabry, Iowa State University.</td>
</tr>
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</table>

**Production, Management, and the Environment**

Chair: Vincent Varel, USDA ARS, R.L. Hruska Meat Animal Research Center

Room: Tucson 39

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>302</td>
<td>Effect of scraping frequency in a free stall barn on volatile N loss from dairy manure during summer. V. R. Moreira* and L. D. Satter1,2, 1U.S. Dairy Forage Research Center, Madison, USDA - Agricultural Research Service, 2Department of Dairy Science, University of Wisconsin - Madison.</td>
</tr>
<tr>
<td>9:45 am</td>
<td>303</td>
<td>The effect of dietary calcium and phosphorus on water extractable phosphorus in feces of dairy cows. J. D. Ferguson, S. R. Michelone*, C. F. Ramberg, Jr., and Z. Dou, University of Pennsylvania, School of Veterinary Medicine.</td>
</tr>
<tr>
<td>10:00 am</td>
<td>304</td>
<td>Slow-release thyme oil granules for control of odor and pathogens in feedlot cattle waste. Vincent Varel*, Daniel Miller, and Elaine Berry, USDA, ARS, Roman L. Hruska U.S. Meat Animal Research Center.</td>
</tr>
<tr>
<td>10:15 am</td>
<td>305</td>
<td>Changes in concentrations of selected malodorous compounds from dairy manures associated with storage and composting. L. B. Willett*, D. C. Borger, and D. L. Elwell, The Ohio State University/OARDC, Wooster, OH. USA.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>308</td>
<td>Production of eight byproducts over a ten-year period for California and seven countries with estimates of phosphorus and potential ethanol production. J.N. Asmus and J.G. Fadel*, University of California, Davis, CA.</td>
</tr>
<tr>
<td>11:30 am</td>
<td>310</td>
<td>Relationship between dystocia and calf morbidity and mortality. S.M. Tomlinson*, J.E. Lombard1, F.B. Garry1, V. Khunkhun1, and L.P. Garber, 1Integrated Livestock Management, Colorado State University, Fort Collins, CO, 2USDA:APHIS:VS, CEAH, Center for Animal Health Monitoring, Fort Collins, CO.</td>
</tr>
<tr>
<td>11:45 am</td>
<td>678</td>
<td>Biological considerations pertaining to use of the retinal vascular pattern for permanent identification of livestock. J.C. Whittier*, J. Doubet1, D. Hendrickson1, J. Cobb1, J. Shadduck1, B.L. Golden1,2, 1Colorado State University, 2Optibrand, Ltd LLC.</td>
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**Ruminant Nutrition**

**Minerals and Vitamins**

Chair: Terry Engle, Colorado State University

Room: Tucson 38

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<thead>
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<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>9:30 am</td>
<td>311</td>
<td>(Invited) Role of trace minerals and vitamins in optimizing immune function of cattle. E. B. Kegley*, University of Arkansas, Fayetteville.</td>
</tr>
<tr>
<td>10:15 am</td>
<td>313</td>
<td>Effect of copper source and level on performance and copper status of cattle consuming molasses-based supplements. J. D. Arthington**, F. M. Pate1, and J. W. Spears2, 1University of Florida - IFAS, Ona, 2North Carolina State University.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>314</td>
<td>Evaluation of Na requirements for finishing feedlot heifers. C. B. Wilson*, G. E. Erickson, C. N. Macken, and T. J. Klopfenstein1, 1University of Nebraska, Lincoln, NE.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>315</td>
<td>Effect of feeds naturally high in selenium on performance and selenium concentration in various tissues of finishing beef steers. T. L. Lawler*, J. B. Taylor2, J. W. Finley3, and J. S. Caton1, 1North Dakota State University, Fargo, ND, 2USDA-ARS, Dubois, ID, 3USDA-ARS, Grand Forks, ND.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>316</td>
<td>Effect of total dissolved solids and sulfates in drinking water for growing steers. H. H. Patterson, P. S. Johnson, and W. B. Epperson, South Dakota State University, Brookings, SD.</td>
</tr>
</tbody>
</table>

**SYMPOSIUM**

**Alpharma Beef Cattle**

**Key Nutritional Management Decisions to Assure Safe Wholesome Beef Production**

Chair: M.N. Streeter, Alpharma Animal Health

Sponsors: Alpharma and American Society of Animal Science Foundation

Room: Yuma 21-22

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>Introduction</td>
</tr>
<tr>
<td>1:05 pm</td>
<td>(Invited) Current trends in the incidence of foodborne diseases arising from beef consumption.</td>
</tr>
<tr>
<td>1:50 pm</td>
<td>(Invited) Pre-harvest epidemiology as a guide to control of food-borne pathogens. Guy H. Loneragan, West Texas A&amp;M University, Canyon.</td>
</tr>
<tr>
<td>2:35 pm</td>
<td>Break</td>
</tr>
<tr>
<td>2:50 pm</td>
<td>(Invited) What are we doing about E. coli 0157:H7 and other foodborne pathogens? Todd R. Callaway, Ph.D., Research Microbiologist, Food and Feed Safety Research Unit, Southern Plains Agricultural Research Center.</td>
</tr>
<tr>
<td>3:35 pm</td>
<td>Discussion</td>
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SYMPOSIUM
Dairy Foods
Hispanic-Style Cheeses
Chair: Diane Van Hekken, USDA-ARS
Room: Phoenix 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>317</td>
<td>(Invited) Overview of Hispanic cheese. Nana Y. Farkye*, Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo, CA.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>318</td>
<td>(Invited) The growing Hispanic cheese market and distribution. Russ Poe*, Sequoia Valley.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>319</td>
<td>(Invited) Starter cultures for Hispanic-style cheeses: The case of Queso-Fresco. Belinda Vallejo-Cordoba*, Maria J. Torres-Llanez, Miguel A. Mazorra-Manzano, and Aaron F. Gonzalez-Cordova, Centro de Investigacion en Alimentacion y Desarrollo, A. C., Hermosillo, Sonora, Mexico, 83000.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>320</td>
<td>(Invited) Effect of fatty acid modification to lower saturates on quality of Queso Blanco. Sean O’Keefe* and Annelisse Aigster, Virginia Tech Department of Food Science.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>321</td>
<td>(Invited) Crumbliness of Queso Fresco. Sundaram Gunasekaran*1, 1University of Wisconsin-Madison.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>322</td>
<td>(Invited) Cheeses from different countries of Latino America. Valente Alvarez*1 and Rafael Jimenez-Flores2, 1The Ohio State University, 2DPTC-California Polytechnic State University.</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>323</td>
<td>(Invited) Functional and rheological attributes of Hispanic-style cheeses. D. L. Van Hekken*1, M. H. Tunick1, D. W. Olson1, F. J. Molina-CorraF1, A. A. Gardea2, and P. M. Tomasula1, 1USDA, ARS, Eastern Regional Research Center, 2Centro de Investigacion en Alimentacion y Desarrollo, Cuauhtemoc, Mexico.</td>
</tr>
</tbody>
</table>

SYMPOSIUM
Dairy Foods
Listeria Monocytogenes: A Model Pathogen for Farm-to-Table Intervention
Chair: Kathryn Boor, Cornell University
Sponsor: EAAP
Room: Phoenix 16-17

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td></td>
<td>Introduction</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>324</td>
<td>(Invited) Transmission of Listeria monocytogenes in the dairy food system, overview. Martin Wiedmann*, Cornell University, Ithaca, NY.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>326</td>
<td>(Invited) Human listeriosis outbreaks linked to dairy products: a European perspective. J. Lunden* and H. Korkeala, Helsinki University, Helsinki, Finland.</td>
</tr>
</tbody>
</table>
3:15 pm  328  (Invited) The Listeria risk assessment: Dairy foods. Sherri Dennis*, John Hicks, Clark Carrington, and Richard Whiting, Food and Drug Administration, College Park, MD.

3:45 pm  Discussion

SYMPOSIUM

FDA-CVM and CAST
FASS Issues in Animal Agriculture

Chair: Barbara Glenn, Federation of Animal Science Societies
Room: Tucson 40-41

Time

1:30 pm  (Invited) University research – FDA expectations. Timothy Schell, Food and Drug Administration, Center for Veterinary Medicine, Rockville, MD.
2:15 pm  Discussion and questions
2:30 pm  (Invited) A future look at biotechnology in the barnyard – An overview of the CAST issue paper. Terry D. Etherton, Pennsylvania State University, State College.
3:15 pm  Discussion and questions

SYMPOSIUM

Horse
Nutrient Management

Chair: Dr. Bill Schurg, University of Arizona
Sponsors: Evergreen Equine Products and Purina Mills, LLC
Room: Yuma 25

Time  Abstract Number

3:00 pm  329  (Invited) Knee deep in manure: what do horse owners do with it? L. K. Warren*, Colorado State University, Fort Collins, CO USA.


4:00 pm  331  (Invited) Potential impact of new concentrated animal feeding operation regulations on the equine industry. Don R. Topliff*, West Texas A&M University.

4:45 pm  Discussion
SYMPOSIUM
Southern Branch ADSA
How Can We Best Work Together to Serve Tomorrow’s Dairy Industry?
Chair: D.D. Johnson, Burkmann Feeds
Room: Phoenix 20

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td></td>
<td>Introduction</td>
</tr>
<tr>
<td>1:05 pm</td>
<td></td>
<td>(Invited) Introduction &amp; overview of the dairy industry-history &amp; trends. K.E. Olson, FASS, Savoy, IL.</td>
</tr>
<tr>
<td>1:25 pm</td>
<td>332</td>
<td>(Invited) How best can we work together to serve tomorrow's dairy industry: university extension faculty perspective. L. O. Ely*, University of Georgia.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td></td>
<td>(Invited) University research faculty perspective. R. E. James, Virginia Polytechnic Institute and State University, Blacksburg, VA.</td>
</tr>
<tr>
<td>2:05 pm</td>
<td></td>
<td>(Invited) University administration perspective. R. J. Harmon, University of Kentucky, Lexington, KY.</td>
</tr>
<tr>
<td>2:25 pm</td>
<td></td>
<td>(Invited) Private dairy consultant perspective. G. Bethard, Wytheville, VA.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>(Invited) What does biotechnology offer to tomorrow’s dairy industry? T.P. Lyons and K.A. Dawson, Alltech, Inc., Nicholasville, KY</td>
</tr>
<tr>
<td>3:20 pm</td>
<td></td>
<td>(Invited) Sustainable dairying in 2020. S. E. Koenig, Bioproducts, Inc., Fairlawn, OH.</td>
</tr>
<tr>
<td>3:40 pm</td>
<td></td>
<td>(Invited) Four state cooperative effort. M. F. Hutjens, University of Illinois, Champaign, IL.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td></td>
<td>Roundtable discussion with presenters</td>
</tr>
<tr>
<td>4:30 pm</td>
<td></td>
<td>Southern Branch of the American Dairy Science Association Business Meeting</td>
</tr>
</tbody>
</table>

Animal Health
Diseases and Mammary Health
Chair: J. Ernest Minton, Kansas State University, Manhattan
Room: Tucson 36

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>333</td>
<td>Changes in the mechanical properties and the lesion score of the sole horn in first lactation dairy heifers. Betina Winkler and Jean K Margerison*, University of Plymouth, Seale Hayne.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>335</td>
<td>A relative comparison of diagnostic tests for Johne’s disease. T Duffield, D Kelton, K Leslie, K Lissemore, and M Archambault, Department of Population Medicine, University of Guelph, Animal Health Laboratory, University of Guelph.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>336</td>
<td>Detection of Aspergillus fumigatus in hemorrhagic bowel syndrome in dairy cattle. Steven Puntenney*, Yong-qiang Wang, and Neil Forsberg, Oregon State University, Corvallis OR.</td>
</tr>
<tr>
<td>Time</td>
<td>Abstract Number</td>
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<tr>
<td>2:00 pm</td>
<td>337</td>
<td>The potential of infrared thermography as an early detection method for mastitis: Seasonal effects on predictability.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>338</td>
<td>Protective efficiency of a mix DNA-protein vaccination strategy against <em>Staphylococcus aureus</em> mastitis in dairy cows.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>339</td>
<td>Effectiveness of an internal teat sealant in the prevention of new intramammary infections during the dry and early lactation periods in dairy cows when used with an intramammary antibiotic.</td>
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</table>

**Breeding & Genetics**

**Beef Cattle Breeding**

Chair: Denny Crews, Agriculture and Agri-Food Canada

Room: Yuma 28-29

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
<th>Authors</th>
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</thead>
<tbody>
<tr>
<td>1:00 pm</td>
<td>340</td>
<td>Factors to adjust birth and weaning weights of Red Angus calves for age of dam.</td>
<td>J. M. Rumph*, L. S. Gould*, R. L. Hough², and L. D. Van Vleck¹. ¹University of Nebraska, Lincoln, ²Red Angus Association of America, Denton, Texas.</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>341</td>
<td>Effects of genetic groups to account for selection on estimates of genetic parameters for a line of Hereford cattle.</td>
<td>L. D. Van Vleck*, K. J. Hanford¹, and M. D. MacNeil³. ¹USDA, ARS, USMARC, Lincoln, NE, ²USDA, ARS, LARRL, Miles City, MT.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>343</td>
<td>Genetic trends resulting from selection based on an index of birth weight and yearling weight.</td>
<td>M. D. MacNeil*, USDA-ARS, Fort Keogh LARRL, Miles City, MT.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>344</td>
<td>Bayesian estimation of breed-specific and segregation genetic variances applied to a Nelore-Hereford population.</td>
<td>F. E. Cardoso*¹ and R. J. Tempelman¹. ¹Michigan State University.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>345</td>
<td>Feedlot performance and carcass traits of Bonsmara, Angus, and Brahman steers.</td>
<td>J. J. Cleere*, F. M. Rouquette, Jr., R. D. Randel¹, T. H. Welsh², J. W. Holloway³, and M. F. Miller¹. ¹Texas Agricultural Experiment Station, Overton, ²Texas A&amp;M University, College Station, ³Texas Agricultural Experiment Station, Uvalde, ⁴Texas Tech University, Lubbock.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>347</td>
<td>Genetic relationships of body condition score with carcass traits in Limousin cattle.</td>
<td>D. R. Eborn* and D. W. Moser, Kansas State University, Manhattan, KS.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>3:30 pm</td>
<td>348</td>
<td>Heritability and repeatability of back fat and rump fat thickness in Angus cattle.</td>
<td>A. Hassen*, D. E. Wilson, and G. H. Rouse, Iowa State University, Ames, IA.</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>349</td>
<td>Genetic parameter estimates of udder scores in Gelbvieh cattle.</td>
<td>R. L. Sapp*, R. Rekaya, J. K. Bertrand, I. Miszal, and K. A. Donoghue. The University of Georgia, Athens, GA.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>350</td>
<td>Comparison of methods for handling missing fertility records in beef cattle data.</td>
<td>K. A. Donoghue*, R. Rekaya¹, J. K. Bertrand¹, D. J. Johnston², and C. Teseling¹. ¹The University of Georgia, Athens GA, USA, ²Animal Genetics and Breeding Unit, Armidale NSW, Australia, ³The Angus Society of Australia, Armidale NSW, Australia.</td>
</tr>
</tbody>
</table>
4:30 pm 352 Simulation of net return using days to finish estimated breeding values in beef production. M.A. Cleveland*, R.M. Enns, W.J. Umberger, and B.L. Golden, Colorado State University, Fort Collins, CO.

4:45 pm 353 Comparison of different selection criteria in populations simulated under growth curve parameters of Brazilian zebu cattle. E.S. Sakaguti*, E.N. Martins1, and L.O.C. Silva2, 1Universidade Estadual de Maringa, Maringa, Brazil, 2Embrapa Gado de Corte, Campo Grande, Brazil.

Companion Animals
Chair: Russell Kelley, The Iams Company
Sponsor: Nestle Purina
Room: Yuma 26-27

<table>
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<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
<th>Authors and Institutions</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>354</td>
<td>A new approach to testing nutraceuticals in animals: a placebo-controlled evaluation of a milk-based “immuno-nutritional” product in dogs.</td>
<td>DA Gingerich* and JD Strobel, SMBI, Cincinnati, OH, USA.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>355</td>
<td>Measuring absorption of a purified, crystalline lutein additive in the canine.</td>
<td>L. B. Deffenbaugh*, Kemin Nutrisurance, Inc.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>356</td>
<td>Evaluation of stabilized rice bran as an ingredient in dry extruded dog diets.</td>
<td>J. K. Spears*, C. M. Grieshop, and G. C. Fahey, Jr., University of Illinois at Urbana-Champaign, Urbana, IL, USA.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>357</td>
<td>Defining safe lower and upper limits for selenium (Se) in adult cats.</td>
<td>K. Wedekind*, C. Kirk1, S. Yu1, and R. Nachreiner2, 1Hill’s Pet Nutrition, Inc., Topeka, KS, 2Michigan State University, East Lansing, MI.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>358</td>
<td>Docosapentaenoic acid accumulates in plasma phosphatidyl choline but not cholesteryl ester fractions in linseed oil fed dogs.</td>
<td>J.E. Bauer*1, A.L. Spencer1, and M.K. Waldron2, 1College of Veterinary Medicine, Texas A&amp;M university, College Station, TX, 2Nestle-Purina Pet Care, St. Louis, MO.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>359</td>
<td>Lifetime diet restriction impact on carbohydrate metabolism affects survival and time-to-first treatment for chronic disease in dogs.</td>
<td>B.T. Larson*1, D.F. Lawler1, E.L. Spitznagel, Jr.2, and R.D. Kealy1, 1Nestle Purina PetCare Company, St. Louis MO, 2Washington University, St. Louis MO.</td>
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Forages & Pastures
Grasslands, Forage Supplementation
Chair: Marcia Endres, University of Minnesota
Room: Tucson 37

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
<th>Authors and Institutions</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>360</td>
<td>Effect of defoliation system and nitrogen input on nitrate losses from grassland systems.</td>
<td>M Wachendorf*, M Buechter, H Trott, and F Taube, University of Kiel, Kiel, Germany.</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>361</td>
<td>Metabolic changes in Brangus stocker calves grazing wheat pasture.</td>
<td>L. A. Appeddu*, M A. Brown2, and W. A. Phillips2, 3Southwestern Oklahoma State University, Weatherford, OK, 2USDA-ARS Grazinglands Research Laboratory, El Reno, OK.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>362</td>
<td>Effect of field pea based supplement on intake, digestion, and ruminal fermentation of nursing steer calves grazing native range in western North Dakota.</td>
<td>A. A. Gelvin*1, G. P. Lardy1, J. S. Caton1, and D. G. Landblom2, 1North Dakota State University, Fargo, North Dakota/USA, 2Dickinson Research Extension Center, Dickinson, North Dakota/USA.</td>
</tr>
</tbody>
</table>
2:00 pm 364 Comparison of urea and soybean meal as nitrogen supplements to cool-season, low-quality forage: I. Daily and alternate day supplementation effects on digestion and ruminal fermentation in steers. D. W. Bohnert1, C. S. Schauer1, S. J. Falck1, and D. L. Harmon2, 1Eastern Oregon Agriculture Research Center, Burns, 2University of Kentucky, Lexington.


2:30 pm 366 Animal performance and forage quality effects on steers intensively grazing summer perennials. A. M. Bowers*, M. E. Boyd, and D. J. Lang, Mississippi State University.

2:45 pm 367 Effect of protein supplementation of warm versus cool season forages on intake, digestibility, and ruminal fill in beef steers. G. D. Pulsipher*, D. W. Bohnert, T. DelCurto, K. J. Walburger, M. S. Wells, and J. J. White, Eastern Oregon Agriculture Research Center, Union, OR.

3:00 pm Break

3:30 pm 368 Effect of backgrounding growth rate and forage or concentrate finishing on beef quality. C.E. Realini*, S.K. Duckett1, J.P.S. Neel1, J. Fontenot1, and W.R. Clapham2, 1The University of Georgia, Athens, 2USDA-ARS Beaver, WV, 3Virginia Tech University, Blacksburg.

3:45 pm 369 Effect of feed intake level and forage source on kinetics of fiber digestion in situ and nutrient digestibility in beef cattle. S. A. Bhatti1, J. G. P. Bowman1, A. V. Grove*, and C. W. Hunt2, 1Montana State University, 2University of Idaho.

4:00 pm 370 Milk production of dairy cows fed total mixed rations after a grazing period with or without supplementation. F. Bargo*, J. E. Delahoy, and L. D. Muller, The Pennsylvania State University.

4:15 pm 371 Effect of forage diversity on intake and productivity of grazing lactating dairy cows. K. J. Soder*, M. A. Sanderson1, L. D. Muller2, and J. L. Stack2, 1USDA-ARS Pasture Systems and Watershed Mgmt. Research Unit, University Park, PA, 2The Pennsylvania State University, University Park, PA.

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**Growth & Development**

**Somatotropic Axis and Adipose Development**

**Co-Chairs:** Erin Connor, USDA Beltsville, and Mike Van Amburgh, Cornell University

**Sponsors:** Elanco Animal Health, Monsanto, Pfizer Animal Health, and USDA-CSREES

**Room:** Tucson 42

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<th>Time</th>
<th>Abstract Number</th>
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<tr>
<td>1:00 pm</td>
<td>372</td>
<td>Preadipocyte recruitment is enhanced by ciglitazone or troglitazone in subcutaneous adipose stromal-vascular (S-V) cell cultures, but not intramuscular S-V cell cultures. Sylvia Poulos* and Gary Hausman, Univ. of GA and USDA-ARS.</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>373</td>
<td>Investigation of the molecular mechanism underlying the anti-adipogenic action of retinoic acid in cultured pig preadipocytes. T.D. Brandebourg* and C.Y. Hu, Oregon State University, Corvallis, OR / USA.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>374</td>
<td>Effects of Ralgro implantation to gestating sows on sow and piglet performance and components of the somatotrophic axis. T. A. Strauch*, J. A. Carroll, E. L. Berg, and B. E. Salfen, Animal Physiology Research Unit, ARS-USDA, Columbia, MO.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>375</td>
<td>Level of nutrition and breed can influence basal and β-adrenergic stimulated fat mobilization in lambs. B. J. Leury1 and F. R. Dunshea2*, 1School of Agriculture &amp; Food Systems, The University of Melbourne, Victoria, 3010, 2Department of Primary Industries, VIAS, Werribee, Vic, 3030.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>376</td>
<td>Peripheral leptin administration alters hormone and metabolite levels in the young pig. T.G. Ramsay*, J.A. Bush2, J.P. McMurtry1, M.C. Thivierge1, and T.A. Davis2, 1Department of Primary Industries, VIAS, Werribee, Vic 3030, Australia, 2USDA-ARS, Children's Nutrition Research Center.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>377</td>
<td>Porcine somatotropin reduces the magnitude of, and the variation in, back fat. F.R. Dunshea* and R.G. Trainer2, 1Department of Primary Industries, VIAS, Werribee, Vic 3030, Australia, 2Alpharma Animal Health, Toorak, Vic 3142, Australia.</td>
</tr>
</tbody>
</table>
2:30 pm 378 Validation of a ghrelin radioimmunoassay (RIA) for use in evaluating physiological factors that influence plasma ghrelin concentrations in beef cattle. A. E. Wertz*, T. J. Knight, C. C. Ribeiro-Filho, D. C. Beitz, and A. Trenkle, Iowa State University, Ames.

2:45 pm 379 Dose dependent growth suppression of broiler chicks injected with 5a-dihydrotestosterone. S.E. Nicolich*, T.D. Faidley, and D.R. Thompson, Merck Research Laboratories, Somerville, NJ.

3:00 pm Break

3:30 pm 380 Expression of myostatin and myogenin in Landrace barrows selected for increased loin eye compared to a control line. G.N. Scheuermann1,2, K. Nadarajah1, D.L. Kuhlers1, S.P. Lino1, and D.R. Mulvaney1,1 Auburn University, Auburn, AL, 2EMBRAPA, Brazil.

3:45 pm 381 Insulin signaling in bovine myogenic cells. R.A. Hill*, M.V. Dodson1, A. Gertler3, N.J. Hughes1, D. Henderson1, and T.A. Kokta1, University of Idaho, Washington State University, Hebrew University of Jerusalem, Israel.

4:00 pm 382 Two-site evaluation of the relation between \textit{in vivo} and carcass dual energy x-ray absorptiometry (DXA) in pigs. A.M. Scholz*, A.D. Mitchell2, M. Foerster1, and V.G. Pursel2, University Munich, Experimental Farm, Germany, USDA, Agricultural Research Service, Beltsville, MD.

4:15 pm 383 Development and evaluation of a growth model to assist individual cattle management. L. O. Tedeschi* and D. G. Fox, Cornell University, Ithaca, NY 14853.


### Nonruminant Nutrition

#### Minerals and Vitamins

Co-Chairs: T.A. Armstrong, Elanco Animal Health and S. Radcliffe, Purdue University

Sponsors: Alltech, Inc., Danbred North America, and PIC

Room: Tucson 43

<table>
<thead>
<tr>
<th>Time</th>
<th>Number</th>
<th>Abstract</th>
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<tr>
<td>1:00 pm</td>
<td>386</td>
<td>Withdrawn</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>387</td>
<td>Effects of dietary L-carnitine on semen characteristics in boars. D.M. Kozink, M.J. Estienne, A.F. Harper*, and J.W. Knight, Virginia Polytechnic Institute and State University, Blacksburg, VA.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>388</td>
<td>Vitamins B9 (folic acid), B12 and methionine in growing-finishing pigs. A. Giguere*, C.L. Girard, and J.J. Matte, Agriculture and Agri-Food Canada, Lennoxville (QC), Canada.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>389</td>
<td>Transport of zinc chloride radiotracer in small intestine brush border membrane vesicles prepared from weanling pigs. C. E. Huntington*, D. W. Bollinger1, J. S. Morris2, and T. L. Veum1, University of Missouri, Columbia, MO USA, University of Missouri Research Reactor Columbia, MO USA.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>390</td>
<td>Available phosphorus requirement to maximize growth and bone mineralization in 24 to 50-kg pigs. R.W. Fent*, G.L. Allee1, D.M. Webel2, J.D. Spencer3, A.M. Gaines1, D.C. Kendall1, and J.W. Frank1, University of Missouri-Columbia, United Feeds Inc., Sheridan, IN.</td>
</tr>
</tbody>
</table>
Effects of a solid-state fermented phytase on growth performance, bone traits and P digestibility of growing pigs fed corn-soybean meal diets containing wheat middlings. J. S. Park*, S. D. Carter, J. D. Schneider, T. B. Morillo, and J. L. Pierce, Oklahoma State University, Stillwater, Alltech, Inc., Nicholasville, KY.

Comparative effectiveness of Aspergillus niger wild-type and variant phytases in the hydrolysis of phytate-phosphorous in the diets for weanling pigs. S. E. Crowe*, T. W. Kim, K. R. Roneker, and X. G. Lei, Cornell University, Ithaca, NY USA.

Pharmacological levels of zinc reduce phytase efficacy in vivo. N. R. Augspurger*, D. M. Webel, J. D. Spencer, and D. H. Baker, University of Illinois at Urbana-Champaign, United Feeds Inc., Sheridan, IN.

Differences in total tract and ileal digestibility coefficients of calcium and phosphorus in growing pigs fed low phytate corn, normal corn, soybean meal, and corn soybean meal based diets. R. A. Bohlke*, H. R. Stein, A. R. Wirt, and R. C. Thaler, South Dakota State University.

Phytase additions to conventional or low-phytate corn-soybean meal diets on performance, bone traits, and phosphorus excretion of growing pigs. E. G. Xavier*, G. L. Cromwell, and M. D. Lindemann, University of Kentucky, Lexington.

What have we learned? M. D. Lindemann, University of Kentucky

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**Physiology**

**Nutrition-Reproduction, Stress, and Growth**

Chair: Brian Crooker, University of Minnesota

Room: Yuma 23-24

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1:00 pm 398 Effects of experimental fascioliasis on pubertal development in heifers. M. J. Paczkowski*, T. M. Craig, D. D. Magee, J. A. Thompson, and D. W. Forrest, Texas A&M University, College Station, TX.

1:15 pm 399 Leptin modulates fertility in oMt1a-oGH transgenic mice. A. T. Thomas*, T. R. Famula, J. D. Murray, and A. M. Oberbauer, University of California, Davis, California.


1:45 pm 401 Associations among circulating concentrations of IGF-1 and GH during the postpartum period with resumption of estrus, calf weights, and milk production in mature crossbred cows fed varying levels of energy intake. A. J. Roberts*, T. G. Jenkins, USDA-ARS, Fort Keogh LARRL, Miles City, MT, USDA-ARS, MARC, Clay Center, NE.

2:00 pm 402 Endocrine responses to 72 h feed deprivation in weanling pigs. B. E. Salfen*, J. A. Carroll, and D. H. Keisler, Animal Physiology Research Unit, Agricultural Research Service-USDA, University of Missouri-Columbia.


2:30 pm 404 Effect of fish meal supplementation on endometrial sensitivity to oxytocin in beef heifers having low luteal phase progesterone. N. E. Wamsley*, P. D. Burns, T. E. Engle, and R. M. Enns, Colorado State University, Fort Collins, CO.

2:45 pm 405 Growth hormone (GH) binding in liver of periparturient Holstein cows is correlated with growth hormone receptor (GHR) 1A mRNA. R. P. Radcliff*, B. L. McCormack, B. A. Crooker, and M. C. Lucy, University of Missouri, Columbia, University of Minnesota, St. Paul.

3:00 pm Break

3:30 pm 406 Obesity disrupts the duration of the estrous cycle in the mare. B. P. Fitzgerald*, S. E. Reedy, D. R. Sessions, M. M. Vick, and B. A. Murphy, University of Kentucky, Lexington KY.
3:45 pm 407  Characterization of equine bacterial artificial chromosomes (BACs) relevant to endocrine and immune system regulation. T. M. Bryan*, C. A. Abbey, T. Raudsepp, B. P. Chowdhary, C. A. Gill, and T. H. Welsh, Jr., Texas A&M University System, College Station.

4:00 pm 408  Breedtype influences adrenal responsiveness to corticotropin-releasing hormone (CRH) in beef steers. R.J. Hollenbeck*, D.A. Neuendorff, A.W. Lewis, T.A. Strauch, R.D. Randel, and T.H. Welsh, Jr., 1Texas Agricultural Experiment Station, College Station, 2Texas Agricultural Experiment Station, Overton.

4:15 pm 409  Effect of transportation on hypothalamic-pituitary-adrenal axis activation and subsequent responsiveness to trophic hormone stimulation in cattle. M. Knights* and G.W. Smith, Michigan State University, East Lansing, MI.

4:30 pm 410  Effects of bromocriptine treatment on prolactin, prolactin receptor, and immune function of calves on different photoperiods. T. L. Auchtung* and G. E. Dahl, University of Illinois, Urbana, IL.


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**Ruminant Nutrition**

**Nutritional Management & Transition**

Chair: J. W. Schroeder, North Dakota State University

Room: Tucson 38

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>412</td>
<td>Nutritional management of the dairy cow: Minimizing disorders to optimize production and maximize profitability. T. R. Overton* and M. R. Waldron, Cornell University, Ithaca NY.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>413</td>
<td>Feeding glycerol to transition dairy cows: Effects on dry matter intake, milk production, and blood metabolites. J.M. DeFrain*, A.R. Hippen, K.F. Kalscheur, and P.W. Jardon, South Dakota State University, Brookings, West Central Soy, Ralston, IA.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>415</td>
<td>Interrelationships of prepartum dry matter intake with postpartum intake and hepatic lipid accumulation. J. K. Drackley*, University of Illinois, Urbana, IL.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>418</td>
<td>Prepartum dry matter intake, serum nonesterified fatty acids, liver lipid and glycogen contents, body weight, and body condition score for cows fed different diets during the dry period. H. M. Dann*, N. B. Litherland, J. F. Underwood, M. Bionaz, and J. K. Drackley, University of Illinois, Urbana.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>Break</td>
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<tr>
<td>3:30 pm</td>
<td>419</td>
<td>Prepartum nutrient intake alters metabolism by liver slices from peripartal dairy cows. N. B. Litherland*, H. M. Dann, A. S. Hansen, and J. K. Drackley, University of Illinois, Urbana.</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>420</td>
<td>Prepartum nutrient intake has minimal effects on postpartum dry matter intake, serum nonesterified fatty acids, liver lipid and glycogen contents, and milk yield. H. M. Dann*, N. B. Litherland, J. F. Underwood, M. Bionaz, and J. K. Drackley, University of Illinois, Urbana.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>421</td>
<td>Responses to epinephrine challenges in peripartal Holstein cows fed two amounts of metabolizable protein in prepartum diets. J.P. Underwood*, J.K. Drackley, G.E. Dahl, and T.L. Auchtung, University of Illinois, Urbana, IL.</td>
</tr>
</tbody>
</table>
4:15 pm 422 Metabolism of dairy cows as affected by prepartum dietary carbohydrate source and supplementation with chromium throughout the periparturient period. K. L. Smith*, M. R. Waldron, T. R. Overton, J. K. Drackley, M. T. Socha, 1Cornell University, 2University of Illinois, Urbana, 3Zinpro Corporation, Eden Prairie, MN.

4:30 pm 423 Influence of cobalt supplementation to dry and lactating dairy cow diets with monensin on microbial fermentation in continuous culture. R.L.K. Hulbert*, G.I. Crawford, K.A. Caperoon, M.D. Stern, and M.T. Socha, 1University of Minnesota, St. Paul, 2Zinpro Corporation, Eden Prairie, MN.


Ruminant Nutrition
Feedlot
Chair: Michael Van Koevering, Elanco Animal Health
Room: Tucson 39

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>425</td>
<td>Effect of wintering system and feedlot sorting on performance and economics of yearling steer production systems. J. D. Folmer*, C. N. Macken, M. P. Blackford, G. E. Erickson, and T. J. Klopfenstein, University of Nebraska, Lincoln, NE.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>427</td>
<td>Influence of sire breed on residual feed intake as an indicator of efficiency in steers. C.L. Ferrell*, T.G. Jenkins, and H.C. Freetly, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>428</td>
<td>Ruminal biohydrogenation and conjugated linoleic acid formation in beef cattle fed finishing diets containing crude fish oil and/or different oil sources. S. K. Duckett*, B. Jacob, M. H. Gillis, C. E. Realini, K. R. Smith, A. Parks, and R. Eggleston, 1The University of Georgia.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>429</td>
<td>Effect of source of energy, and rate of growth in the growing phase on performance and carcass characteristics of steers. J. P. Schoonmaker*, M. J. Cecava, F. L. Fluharty, H. N. Zerby, and S. C. Loerch, 1The Ohio State University, Wooster, OH, 2ADM Alliance, Decatur, IN.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>430</td>
<td>Effect of source of energy, and rate of growth in the growing phase on adipocyte cellularity, and lipogenic enzyme activity in the intramuscular and subcutaneous fat depots of Holstein steers. J. P. Schoonmaker, F. L. Fluharty, and S. C. Loerch, The Ohio State University, Wooster, OH.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>431</td>
<td>Ground flaxseed as a component of finishing cattle diets. E. J. Good*, J. S. Drouillard, T. J. Kessen, E. R. Loe, M. J. Sulpizio, M. A. Greenquist, S. P. Montgomery, J. J. Sindt, J. N. Pike, and K. A. Hachmeister, Kansas State University, Manhattan, KS.</td>
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<tr>
<td>3:00 pm</td>
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<td>Break</td>
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<tr>
<td>3:30 pm</td>
<td>433</td>
<td>Effects of dietary crude protein level and degradability on performance and carcass characteristics of growing-finishing beef steers. J. F. Gleghorn*, N. A. Elam*, M. L. Galyean*, G. C. Duff, and N. A. Cole, 1Texas Tech University, Lubbock, TX, 2University of Arizona, Tuscon, AZ, 3USDA-ARS-CPRL, Bushland, TX.</td>
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</table>

4:15 pm  436  Influence of dietary crude protein on potential ammonia emissions from beef cattle manure. N. A. Cole*, R. N. Clark¹, R. W. Todd¹, C. R. Richardson², A. Gueye², L. W. Greene³, and K. McBride³, ¹USDA-Agricultural Research Service, Bushland, TX, ²Texas Tech University, Lubbock, TX, ³Texas Agricultural Experiment Station, Amarillo, TX.

4:30 pm  437  Finishing diets with elevated levels of a-linolenic acid increase adipose tissue a-linolenic acid, but do not alter stearoyl Co-A desaturase activity. S. L. Archibeque*, D. K. Lunt¹, R. K. Tume², and S. B. Smith¹, ¹Texas A&M University, College Station, TX, ²Food Science Australia, Tingalpa D. C. Queensland, Australia.

4:45 pm  438  Conjugated Linoleic Acid in tissues from beef cattle fed different lipid supplements. S. F. Porter*, T. R. Dhiman¹, D. P. Cornforth¹, R. D. Wiedmeier¹, K. C. Olson¹, B. R. Bowman¹, and N. D. Luchini², ¹Utah State University, Logan, UT, ²Bioproducts Inc., Fairlawn, OH.
**Wednesday, June 25, 2003**

**Schedule of Events**

6:15 am – 7:30 am  Poster set up  
Convention Center, Exhibit Hall D

6:30 am – 8 am  Purdue Breakfast  
Wyndham, Navajo A

7 am – 3 pm  Registration Open  
Convention Center, Lobby 2

7:30 am – 9:30 am  Poster Sessions  
Convention Center, Exhibit Hall D

9:30 am – 10 am  FASS Business Meeting  
(Joint ADSA/ASAS Business Meeting)  
Convention Center, Yuma 28-29

10 am – 10:30 am  ADSA Business Meeting  
Convention Center, Yuma 23-24

10 am – 10:30 am  ASAS Business Meeting  
Convention Center, Yuma 28-29

10:30 am – 11 am  ASAS Board of Directors Meeting  
Wyndham, Navajo CD

10:30 am – 5 pm  Scientific Sessions and Symposia  
Convention Center

10:30 am – 1 pm  ADSA Board of Directors Meeting  
Hyatt, Russell

11 am – 1 pm  NE ADSA/ASAS Business Meeting and Awards Luncheon  
Wyndham, Apache Room

11:30 am – 1 pm  ADSA DF Division Milk Proteins & Enzyme Committee  
Hyatt, Remington C

12 pm – 1 pm  Poster attended by authors/co-authors if possible  
Convention Center, Exhibit Hall D

12 pm – 2 pm  WSASAS Business Meeting and Awards Luncheon  
Wyndham, South Ballroom

12 pm – 2 pm  Block & Bridle Club Advisors Meeting  
Wyndham, Navajo CD

1 pm – 3 pm  ARPAS Exam  
Convention Center, Yuma 34

1 pm – 5 pm  DMI Dairy Research Summit  
Hyatt, Phoenix Ballroom

2:30 pm – 3:30 pm  2003 Retirees Social  
Convention Center, Yuma 32

4:30 pm – 6 pm  2003 International/Closing Reception  
Convention Center, Exhibit Hall D

5 pm – 6 pm  Reception for Larry Satter  
Convention Center, Tucson 40-41

6 pm – 9 pm  Korean Scientists and Students Dinner  
TBA
SYMPOSIUM
Dairy Foods

Dairy Foods Research Success Stories
Chair: Bill Sandine, Oregon State University

Sponsors: California Dairy Research Foundation, Dairy Management, Inc., Land O'Lakes Inc., and Southeast Dairy Foods Research Center

Room: Yuma 21-22

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<th>Time</th>
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<tbody>
<tr>
<td>10:30 am</td>
<td>439</td>
<td>Dairy foods research success stories. W. Sandine*1, C. White2, D. Hettinga3, J. Hotchkiss4, R. Thunell5, M. Mangino6, and D. Willrett7, 1Oregon State University, 2Mississippi State University, 3Land O’ Lakes, Inc., 4Cornell University, 5DSM.</td>
</tr>
<tr>
<td>11:00</td>
<td></td>
<td>The dramatic impact of market milk shelf life extension on industry profits. Charlie White, Mississippi State University.</td>
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<td>11:15</td>
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<td>The value of cheese starter culture media developments to industry profitability. Doug Willrett, Rhodia.</td>
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<td>11:30</td>
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<td>The defined strain starter culture program for Cheddar cheese plants: Economic impact. Randy Thunell, DSM Food Specialties USA Inc.</td>
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<td>11:45</td>
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<td>Carbon dioxide and shelf life extension in cottage cheese for an expanded market. Joe Hotchkiss, Cornell University.</td>
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<tr>
<td>12:00</td>
<td></td>
<td>The whey research success story. Mike Mangino, The Ohio State University.</td>
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Beef Species

Beef Cattle Performance
Chair: Jim Sprinkle, University of Arizona

Sponsor: Intervet
Room: Tucson 43

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>10:30 am</td>
<td>440</td>
<td>Influence of breed on performance and dry matter intake by feedlot bull calves in Brazil. R. Almeida*1,2 and D.P.D. Lanna2, 1UFPR and PUCPR, PR, Brazil, 2LNCA-ESALQ/USP, SP, Brazil.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>441</td>
<td>Evaluation of yearling bull sale prices at six regional locations. Dustin Dean* and Andy Herring, Texas A&amp;M University, College Station.</td>
</tr>
</tbody>
</table>
11:00 am 442 Evaluation of forage sources for finishing diets containing wet corn gluten feed. C.R. Dahlen¹, A. DiCostanzo², R.T. Ethington³, T.L. Durham⁴, J.E. Larson², and G.C. Lamb⁵, ¹Northwest Research and Outreach Center, University of Minnesota, ²Department of Animal Science, University of Minnesota, ³Kansas Feeds, Inc, ⁴ADM Corn Processing, ⁵North Central Research and Outreach Center, University of Minnesota.


**Breeding & Genetics**

**Statistical Methods in Animal Breeding and Genetics**

Chair: Ignacy Misztal, University of Georgia

Room: Tucson 42

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<th>Time</th>
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<tbody>
<tr>
<td>10:30 am</td>
<td>446</td>
<td>Response to selection by marker assisted BLUP with use of approximate gametic variance covariance matrices. L.R. Totir*, R.L. Fernando, and J.C.M. Dekkers, Iowa State University.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>448</td>
<td>A simple method for joint analysis of multiple binary responses. R. Rekaya* and T. Averill, The University of Georgia.</td>
</tr>
<tr>
<td>11:15 am</td>
<td>449</td>
<td>Comparison of estimation methods for heterogeneous residual variances with random regression models. S. Tsuruta*¹, I. Misztal¹, and T. Druet², ¹University of Georgia, Athens GA, ²Station de Génétique Quantitative et Appliquée, INRA, Jouy-en-Josas Cédex, France.</td>
</tr>
<tr>
<td>11:30 am</td>
<td>450</td>
<td>Plotting covariance functions from random regression models. A. Legarra*¹, I. Misztal¹, and J. Jamrozik², ¹University of Georgia, Athens, GA, ²University of Guelph, Guelph, ON, Canada.</td>
</tr>
<tr>
<td>11:45 am</td>
<td>451</td>
<td>Joint optimisation of the number of animals to test and to select. M.E. Goddard*, ¹University of Melbourne and Victorian Institute of Animal Science, Australia.</td>
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**Extension Education**

**Management and Profitability**

Chair: Michael M. Schutz, Purdue University

Room: Yuma 28-29

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<th>Time</th>
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<tr>
<td>10:30 am</td>
<td>452</td>
<td>Entrepreneurial characteristics of dairy farming differences between Dutch and Pennsylvania Farmers. R.H.M. Bergevoet*¹ and L.A. Holden², ¹Wageningen University, ²Penn State University.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>453</td>
<td>Whole farm planning for the production of grass-finished beef. T. M. Johnson*¹, R. E. Morrow¹, C. A. Wells¹, M. L. Thomas¹, and J. K. Apple¹, ¹National Center for Appropriate Technology, Fayetteville, AR, ¹University of Arkansas, Fayetteville.</td>
</tr>
</tbody>
</table>
11:00 am 454 A model for data collection and reporting for cow/calf and feedlot operations. M. Coe*, D. ZoBell2, and B. Bowman2, 1Global Animal Management/Schering-Plough Animal Health, 2Utah State University.


11:30 am 456 Comparison of carcass merit and tenderness by percent Bos indicus in TAMU Ranch to Rail-South steers. J. C. Paschal*, N. C. Tipton III2, M. J. De La Zerda2, S. F. Allen1, and J. W. McNeill2, 1Texas Cooperative Extension, 2Texas A&M University, 3Texas Beef Council.

11:45 am 457 CalfTrack: A system of dairy calf workforce management, training, and evaluation and health evaluation. A. J. Heinrichs*, C. M. Jones1, L. R. VanRoekel2, and M. A. Fowler2, 1The Pennsylvania State University, 2Land O’Lakes Animal Milk Products, Co.

Food Safety
A Look at Antimicrobial Resistance in Dairy and Swine
Chair: Christine Bruhn, University of California, Davis
Room: Yuma 25

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<tr>
<td>10:30 am</td>
<td>458</td>
<td>Serotype prevalence and anti-microbial resistance of Salmonella isolated from dairy cattle in the Southwestern United States. T.S. Edrington*, K.M. Bischoff1, M.L. Looper1, T.R. Callaway1, K.J. Genovese1, Y.S. Jung1, R.C. Anderson1, and D.J. Nisbet1, 1USDA-ARS, Food and Feed Safety Research Unit, College Station, TX, 2USDA-ARS, Dale Bumpers Small Farm Research Center, Booneville, AR.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>459</td>
<td>Molecular epidemiology of beta-lactam resistant Gram-negative bacteria in dairy cattle. A. A. Sawant* and B. M. Jayarao, Pennsylvania State University, University Park, PA.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>460</td>
<td>Prevalence, distribution, and characterization of oxytetracycline resistant Escherichia coli in lactating dairy cattle. A. A. Sawant* and B. M. Jayarao, Pennsylvania State University, University Park, PA.</td>
</tr>
<tr>
<td>11:15 am</td>
<td>461</td>
<td>The commensal bacterial populations of swine feces and stored swine manure: Reservoirs of antibiotic resistance? T. R. Whitehead*, M. A. Cotta1, G. Whittle1, N. Shoemaker2, and A. A. Salyers2, 1National Center for Agricultural Utilization Research, Peoria, IL, 2University of Illinois, Urbana, IL.</td>
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Lactation Biology
Chair: Joanne Knapp, University of Vermont
Room: Yuma 39

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<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>10:30 am</td>
<td>462</td>
<td>Late gestation and advanced lactation at cessation of milking do not delay mammary epithelial apoptosis in dairy cattle. E.L. Annen*, A.V. Capuco1, P.C. Gentry1, L.H. Baumgard1, and R.J. Collier1, 1University of Arizona, Tucson, 2USDA-ARS, Bovine Functional Genomics Lab, BARC, Beltsville, MD.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>463</td>
<td>Microarray analysis of bovine mammary gene expression following abrupt cessation of lactation. S.R. Davis*, A.J. Molenaar1, K. Stelwagen1, T.T. Wheeler1, C.J. McMahon1, D.B. Baird1, H.V. Henderson1, V.C. Farr1, L. Good1, K. Odin1, K. Singh1, D.L. Hyndman2, and T. Wilson2, 1AgResearch Hamilton, 2Dunedin, 3Lincoln, New Zealand.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>464</td>
<td>Evidence of cisternal recoil after milk letdown in the udder of dairy cows. G. Caja*, M.A. Ayadi1, and C.H. Knight2, 1Universitat Autonoma de Barcelona, Spain, 2Hannah Research Institute, UK.</td>
</tr>
</tbody>
</table>
11:15 am 465  
Kinetics of glucose transport and metabolism in lactating bovine mammary glands measured in vivo with a paired nutrient/indicator dilution technique. F. Qiao*, C. Xiao, D.R. Trout, and J.P. Cant, University of Guelph, Ontario, Canada.

11:30 am 466  

11:45 am 467  
Quantitative analysis of estrogen-related receptor a, estrogen receptor a and estrogen receptor ß mRNAs throughout bovine mammary gland development. E.E. Connor*, A.V. Capuco1, T.S. Sonstegard1, A.F. Mota1, D.L. Wood1, W. Garrett1, G.L. Bennett2, and J. Williams3, 1USDA-ARS, Beltsville, MD, 2USDA-ARS, Clay Center, NE, 3Roslin Institute, Roslin, Midlothian, Scotland.

12:00 pm 468  

**Physiology**

**Gamete Physiology**

Chair: Sherrill Echterkamp, USDA - ARS

Room: Tucson 36

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<tr>
<td>11:00 am</td>
<td>471</td>
<td>Fertility and distribution of estrus among cows following prostaglandin induced embryonic/fetal mortality. T. W. Geary*, USDA-ARS, Fort Keogh LARRL, Miles City, MT.</td>
</tr>
<tr>
<td>11:45 am</td>
<td>474</td>
<td>Ovarian follicular populations before weaning in sows are dependent on GnRH-induced LH release. C.J. Bracken*, B.L. McCormack, T.C. Cantley, R.P. Radcliff, and M.C. Lucy, University of Missouri.</td>
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**Production, Management, & the Environment**

Chair: Ralph M. Cleale, Fort Dodge Animal Health

Room: Tucson 37

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<tr>
<td>10:30 am</td>
<td>475</td>
<td>Interrelationship between various measurements of temperament in Brahman cows and their Brahman calves. K. O. Curley*, D. A. Neuendorff, A. W. Lewis, and R. D. Randel, Texas A&amp;M University Agricultural Experiment Station, Overton, TX.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>476</td>
<td>Interrelationship between various measurements of temperament in Brahman cows and their Hereford-sired calves. K. O. Curley*, D. A. Neuendorff, A. W. Lewis, and R. D. Randel, Texas A&amp;M University Agricultural Experiment Station, Overton, TX.</td>
</tr>
</tbody>
</table>
Breed type and gender effects on chute exit velocity and chute temperament score in beef calves. J. F. Baker¹, R. D. Randel², and C. R. Long³, ¹University of Georgia, Tifton, GA/USA, ²Texas Agricultural Expt. Station, Overton, TX/USA.

Breed of sire and gender effects on chute exit velocity and chute temperament score in beef calves. R. C. Vann*¹ and R. D. Randel², ¹MAFES/Brown Loam Experiment Station-Raymond, ²Texas Agricultural Experiment Station-Overton.

Effects of ranch management on performance of newly received feedlot calves. S.M. Holt*¹, R.H. Pritchard¹, and T.A. Wittig¹, ¹South Dakota State University.

Thermoregulation and weight change in Hereford and Senepol steers as affected by forage type and estrogen therapy. R. Browning, Jr.*, S. H. Kebe, M. Byars, E. Lane, and C. Johnson, Tennessee State University, Nashville.

Ruminant Nutrition

Beef Cows and Heifers

Chair: Greg Lardy, North Dakota State University

Sponsors: Alltech, Inc. and Purina Mills, LLC

Room: Tucson 38

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<tr>
<td>10:30 am</td>
<td>481</td>
<td>(Invited) Fat supplementation and reproduction in beef females. R.N. Funston*, University of Nebraska, Lincoln.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>482</td>
<td>Microbial crude protein efficiency in nursing calves and gestating cows. M.J. Lamothe, J.C. MacDonald*, T.J. Klopfenstein, D.C. Adams, G.E. Erickson, and J.A. Musgrave, University of Nebraska - Lincoln; Lincoln, NE.</td>
</tr>
<tr>
<td>11:15 am</td>
<td>483</td>
<td>Effect of age, pregnancy, and diet on urinary creatinine excretion in heifers and cows. K.M. Whittet*, T.J. Klopfenstein, G.E. Erickson, T.W. Loy, and R.A. McDonald, University of Nebraska, Lincoln, NE.</td>
</tr>
<tr>
<td>11:30 am</td>
<td>484</td>
<td>Methionine improves nitrogen retention of young gestating beef cows consuming low quality forages. R.C. Waterman*, W.D. Bryant, C.A. Loest, and M.K. Petersen, New Mexico State University.</td>
</tr>
<tr>
<td>11:45 am</td>
<td>485</td>
<td>Domperidone administered to heifers can ameliorate deleterious reproductive parameters and weight gain reductions associated with ingesting endophyte-infected fescue. K. L. Jones*¹, S. S. King¹, K. E. Griswold¹, D. Cazac¹, and D. L. Cross², ¹Southern Illinois University, Carbondale, IL, ²Clemson University, Clemson, SC.</td>
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Ruminant Nutrition

Feed Intake

Chair: Scott Laudert, Elanco Animal Health

Room: Tucson 40-41

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<tr>
<td>11:00 am</td>
<td>486</td>
<td>(Invited) Recently identified signals for feed intake regulation. J.L. Miner*, University of Nebraska.</td>
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<tr>
<td>11:30 am</td>
<td>487</td>
<td>Ghrelin, a growth hormone secretagogue, is expressed by bovine rumen. P. C. Gentry*¹, J. P. Willey¹, and R. J. Collier, ¹University of Arizona.</td>
</tr>
</tbody>
</table>

**Sheep**

Sheep Production and Management

Chair: Jay Daniel, South Dakota State University

Room: Yuma 30 & 35

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 am</td>
<td>489</td>
<td>Out-of-season breeding in hair sheep using Melengestrol Acetate (MGA). N. C. Whitley1, D. J. Jackson*1, and S. Schoenian2, 1University of Maryland Eastern Shore, 2Maryland Cooperative Extension, WMREC.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>490</td>
<td>Effect of breed type on shear force, sensory analyses and fatty acid content of lamb. S.P. Greiner*1, S.K. Duckett2, and D.R. Notter1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2University of Georgia, Athens.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>491</td>
<td>Effects of low protein and limit-fed corn based diets on diet digestibility and metabolism of N and P in sheep. M. Abdullah*1, S.C. Loerch2, P. Tirabasso2, and G.D. Lowe2, 1University of Agriculture, Faisalabad, Pakistan, 2OARDC, The Ohio State University, Wooster, OH 44691.</td>
</tr>
</tbody>
</table>

**SYMPOSIUM**

Animal Behavior & Well Being

Alternative Housing for Livestock

Chair: Dr. Don Lay, Agricultural Research Service

Sponsors: EAAP, Elanco Animal Health, Humane Society of the United States (HSUS), Michigan State University, and USDA-ARS Livestock Behavior Research Unit

Room: Yuma 28-29

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:50 pm</td>
<td>619</td>
<td>(Invited) Housing the sow without crates - challenges and solutions. J.N. Marchant-Forde*1, 1USDA-ARS.</td>
</tr>
<tr>
<td>2:40 pm</td>
<td>492</td>
<td>(Invited) Animal welfare and international trade: European and American perspectives. A. Lawrence*1 and D. Oglethorpe1, 1The Scottish Agricultural College.</td>
</tr>
</tbody>
</table>
**SYMPOSIUM**

*Contemporary Issues and FASS Biotech Committee*

*Assessing the Safety of Bioengineered Feed Crops*

Chair: Gary Hartnell, Monsanto Company

Sponsors: Elanco Animal Health and American Society of Animal Science Foundation

Room: Yuma 26-27

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>493</td>
<td>(Invited) Supplementing grazing beef cattle: If, when, with what, and especially how often? J. E. Huston*, Texas Agricultural Experiment Station, Texas A&amp;M University System.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>494</td>
<td>(Invited) Complementary forages and grazing systems for beef cattle production on arid rangelands in the Western US. T. DelCurto*, D. W. Bohnert, C. S. Schauer, and G. D. Pulsipher, Eastern Oregon Agricultural Research Center, Oregon State University, Union and Burns.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>496</td>
<td>(Invited) Whole ranch management systems to optimize forage use and meet multiple use goals. L.R. Roath*, 1Colorado State University.</td>
</tr>
</tbody>
</table>
### SYMPOSIUM

**Goat Species**

**Assisted Reproduction in Goats**

Chair: Stephan Wildeus, Virginia State University

Room: Yuma 30 & 35

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<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>497</td>
<td>(Invited) Update on estrus synchronization in a minor species. N.C. Whitley*, University of Maryland Eastern Shore, Princess Anne, MD.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>499</td>
<td>Effects of short-term nutritional priming and multiple superovulation regimes on superovulated dairy goats. N. Buzzell, S. Blash, M. Cutler, D. Melican, J. Jameson, P. Flanagan, M. Olson, and W. Gavin, GTC Biotherapeutics Inc., Spencer MA.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>500</td>
<td>Effect of breed and progestrone priming on pregnancy rates in anestrous meat goats in response to the buck effect. L. Nuti*, S. Woldesenbet, and G. Newton, Prairie View A&amp;M University, Prairie View, TX 77446.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>501</td>
<td>Ovarian response and fertility in postpubertal does and hair sheep ewes to an induced estrus using either MGA feeding or progestrone sponges. S. Wildeus*, 1J. R. Collins1, and D. H. Keisler2, 1Virginia State University, Petersburg, VA, 2University of Missouri, Columbia, MO.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>502</td>
<td>Effect of fat supplementation of goats in different body condition and under increased photoperiod upon ovarian activity and preovulatory endocrine profiles. C. A. Meza H.*, 1J. G. Chavez-Perchez2, H. Salinas3, J. Urrutia M.4, and M. Mellado4, 1Universidad Autonoma Chapingo-URUZA, 2Radiodiagnostico y Ultrasonografia, 3INIFAP, 4UAAAN.</td>
</tr>
</tbody>
</table>

### SYMPOSIUM

**Production, Management, & the Environment**

**Impact of Animal Feeding Operations on the Environment**

Chair: Michel Wattiaux, University of Wisconsin

Sponsors: Babcock Institute, EAAP, Elanco Animal Health, Monsanto, United Feeds Inc., and USDA-ARS

Room: Tucson 40-41

<table>
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<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td></td>
<td>Introduction</td>
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<tr>
<td>1:10 pm</td>
<td></td>
<td>(Invited) US EPA regulations impacting production animal agriculture. Jean-Mari Peltier.</td>
</tr>
<tr>
<td>1:40 pm</td>
<td>503</td>
<td>(Invited) Overview of nitrogen in the environment. J. N. Galloway*, University of Virginia.</td>
</tr>
<tr>
<td>2:10 pm</td>
<td>504</td>
<td>(Invited) Management to reduce nitrogen losses in animal production. C. Alan Rotz*, 1USDA / ARS.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>2:50 pm</td>
<td>505</td>
<td>(Invited) Quantitative assessment of phosphorus transport to surface and groundwaters. J. L. Havlin*, North Carolina State University, Raleigh, NC.</td>
</tr>
<tr>
<td>3:20 pm</td>
<td>506</td>
<td>(Invited) Animal management to reduce phosphorus losses to the environment. K. F. Knowlton*, Virginia Polytechnic Institute and State University, Blacksburg, VA.</td>
</tr>
</tbody>
</table>

4:00 pm 508 (Invited) Governmental policies and measures regulating agricultural nitrogen and phosphorus in the European Union. O. Oenema, Wageningen University and Research Center, Wageningen, The Netherlands.

4:30 pm (Invited) Sustainable livestock production, what’s next? Larry Satter.

4:45 pm Question and answer, Michel Wattiaux, University of Wisconsin.

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**Breeding & Genetics**

**Dairy Cattle Breeding for Nonproduction Traits**

**Chair:** Daryl Nash, Ferrum College

**Room:** Tucson 42

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>509</td>
<td>Selection for mastitis in Norwegian dairy cattle. A. Karlsen*, B. Heringstad, E. Sehested, and M. Svendsen. GENO Breeding and A.I. Association, Department of Animal Science, Agricultural University of Norway.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>511</td>
<td>Measure of the impact of somatic cell count on longevity of Holstein and Jersey cows using survival analysis. D. Z. Caraviello*, K. A. Weigel, G. Shook, and P. Ruegg, University of Wisconsin - Madison.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>513</td>
<td>The effect of using body condition score and dairy character as indicators for genetic resistance to diseases in Danish Holstein. J. Lassen*, M. Hansen, M. K. Sorensen, G. P. Aamand, L. G. Christensen, and P. Madsen, Danish Institute of Agricultural Sciences, Denmark, The Danish Agricultural Advisory Centre, Denmark, The Royal Veterinary and Agricultural University, Denmark.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>516</td>
<td>Genetic correlation estimates among body condition score, dairy form, days open and production traits for US Holsteins. C.D. Dechow*, G.W. Rogers, T.J. Lawlor, L. Klei, and P.M. VanRaden, University of Tennessee, Holstein Association USA Inc., Animal Improvement Programs Laboratory.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:15 pm</td>
<td>517</td>
<td>Seasonality of days open in US Holsteins. S. Oseni and I. Misztal, University of Georgia, Athens, GA, USA.</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>518</td>
<td>A new genetic evaluation for calving ease in the Italian Holstein. F. Canavesi*, S. Biffani, and A.B. Samore, ANAFI.</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>519</td>
<td>Characteristics of genetic evaluations for daughter fertility in relation to other fitness traits. H. D. Norman*, J. R. Wright, P. M. VanRadjen, and M. T. Kuhn, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>520</td>
<td>Definition of traits and comparison of models for genetic evaluation of cow fertility. P.M. VanRadjen* and M.E. Tooker, Animal Improvement Programs Laboratory, Animal Research Service, USDA, Beltsville, MD.</td>
</tr>
</tbody>
</table>
### Food Safety

**On Farm Food Safety: Assessment of Costs, Tools and Management**

Chair: Todd Callaway, USDA/ARS, Southern Plains Agricultural Research Center

Room: Yuma 25

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>523</td>
<td>Economic assessment of food safety in the dairy chain. Natalia Valeeva*, Miranda Meuwissen, and Ruud Huirne, Wageningen University, Wageningen, the Netherlands.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>526</td>
<td>Effects of diet and monensin on ruminal persistence and fecal shedding of <em>Escherichia coli</em> O157:H7 in cattle. M.J. VanBaale*, J.M. Sargeant, D.P. Gnad, B.M. Debey, K.F. Lechtenberg, and T.G. Nagaraja, 1Kansas State University, Manhattan, KS, 2Midwest Veterinary Services, Oakland, NE.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>527</td>
<td>Bactericidal effect of 2-nitropropanol against selected foodborne pathogens <em>in vitro</em>. Y. S. Jung*, R. C. Anderson, T. R. Callaway, T. S. Edrington, K. J. Genovese, R. B. Harvey, T. L. Poole, and D. J. Nisbet, USDA-ARS, Food and Feed Safety Research Unit, College Station, TX.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>528</td>
<td>Origanox as a natural ingredient to inhibit the growth of foodborne pathogens. S. A. Ibrahim*, North Carolina A&amp;T State University, Greensboro, NC.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>529</td>
<td>Experimental chlorate product treatment reduces <em>Salmonella</em> populations in swine during lairage. T. R. Callaway*, R. C. Anderson, T. S. Edrington, K. J. Genovese, C. H. Stahl, Y. S. Jung, K. M. Bischoff, T. L. Poole, R. B. Harvey, and D. J. Nisbet, USDA-ARS, Food and Feed Safety Research Unit, College Station, TX, Iowa State University, Ames, IA.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>530</td>
<td>Vermont Cattle Health Improvement Project. C.A. Rossiter-Burhans*, J.W. Barlow, and T.E. Johnson, 1Poulin Grain Inc., Newport, VT, 2University of Vermont, Burlington, VT, 3Vermont State Department of Agriculture, Montpelier, VT.</td>
</tr>
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### Growth & Development

**Intestinal Development - Colostrum Symposium**

Chair: Geoff Dahl, University of Illinois

Sponsors: Elanco Animal Health, Monsanto, Pfizer Animal Health, and USDA-CSREES

Room: Yuma 21-22

<table>
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<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
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</table>
### Meat Science & Muscle Biology

**Genetics and Management of Meat Quality**

Chair: T. Dean Pringle, The University of Georgia  
Room: Tucson 37

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>(Invited)</td>
<td>Practical implications of pork quality. F.W. McKeith.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>541</td>
<td>Effect of sire line and slaughter weight on pork quality. M. A. Latorre¹, M. D. García-Cachín², A. Fuentetaja¹, R. Lazaro*, and G. G. Mateos¹, Universidad Politécnica de Madrid, Spain, Estación Tecnológica de la Carne, Salamanca, Spain, Copese S.A. Segovia, Spain.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>543</td>
<td>Effects of available dietary carbohydrate and pre-slaughter stress on glycolytic potential and quality traits of pig muscles. Giuseppe Bee*, Swiss Federal Research Station for Animal Production, Postieux Switzerland.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>544</td>
<td>Growth parameters and carcass merit of market hogs supplemented creatine monohydrate in conjunction with ractopamine hydrochloride (Paylean) and a high glycemic carbohydrate. C. A. Stahl*, M. S. Carlson¹, D. L. McNamara¹, T. B. Schmidt¹, D. J. Newman¹, C. M. Schultz Kaster², and E. P. Berg¹, University of Missouri, Columbia, MO, Premium Standard Farms, Milan, MO.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>545</td>
<td>Fresh pork quality of Rendement Napole and/or Halothane carriers supplemented with magnesium through drinking water. B. R. Frederick*, E. van Heugten, and M. T. See, North Carolina State University, Raleigh, NC.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>546</td>
<td>Carcass cutability, belly firmness, and fatty acid composition of Ractopamine supplemented pigs sorted into backfat thickness classes. K.J. Mimbs*, T.D. Pringle¹, M.J. Azain¹, and T.A. Armstrong², The University of Georgia, Athens, GA, Elanco Animal Health, Greenfield, IN.</td>
</tr>
</tbody>
</table>
3:00 pm  Break
3:30 pm 547  Effects of supplemental corn oil or rumen-protected conjugated linoleic acid on lipid deposition of finished beef cattle. K. R. Smith*, S. K. Duckett, M. H. Gillis, and C. E. Realini, The University of Georgia.
3:45 pm 548  Comparison cooking and measuring methods as well as anatomical location on tenderness in M. longissimus dorsi in beef. J. Seenger*, Cs. Abrahám, G. Holló, K. Ender, and E. Szücs, 1Szent István University, Gödöllő-Hungary, 2University of Kaposvár, Kaposvár-Hungary, 3Research Institute for the Biology of Farm Animals, Dummerstorf-Germany.

Nonruminant Nutrition
Energy and Amino Acids
Co-Chairs: D.A. Nelson, Land O'Lakes and D.M. Webel, United Feeds
Sponsors: Alltech, Inc., Danbred North America, and PIC
Room: Tucson 43

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<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>549</td>
<td>Evaluation of the true ileal digestible (TID) lysine requirement for 7 to 14 kg pigs.</td>
<td>A.M. Gaines*1, D.C. Kendall1, G.L. Allee1, M.D. Tokach1, S.S. Dritz1, and J.L. Usry3, 1University of Missouri-Columbia, 2Kansas State University, Manhattan, 3Ajinomoto Heartland Inc., Chicago.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>553</td>
<td>A meta-analysis to estimate the optimum threonine to lysine ratio in growing pigs.</td>
<td>J. van Milgen*1, L. Le Bellego2, 1INRA-UMRVP, St-Gilles, France, 2Ajinomoto Eurolysine, Paris, France.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>554</td>
<td>Prediction of the energy value of corn from the dietary composition in piglets.</td>
<td>J. Noblet*, M. Champion2, 1INRA, UMRVP, Saint Gilles, France, 2Limagrain Genetics, Chappes, France.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>555</td>
<td>Effect of pelleting and body weight on digestibility of energy and fat</td>
<td>J. Noblet* and M. Champion, 1INRA, UMRVP, Saint Gilles, France, 2Limagrain Genetics, Chappes, France.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>556</td>
<td>Effect of high ambient temperature and feeding level on fatty acid deposition in growing pigs.</td>
<td>M. Kloareg, L. Le Bellego, J. Mourot, J. Noblet, and J. van Milgen*, INRA-UMRVP, St-Gilles, France.</td>
</tr>
<tr>
<td>3:00 pm</td>
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<td>Break</td>
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<tr>
<td>3:30 pm</td>
<td>557</td>
<td>Partitioning of metabolizable energy for maintenance and growth by growing salmonids using a factorial approach:</td>
<td>P.A. Azevedo*, S. Leeson1, C. Y. Cho1, S. Birkett1, H. Bayley2, and D. P. Bureau1, 1Department of Animal and Poultry Science, University of Guelph, Canada, 2Department of Human Biology and Nutritional Sciences, University of Guelph, Canada.</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>558</td>
<td>Effect of betaine on energy partitioning in growing pigs.</td>
<td>J. van Milgen*, J. Noblet, and S. Dubois, 1INRA-UMRVP, St-Gilles, France.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>559</td>
<td>Quantitative relationship between mitochondrial bioenergetics and</td>
<td>T. R. Lutz* and T. S. Stahly, Iowa State University, Ames.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>efficiency of animal growth.</td>
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</table>
4:15 pm 560 Effect of body weight and dietary protein level on heat production and energy utilization in growing pigs. J. Noblet*1, P. Dimon1, J. van Milgen1, S. Dubois1, L. Le Bellego2, and M. Rademacher3, 1INRA, UMRVP, Saint Gilles, France, 2Ajinomoto Eurolysine, Paris, France, 3Degussa AG, Hanau, Germany.

4:30 pm What have we learned? L.L. Southern, Louisiana State University.

### Physiology

**Uterus, Gamete, Embryo, and Growth**

Chair: Gary Williams, Texas A&M Beeville

Room: Tucson 36

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<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tr>
<td>1:00 pm</td>
<td>561</td>
<td>Sheep oviductal secretory glycoprotein and mRNA expression in prepubertal ewe lambs, and mature ewes after natural or progestin-synchronized estrus. J. G. Berardinelli* and D. Burgess, Montana State University, Bozeman.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>564</td>
<td>Timing of dinitrophenol treatment during in vitro culture of bovine embryos. J.F. De La Torre-Sanchez* and G.E. Seidel, Jr., Colorado State University, Fort Collins, CO USA.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>565</td>
<td>Two-step vitrification and in-straw dilution of in vitro produced bovine embryos. L. F. Campos-Chillon*, J. F. de la Torre-Sanchez2, and G. E. Seidel, Jr.2, 2College of Veterinary Medicine and Biomedical Sciences, Colorado State University, 2Animal Reproduction and Biotechnology Laboratory, Colorado State University.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>566</td>
<td>The size of the morula and the timing of blastocyst formation influence the resistance of bovine blastocysts to pro-oxidant agents. J.M. Feugang *, I. Donnay, F. Dessey, and A.-S. Lequarre, Veterinary Unit, Catholic University of Louvain, 1348 Louvain-la-Neuve.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>567</td>
<td>Physiology of pregnancy and calving characteristics of Holstein cows bred to Holstein or Gir (Bos indicus) sires. S. J. Schmidt*, B. S. Gandy, F. Hoholk, K. Graves, J. White, and S. T. Willard, Mississippi State University, Mississippi State, MS.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>568</td>
<td>Marked physical changes occur in yearling beef bulls during natural breeding. R. W. Ellis*, G. P. Rupp1, P. J. Chenuweth2, L. V. Cundiff2, and D. D. Lunstra3, 3Great Plains Veterinary Educational Center, University of Nebraska, Clay Center, NE, 2Kansas State University, Manhattan, KS, 2USDA, ARS, US Meat Animal Research Center, Clay Center, NE.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>569</td>
<td>Semen and libido characteristics in boars given repeated injections of Lutalyse. M.J. Estienne* and A.F. Harper, Virginia Polytechnic Institute and State University, Blacksburg, VA.</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>570</td>
<td>Breed effects on immune and endocrine profiles in growing pigs. M. A. Sutherland*, M. Ellis, and J. L. Salak-Johnson, University of Illinois, Urbana-Champaign, IL.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>571</td>
<td>Assessments of velvet antler growth rates using digital infrared thermography in red deer stags. S. Bowers*, S. Gandy1, D. Neuendorff2, T. Dickerson1, S. Mozisek2, R. Randel2, and S. Willard1, 1Mississippi State University, Mississippi State, MS, 2Texas A&amp;M University - TAES, Overton, TX.</td>
</tr>
<tr>
<td>4:15 pm</td>
<td>572</td>
<td>Relationship between placental characteristics, delivery parameters and placental retention. A.L. Riddle*, H.D. Tyler, and J.D. Quigley2, 1Iowa State University, Ames, IA, 2APC Company, Inc., Ames, IA.</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>573</td>
<td>The effect of using of Ovsynch with supplemental GnRH on pregnancy rates of Holstein heifers in the tropics. R.W. Godfrey, R.E. Dodson*, A.J. Weis, and O.T. Isles, University of the Virgin Islands, Agricultural Experiment Station, St. Croix.</td>
</tr>
</tbody>
</table>
4:45 pm  574  The effect of hair coat color on rectal and surface temperatures of Holstein heifers in the tropics. R.W. Godfrey, O.T. Isles*, A.J. Weis, and R.E. Dodson, University of the Virgin Islands, Agricultural Experiment Station, St. Croix.

**Ruminant Nutrition**

**Fats and Fatty Acids**

Chair: Clay Zimmerman, Blue Seal Feeds

Sponsors: Alltech, Inc. and Purina Mills, LLC

Room: Yuma 23-24

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tr>
<td>1:00 pm</td>
<td>575</td>
<td>(Invited) Conjugated linoleic acid (CLA) and milk production. M.A. McGuire*¹ and J.M. Griinari², ¹University of Idaho, Moscow, ²University of Helsinki, Finland.</td>
</tr>
<tr>
<td>1:30 pm</td>
<td>576</td>
<td>(Invited) The challenges of supplying omega fatty acids to body tissues of cattle to meet critical metabolic and physiologic functions. T. C. Jenkins* and A. AbuGhazaleh, Clemson University, Clemson, SC 29634.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>577</td>
<td>Increasing milk fat cis-9, trans-11 conjugated linoleic acid content in pasture-fed cows. J.K. Kay*¹, J.R. Roche¹, N.A. Thomson¹, J.M. Griinari², and K.J. Shingfield³, Dexcel, New Zealand, ³University of Reading, UK.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>578</td>
<td>Dose response to supplementation with calcium salts of conjugated linoleic acid during the transition period and early lactation. E. Castaneda-Gutierrez*, T. R. Overton, and D. E. Bauman, Cornell University, Ithaca, N.Y.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>579</td>
<td>Comparison of the effect of different rumen protected forms of CLA on milk fat synthesis. M. J. de Veth*¹, J. W. McFadden¹, J. M. Griinari², S. K. Gulati³, N. D. Luchini⁴, and D. E. Bauman¹, Cornell University, Ithaca, NY, ³Clanet Ltd, Espoo, Finland, ⁴University of Sydney, Rumentek (Pty) Ltd, Australia.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>580</td>
<td>Lactational response of cows to different levels of ruminally protected conjugated linoleic acids. R. Gervais*¹, R. Spratt³, and P.Y. Chouinard¹, Universite Laval, Agribrands Purina Canada.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>581</td>
<td>Synthesis of Trans fatty acids and isomers of conjugated linoleic acid in the rumen of cows fed grass silage based diets supplemented with rapeseed, soybean and linseed oil. K.J. Shingfield*¹, S. Ahvenjärvi², V. Toivonen², P. Huhtanen², and J. M. Griinari³, School of Food Biosciences, The University of Reading, UK, ²Animal Production Research, MTT Agrifood Research Finland, Jokioinen, Finland, ³Department of Animal Science, University of Helsinki, Finland.</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>582</td>
<td>Withdrawn</td>
</tr>
<tr>
<td>4:15 pm</td>
<td>584</td>
<td>Effects of feeding raw, micronized and extruded flaxseed on rumen fermentation parameters and nutrient utilization by lactating dairy cows. Christian Gonthier*, Arif F. Mustafa¹, Daniel R. Ouellet², Robert Berthiaume², and Hélène V. Petit², Macdonald Campus of McGill University, ²Dairy and Swine Research and Development Centre, Agriculture and Agri-Food Canada.</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>585</td>
<td>Effects of rumen-inert fat saturation on feed intake, milk production, and plasma metabolites in lactating dairy cows. K.J. Harvatine* and M.S. Allen, Michigan State University, East Lansing.</td>
</tr>
</tbody>
</table>
### Ruminant Nutrition

**Additives, Enzymes and Feedstuff Analysis**

Chair: H. Gale Bateman, Louisiana State University

**Room: Tucson 38**

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:00 pm</td>
<td>587</td>
<td>Effects of cinnamaldehyde, garlic and monensin on nitrogen metabolism and fermentation profile in continuous culture. M. Busquet¹, S. Calsamiglia*¹, A. Ferret¹, and C Kamel², ¹Universidad Autonoma de Barcelona, Spain, ²University of Leeds, UK.</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>588</td>
<td>Malate in concentrate improves growth performance and digestibility of intensively fattened lambs. C. Flores¹, G. Caja*¹, R. Romero¹, and J. Mesia², ¹Universitat Autonoma de Barcelona, ²Norel &amp; Nature Nutrition, Spain.</td>
</tr>
<tr>
<td>1:45 pm</td>
<td>590</td>
<td>Effect of fibrolytic enzyme preparations containing esterase, cellulase, and endogalacturonase activity on the digestibility of mature, tropical grass hays. N. Krueger*, D. Dean, W. Krueger, C. Staples, and A. Adesogan, ¹University of Florida, Gainesville, FL, USA.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>591</td>
<td>Effect of fibrolytic enzyme preparations containing high esterase activity on the digestibility of mature, tropical grass hays. N. Krueger*, D. Dean, W. Krueger, C. Staples, and A. Adesogan, University of Florida, Gainesville, FL, USA.</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>592</td>
<td>The potential for enhancing the digestion of C4 grass hays with proprietary fibrolytic enzymes. D Dean*, N Krueger, L Sollemberger, and A Adesogan, ¹University of Florida, Gainesville, FL, USA.</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>593</td>
<td>Effects of dietary sodium bicarbonate and sodium chloride on ruminal pH and digesta characteristics in dairy cows. C. S. Mooney* and M. S. Allen, Michigan State University, East Lansing.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>594</td>
<td>Feeding fibrolytic enzymes to enhance DM and nutrient digestion, and milk production by dairy cows. P. Mandebvu*¹, C. S. Ballard¹, M. P. Carter¹, K. W. Cotanch¹, C. J. Sniffen¹, T. Sato², K. Uchida², A. Teo², U. D. Nhan³, and T. H. Meng³, ¹W. H. Miner Agricultural Research Institute, Chazy, NY, ²ZENNOH National Federation of Agricultural Co-operative Associations, Tokyo, Japan, ³Kemin Industries (Asia), Pte Ltd, Singapore.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>595</td>
<td>Effect of pH and enzyme supplementation to a total mixed ration on microbial fermentation in continuous culture. Dario Colombatto*¹,², Gonzalo Hervas³, Wen Yang¹, and Karen Beauchemin¹, ¹Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada, ²Facultad de Agronomía, Universidad de Buenos Aires, Argentina, ³Estacion Agricola Experimental (CSIC), Leon, Spain.</td>
</tr>
<tr>
<td>3:45 pm</td>
<td>596</td>
<td>Effect of the sequence of fat and antibiotic-ionophores on ruminal fermentation and microbial lipids. M.G. Daves* and V. Fellner, North Carolina State University, Raleigh, NC.</td>
</tr>
<tr>
<td>4:00 pm</td>
<td>597</td>
<td>Comparison of different starch analysis methods for feedstuffs. K.-H. Suedekum*¹, M.B. Hall², and M. Paschke-Beese¹, ¹University of Kiel, Germany, ²University of Florida, Gainesville.</td>
</tr>
<tr>
<td>4:15 pm</td>
<td>598</td>
<td>A novel technique to assess particle distribution of rations and forages using digital imaging. A. Bach*¹, A. Anglada¹, X. Puigvert³, and L.I. Bosch², ¹ICREA-IRTA Dairy Systems, Spain, ²Universitat de Girona, Spain.</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>599</td>
<td>Comparison of three systems to estimate the fraction of non-fiber carbohydrate, and its ruminal digestibility, in common feedstuffs. Anne Offner* and Daniel Sauvant, INRA P-G INRA, Paris, France.</td>
</tr>
<tr>
<td>4:45 pm</td>
<td>600</td>
<td>Near infrared reflectance spectroscopy prediction of digestion rates for cereal grains. C Lanzas* and A.N. Pell, Cornell University, Ithaca, NY.</td>
</tr>
</tbody>
</table>
Thursday, June 26, 2003
Schedule of Events

Friday, June 26, 2003
Symposia and Oral Sessions

SYMPOSIUM
Contemporary Issues

Designing Animal Experiments for Power
Chair: Marjorie A. Faust, ABS Global, Inc.
Sponsors: Elanco Animal Health and American Society of Animal Science Foundation
Room: Tucson 36

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am</td>
<td></td>
<td>Introduction. Bill Price.</td>
</tr>
<tr>
<td>8:15 am</td>
<td>601</td>
<td>(Invited) Designing trials to test the bio-equivalency of treatments for animal performance. Ian McMillan*1, 1University of Guelph, Animal and Poultry Science.</td>
</tr>
<tr>
<td>8:45 am</td>
<td>602</td>
<td>(Invited) The power of tests for feed experiments with poultry. W.B. Roush*1 and P. Tozer2, 1USDA-ARS Mississippi State, MS, 2Penn State University, University Park, PA.</td>
</tr>
<tr>
<td>9:45 am</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>10:15 am</td>
<td>604</td>
<td>(Invited) Experimental design in companion animal and equine nutrition: issues and insights. C. M. Grieshop* and E. A. Flickinger, University of Illinois.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>605</td>
<td>(Invited) Design of experiments for bioequivalence testing of biotechnology derived crops as feeds for dairy cattle. R. J. Tempelman*1 and M. A. Faust2, 1Michigan State University, 2Iowa State University.</td>
</tr>
<tr>
<td>11:15 am</td>
<td>680</td>
<td>Power of the test considerations for beef cattle experiments. C. R. Richardson*1, G. A. Nunnery1, D. B. Wester1, N. A. Cole2, M. L. Galyean1, 1Texas Tech University, Lubbock, TX, 2USDA-ARS-CPRL, Bushland, TX.</td>
</tr>
<tr>
<td>11:15 am</td>
<td></td>
<td>Discussion</td>
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</table>
### SYMPOSIUM

#### Lactation Biology

**Altering the Lactation Cycle in Dairy Cows**

*Chair: Suzanne Sechen, FDA's Center for Veterinary Medicine*

*Sponsors: Monsanto and Pfizer Animal Health*

*Room: Yuma 21-22*

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00 am</td>
<td>606</td>
<td>(Invited) Why re-evaluate length of dry period? R.R. Grummer* and R.R. Rastani, University of Wisconsin, Madison.</td>
</tr>
<tr>
<td>8:30 am</td>
<td>607</td>
<td>(Invited) Effect of POSILAC® (bST) and dry period management strategy on milk yield. E.L. Annen*¹, M.A. McGuire², J.L. Vicini³, and R.J. Collier¹, ¹Univ. of Arizona, Tucson, ²Univ. of Idaho, Moscow, ³Monsanto Co., St. Louis, MO.</td>
</tr>
<tr>
<td>9:45 am</td>
<td>609</td>
<td>Milk production from Holstein half-udders after concurrent 30 and 70d dry periods. M.S. Gulay*, K.C. Bachman, M.J. Hayen, and D.R. Bray, University of Florida, Gainesville.</td>
</tr>
<tr>
<td>10:00 am</td>
<td></td>
<td>Discussion and Break</td>
</tr>
<tr>
<td>10:30 am</td>
<td>610</td>
<td>(Invited) Effect of delayed breeding and POSILAC® on milk production and reproduction of dairy cows during 2 lactations. M. McGrath¹, S. Bettis¹, C. Bilby¹, R. Hintz¹, E. Plunkett¹, J. Vicini¹, D. Armstrong¹, J. Fetrow¹, D. Galton¹, and J. Shearer¹, ¹Monsanto, St. Louis, MO, ²Univ. of Arizona, Tucson, ³Univ. of Minnesota, St. Paul, ⁴Cornell Univ., Ithaca, NY, ⁵Univ. of Florida, Gainesville.</td>
</tr>
<tr>
<td>11:00 am</td>
<td>611</td>
<td>(Invited) Induced lactation: the need for enhanced mammary development and differentiation. B.A. Crooker*¹, R.J. Collier², J.L. Vicini², M.F. McGrath ³, and W.J. Weber¹, ¹University of Minnesota, St. Paul, ²University of Arizona, Tucson, ³Monsanto Agricultural Group, St. Louis, MO.</td>
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<tr>
<td>11:30 am</td>
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<td>Discussion</td>
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### SYMPOSIUM

#### Nonruminant Nutrition

**Energy Density of Pig Diets**

*Chair: J.E. Pettigrew, University of Illinois*

*Sponsors: Fats and Proteins Research Foundation, Inc. and EAAP*

*Room: Tucson 40-41*

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00 am</td>
<td></td>
<td>(Invited) The core issue: The biological principles. Roger Campbell, United Feeds/Ausgene, Gridley, IL.</td>
</tr>
<tr>
<td>8:30 am</td>
<td></td>
<td>(Invited) How to measure: An overview of energy systems (DE, ME, NE, EE, etc.). John Patience, Prairie Swine Centre, Inc., Saskatoon, SK, Canada.</td>
</tr>
<tr>
<td>9:00 am</td>
<td>612</td>
<td>(Invited) Energy density of pig diets: effect of energy evaluation system, technology and pig body weight. J. Noblet* and J. van Milgen, INRA, UMRVP, Saint Gilles, France.</td>
</tr>
<tr>
<td>9:30 am</td>
<td></td>
<td>Break</td>
</tr>
<tr>
<td>10:00 am</td>
<td></td>
<td>(Invited) Practical aspects: Dietary energy density and finishing pig performance &amp; profits. Mike Tokach, Kansas State University, Manhattan, KS.</td>
</tr>
</tbody>
</table>
10:30 am  (Invited) Practical aspects: Dietary fat effects on pork quality. Floyd McKeith, University of Illinois, Urbana, IL.

11:00 am  (Invited) Practical aspects: Dietary fiber effects on disease resistance. John Pluske, Murdoch University, Murdoch, WA, Australia.

Animal Behavior & Well Being
Production Challenges

Chair: Ed Pajor, Purdue University
Room: Tucson 43

<table>
<thead>
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<th>Time</th>
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<tbody>
<tr>
<td>8:00 am</td>
<td>613</td>
<td>Is iodide responsible for the heat-relief effects of Ascophyllum nodosum? P.A. Eichen*, M. J. Leonard1, M. A. Kozma1, B. M. Kronk1, L. E. McVicker1, D. E. Spiers1, and D. P. Colling1, 1University of Missouri, Columbia, MO, 2Acadian AgriTech, Kansas City, MO.</td>
</tr>
<tr>
<td>8:15 am</td>
<td>614</td>
<td>Monitoring fescue toxicosis in a pasture environment and evaluating the effect of prior treatment with Ascophyllum nodosum. D.E. Spiers*, L.E. McVicker1, J.E. Williams1, P.A. Eichen1, L. Thompson1, G. Rottinghaus1, and D.P. Colling2, 1University of Missouri, Columbia, MO, 2Acadian AgriTech, Kansas City, MO.</td>
</tr>
<tr>
<td>8:30 am</td>
<td>615</td>
<td>Effect of social regrouping and relocation on the hypothalamic-pituitary-adrenal axis and immune function of finishing beef steers. S. Gupta*1,2, B. Earley1, S. T. L. Ting1,2, and M. A. Crowe2, 1Teagasc, Grange Research Centre, Dunsany, Co. Meath, Ireland, 2Faculty of Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland.</td>
</tr>
<tr>
<td>8:45 am</td>
<td>616</td>
<td>Restaurant audits have maintained high standards of stunning and handling at beef slaughter plants. T Grandin*, 1Colorado State University, Fort Collins, CO USA.</td>
</tr>
<tr>
<td>9:00 am</td>
<td>617</td>
<td>The pharmacological effect of small doses of naloxone on sexual exhaustion in white New Zealand male rabbits. V.O. Fuentes*, C. Villagran, R. Orozco, and J.J. Alvarez, Centro universitario de los Altos, Universidad de Guadalajara.</td>
</tr>
<tr>
<td>9:15 am</td>
<td>618</td>
<td>The pharmacological effect of implanted and injected naloxone on plasma testosterone levels in bucks during the breeding and non-breeding seasons. V.O. Fuentes*, J.G. Ruiz, P.I. Fuentes, and R. Sanchez-Gutierrez, 1Centro universitario de los Altos, Universidad de Guadalajara.</td>
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<tr>
<td>9:30 am</td>
<td></td>
<td>Break</td>
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Animal Behavior & Well Being
Housing Environments

Chair: Don Lay, USDA-ARS
Room: Tucson 43

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<tr>
<td>10:00 am</td>
<td>620</td>
<td>Behavioral and physical variation among cloned litters of pigs. Gregory S. Archer*, T.H. Friend1, J. Piedrahita2, C.H. Nevill3, and S. Walker4, 1Department of Animal Science, Texas A&amp;M University, College Station, 2College of Veterinary Medicine, Texas A&amp;M University, College Station.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>621</td>
<td>Effect of stressors on serum concentration of acute phase proteins and performance in pigs. C. Pineiro*, E. Lorenzo1, J. Morales1, E. Gomez2, and G.G. Mateos3, 1PigCHAMP Pro Europa S.A., Spain, 2CPP Hontalbilla, JCyL, Spain, 3UPM, Spain.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>622</td>
<td>Effects of pre-natal stress on immunological response and weight gain during the grower finisher period. M.J. Toscano*, K.A. Scott1, H.K. Smith1, J.E. Cunnick2, M.J. Daniels3, and D.C. Lay, Jr.1, 1USDA-ARS-MWA-LBRU, 2Iowa State University, 3University of Florida.</td>
</tr>
</tbody>
</table>
Evaluation of drop versus trickle feeding for crated and penned pregnant gilts: productivity measures. John McGlone*1, Julie Morrow2, and Jerry Smith3, 1Texas Tech University, 2USDA-ARS.

The effects of dietary sodium bicarbonate on abnormal behavior and heart rate in sows. J. N. Marchant-Forde*1 and E. A. Pajor2, 1USDA-ARS, 2Purdue University.

Effect of housing systems on implantation in sows. Leena Anil*, Samuel Baidoo, Roger Walker, John Deen, Rebecca Morrison, and Sukumaran Anil, University of Minnesota, Saint Paul, Minnesota.

Swine Welfare Assurance Program. A. K. Johnson*1, E. A. Lautner1, and P. L. Sundberg1, 1National Pork Board.

Factors affecting cow preference for stalls with different freestall bases in pens with different stocking rates. W. K. Fulwider*1 and R. W. Palmer1, 1University of Wisconsin-Madison.

Breeding & Genetics

Molecular Genetics and Analyses of Microarray Data

Chair: Milt Thomas, New Mexico State University

Room: Tucson 42

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<tr>
<th>Time</th>
<th>Abstract Number</th>
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<tbody>
<tr>
<td>8:00 am</td>
<td>628</td>
<td>Analysis of gene expression patterns in the cattle digestive system. S. L. Rodriguez-Zas*1, M. R. Band2, R. E. Everts1, B. R. Southey1, Z. L. Liu1, and H. A. Lewin1, 2University of Illinois at Urbana-Champaign, Urbana, IL, 2W. M. Keck Center for Comparative and Functional Genomics, University of Illinois, Urbana, IL.</td>
</tr>
<tr>
<td>8:15 am</td>
<td>629</td>
<td>Analysis of microarray data: are you better off by replicating genes or arrays?. R. Rekaya*1, 1The University of Georgia.</td>
</tr>
<tr>
<td>8:30 am</td>
<td>630</td>
<td>Normalization, replication, and significance tests in cDNA microarray experiments. G. J. M. Rosa*, R. J. Tempelman, S. Suchyta, S. A. Madsen, J. L. Burton, and P. M. Coussens, Michigan State University, East Lansing, MI.</td>
</tr>
<tr>
<td>8:45 am</td>
<td>631</td>
<td>Accounting for genotyping errors in QTL analyses. G. J. M. Rosa*, Michigan State University, East Lansing, MI.</td>
</tr>
<tr>
<td>9:00 am</td>
<td>632</td>
<td>Power to detect loci linked to common diseases of dairy cattle using identical-by-descent based methods of half-sib pair linkage analysis. Roger L. Vallejo*1, 1Department of Dairy and Animal Science, Penn State University.</td>
</tr>
<tr>
<td>9:15 am</td>
<td>633</td>
<td>Combining breed and family information to detect QTL in crosses of outbred populations. S.K. Musani* and G.B. Jansen, University of Guelph, Guelph, ON Canada.</td>
</tr>
<tr>
<td>9:30 am</td>
<td>Break</td>
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<tr>
<td>10:00 am</td>
<td>635</td>
<td>QTL mapping in extended half-sib families. N. Vukasinovic*1 and M.L. Martinez2, 1Monsanto Animal Genomics, 2Embrapa - CNPGL.</td>
</tr>
<tr>
<td>10:15 am</td>
<td>636</td>
<td>Comparison of statistical methods used to analyze marker data from daughter design with selective genotyping. Yule Pan1,2, Nicolas Caron1, Gerald B. Jansen1, Edward B. Burnside1,2, and Jacques P. Chesnais1,2, 1The Semex Alliance, Saint-Hyacinthe, Quebec, Canada, 2L’Alliance Boviteq, Saint-Hyacinthe, Quebec, Canada, 3University of Guelph, Guelph, Ontario, Canada.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>637</td>
<td>Superiority of QTL-assisted selection in dairy cattle populations with nucleus herds. G. A. Abdel-Azim*1 and A. E. Freeman1, 1Iowa State University.</td>
</tr>
</tbody>
</table>
### Detection of QTL affecting milk production and conformation traits on six chromosomes in Holstein cattle

### Putative quantitative trait loci affecting perinatal survival in eleven Holstein families
P. J. Berger*1, J. Koltes1, M. H. Healey1, M. S. Ashwell2, R. D. Shanks3, H. Schlesser3, and H. A. Lewin3, 1Iowa State University, Ames, IA, 2USDA-ARS-GEML, Beltsville, MD, 3University of Illinois, Urbana, IL.

### Genome scan of BTA1 for QTL affecting weaning weight, yearling weight and postweaning growth in Japanese Black cattle
A. E. O. Malau-Aduli*1, T. Niibayashi1, T. Kojima1, K. Oshima1, Y. Mizoguchi2, Y. Sugimoto2, and M. Komatsu1, 1Dept of Livestock & Grassland Science, National Agric Res Center for W/Region, Oda, Shimane, Japan., 2Shirakawa Institute of Animal Genetics, Fukushima, Japan.

### Different images of putative quantitative trait loci on BTA6 for correlated milk traits
G. Freyer*1, P. Sorensen2, C. Kuehn1, and R. Weikard1, 1Research Institute for the Biology of Farm Animals, 2Danish Institute for Agricultural Science.

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## Extension Education

### Extension Education and Evaluation Programs

**Co-Chairs:** Joe C. Paschal, Texas A&M University, and Richard J. Norell, University of Idaho

**Room:** Tucson 37

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<tr>
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<th>Abstract Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>8:00 am</td>
<td>642</td>
<td>Using the internet for exchange of dairy genetic evaluations and research information for the dairy industry. A. H. Sanders*1, F. A. Ross, and H. D. Norman, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA.</td>
</tr>
<tr>
<td>8:15 am</td>
<td>643</td>
<td>Effectiveness of presenting a national beef breeding management educational program via the internet. K. D. Bullock*1, D. R. Strohbehn2, E. J. Pollak3, B. L. Golden4, J. K. Bertrand5, and D. E. Wilson6, 1University of Kentucky, Lexington, Kentucky, 2Iowa State University, Aimes, Iowa, 3Cornell University, Ithica, New York, 4Colorado State University, Fort Collins, Colorado, 5University of Georgia, Athens, Georgia.</td>
</tr>
<tr>
<td>8:30 am</td>
<td>644</td>
<td>Use of a Dairy Whole Farm Nutrient Balance Education Tool (Dairy WFNBET) to teach dairy producers and their advisers about nutrient management concepts at the whole-farm level. J. H. Harrison*1, T. Nennich1, J. Gillies2, and C. A. Rotz3, 1Washington State University, 2NRCS, 3USDA/ARS, University Park, PA.</td>
</tr>
<tr>
<td>8:45 am</td>
<td>645</td>
<td>Development of an educational program to promote the performance of dairy farms in North-East of Iran. Abasali Naserian and Toktam Vafa*, Ferdowsi university of Mashhad, khorasan, Iran.</td>
</tr>
<tr>
<td>9:00 am</td>
<td>646</td>
<td>The south Texas “Cow Camp” program. R. L. Stanko*1, J. Ford2, F. Escobedo2, R. Mercado2, B. Wymore2, J. McManus2, J. Lopez2, R. Garza2, H. Buehring2, and J. C. Paschal1, 1Texas A&amp;M University-Kingsville, Kingsville, TX, 2Texas A&amp;M University CEA, South Texas, 3Texas A&amp;M University Cooperative Extension Service.</td>
</tr>
<tr>
<td>9:30 am</td>
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<td>Break</td>
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<tr>
<td>10:00 am</td>
<td>648</td>
<td>A novel method to aid in determining focus of 4-H youth programming. J. A. Nadeau*1, E. A. McCabe-Alger2, K. Chamero3, and T. Hoagland4, 1University of Connecticut, Dept. of Animal Science, 2University of Connecticut, Dept. of Extension.</td>
</tr>
<tr>
<td>10:15 am</td>
<td>649</td>
<td>Arkansas 4-H dairy and meat goat conferences. J.A. Pennington*1, 1University of Arkansas Cooperative Extension Service, Little Rock.</td>
</tr>
<tr>
<td>10:30 am</td>
<td>650</td>
<td>Reducing catastrophic injury through helmet safety awareness. J. A. Nadeau1, E. A. McCabe-Alger*2, and A. Bialczak2, 1University of Connecticut, Dept. of Animal Science, 2University of Connecticut, Dept. of Extension.</td>
</tr>
<tr>
<td>10:45 am</td>
<td>651</td>
<td>Fish farmer certification: In-depth classes for producers of catfish or freshwater prawns. G. J. Burtle*, University of Georgia, Tifton, GA/USA.</td>
</tr>
</tbody>
</table>
11:00 am 652 Comparison of IgG concentrations and total protein concentration in the blood plasma of newborn dairy calves. D. T. Vines*, R. Rodgers, A. B. Bodine, and W. C. Bridges, Clemson University, Clemson, SC, USA.

## Growth & Development

### CLA’s, Leptin and Mammary Development

**Chair: Mike Akers, Virginia Tech**

**Room: Yuma 23-24**

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>8:00 am</td>
<td>681</td>
<td>Effects of conjugated linoleic acid (CLA) and trans- C$_{18:1}$ fatty acids (TFA) on energetic metabolites and subcutaneous adipose tissue fatty acid composition. L. H. Baumgard**, S. R. Sanders¹, C. Davis¹, B. A. Corl², J. W. Perfield, II², D. E. Bauman², and G. C. Duff¹, ¹The University of Arizona, Tucson, ²Cornell University, Ithaca NY.</td>
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<tr>
<td>8:15 am</td>
<td>682</td>
<td>Effect of conjugated linoleic acid on DNA fragmentation in cultured adipocytes. K. M. Hargrave* and J. L. Miner, University of Nebraska.</td>
<td></td>
</tr>
<tr>
<td>8:45 am</td>
<td>684</td>
<td>Leptin intramammary infusion alters the gene expression profile of prepubertal bovine mammary parenchyma. B. E. Etchebarne*, L.F.P. Silva¹, G.J.M. Rosa, P. M. Coussens, M. S. Weber Nielsen, and M. J. VandeHaar, Michigan State University.</td>
<td></td>
</tr>
<tr>
<td>9:00 am</td>
<td>685</td>
<td>Intramammary infusion of leptin decreases proliferation of mammary epithelial cells in prepubertal heifers. L.F.P. Silva*, J. S. Liesman, M. S. Weber Nielsen, and M. J. VandeHaar, Michigan State University.</td>
<td></td>
</tr>
<tr>
<td>9:15 am</td>
<td>686</td>
<td>Compensatory growth during late gestation and its effects on metabolic status and health of transition heifers. M. S. Laubach*, D. B. Carlson, W. L. Keller, and C. S. Park, North Dakota State University, Fargo ND/USA.</td>
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## Production, Management, & the Environment

**Chair: Michael T. Socha, Zinpro Corporation**

**Room: Tucson 39**

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>8:00 am</td>
<td>653</td>
<td>A system to characterize feeding behavior of dairy cows and feeding behavior of periparturient and mid-lactation cows. M. A. DeGroot* and P. D. French, Oregon State University, Corvallis.</td>
<td></td>
</tr>
<tr>
<td>8:15 am</td>
<td>654</td>
<td>Effect of supplementing intensely grazed late gestation and early lactation dairy cows with chromium-L-methionine. M. A. Bryan¹, M. T. Socha², and D. J. Tomlinson², ¹Central Southland Veterinary Services Limited, Winton, Southland, New Zealand, ²Zinpro Corporation, Eden Prairie, Minnesota, USA.</td>
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<tr>
<td>8:30 am</td>
<td>655</td>
<td>The buffering activity of a potassium clinoptilolite zeolite in steers fed a high concentrate steam flaked grain- corn silage diets. K. S. Eng¹, R. Bectel¹, and D. P. Hutcheson¹, ¹Eng, Inc., San Antonio, Texas, USA, ²Advance Agricultural Testing, Baden, Ont. Canada, ³Animal-Agricultural Consulting, Inc., Amarillo, Texas, USA.</td>
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<tr>
<td>8:45 am</td>
<td>656</td>
<td>Effect of prepartum dietary cation-anion difference on subsequent milk production and plasma metabolites in dairy cattle. S. B. Puntenney, K. N. Higgs, M. A. DeGroot, and P. D. French, Oregon State University, Corvallis.</td>
<td></td>
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</table>
9:00 am 657 Effect of grazing growth rate on subsequent feedlot and carcass traits in cattle. J. J. Cleere*1, A. D. Herring2, C. R. Long1, H. Lippke2, M. E. Miller1, W. E. Pinchak1, F. M. Rouquette1, and B. G. Warrington1.1Texas Agricultural Experiment Station, Overton, 2Texas A&M University, College Station, 3Texas Agricultural Experiment Station, Uvalde, 4Texas Tech University, Lubbock, 5Texas Agricultural Experiment Station, Vernon.

9:15 am 661 Performance of market cows consuming hay and various levels of rice bran. D.W. Sanson*, S.M. DeRouen1, and D.H. Foster1. LSU Ag. Center, Rosepine Resarch Station, Rosepine, 2LSU Ag. Center, Hill Farm Reseach Station, Homer, 3U.S. Market News Service, Baton Rouge.

9:30 am Break

10:00 am 662 Effects of calving date and weaning age on cow and calf production in the Northern Great Plains. E. E. Grings*, R. E. Short, and R. K. Heitschmidt, USDA-ARS, Fort Keogh LARRL, Miles City, MT.


10:30 am 658 Use of FEB-200™ to increase productivity of cattle grazing fescue pasture. D. G. Ely*, D. K. Aaron1, J. Wyles1, and V. Akay2. 1University of Kentucky, Lexington, KY, 2Alltech, Inc., Nicholasville, KY.

10:45 am 659 Cow tympanic temperature response to supplementation with FEB-200™. D. K. Aaron*, D. G. Ely1, J. Wyles1, and V. Akay2. 1University of Kentucky, Lexington, KY, 2Alltech, Inc., Nicholasville, KY.

11:00 am 663 The effect of early calf weaning on performance and measures of stress during the feedlot receiving period. J. D. Arthington*, J. W. Spears2. 1University of Florida - IFAS, Ona, 2North Carolina State University.

11:15 am 664 Fertility and greenhouse gas emissions in dairy cows. P.C. Garnsworthy*, University of Nottingham, Loughborough, UK.

11:30 am 665 Early detection of a change in pregnancy rate with control charts. A. de Vries*, University of Florida.

11:45 am 666 Weaning at the onset of the breeding season fails to improve hind performance traits in Red Deer. R. D. Randel*, S. A. Mozisek, D. A. Neuendorff, and A. W. Lewis, Texas A&M University Agricultural Research & Extension Center, Overton, Texas USA.

Ruminant Nutrition

Metabolism - Modeling

Chair: David Bohnert, Oregon State University

Room: Tucson 38

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:15 am</td>
<td>668</td>
<td>Effect of RDP and roughage level on microbial efficiency in continuous culture. C.A. Willis* and M.S. Kerley, University of Missouri-Columbia.</td>
</tr>
<tr>
<td>8:30 am</td>
<td>669</td>
<td>Measuring ruminal pool size and duodenal flow of protozoal N using real-time PCR. J. T. Sylvester*, S. K. R. Karnati1, M. L. M. Lima2, J. L. Firkins1, Z. Yu, and M. Morrison1. 1The Ohio State University, Columbus, OH, USA, 2Universidade Federal de Goiania, Goiania, Brasil.</td>
</tr>
<tr>
<td>8:45 am</td>
<td>670</td>
<td>Ruminal urease activity and fermentation traits as affected by urease-containing feed sources. Q. X. Meng* and X. M. Min1, China Agricultural University.</td>
</tr>
<tr>
<td>9:00 am</td>
<td>671</td>
<td>Nutritional improvement of rice husks. J. Vadiveloo*, 1MARA University of Technology.</td>
</tr>
<tr>
<td>9:15 am</td>
<td>672</td>
<td>Does level of dietary protein inclusion influence the ruminal degradability of the protein. L. R. Legleiter* and M. S. Kerley, Department of Animal Science, University of Missouri, Columbia.</td>
</tr>
<tr>
<td>9:30 am</td>
<td>Break</td>
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</table>
10:00 am 673  Dry matter and protein digestibility of alfalfa hay or silage in the rumen and intestine of steer measured by mobile nylon bag technique. E. Khafipour, M.D. Mesgaran*, and F.E. Shahroudi, Ferdowsi University of Mashhad, Mashhad, IRAN.

10:15 am 674  Rumen degradation and intestinal digestibility of crude protein and amino acids from tropical forages. Lidia Miranda*, Norberto Rodriguez2, Roberto Sainz3, Elzania Pereria4, Miguel Gontijo Netto5, Cristina Veloso6, Augusto Queiroz7, and Paulo Fernandes8, 1FEAD-Minas, Brazil, 2Universidade Federal Minas Gerais, Brazil, 3University of California-Davis, USA, 4Universidade Estadual Oeste Parana, Brazil, 5EMBRAPA Gado de Corte, Brazil.

10:30 am 675  A model of net removal of amino acids from blood and absorptive supplies by portal drained viscera in the cow. M. D. Hanigan*, C. K. Reynolds2, F. E. Standaert1, and J. D. Sutton2, 1Purina Mills, LLC, St. Louis, MO, 2The University of Reading, Reading, UK.

10:45 am 676  A concordance coefficient to compare model predictions to observed data. N. R. St-Pierre*, The Ohio State University, Columbus.

677  See Production, Management and the Environment, Monday, 11:45 am (p 40)
678  See Production, Management, and the Environment, Tuesday, 11:45 am (p 61)
679  See Animal Behavior & Well Being, Wednesday, 1:00 pm (p 80)
680  See Contemporary Issue Symposium, Thursday, 11:15 am (p 90)
681  See Growth & Development, Thursday, 8:00 am (p 95)
682  See Growth & Development, Thursday, 8:15 am (p 95)
683  See Growth & Development, Thursday, 8:30 am (p 95)
684  See Growth & Development, Thursday, 8:45 am (p 95)
685  See Growth & Development, Thursday, 9:00 am (p 95)
686  See Growth & Development, Thursday, 9:15 am (p 95)
ADSA Student Affiliate Division

Monday, June 23, 2003
Undergraduate Paper Presentations

Chair: Kasimu Ingawa, DRMS, North Carolina State University
Room: Phoenix 13-15

<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>11:00 am</td>
<td>687</td>
<td>Performance of Holstein and Holstein-Jersey crossbred heifer calves when using an intensive feeding program from birth to 84 days of age. E. E. Hammell*, M. L. Raeth-Knight, E. Ballinger, J. G. Linn, A. J. Seykora, and L. R. Hansen, University of Minnesota, St. Paul, MN, USA.</td>
</tr>
<tr>
<td>11:15 am</td>
<td>688</td>
<td>Effect of prepartum dietary carbohydrate source and monensin on postpartum immune function. H. R. Springer*, G. A. Varga1, M. M. Pickett1, J. P. Goff2, J. R. Stabel2, and T. W. Cassidy1, 1The Pennsylvania State University, University Park, PA, 2USDA-ARS, National Animal Disease Center, Ames, IA.</td>
</tr>
<tr>
<td>11:30 am</td>
<td>689</td>
<td>Growth and incidence of scouring in Holstein calves fed high fat (28%) milk replacer (MR) compared to those fed lower fat (20%) milk replacer. H. E. Carpenter*, J. S. Birney, and K. A. Koudele, Andrews University.</td>
</tr>
<tr>
<td>11:45 am</td>
<td>690</td>
<td>Evaluation of intensified liquid feeding programs for dairy calves. B. C. Pollard*, H. M. Dann, and J. K. Drackley, University of Illinois, Urbana, IL.</td>
</tr>
<tr>
<td>12:00 pm</td>
<td>691</td>
<td>The effect of cobalt supplementation in free choice salt on fiber digestion by cattle. L. J. Odens*, C. L. Steigert, J. J. Michal, K. A. Johnson, and R. L. Kincaid, 1Washington State University, Pullman, WA.</td>
</tr>
<tr>
<td>12:15 pm</td>
<td>692</td>
<td>The costs and returns associated with select Wood Model lactation lengths. E. A. Vaaler* and G. L. Hadley, 1University of Wisconsin-River Falls.</td>
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<tr>
<td>12:30 pm</td>
<td>Lunch</td>
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Dairy Production Undergraduate Paper Presentations

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<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>1:45 pm</td>
<td>694</td>
<td>Are dogs “man’s best friend” or “cattle’s worst enemy?”’. Jessica Carrey*, Louisiana State University.</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>695</td>
<td>Crossbreeding in the dairy industry: A new era in dairy production. L. Brooke Core*, 1University of Kentucky.</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>698</td>
<td>Crossbreeding in the dairy industry: why now? J. D. Hushon*1 and D. R. Olver1, 1Pennsylvania State University.</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>699</td>
<td>Utilizing milk forward contracting as a risk management tool. Vance Ahlem*, California Polytechnic State University, San Luis Obispo.</td>
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<tr>
<td>3:15 pm</td>
<td>Break</td>
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<tr>
<td>3:45 pm</td>
<td>701</td>
<td>Phage peptide inhibition of phage infection in cheese fermentation.</td>
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<tr>
<td>4:00 pm</td>
<td>702</td>
<td>Will the “real” milk please stand up?</td>
</tr>
<tr>
<td>4:15 pm</td>
<td>703</td>
<td>Wazzu’s famous variety.</td>
</tr>
<tr>
<td>4:30 pm</td>
<td>704</td>
<td>On-farm dairy processing: Opportunity for diversification of small farms.</td>
</tr>
<tr>
<td>4:45 pm</td>
<td>705</td>
<td>Innovative applications of membrane filtration.</td>
</tr>
</tbody>
</table>
Poster Presentations

Monday, June 23, 2003
7:30 am – 9:30 am
Exhibit Hall D

Physiology

Control of the Estrous Cycle and Pregnancy

M1 Induced twinning by artificial insemination and embryo transfer fails to increase pregnancy rates but increases total fetus numbers in beef cows. G. C. Lamb*, R. C. Wasson1, D. R. Brown1, and C. R. Dahlen2, 1North Central Research and Outreach Center, University of Minnesota, Grand Rapids 55744, 2North West Research and Outreach Center, University of Minnesota, Crookston, 56716.

M2 Effect of administration of GnRH on day 5 or day 5 and 11 post-insemination on pregnancy rates and serum progesterone concentrations in dairy cows during different seasons. A. E. Sweetman*, L. I. aNordbladh, and C. S. Whisnant, North Carolina State University, Raleigh, NC.


M4 The effects of supplemental GnRH administration following Ovsynch on pregnancy rates of lactating dairy cattle during the summer and fall seasons. T. Dickerson*, K. Graves, J. White, S. Bowers, L. Evans, B. Gandy, S. Schmidt, and S. Willard, Mississippi State University.

M5 Effect of bovine somatotropin and breed of recipient on pregnancy rates following timed embryo transfer with in vitro produced embryos. J. Block*, R. L. Monson2, J. J. Rutledge2, R. M. Rivera1, F. F. Paula-Lopes1, O. M. Ocon1, H. Rosson1, Y. M. Al-Katanani1, and P. J. Hansen1, 1University of Florida, Gainesville, FL, 2University of Wisconsin-Madison, Madison, WI.


M7 Effect of incorporation of a low dose of estradiol cypionate (ECP) into a timed artificial insemination protocol on estrous behavior and conception rates in beef cattle. A. Ahmadzadeh*, D. G. Falk1, R. Manzo1, C. B. Sells1, and J. C. Dalton2, 1University of Idaho, Moscow, 2Southwest Research and Extension Center, Caldwell, ID.


M9 Melengestrol acetate (MGA) pretreatment or estradiol cypionate (ECP) in short duration synchronization systems to improve synchrony of estrus and ovulation in yearling beef heifers. S. K. Johnson* and J. S. Stevenson, Kansas State University.


M12 Timed AI (TAI) with estradiol cypionate (ECP) or insemination at detected estrus in lactating dairy cows. R.L.A. Cerri*, K.N. Galvao1, S.O. Juchem1, R.C. Chebel1, and J.E.P. Santos1, 1University of California Davis.


M14 Administration of estradiol cypionate (ECP) or GnRH after the end of a CIDR-based fixed-time AI program in dairy heifers. A. Garcia*, I.D. Peeler, O.A. Peralta, and R.L. Nebel, Virginia Polytechnic Institute and State University, Blacksburg.

M15 Effect of estradiol cypionate (ECP) and estradiol benzoate (EB) on synchronization of follicle wave and luteal function in dairy heifers. K.N. *1, R.C. Chebel1, A.C. Coscioni1, J.E.P. Santos2, R.L.A. Cerri1, and S.O. Juchem1, 1University of California - Davis.
M16 Reproductive management of dairy heifers using synchronization of ovulation and fixed-time artificial insemination (TAI) or artificial insemination after removed tail chalk. H. Rivera*, H. Lopez, and P.M. Fricke, University of Wisconsin - Madison.

M17 Effect of a rapid resynchronization of nonpregnant cows with estradiol cypionate (ECP) and PGF2a on pregnancy rates (PR) and pregnancy loss (PL) in lactating dairy cows. R.C. Chebel**, R.L.A. Cerri, K.N. Galvao, S.O. Juchem, and J.E.P. Santos, 1University of California - Davis.

M18 Use of intravaginal progesterone-releasing devices (CIDR) to resynchronize postpartum dairy cows previously synchronized for anestrus. S. McDougall1, S. H. Loeffler*, and R. Tiddy, 1Animal Health Centre, P.O. Box 21, Morrinsville, New Zealand, 2Riverside Veterinary Services, Ashburton, New Zealand 8300, 2Pharmacia Animal Health, New Zealand.

M19 Selective re-synchronization of estrus and timed insemination in lactating dairy cows. J. A. Bartolome*, A. Sozzi2, J. McHale2, A. Arteche1, F. Silvestre1, P. Melendez1, K. Swift2, D. Kelbert2, L. F. Archbald1, and W. W. Thatcher1, 1University of Florida, Gainesville, Florida, USA, 2University of Florida, Gainesville, Florida, USA.

M20 Enhancing the efficiency of AI in dairy cattle through modified systematic breeding protocols utilizing heat detection and timed AI. J.C. Dalton2, R. Manzo**, and A. Ahmadzadeh*, 1Caldwell Research and Extension Center, Caldwell, ID, 2University of Idaho, Moscow, ID.


M22 CIDR-based protocols for synchronizing bovine embryo transfer recipients without estrus detection. M. G. Colazo1, J. P. Kastelic**, P. R. Whittaker1, and R. J. Mapleton*, 1WCVM, University of Saskatchewan, 2Agriculture and Agri-Food Canada, Lethbridge, AB.

M23 Effect of a single treatment with estradiol cypionate (ECP) on dominant follicle (DF) and superovulatory response in dairy heifers. R. C. Chebel*, A. C. Coscioni, K. N. Galvao, R. L. A. Cerri, S. O. Juchem, and J. E. P. Santos, Veterinary Medicine Teaching and Research Center, University of California - Davis.


M26 Effects of immunization of gilts against 17a-hydroxyprogesterone on follicular size distributions and follicular steroid synthesis. N. Post*, D. Kreider1, K. Cole1, M. Nihsen1, and C. Maxwell, 1University of Arkansas.

M27 A direct injection of vascular endothelial growth factor (VEGF) gene to the ovary promotes follicular development in miniature gilts. T. Shimizu, H. Sasada, and E. Sato*, Tohoku University, Sendai, Japan.


M30 Effects of feeding supplemental safflower seed with human chorionic gonadotropin following AI on pregnancy rates in heifers. R. S. Walker*, P. D. Burns3, G. E. Sides1, and D. D. Zalesky1, 1San Juan Basin Research Center, Hesperus, CO, USA, 2Colorado State University, Fort Collins, CO, USA, 3Intervet, Inc., Millsboro, DE, USA.

M31 Effect of exogenous progesterone before calf removal and prostaglandin F2a on estrous response and pregnancy rates in 3-year-old beef cows. J. L. Olson*, A. J. Roberts2, J. A. Paterson1, and R. N. Funston1, 1Montana State University, Bozeman, 2USDA-ARS, Miles City, Mt, 3University of Nebraska, Lincoln.


Triennial Reproduction Symposium

M33 Post-thaw fertility of bovine semen aged within an AI straw for 8.5 hours. J. L. Edwards*, M. N. Malone1, F. N. Schrick1, H. H. Dowlen2, H. D. Moorhead2, P. A. Lunn2, and A. M. Saxton1, 1The University of Tennessee, Knoxville, 2Dairy Experiment Station, Lewisburg, TN, USA.

M34 Effects of presynchronization and/or post-breeding treatment with porcine LH or hCG on pregnancy rates in dairy cows. J. P. Kastelic* and J. D. Ambrose2, 1Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Alberta Agriculture Food and Rural Development, Edmonton, AB, Canada.
M35 Pregnancy outcome in dairy cows fed diets supplemented with flaxseed or sunflowerseed. J. D. Ambrose*1, J. P. Kastelic1, R. Corbett1, P. A. Day1, J. A. Small1, and H. V. Petit4, 1Alberta Agriculture Food and Rural Development, Edmonton, AB, 2Agriculture and Agri-Food Canada, Lethbridge, AB, 3Brandon, MB, 4Lennoxville, QC, Canada.

M36 Completion of the Midwest Consortium Project: Sequencing of 21,499 reproduction ESTs and comparative mapping of 721 selected genes. C. K. Tuggle*1, J. A. Green2, C. Fitzsimmons1, R. Woods2, R. S. Prather2, S. Malchenko3, M. B. Soares1, T. Kucaba1, K. Crouch1, C. Smith1, D. Tack1, N. Robinson3, B. O’Leary3, T. Scheetz3, T. Casavant3, D. Pomp1, J. B. Edeal4, Y. Zhang1, Z. Hu1, M. F. Rothschild1, K. Garwood5, and W. Beavis3, 1University of Missouri-Columbia, Columbia, MO, 2University of Iowa, Iowa City, IA, 3University of Nebraska, Lincoln, NE, 4National Center for Genomic Resources, Sante Fe, NM.

M37 Effect of semen packaged in 0.25 and 0.50 cc straws on conception rate of lactating dairy cows. N. Michael*, C. Marti, E. Roberts, and M. Pace, ABS Global, Inc.


M39 Do calcium-mediated cellular signalling pathways, PGE₂, estrogen or progesterone receptor antagonists, or bacterial toxins affect bovine placental function in vitro? C. Weems*1, Y. Weems2, T. Welsh2, G. Carsten1, and R. Randel1, 1,2Univ. of Hawaii, 3,4,5Texas A&M Univ.

M40 Does estrous synchronization affect corpus luteum (CL) function? C. Weems*1, Y. Weems1, S. Tatman2, A. Lewis2, D. Neuendorf2, and R. Randel1, 1Univ. Hawaii, 2Texas A&M Univ.

M41 Photoperiod and diet effects on heifer development. J. A. Small*, A. D. Kennedy2, and D. R. Ward1, 1Agriculture & Agri-Food Canada, Research Centre, Brandon, MB, Canada, 2University of Manitoba, Winnipeg, MB, Canada.

M42 Heat shock increases glutathione in bovine oocytes. R. R. Payton*, P. Coy2, R. Romar2, J. L. Lawrence1, and J. L. Edwards1, 1The University of Tennessee, Knoxville, USA, 2The University of Murcia, Murcia, Spain.

M43 Intramammary infusion of prostaglandin E₂ (PGE₂) increases mammary development and milk yield of cows induced to lactate. J. M. Lukas*1, W. J. Weber1, R. J. Collier2, J. L. Vicini3, M. F. McGrath3, and B. A. Crooker1, 1University of Minnesota, St. Paul, 2University of Arizona, 3Monsanto Agricultural Group, St. Louis, MO.

M44 Effects of induced lactation on milk fatty acid profiles in multiparous Holstein cows. H. C. Hafliger, III*, L. H. Baumgard1, W. J. Weber2, M. Chahine3, G. C. Lamb2, T. H. Klusmeyer3, M. F. McGrath1, J. L. Vicini3, and B. A. Crooker2, 1University of Arizona, 2University of Minnesota, 3Monsanto Animal Agriculture Group, St. Louis, MO.


M46 Description of glucose transport in isolated bovine mammary epithelial cells by a 3-compartment model. C. T. Xiao*, V. M. Quinton, and J. P. Cant, University of Guelph, Ontario, Canada.


M48 The acyclic period postpartum in automatic and conventional milking. D. Weiss*, M. Reist2, and R. M. Bruckmaier1, 1Inst. of Physiology, Technical Univ. Munich, Germany, 2Novartis Centre de Recherche Sante Animal St-Aubin, Switzerland.

M49 Change from conventional to automatic milking in cows with and without previous experience. D. Weiss* and R.M. Bruckmaier, Institute of Physiology, Technical University Munich, Germany.

M50 Use of digital pictures to study udder morphology in dairy sheep. M. Rovai*, D. L. Thomas1, Y. M. Berger1, and G. Caja2, 1University of Wisconsin-Madison, 2University Autonoma de Barcelona, Bellaterra, Spain.

M51 Udder traits of dairy ewes on U.S. commercial farms and their effects on milk yield. M. Rovai*, D. L. Thomas1, Y. M. Berger1, and G. Caja2, 1Univ. of Wisconsin-Madison, 2Univ. Autonoma de Barcelona, Spain.

M52 Udder traits of U.S. dairy ewes and their effects on milking time and milk yield. M. Rovai*, D. L. Thomas1, Y. M. Berger1, and G. Caja2, 1Univ. of Wisconsin-Madison, 2Univ. Autonoma de Barcelona, Spain.

M53 Binding of IgM to non-apoptotic bovine blood neutrophils. S. N. Knight*, M. Worku, and P. L. Matterson, NC Agricultural & Technical State University, Greensboro, NC.
M54 Dissociation of glucocorticoid and tumor necrosis factor-a (TNF-a) responses to repeated endotoxin (LPS) challenges: effects of individual versus group penning. S. Kahl* and T.H. Elsasser, USDA, Agricultural Research Service, Beltsville, MD.

M55 Effects of age at transport on health and development of neonatal dairy calves. T. A. Johnson*1 and S. D. Eicher2, 1Purdue University, West Lafayette, IN, 2USDA-ARS, West Lafayette, IN.


M57 Effects of conjugated linoleic acid (CLA) and trans-C18:1 fatty acids (TFA) on production variables and immune indices following castration in beef cattle. L. H. Baumgard*1, C. E. Moore1, C. R. Baily1, M. BenAbdallah1, P. S. Cuneo1, S. Dia1, D. Luchini2, and G. C. Duff2, 1The University of Arizona, Tucson, 2BioProducts Inc., Fairlawn OH.

M58 Suppression of Th1-like BoCD4+ T lymphocyte proliferative response by BoCD8+ T lymphocytes stimulated with staphylococcal enterotoxin C is induced by type II cytokines. Y. H. Park*1, W. A. Ferens2, W. C. Davis3, J. S. Ahn4, N. H. Kwon1, and G. A. Bohach5, 1Seoul National University, Seoul, Korea, 2University of Idaho, Moscow, USA, 3Washington State University, Pullman, USA, 4National Veterinary Research and Quarantine Services, Anyang, Korea.

M59 Increased levels of LPS-binding protein (LBP) in bovine blood and milk following bacterial lipopolysaccharide challenge. D. Bannerman*1, M. Paape1, W. Hare1, and E. J. Sohn2, 1USDA-ARS, Beltsville, MD, 2University of Maryland, College Park, MD.

M60 Establishment of a bovine cell-culture system to study the genomic response of mammary epithelial cells to infection with Staphylococcus aureus. O. Wellnitz*1 and D. E. Kerr, University of Vermont, Burlington, VT.


M63 Effect of intramammary infection at calving caused by environmental pathogens on lactation performance, mastitis incidence, and somatic cell counts in lactating Holstein cows. S. O. Juchem*1, L. G. Corbellini2, K. N. Galvao1, J.E.P. Santos1, and M. Villasenor1, 1Veterinary Medicine Teaching and Research Center, University of California - Davis, 2Universidade Federal do Rio Grande do Sul - Brazil.

M64 Safety and compatibility of Orbeseal® during the dry period and early lactation when used in conjunction with commercially-available intramammary dry cow therapies. R. Hassfurther*1, D. Earley2, and N. A. Evans2, 1Pfizer Veterinary Medicine, Terre Haute, IN USA, 2Pfizer Animal Health Group, New York, NY USA.

M65 Test-day milk loss associated with elevated test-day somatic cell score. R. H. Miller*, H. D. Norman, G. R. Wiggins, and J. R. Wright, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

**Breeding & Genetics**


M67 Identification of quantitative trait loci affecting birth and weaning weights in pigs. J. W. Holl*1, J. P. Cassady2, and R. K. Johnson1, 1University of Nebraska, Lincoln, NE, 2North Carolina State University, Raleigh, NC.

M68 Detecting quantitative trait loci for twinning and production traits in Holstein dairy cattle. J. Cruickshank*1, M. R. Dentine1, P. J. Berger2, and B. W. Kirkpatrick1, 1University of Wisconsin-Madison, Madison, Wisconsin, 2Iowa State University, Ames, Iowa.


M70 Graphical approach to evaluate genetic estimates of calf survival. H. Schlesser*1, R. Shanks1, J. Berger2, and M. Healey2, 1University of Illinois Urbana-Champaign, 2Iowa State University.

M71 Analysis of health and fertility traits for proven and young sires in herds participating in a progeny test program using data from on-farm herd management software. N. R. Zwalt*1, K. A. Weigel1, and B. Welper1, 1UW-Madison, 2Alta Genetics.

M73 Genetic correlations among body condition score, dairy form and disease from the US. C. D. Dechow*1, G. W. Rogers1, T. J. Lawlor2, L. Klei2, A. E. Freeman3, and G. Azim1, 1University of Tennesse, 2Holstein Association USA, Inc., 3Iowa State University.


M76 Genetic parameters for longevity in a colony of German Shepherd dog guides. J. B. Cole*1, D. E. Franke1, and E. A. Leighton2, 1Louisiana State University, Baton Rouge, LA, 2The Seeing Eye, Inc., Morristown, NJ.


M78 Preliminary study of daily gain in central station-tested Nelore bulls. J.A.C. Pereira*1 and J. E. Chavez, 1Gabriel Rene Moreno University, 2ASOCEBU.

M79 Setting up the Gelbvieh Multiple Breed Evaluation. A. Legarra* 1, T. Strabel2, J.K. Bertrand1, and I. Misztal1, 1University of Georgia, Athens, GA, 2Agricultural University of Poznan, Poznan, Poland.

M80 Differences in growth trajectories in seven beef breeds. J. Bohmanova*1, I. Misztal1, and J. Pribyl2, University of Georgia, Athens, GA, 2Research Institute of Animal Production, Prague, Czech Republic.

Swine

Impact of Weight and Sex on Meat Quality, Effect of Age and Management on Biochemical Parameters, Disinfectant, Gilt Selection and Sow Longevity

M81 Economic evaluation of sow longevity using data from commercial herds. S. L. Rodriguez-Zas*1, B. R. Southey1, R. Knox1, J. E. Connor2, J. F. Lowe2, and B. Roskamp2, 1University of Illinois Champaign-Urbana, Urbana, IL, 2Carthage Veterinary Service, Ltd., Carthage, IL.

M82 Gilt selection based on age at first estrus and breeding herd efficiency. J. L. Patterson*1, G. R. Foxcroft2, M. J. Pettitt1, and E. Beltranena1, Prairie Swine Centre, Inc., Saskatoon, SK, 2Swine Research & Technology Centre, University of Alberta, Edmonton, AB.

M83 Reproductive survival of exotic sows in the humid tropics of Samoa. C. Okere* and A. O. Ajuyah, The University of the South Pacific.

M84 Use of the DF-200 HF decontamination foam in swine farrowing facilities. K Christensen* and J. D. Thomas, New Mexico State University.


M86 Effect of feeding management and feeding time on urea nitrogen levels in swine research. I. Moreira*1, M. Kutschenko1, A. Fraga2, E. Sakaguti1, G. Oliveira1, and D. Souza1, 1Universidade Estadual de Maringa-Maringá-PR/BRAZIL, 2UNESP-Jaboticabal-SP/BRAZIL.

M87 Evaluation of various factors affecting pigs blood (plasma or serum) urea nitrogen value. I. Moreira*1, M. Kutschenko1, A. Fraga2, G. Oliveira1, E. Sakaguti1, and I. Sartori1, 1Universidade Estadual de Maringa-Maringá-PR/BRAZIL, 2UNESP/Jaboticabal-SP/BRAZIL.

M88 Serum enzyme profile and biochemical constituents of blood in cross-bred pigs during growth. DipilKumar Garikipati*1 and Prasad P.E2, 1Washington state University, 2A.N.G.R.Agricultural University.

M89 The effect of exogenous leptin on immunological parameters in growing pigs. T. E. Weber* and M. E. Spurlock, Purdue University, West Lafayette, IN.


M91 Sex effect on performance and carcass quality of heavy pigs. J. Peinado*1, A. Fuentetaja2, M.A. Latorre3, G.G. Mateos3, and P. Medel1, 1Imasde Agropecuaria, S.L., Spain, 2COPESE, S.A., Spain, 3Universidad Politécnica de Madrid, Spain.
M92  Effect of sex, castration, and slaughter weight on pork quality. J. Peinado*1, J. Guirao2, M. Nieto3, G.G. Mateos4, and P. Medel1, 1Imasde Agropecuaria, S.L., Spain, 2Estación Tecnológica de la Carne de Guijuelo, Spain, 3COPESE, S.A., Spain, 4Universidad Politécnica de Madrid, Spain.


M94  Effect of sex, castration and slaughter weight on pig performance and carcass. P. G. Lawlor*1, P. B. Lynch1, J. Kerry2, and P. Allen1, 1Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, 2Dept. of Food Technolgy, University College, Cork, Ireland, 3National Food Centre, Ashtown, Dublin 15, Ireland.

M95  Effects of feeding blends of grains naturally-contaminated with Fusarium mycotoxins on antibody-mediated immune response and brain neurochemistry in starter pigs. H.V.L.N. Swamy1, T. K. Smith1, E. J. MacDonald2, N. A. Karrow1, and H. J. Boermans1, 1University of Guelph, Guelph, ON, Canada, 2University of Kuopio, Kuopio, Finland.

M96  Effect of dietary supplementation of 1% L-glutamine on the intestinal morphology of early weaned piglets 14d and challenged with transmissible gastroenteritis virus. H. Herrera*1, A. G. Borbolla1, H. Ramirez2, and G. Mariscal3, 1Universidad Nacional Autonoma de Mexico, 2INIFAP CENID Fisiologia.


M98  Bone mineral content gain is reduced in weaned pigs fed diets with low-buffer capacity and organic acids. G. Biagi1, A. Piva1, T. D. Hill2, D. K. Schneider2, and T. D. Crenshaw3, 1University of Wisconsin, Madison, WI.


M100  Effects of antibiotics versus mannanoligosaccharides on intestinal pH and volatile fatty acid concentrations in weanling pigs. J. Pulliam*, R. Clift, S. Chattin, and A. G. Mathew, The University of Tennessee, Knoxville TN USA.

M101  Use of probiotics in the diet of weaning and growing pigs. A. C. Murry, Jr.*, and A. Hinton, Jr.3, 1The University of Georgia, 2Agricultural Research Service/United States Department of Agriculture, Athens.

M102  Dietary supplementation with botanical compounds depresses piglet feed intake while fecal E. coli counts remain unchanged. P. Bikker1, R. Fontanillas2, and N. D. Roura2, 1Institute for Animal Nutrition, De Schothorst, Lelystad, The Netherlands, 2Lucta, S.A. Barcelona, Spain.

M103  Plant extracts enhance performance in broilers under Clostridium perfringens challenge. C. Kamel*1 and R. McKay2, 1AXISS France SAS, 2MLF Agrsearch.

M104  The effects of herbal plant mixture (MIRACLE 20® supplementation on the growth performance, nutrient digestibility and serological changes in finishing pigs. O. S. Kwon*1, I. H. Kim1, J. W. Hong1, J. H. Kim2, Y. M. Seol2, B. J. Min3, W. B. Lee2, and K. S. Son1, 1Department of Animal Resource & Science, Dankook University, 2Agribands Purina Korea, Inc, 3Hanpet tech. co. Ltd.

M105  Effect of feeding germanium biotite on growth performance, nutrient digestibility and serum characteristics in nursery pigs. W. B. Lee*1, I. H. Kim1, J. W. Hong2, O. S. Kwon1, B. J. Min2, K. S. Son2, and Y. K. Jung3, 1Department of Animal Resource & Science, Dankook University, 2SEOBONG BioBestech Co., Ltd.

M106  Effect of dietary green tea on productivity and egg composition in laying hens. C. J. Yang*1, D. Uuganbayar1, S. S. Sun2, and J. D. Firman3, 1Sunchon National University, Suncheon, Korea, 2Chonnam National University, Chonnam, Korea, 3University of Missouri, Columbia, MO.


M109  Feeding seaweed extract to nursery pigs alters circulating thyroid hormones. J. L. Turner1, S. S. Dritz2, and J. E. Minton*2, 1New Mexico State University, 2Kansas State University.

M111 Supplementation of kelp meal (Macrocystis pyrifera) to wheat based diets for growing pigs. M. Cervantes*, E. Chi2, J. Yañez1, J. Baeza3, N. Torrentera4, and M.A. Barrera, 1Instituto de Ciencias Agrícolas, UABC, 2Colegio de Postgraduados.

M112 Effect of kelp (Macrocystis pyrifera) meal supplementation to wheat based diets for finishing pigs. J. Yañez1, M. Cervantes*, F. Copado2, N. Torrentera2, J. L. Figueroa2, and M. Barrera2, 1Instituto de Ciencias Agrícolas, Universidad Autónoma de Baja California, México, 2Colegio de Postgraduados, Montecillos, México.


M114 A comparison of the effects of supplementations of probiotic and humad on egg production and quality during the late laying period in hens. M. A. Yoruk1, M. Gul1, A. Hayirli*1, and M. Macit2, 1Department of Animal Nutrition and Nutritional Diseases, School of Veterinary Medicine, 2Department of Animal Sciences, College of Agriculture, Ataturk University, Erzurum 25700, Turkey.

M115 Withdrawn

Nonruminant Nutrition
Feed Ingredients and Nutrient Utilization

M116 The effect of feeding processed soy protein on the growth performance in weanling pigs. B. J. Min*, I. H. Kim1, J. W. Hong1, O. S. Kwon1, W. B. Lee1, K. S. Son1, J. H. Kim2, and W. C. Cho1, 1Department of Animal Resource & Science, Dankook University, 2Agribrand Purina Korea, Inc, 3Genebiotech Co. Ltd.


M118 Comparison of swine performance when fed diets containing corn root worm protected corn, parental line corn, or conventional corn grown during 2000 in Nebraska. R. L. Fischer1, P. S. Miller*1, Y. Hyun2, G. F. Hartnell2, and E. P. Stanisiewski3, 1University of Nebraska, Lincoln, 2Monsanto Company, St. Louis, MO.

M119 Performance comparison of growing-finishing pigs fed diets containing Corn Root Worm Protected corn (Event MON 863) or conventional corn hybrids. G. E. Bressner1, Y. Hyun*2, E. P. Stanisiewski2, G. F. Hartnell2, and M. Ellis1, 1University of Illinois, Urbana, IL, USA, 2Monsanto Company, St. Louis, USA.

M120 A comparison of swine performance when fed diets containing Roundup Ready® wheat (event MON 71800) and conventional wheat varieties. B. A. Peterson*, Y. Hyun2, E. P. Stanisiewski2, G. F. Hartnell2, and M. Ellis1, 1University of Illinois, Urbana, IL, 2Monsanto Company, St. Louis, MO.

M121 Pea and Lupin (lupinus albus) as an alternative protein source in growing pig diets. F. Masoero1, A. Prandini1, G. Piva*, M. Morlacchini2, M. Moschini1, and D. Diaz3, 1Università Cattolica del Sacro Cuore, Piacenza, Italy, 2CERZOO, San Bonico, Piacenza, Italy, 3Fondazione Parco Tecnologico Padano, Lodi, Italy.

M122 Methods of improving the nutritive value of Jackbean for poultry industry in the tropics. B. O. Esonu* and A. B. I. Udedibie, Federal University of Technology, Owerrri, Nigeria.

M123 Growth performance of growing-finishing pigs fed low-protein, low-energy, grain sorghum-soybean meal diets. J. L. Figueroa*, M. Mendez1, M. Cervantes2, and J. M. Cuca1, 1Ganaderia, Colegio de Postgraduados, 2Instituto de Ciencias Agrícolas, Universidad Autónoma de Baja California.


M125 Evaluation of the effects of dietary fat, conjugated linoleic acid and ractopamine on the fatty acid profiles of fat and muscle tissue of lean gilts. T. E. Weber1, B. T. Richert1, M. A. Belury2, Y. Gu1, and A. P. Schinckel**, 1Purdue University, 2The Ohio State University, 3Research Institute of Bastyr University.

M126 Withdrawn

M127 A case for expanded spreadsheet use in animal science research. N. D. Paton*, Akey, Lewisburg OH.
Ruminant Nutrition

M128 In vitro gas production of Iranian barley silage treated and untreated by urea and formaldehyde. A. Taghizadeh\textsuperscript{1}, M. Danesh Mesgaran\textsuperscript{2}, R. Valizadeh\textsuperscript{3}, E. Eftekhar Shahroodi\textsuperscript{4}, and K. Stanford\textsuperscript{5}, \textsuperscript{1}Ferdowsi university, Mashhad, Iran, \textsuperscript{2}Ferdowsi university, Mashhad, Iran, \textsuperscript{3}Ferdowsi university, Mashhad, Iran, \textsuperscript{4}Ferdowsi university, Mashhad, Iran, \textsuperscript{5}Lethbridge Research center, Alberta, Canada.

M129 The effects of dietary crude protein concentration on nitrogen absorption and retention by feedlot steers. A. Gueye\textsuperscript{1}, C. R. Richardson\textsuperscript{1}, J. H. Mikus\textsuperscript{1}, G. A. Nunnery\textsuperscript{1}, N. A. Cole\textsuperscript{1}, and L. W. Greene\textsuperscript{1}, \textsuperscript{1}Texas Tech University, Lubbock, Texas, \textsuperscript{2}USDA-ARS-CPRL, Bushland, Texas, \textsuperscript{3}Texas Agricultural Experimentation Station, Amarillo, Texas.

M130 Effects of dietary crude protein on serum and urea nitrogen in feedlot steers. A. Gueye\textsuperscript{1}, C. R. Richardson\textsuperscript{1}, J. H. Mikus\textsuperscript{1}, G. A. Nunnery\textsuperscript{1}, N. A. Cole\textsuperscript{1}, and L. W. Greene\textsuperscript{1}, \textsuperscript{1}Texas Tech University, Lubbock, Texas, \textsuperscript{2}USDA-ARS-CPRL, Bushland, Texas, \textsuperscript{3}Texas Agricultural Experimental Station, Amarillo, Texas.

M131 Effect of a \textit{Yucca Schidigera}-based surfactant on ruminal degradability of corn grain dry matter and starch. A. N. Hristov\textsuperscript{1}, J. K. Ropp\textsuperscript{1}, and D. Greer\textsuperscript{2}, \textsuperscript{1}Department of Animal and Veterinary Science, University of Idaho, Moscow, ID, \textsuperscript{2}AgriChem, Inc., Ham Lake, MN.

M132 Effect of grain type and \textit{Yucca Schidigera}-based surfactant on bacterial utilization of ruminal ammonia \textit{in vitro}. K. L. Grandeen\textsuperscript{1}, A. N. Hristov\textsuperscript{1}, J. K. Ropp\textsuperscript{1}, and D. Greer\textsuperscript{2}, \textsuperscript{1}Department of Animal and Veterinary Science, University of Idaho, Moscow, ID, \textsuperscript{2}The Ohio State University.

M133 Changes in serum metabolites and growth characteristics of Korean steers fed alcohol-fermented feedstuffs. J. S. Shin\textsuperscript{*1}, B. W. Kim\textsuperscript{1}, and M. L. Eastridge\textsuperscript{2}, \textsuperscript{1}Kangwon National University, \textsuperscript{2}The Ohio State University.

M134 Effects of long-acting estrogen implant with and without trenbolone acetate on performance, carcass characteristics and meat tenderness in Holstein steers. J. L. Beckett\textsuperscript{1}, R. N. Brewer\textsuperscript{1}, L. K. Hendricks\textsuperscript{1}, R. Botts\textsuperscript{1}, D. Cook\textsuperscript{1}, and P. Anderson\textsuperscript{2}, \textsuperscript{1}Cal Poly State University, \textsuperscript{2}VetLife, LLC.

M135 Use of exogenous fibrolytic enzymes and bluegrass seed straw in wintering beef cow feeding regimes. J. I. Szasz\textsuperscript{1}, C. W. Hunt\textsuperscript{1}, K. A. Johnson\textsuperscript{2}, J. J. Michal\textsuperscript{2}, and D. J. Coonrad\textsuperscript{2}, \textsuperscript{1}University of Idaho, \textsuperscript{2}Washington State University.

M136 Evaluation of alfalfa cubes with or without incorportated barley in beef cattle diets. P. A. Szasz\textsuperscript{*}, C. W. Hunt, J. I. Szasz, and T. M. McCalmant, University of Idaho.

M137 Fermentation characteristics of ensiling wet corn distillers grains in combination with corn silage. K. F. Kalscheur\textsuperscript{*}, A. D. Garcia, A. R. Hippen, and D. J. Schingoethe, South Dakota State University, Brookings.

M138 Increasing glucogenic precursors in range supplements fed to young postpartum beef cows. R. L. Endecott\textsuperscript{1}, D. L. Dunlap\textsuperscript{1}, R. C. Waterman\textsuperscript{1}, A. C. Fitzgerald\textsuperscript{1}, V. A. Munn\textsuperscript{1}, C. A. Loest\textsuperscript{1}, D. E. Hawkins\textsuperscript{1}, K. K. Kane\textsuperscript{1}, F. Valdez\textsuperscript{2}, and M. K. Petersen\textsuperscript{1}, \textsuperscript{1}New Mexico State University, \textsuperscript{2}Kemin Industries, Inc.

M139 Effects of corn flake weight on nutrient intake and retention by finishing heifers. B. S. Obeidat\textsuperscript{*}, C. A. Loest, P. J. Defoor, J. E. Sawyer, V. A. Munn, and E. Y. Bosul, New Mexico State University, Las Cruces, NM.


M141 Effect of water and mineral source on performance of growing heifers. J. H. Mikus\textsuperscript{*}, C. R. Richardson, G. A. Nunnery, and A. Gueye, Texas Tech University, Lubbock, TX.


M143 Growth and carcass fatty acid composition of beef steers fed soybean oil for increasing duration before slaughter. P. A. Ludden\textsuperscript{*}, B. W. Hess, D. C. Rule, and W. J. Means, University of Wyoming.

M144 Influence of grinding oats and barley on cattle performance and in vitro starch degradability. M. H. Poore\textsuperscript{*} and J. A. Moore, North Carolina State University, Raleigh, NC.

M145 Effects of exposure to ammoniated wheat straw as a suckling calf on subsequent utilization as a yearling beef heifer. R. D. Wiedmeier\textsuperscript{*}, P. R. Schmidt, B. A. Kent, B. R. Bowman, and D. M. Meek, Utah State University, Logan, Utah.

M146 Effects of RumaPro on plasma ammonia and urea concentrations in beef steers. G. Huntington and J. Spears, North Carolina State University, Raleigh NC.

M147 Effects of five grain conditioners, water, and bulk density on processing ease and flake quality with regards to steam-flaking corn. C. R. Richardson\textsuperscript{1}, K. F. Wilson\textsuperscript{2}, and G. V. Pollard\textsuperscript{3}, \textsuperscript{1}Texas Tech Univ., Lubbock, \textsuperscript{2}Loveland Ind., Greeley, CO., \textsuperscript{3}Southwest Texas State Univ., San Marcos.
M148 Effects of five grain conditioners, water, and bulk density on the chemical constituents of steam-flaked corn. G. V. Pollard*, K. F. Wilson, and C. R. Richardson, 1Southwest Texas State Univ., San Marcos, 2Texas A&M University, College Station, TX.

M149 Finishing diets with elevated levels of a-linolenic acid increase feed efficiency but do not alter beef carcass quality. S. L. Archibeque*, D. K. Lunt, R. K. Tume, and S. B. Smith, 1Texas A&M University, College Station, TX, 2Food Science Australia, Tinglepa D. C. Queensland, Australia.

M150 Effect of feeding diets containing corn grain with corn rootworm protection (event MON863), control, or conventional varieties on steer feedlot performance and carcass characteristics. L. L. Berger*, N. D. Robbins, J. R. Sewell, E. P. Stanisieksi, and G. F. Hartnell, 1University of Illinois-Urbana, 2Monsanto Company, St. Louis, MO.


M154 Effect of condensed-tannins addition to a corn-sunflower meal based feedlot diet. A. J. Pordomingo*, M. P. Azcarate, and N. A. Juan, 1INTA Anguil Experiment Station, La Pampa, Argentina.

M155 Effect of age, sex, and grain processing method on rate and efficiency of gain of beef cattle. B. M. Rainey*, J. A. Paterson, M. C. King, L. W. Barney, and W. T. Choat, Montana State University, Bozeman, MT.


M157 Effects of grazing fresh forages on milk fat CLA. S. J. Freeman*, J. A. Bertrand, T. C. Jenkins, B. W. Pinkerton, and D. L. Palmquist, 1Clemson University, Clemson SC / USA, 2Ohio State University, Columbus OH / USA.


M159 Amino acid composition of ruminant feeds and feed fractions. D. A. Ross* and M. E. Van Amburgh, Cornell University, Ithaca, NY.

M160 Effects of feeding graded amounts of liquid molasses to high producing dairy cows. G. A. Broderick* and W. J. Radloff, U.S. Dairy Forage Research Center, Madison, WI.

M161 Soy hulls as barley grain replacement in pellets fed to lactating cows; effect on digestion and milk performance. J. Miron, E. Yosef*, M. Nikbachat, E. Maltz, and D. Ben-Ghedalia, Dept of Dairy Science, The Volcani Center, ARO, Israel.


M163 Conjugated linoleic acid and transvaccenic acid content of milk from cows fed fish meal and extruded soybeans for an extended period of time. A. A. AbuGhazaleh*, D. J. Schingoethe, A. R. Hippen, K. F. Kalscheur, South Dakota State University, Brookings.

M164 The effect of short vs long term yeast supplementation during the transition period of Holstein cows. J. D. Ward*, 1LSU AgCenter, Southeast Research Station.


M168 Effects of diet forage:concentrate ratio on splanchnic nutrient metabolism in lactating dairy cows. C. K. Reynolds*1, J. A. Benson1, P. C. Aikman1, B. Lupoli1, M. D. Hanigan2, D. E. Beever1, and J. C. MacRae3, 1The University of Reading, Reading, UK, 2Purina Mills LLC, St. Louis, MO, 3The Rowett Research Institute, Aberdeen, UK.

M169 Effect of the replacement of corn by citrus pulp on fiber effectiveness. G. A. Andrade1, J. C. Teixeira*1, J. R. O. Perez1, J. A. Muniz1, P. C. A. Paiva1, and J. S. Oliveira2, 1Universidade Federal de Lavras, 2EMBRAPA Gado de Leite.

M170 Feed consumption and efficiency of lactating cows submitted to part and total replacement of corn by citrus pulp. J. C. Teixeira*1, G. A. Andrade1, J. S. Oliveira2, P. C. A. Paiva1, J. A. Muniz1, and J. R. O. Perez1, 1Universidade Federal de Lavras, 2EMBRAPA Gado de Leite.

M171 Effect of the replacement of corn by citrus pulp on nutrient consumption by lactating cows. G. A. Andrade1, J. C. Teixeira*1, J. A. Muniz1, J. R. O. Perez1, and P. C. A. Paiva1, 1Universidade Federal de Lavras, 2EMBRAPA - Gado de Leite.


M173 Intake and milking performance of high producing cows fed starch vs primary cell wall- rich pelleted additive. J. Miron1, E. Yosef1, M. Nikbachat1, E. Maltz2, I. Halachmi2, and D. Ben-Ghedalia1, 1Institute of Animal Science, 2Institute of Agricultural Engineering.


M176 Evaluation of dry matter intake equations by examining predicted change in bodyweight throughout lactation in dairy cows. J. L. Ellis*, F. Qiao, and J. P. Cant, University of Guelph, Guelph, Ontario, Canada.

M177 Effect of Tween 80 on milk production by Holstein cows. J. Baah*, J. A. Shelford2, T. A. McAllister1, and K.-J. Cheng1, 1Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, 2University of British Columbia, Vancouver, Canada, 3Academia Sinica, Taipei, Taiwan ROC.

M178 Comparison of analytical methods and the influence of milk components on milk urea nitrogen recovery. A. B. Peterson*, R. A. Kohn, and E. Russek-Cohen, University of Maryland, College Park, Maryland.

M179 Feed intake and milk production of Holstein cows fed rations with glucogenic supplements during the transition period. T. I. Belloso*, M. S. Gulay, M. Liboni, M. J. Hayen, and H. H. Head, University of Florida.

M180 Effects of prepartum dietary carbohydrate source and monensin on expression of gluconeogenic enzymes in liver of transition dairy cows. E. L. Williams*, M. M. Pickett2, L. C. Griel2, K. S. Heyler2, G. A. Varga2, and S. S. Donkin1, 1Purdue University, 2Pennsylvania State University.


M192 Leucine metabolism in skeletal muscle of lactating dairy cows. K. A. Cummins* and D. R. Mulvaney, Auburn University, AL.


M196 Effects of supplemental amylase on in vitro fermentation by mixed ruminal cultures and the growth of pure cultures of ruminal bacteria. J. M. Tricarico* and A. E. Kozenski, Alltech Biotechnology Inc. Nicholasville KY.

M197 Oxidation of glucose, glutamate, and glutamine by isolated ovine enterocytes in vitro is decreased by presence of other metabolic fuels. M. Oba*, R. L. Baldwin, IV, and B. J. Bequette, Department of Animal and Avian Sciences, University of Maryland, College Park, MD, Bovine Functional Genomics Laboratory, ANRI, USDA-ARS, Beltsville, MD.

M198 Effects of urea and ammonia treatment on nutritive value of corn silage. Ahmad Davtalabzarghi*, Reza Valizadeh, and Abasali Naserian, Ferdowsi University of Mashhad, Khorasan, Iran.

Production, Management, and the Environment

M199 Determining the relationships among milk urea nitrogen and milk production and milk components from lactating dairy cows in Texas. G. M. Goodall*, M. A. Tomaszewski, D. A. Knabe, R. B. Schwart, J. W. Stuth, and L. W. Greene, Goodall's Consulting, College Station, TX/USA, Texas A&M University, College Station, TX/USA, Texas A&M Research and Extension Center, Amarillo, TX/USA.


M203 Pasture performance, feedlot gain, and carcass traits of Romosinuano crossbred, F-1 (Hereford x Brahman), and Brahman steers. F. M. Rouquette, Jr.*, R. D. Randel, C. R. Long, C. C. Chase, Jr., J. C. Paschal, and R. K. Miller, Texas A&M University Agricultural Research & Extension Center, Overton, TX/USA, Texas A&M University, College Station, TX/USA, Texas Cooperative Extension, Corpus Christi, TX/USA, USDA-ARS Brooksville, FL/USA.


M207 Supplementation of FEB-200™ to alleviate endophyte toxicosis in steers. V. Akay*, M. Foley1, J. A. Jackson1, M. Kudupoe1, and K. A. Dawson1, 1Alltech Biotechnology, Inc., Nicholasville, KY, 2University of Kentucky, Lexington, KY.

M208 Influence of previous cattle and elk grazing on the subsequent quality and quantity of diets for cattle, deer and elk grazing late-summer mixed-conifer rangelands. D. Damiran*, T. DelCurto1, C. J. Ackerman2, G. D. Pulsipher1, and B. K. Johnson2, 1Eastern Oregon Agricultural Research Center, Oregon State University, Union, 2Oregon Department of Fish and Wildlife, La Grande.

M209 Changes in forage quantity and quality with continued cattle grazing in a mountain riparian pasture. E. Darambazar*, T. DelCurto1, C. J. Ackerman2, G. D. Pulsipher1, and D. Damiran*, 1Eastern Oregon Agricultural Research Center, Oregon State University, Union, 2Oregon Department of Animal Sciences, Oregon State University, Corvallis.


M211 Validation of a prediction equation for energy balance in Holstein cows and heifers. J. D. Brixey*, M. A. McGuire, and W. J. Price, 1University of Idaho.

M212 Incidence of Escherichia coli 0157:H7 contamination in fecal, wool, and carcass samples from feedlot lambs. M. Long*, T. T. Ross1, T. Edrington2, J. D. Thomas1, and K. Christensen1, 1New Mexico State University, 2USDA ARS.

M213 In vitro dry matter digestibility and fermentation characteristics of sawdust-wheat bran mixtures fermented by Aspergillus oryzae, Formitella fraxinea, and Sarcodon aspratus. Y. K. Kim1 and D. J. Schingoethe2, 1Chungnam National University, Chungnam, Republic of Korea, 2South Dakota State University, Brookings.

M214 Nutrient content and protein quality in grass silages. W. Heimbeck*, M. Coenen2, K. Suedekum3, Lars Hogeback2, S. Hoepken2, and K. Eicken4, 1Degussa AG, Feed Additives, Hanau, Germany, 2School of Veterinary Medicine, Hannover, Germany, 3Christian-Albrechts University, Kiel, Germany, 4Veterinarian Practice, Ovelgoenne, Germany.


M217 A summary of the effect of Lactobacillus buchneri on the fermentation and aerobic stability of silage. D. H. Kleinschmit* and L. Kung, Jr., University of Delaware, Newark, DE.


M219 Feeding brown midrib-3 corn silage or conventional corn silage cut at either 20 or 66 cm of height to early lactation cows. D. D. Dominguez*, L. D. Satter1,2, 1U.S. Dairy Forage Research Center, USDA-ARS, 2Dairy Science Department, University of Wisconsin, Madison.


M222 Intake and milk yield of cows fed diets containing L. bucheri-inoculated corn silage and high moisture corn or acetic acid supplement. D. K. Combs* and P. C. Hoffman, University of Wisconsin, Madison, USA.


M225 Effects of forage quality and type of protein supplement on intake and digestibility in beef steers and performance of postpartum beef cows. J. J. White*, G. D. Pulsipher1, and T. DelCurto1, Eastern Oregon Agriculture Research Center, Union, OR.

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**Forages & Pastures**

**Silages, Forage Supplementation**

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M225 Effects of forage quality and type of protein supplement on intake and digestibility in beef steers and performance of postpartum beef cows. J. J. White*, G. D. Pulsipher1, and T. DelCurto1, Eastern Oregon Agriculture Research Center, Union, OR.
M226 Protein supplementation of Brangus stocker calves grazing winter Tallgrass Prairie. L. A. Appeddu*1 and M. A. Brown2, 1Southwestern Oklahoma State University, Weatherford, OK, 2USDA-ARS Grazinglands Research Laboratory, El Reno, OK.

M227 Interseeding triticale with windrowed millet as a winter feeding program for developing heifers. W. S. Mackay*, J. C. Whittier, D. Couch, and D. N. Schutz, Colorado State University, Fort Collins, CO USA.

M228 Forage intake and in vivo digestibility of two rhizoma peanut genotypes harvested for hay in the tropics. T. Ruiz* and L. Rivera-Estremera, University of Puerto Rico, Mayaguez.

M229 Apparent digestible dry matter intake of ammoniated wheat straw diets in beef cows as affected by wheat middlings and biotin supplementation. R.D. Wiedmeier*1, P.R. Schmidt1, B.A. Kent1, and D.R. ZoBell1, 1Utah State University, Logan, Utah.

M230 Influence of supplementing soybean hulls to steers consuming endophyte infected tall fescue pasture. R. B. Pugh*, J. B. Pulliam, J. C. Waller, and C. J. Richards, University of Tennessee, Knoxville TN.

**International Animal Agriculture**

M231 Nitrogenous fractions of *Pithecellobium dulce* in tropical dry forest. T. Clavero* and R. Razz, Centro de Transferencia de Tecnología en Pastos y Forrajes. La Universidad del Zulia. Venezuela.


M234 Prediction of the amino acid content in wheat based on the crude protein value. M. Cervantes*1, F. Copado2, R. Soto1, N. Torreterra1, S. Espinoza1, and J.L. Figueroa3, 1Instituto de Ciencias Agrícolas, Universidad Autónoma Baja California, Mexicali, 2Colegio de Postgraduados, Montecillos, México.

M235 Effect of prepartum body condition and breed on production performance in crossbred dual purpose cows. O. Araujo-Febres, J. A. Gutierrez, La Universidad del Zulia, Maracaibo, Venezuela.
Poster Presentations

Tuesday, June 24, 2003
7:30 am – 9:30 am
Exhibit Hall D

Physiology

Nutrition-Reproduction, Gametes and Uterus


T5  Concentrations of antigonadatropic decapeptide in ovine tisses. S. N. Sandstede*, M. E. Wise, and D. M. Hallford, New Mexico State University, Las Cruces, NM/USA.

T6  Pituitary expression of ghrelin mRNA during the luteal phase of the bovine estrous cycle. H. C. Moore*, P. C. Gentry, R. J. Collier, and A. M. Turzillo, University of Arizona, Tucson, AZ.


T12  Relationship between milk production and estrous behavior of lactating dairy cows. H. Lopez*, L. D. Satter, and M. C. Wiltbank, Dairy Science Department, University of Wisconsin, US Dairy Forage Research Center, USDA-ARS, Madison, WI.


T14  The effect of daily drenching with propylene glycol during the transition period on LH pulsatility and the fate of the first follicle wave in dairy cows. S. T. Butler* and W. R. Butler, Cornell University.

T15  Reproductive and metabolic parameters associated with low postovulatory progesterone secretion in lactating dairy cows. G. E. Mann*, L. M. Hicking, and D. Blache, University of Nottingham, Sutton Bonnington, UK, University of Western Australia, Nedlands, Australia.

T17 Effect of gossypol intake and plasma gossypol concentrations on follicle development and luteal function in dairy heifers. A. C. Coscioni*1, K. N. Galvao1, M. Villasenor1, J.E.P. Santos1, B. Puschner1, and L.M.C. Pegoraro2, 1University of California - Davis, 2EMBRAPA - Brazil.

T18 Effect of gossypol intake on plasma and uterine gossypol concentrations and on embryo quality and development in superovulated Holstein dairy heifers. A. C. Coscioni*1, M. Villasenor1, K. N. Galvao1, R. C. Chebel1, J.E.P. Santos1, J. H. Kirk1, B. Puschner1, and L.M.C. Pegoraro2, 1University of California - Davis, 2EMBRAPA - Brazil.

T19 Enhancing ability of bovine sperm to survive cryopreservation with cyclodextrin and cholesterol. A. Kaya*1,2 and J. J. Parrish1, 1University of Wisconsin Madison, Wisconsin, 2University of Selçuk Konya, Turkey.

T20 Wisconsin avian extender yields better post-thaw motility for rooster semen than Minnesota avian extender after cryopreservation. L. E. Enwall*1, A. Kaya2, L. N. Geiger1, and J. J. Parrish1, 1University of Wisconsin Madison, Wisconsin, 2Selçuk University Konya, Turkey.

T21 The effect of time and fluid volume on the rate of boar sperm settling using a commercial extender. KL Willenburg*, KJ Rozeboom, BR Lindsey, and ME Wilson, Minitube of America, Verona, WI, USA.


T24 Effect of fetal bovine serum on the development of in vitro produced porcine embryos. J.N. Caamano*1, J. Mao1, T.C. Cantley1, A.R. Rieke1, R. Farwell1, C. Murphy1, B.A. Didion1, and B.N. Day1, 1Univeristy of Missouri, Columbia MO, 2Monsanto, St. Louis, Mo.


T26 Effects of bovine somatotropin (bST) on IGF-I and IGF-binding proteins in non-lactating cyclic and pregnant Holstein cows on day 17 after estrus. T. R. Bilby*, A. Guzeloglu, S. Kamimura, F. Michel, and W. W. Thatcher, University of Florida, Gainesville, FL, USA.


T29 Factors affecting postpartum placental blood volume. A. L. Riddle* and H. D. Tyler, Iowa State University, Ames, IA.

Lactation Biology

T30 Expression of leptin and leptin receptor messenger RNA during mammary gland development in mice. J. L. Smith* and L. G. Sheffield, University of Wisconsin, Madison.

T31 Impact of growth factors on expression of leptin and leptin receptor in cultured mammary epithelial cells. J. L. Smith and L. G. Sheffield*, University of Wisconsin, Madison.

T32 Local ablation of leptin receptor inhibits mammary alveolar development. J. L. Smith* and L. G. Sheffield, University of Wisconsin, Madison.

T33 Evidence for shifts in prolactin sensitivity in cows exposed to long or short day photoperiod during the dry period. A. G. Rius*1, T. L. Auchtung1, P. E. Kendall1, T. B. McFadden2, and G. E. Dahl 1, 1University of Illinois, 2University of Vermont.


T35 Milk fat decreases when lactating mice are fed selected trans fatty acid containing diets. B. B. Teter*, J. Sampugna1, R. A. Erdman3, P. Yurawecz2, and D. Luchini1, 1University of Maryland, College Park, MD/USA, 2Center for Food Safety and Applied Nutrition, FDA, College Park, MD/USA, 3Bioproducts, Inc. Fairlawn, OH/USA.

T36 Effects of milk yield and milk fat production on milk cis-9, trans-11 CLA and 9-desaturase enzyme activity. A. L. Lock*1, D. E. Bauman2, and P. C. Garnsworthy1, 1University of Nottingham, UK, 2Cornell University, Ithaca, USA.

T37 Abomasal infusion of a mixture of conjugated linolenic acid (C18:3) isomers had no effect on milk fat synthesis. A. Si?bo1, J. W. Perfield*, and D. E. Bauman2, 1Natural ASA, Hovdebygda, Norway, 2Cornell Univ., Ithaca, NY.
Feeding increasing amounts of conjugated linoleic acid (CLA) progressively reduces milk fat synthesis immediately postpartum. C. E. Moore*, 1, H. C. Hafliger III1, O. B. Mendivil1, D. Luchini2, D. E. Bauman3, and L. H. Baumgard1, 1The University of Arizona, 2BioProducts, Inc., Fairlawn, OH, 3Cornell University, Ithaca, NY.

Animal Health

Differences in production traits between scrapie resistant and scrapie susceptible ewes. B. M. Alexander*, 1, R. H. Stobart1, W. C. Russell1, K. I. O'Rourke2, and G. E. Moss1, 1University of Wyoming, 2USDA-ARS.

Effect of calving season oncolostrum quality and growth of dairy calves in a hot arid region. J S. Saucedo*, 1, L. Avendaño1, F. D. Alvarez2, T. B. Renteria1, J. F. Moreno1, M. F. Montaño1, and M. P. Gallegos3, 1Universidad Autónoma de Baja California, Mexicali, Baja California, México, 2Universidad Juárez del Estado de Durango, Durango, México.

Effect of batch and high-temperature-short-time pasteurization on IgG concentrations in colostrum. L. Green*, S. Godden, and J. Feirtag, University of Minnesota, St. Paul, MN.

The absorption of immunoglobulins from a plasma-based IgG supplement. A. L. Riddle*, 1, H. D. Tyler1, M. L. O’Brien1, K. J. Touchette2, and J. A. Coalson3, 1Iowa State University, Ames, IA, 2Merrick’s Inc., Union Center, WI.

Practical considerations related to installation and use of commercial pasteurization units for on-farm pasteurizing of milk and colostrum. L. Green, S. Godden, and J. Feirtag*, University of Minnesota.

Destruction of Mycobacterium paratuberculosis, Salmonella sp., and Mycoplasma sp. in raw milk by a commercial on-farm high-temperature, short-time pasteurizer. J. R. Stabel*, 1, S. Hurd1, L. Calvente2, and R. F. Rosenbusch2, 1USDA-ARS-National Animal Disease Center, Ames, IA, 2Iowa State University, Ames, IA.

Factors associated with transition cow ketosis incidence in selected New England herds. W. S. Burhans*, 1, A. W. Bell1, R. Nadeau2, and J. R. Knapp3, 1Cornell University, Ithaca, NY, 2University of Vermont, Burlington, VT.


The relationship between disease occurrence, feeding management and return over feed. C.J. McLaren*, 1, K.D. Lissemore1, K.E. Leslie1, T.F. Duffield1, D.F. Kelton1, and B. Grexton 2, 1University of Guelph, Department of Population Medicine, 2Ontario Dairy Herd Improvement Corporation.

Effects of intravenous infusion of triglyceride emulsions varying in lipid source on development of bovine fatty liver. D. G. Mashek*, S. J. Bertsic, and R. R. Grummer, University of Wisconsin, Madison.


Induction of apoptosis by butyrate correlates with increasing level of protein ubiquitination in bovine kidney epithelial cells (MDBK). C. Li* and T. Elsasser, 1USDA-ARS, Beltsville, MD.

Anthelmintic efficacy in a Maryland small ruminant flock. C. M. Fletcher*, D. J. Jackson, and N. C. Whitley, University of Maryland Eastern Shore.


The effect of biotin supplementation on milk yield, reproduction and lameness in dairy cattle. J. K. Margerison*, B. Winkler1, G. Penny1, and A. Packington2, 1University of Plymouth, UK, 2Roche Vitamins, UK.


Effects of pretransit supranutritional levels of dietary selenium and D-a-tocopherol acetate on selenium content of specific tissues in wether lambs. J. B. Taylor*, N. K. Chirase2,3, and T. Thelen1, 1Agriculture Research Service, Dubois, ID, 2Texas Agriculture Experiment Station, Amarillo, 3West Texas A&M University, Canyon.
**Breeding & Genetics**

**T57** Silymarin PHYTOSOME* against AF1 in broilers. D. Tedesco*, S. Galletti1, S. Steidler1, M. Tameni1, O. Sonzogni1, and P. Morazzoni2, 1Department VSA, University of Milan, Italy, 2Indena S.p.A., Milan, Italy.

**T58** Inhibition of fungal growth with OmniGen-AF: a new anti-fungal feed additive. Y. Wang*, S. Puntenney, and N. Forsberg, Oregon State University.

**T59** Effects of swainsonine on digestion in wethers consuming locoweed. M. M. Reed1, B. S. Obeidat*, J. R. Strickland1, C. R. Krehbiel2, J. B. Taylor1, C. A. Loest1, G. S. Bell1, W. D. Bryant1, J. D. Rivera1, and J. L. Jim1, 1New Mexico State University, 2Oklahoma State University, USDA, ARS, USSES.

**T60** Development of quantitative diagnostic assays for assessment of mycotic infections. N. Forsberg*, S. Puntenney, and Y. Wang, Oregon State University.

**T61** The impact of tunnel ventilation cooling and brown mid-rib (BMR) corn silage on heat stress in lactating dairy cows. R. J. Williams*, A. M. Chapa1, T. O. Riley2, D. O. Pogue2, S. T. Willard1, and T. R. Smith*, 1Department of Animal and Dairy Sciences, Mississippi State University, 2North Mississippi Branch Experiment Station, Holly Springs, MS.

**T62** Meta-analysis to detect QTL in two connected F2 swine populations using simulation. B. R. Southey* and S. L. Rodriguez-Zas, University of Illinois Champaign-Urbana, Urbana, IL.

**T63** Detection of SNPs on the ovine skeletal muscle specific calpain gene using PCR-SSCP analysis. H. Chung*1, S. Chen1, D. Yoon1, I. Cheong1, S. Lee1, M. Davis2, and C. Hines2, 1National Livestock Research Institute, Suwon, Korea, 2The Ohio State University, Columbus, USA.

**T64** Relationships between DGAT1 and Pit-1 genes polymorphism and milk yield in Holstein cattle. S. Hori-Oshima and A. Barreras-Serrano*, Universidad Autónoma de Baja California, Mexicali, B.C. México.

**T65** Use of intra-ruminal monensin capsules in dairy cows under alfalfa grazing conditions. II. Reproductive performance. A. A. Abdala1, M. G. Maciel1, M. R. Gallardo1, M. E. Castelli1, A. Quatrin1, D. Lettieri1, S. P. Allassia1, N. Zanoni1, and A. R. Castillo*, 1Experimental Station Rafaela, INTA, Argentina, 2UC Davis Cooperative Extension, USA.

**T66** Estimation of additive and nonadditive genetic parameters in the Chilean multibreed dairy cattle population using restricted maximum likelihood procedures. M. A. Elzo*, A. Jara2, and N. Barria2, 1University of Florida, Gainesville, 2University of Chile, Santiago, Chile.

**T67** Estimation of genetic trend for milk yield in two dairy herds involving inheritance of holstein cows in baja california, mexico. A. Perez*, J. Ponce1, A. Correa1, M. Montañ1, J. Guerrero2, and S. Cobos2, 1Universidad Autónoma de Baja California, Mexicali, Baja California, Mexico, 2University of California, Hollville CA. USA.

**T68** Genetic evaluation of male and female fertility using longitudinal binary data. T. Averill* and R. Rekaya, The University of Georgia.

**T69** Genetic relationships between ewe mature size and measures of lamb feed efficiency and postweaning growth in Targhee sheep. B. W. Woodward* and G. D. Snowder1, USDA-ARS, US Sheep Experiment Station, Dubois, ID, 2USDA-ARS, US Meat Animal Research Center, Clay Center, NE.

**T70** Estimates of genetic parameters for reproduction and weight in the progeny of Nubian, French Alpine, Saanen, Toggenburgh, and Spanish goats mated to Boer sires. A. Perez*, J. Ponce1, A. Correa1, M. Montañ1, J. Guerrero2, and S. Cobos2, 1Universidad Autónoma de Baja California, Mexicali, Baja California, Mexico, 2University of California, Hollville CA. USA.

**T71** Relationships among measures of body weight, thoracic diameter and age to scrotal circumferences of boer goat. A. Perez*, J. Ponce1, A. Correa1, M. Montañ1, and J. Guerrero2, 1Universidad Autónoma de Baja California, Mexicali, Baja California, Mexico, 2University of California, Hollville CA. USA.

**T72** Calving ease of heifers bred to Angus and Simmental sires selected for decreased dystocia. H. C. Van Wagoner1, R. P. Anstotegui*, M. D. Ropp2, and R. J. Lipsey2, 1Montana State University, 2American Simmental Association.

**T73** Odds ratios for failure to calve and wean for Senepol- and Tuli-Angus cows compared to Brahman-Angus cows. D. G. Riley*, K. S. Barling2, C. C. Chase, Jr1, T. A. Olson1, A. C. Hammond4, and S. W. Coleman1, 1USDA, ARS, STARS, Brooksville, FL, 2Texas A&M University, College Station, 1University of Florida, Gainesville, 2USDA, ARS, SAA, Athens, GA.

**T74** Divergent selection for blood serum insulin-like growth factor I concentration does not change age of Angus heifers at puberty. A. Yilmaz1, M. E. Davis*, and R. C. M. Simmen2, 1Department of Animal Sciences, The Ohio State University, 2Department of Animal Science, University of Florida.
T75 Effectiveness of performance testing for beef carcass traits to use embryonic cloning technique in Wagyu. K. Kuchida1, M. Ogasawara1, S. Hidaka1, T. Sakai1, A. Minamihashi2, and Y. Yamamoto2, 1Obihiro University of A&VM, Obihiro-shi Japan, 2Hokkaido Animal Research Center, Shintoku-cho Hokkaido Japan.

T76 Effect of calving difficulty on cow survival. Sara McClintock*, John Morton2, Kevin Beard3, and Michael Goddard1,4, 1University of Melbourne, 2Department of Primary Industry, 3Australian Dairy Herd Improvement Scheme, 4Victorian Institute of Animal Science.

Nonruminant Nutrition

Vitamins and Minerals

T77 Effects of supplemental pantothenic acid during all or part of the grow-finish period on growth performance and carcass composition. J.S. Radcliffe*, B.T. Richert, L. Peddireddi, and S.A. Trapp, Purdue University, West Lafayette, IN.


T79 Influence of dietary Δ-aminolevulinic acid on growth performance and skin color in weaned pigs. J. W. Hong*, I. H. Kim1, B. J. Min1, O. S. Kwon1, J. H. Lee2, J. H. Kim1, W. B. Lee1, and K. S. Son1, 1Department of Animal Resource & Sciences, Dankook University, 2Easybio System, Inc., Seoul, Korea, 3Agribands Purina Korea, Seoul, Korea.

T80 Selenium and measures of oxidative stress in the developing porcine fetus. C. E. Hostetler*1 and R. L. Kincaid1, 1Washington State University.

T81 Withdrawn

T82 Effect of chromium methionine supplementation on egg size and serum concentration of glucose, protein, ferritin and iron in breeders of Japanese quail. G. Contreras*, L. García1, A. Montoya1, and R. Barajas1, FMVZ-Universidad Autónoma de Sinaloa (México), Culiacan.


T84 Relative availability of calcium of different source for broiler chickens. E. Muniz*, A. Arruda, E. Pereira, C. Leseux, and N. Tsuzuki, Universidade Estadual do Oeste do Parana, Brasil.

T85 The digestibility of phosphorus (P) in dicalcium phosphate in pigs. T.S. Stahly and T.R. Lutz*, Iowa State University, Ames.

T86 Efficacy of microbial phytase in swine diets. R. N. Dilger*, S. A. Adedokun1, J. A. Jendza1, J. S. Sands2, P. H. Simmins2, and O. Adeola1, 1Purdue University, West Lafayette, IN, 2Danisco Animal Nutrition, Marlborough, UK.


T88 Phytase additions to conventional or low-phytate corn-soybean meal diets on phosphorus balance in growing pigs. E. G. Xavier*, G. L. Cromwell, and M. D. Lindemann, University of Kentucky, Lexington.

T89 Ileal amino acid digestibility in pigs fed grain sorghum-soybean meal diets added with a phytase. M. Cervantes1, M. A. Barrera1, F. Copado2, J. L. Figueroa2, W. Sauer1, M. Cuca2, and N. Torrenera, 1Instituto de Ciencias Agrícolas, UABC, Mexicali, 2Colegio de Postgraduados, Montecillos, México, 3University of Alberta, Canada.

T90 Effect of phytase and/or pancreatin supplementation to grain sorghum-soybean meal diets on the apparent ileal amino acid digestibility in pigs. F. Copado2, M. Cervantes1, J.L. Figueroa2, M. Cuca2, J. Yañez1, and W. Sauer3, 1Instituto de Ciencias Agrícolas, Universidad Autónoma Baja California, Mexicali, 2Colegio de Postgraduados, Montecillos, México, 3University of Alberta, Canada.

T91 Phytase and crystalline limestone acids supplementation to sorghum-soybean meal diets for growing pigs. F. Copado2, M. Cervantes1, J.L. Figueroa2, M.A. Barrera1, J. Yañez1, M. Cuca2, S. Espinoza1, and N. Torrenera1, 1Instituto de Ciencias Agrícolas, Universidad Autónoma Baja California, Mexicali, 2Colegio de Postgraduados, Montecillos, México.

Companion Animals


Case study of preparing a submission for regulatory clearance of a new ingredient. L. B. Deffenbaugh*, Kemin Nutrisurance, Inc.


Estimation of the proportion of bacterial nitrogen in canine feces using diaminopimelic acid as an internal bacterial marker. L. K. Karr-Lilienthal, C. M. Grieshop, J. K. Spears, A. Patil, N. M. Merchen, and G. C. Fahey, Jr., 1University of Illinois at Urbana-Champaign, IL, USA, 2Nestle Purina Research, St Joseph, MO USA.

The effect of preservation time length and thawing on Lactobacillus population from fecal material. C. J. Fu and M. S. Kerley, University of Missouri-Columbia.


Evaluation of delta-6 desaturase kinetics in canine liver microsomes for alpha-linolenic acid in the presence of competitive amounts of linoleic acid. J. E. Bauer* and B. L. Dunbar, 1Texas A&M University.

The effect of dietary fat on the fatty acid composition of olfactory mucosal tissues in young adult dogs. C. T. Middendorf, K. A. Cummins*, E. A. Altom, and Margaret Craig-Schmidt, Auburn University, AL.


Use of ass’s milk for novel probiotic beverages. E. Salimei*, E. Sorrentino, M. Succi, F. Fantuz, G. Varisco, and R. Coppola, 1Dept. SAVA, Univ. of Molise, CB Italy, 2Dept. STAAM, Univ. of Molise, CB Italy, 3Dept. Sci. Vet., Univ. of Camerino, MC Italy, 1st. Sperim. Zooprofilattico, Brescia Italy.

The influence of training on flat walking temporal variables of Tennessee Walking Horse yearlings. K. M. Holt* and M. C. Nicodemus, Mississippi State University, Mississippi State, MS.

Walking temporal variables of the padded Tennessee Walking Horse. M. C. Nicodemus* and K. M. Holt, Mississippi State University, Mississippi State, MS.

Effects of post-partum ivermectin administration to broodmares on the incidence of foal-heat diarrhea. S. E. Harris, M. M. Vogelsang*, E. E. Bass, and G. D. Potter, 1Texas A&M University, College Station, TX USA, 2University of Georgia, Athens, GA USA.

Body condition scores and biometric measurements to predict body weight in warm blood German riding horses. S. Schramme and E. Kienzle*, Chair of Animal Nutrition, Ludwig-Maximilians-University, Munich, Germany.

Effects of feeding a blend of grains naturally-contaminated with Fusarium mycotoxins on feed intake and indices of athletic performance of horses. S. L. Raymond*, T. K. Smith, and H. V. L. N. Swamy, University of Guelph.

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<th>Session No.</th>
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<td>Milk production evaluation in rabbits milking one or two times a day.</td>
<td>R. Salcedo-Baca*1,2, J. L. Echegaray-Torres2, and A. Robinson1, 1University of Guelph, Guelph, ON, Canada, 2Universidad Autónoma Chapingo, Texcoco, Estado de Mexico, Mexico.</td>
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<td>Parturition synchronization in rabbits using prostaglandins: Optimal time for hormone application.</td>
<td>J. L. Echegaray-Torres*, R. Salcedo-Baca1,2, and C. Flores-Martínez, 1Universidad Autónoma Chapingo, Chapingo, Edo. de Mexico, 2University of Guelph, Guelph, ON, Canada, 3Instituto Tecnológico Agropecuario de Oaxaca, Oaxaca, Mexico.</td>
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<td>The shape of the lactation curve in rabbits milking once or twice a day, and the function to estimate the total milk production.</td>
<td>R. Salcedo-Baca*1,2, J. L. Echegaray-Torres2, and A. Robinson1, 1University of Guelph, Guelph, ON, Canada, 2Universidad Autónoma Chapingo, Texcoco, Edo. de Mexico, Mexico.</td>
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<td>V. M. Gonzalez*, E. G. Arellano1, G. Mendoza1, F. G. Monge1, A. Plascencia*, E. Silva-Pena1, C. Vasquez1, and R. A. Zinn2, 1Universidad Autónoma de Baja California, Mexico, 2University of California, Davis.</td>
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<td>K. C. Hanson*, S. E. Kitts1, N. B. Kristensen1, D. E. Axe1, and D. L. Harmon1, 1University of Kentucky, Lexington, 2IMC, Lake Forest, IL.</td>
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<td>E. M. Ungerfeld*, S. R. Rust1, M. T. Yokoyama1, R. Burnett1, and J. K. Wang3, 1Michigan State University, East Lansing, MI, USA, 2University of Hawaii at Manoa, Honolulu, HI, USA.</td>
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<td>J. H. Eisemann*, E. Ramireza, K. E. Govoni1, S. A. Zinn2, and G. B. Huntington1, 1North Carolina State University, 2University of Connecticut.</td>
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<td>O. Rosendo*, D. Bates1, C. R. Staples1, L. R. McDowell1, R. J. McMahon1, W. M. Seymour2, and N. Wilkinson1, 1University of Florida, Gainesville, FL, 2Roche Vitamins, Inc., Parsippany, NJ.</td>
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<td>S. M. Rodriguez*, K. C. Guimaraes1, J. C. Matthews1, K. M. McLeod1, R. L. Baldwin2, and D. L. Harmon1, 1University of Kentucky, Lexington, 2USDA, ARS, Beltsville, MD.</td>
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<td>Effects of combinations of ethyl 2-butyroacetate and crotonic acid or 3-butenenoic acid on ruminal degradability and microbial efficiency in vitro.</td>
<td>E. M. Ungerfeld*, S. R. Rust, and R. Burnett, Michigan State University, East Lansing, MI, USA.</td>
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<td>A. Offner* and D. Sauvant, INA P-G INRA, Paris, France.</td>
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<td>P. Yu*, J. J McKinnon1, C. Christensen1, M. D. Drew1, B. G. Rossnagel1, and D. A. Christensen1, 1Department of Animal and Poultry Science, University of Saskatchewan, 2BioMedical Imaging Group, 3Department of Plant Sciences, University of Saskatchewan.</td>
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<td>A. Estrada*, R. Barajas1, and J. F. Obregon1, 1FMVZ-Universidad Autónoma de Sinaloa (México).</td>
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<td>J. D. Rivera*, J. T. Richeson1, J. E. Gleichorn1, N. A. Elam1, M. L. Galvan1, M. E. Hubbert2, and S. E. Bachman2, 1Texas Tech University, Lubbock, TX, 2Ganado Research, Amarillo, TX.</td>
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T132  Biohydrogenation of unsaturated fatty acids and duodenal flow of CLA and trans-fatty acids in dairy cows fed a high-concentrate diet supplemented with linseed, sunflower, or fish oil. J. J. Loor*1,2, K. Ueda1, A. Ferlay1, Y. Chilliard1, and M. Doreau1, 1INRA, 63122 St.-Genes Champanelle, France, 2Department of Animal Sciences, University of Illinois.

T133  Conjugated linoleic acids (CLA) and trans-fatty acid profiles of blood plasma and milk fat in dairy cows fed a high-concentrate diet supplemented with linseed, sunflower, or fish oil. J. J. Loor1,2, A. Ferlay1, A. Ollier1, K. Ueda1, M. Doreau1, and Y. Chilliard1, 1INRA, 63122 St.-Genes Champanelle, France, 2Department of Animal Sciences, University of Illinois.


T135  Comparison of inorganic and complexed trace element supplements on performance of dairy cows. R. L. Kincaid*1, J. D. Cronrath1, and M. T. Socha2, 1Washington State University, 2Zinpro Corporation.

T136  Effects of Lactonin on milk production of dairy cow during weeks 20 through 42 of lactation. Z. M. Shen*, R. F. Zhang1, F. Chen2, and T. S. Lu1, 1Nanjing Agricultural University, Nanjing, China, 2Shanghai Bright Group, China, 3Shanghai Walcom Bio-Chem Co., Ltd, China.

T137  Serum ß carotene concentrations and variability factors in US dairy herds. T. H. Herdt and W. M. Seymour*, 1Michigan State University, 2Roche Vitamins Inc.


T140  Effects of feeding calcium salts of fatty acids with methionine hydroxy analog and bacterial fermentation residue vs. tallow-vegetable blend and plant proteins on lactational performance and in-vitro fermentation. K. A. Koudele*, W. K. Sanchez2, L. H. Adams1, D. E. Weber3, D. R. Metzger1, N. R. St-Pierre4, and E. Block5, 1Andrews University, Berrien Springs, MI, 2Arm & Hammer Nutrition Group, Church & Dwight Co, Inc., Princeton, NJ, 3Metzger Consulting Services, Goshen, IN, 4Ohio State University, Columbus, OH.


T142  Techniques to measure the bioavailability of rumen-protected methionine supplements. C. E. Moore*, B. Sloan2, D. A. Henderson1, and L. H. Baumgard1, 1University of Arizona, Tucson, AZ, 2Adisseo, Alpharetta, GA.

T143  Comparison of abomasal infusion of free fatty acid and methyl ester forms of conjugated linoleic acids on milk fat depression in dairy cows. M. J. de Veth*, J. M. Griniari2, A. M. Pfeiffer3, and D. E. Bauman1, 1Cornell University, Ithaca, NY, 2Clanet Ltd, Espoo, Finland, 3BASF-AG, Offenbach, Germany.

T144  Trans-fatty acids (tFA), CLA isomers, and milk fat depression (MFD) in dairy cows receiving incremental doses of fish oil. J. J. Loor1,2, J. M. Chardigny2, J. Chabrot1, M. Doreau1, A. Ollier1, J. L. Sebedio2, and Y. Chilliard1, 1INRA, 63122 St.-Genes Champanelle, France, 2INRA, 21065 Dijon, France, 3Department of Animal Sciences, University of Illinois.

T145  Trans fatty acids (tFA) and CLA in liquid-associated (LAB) and solid-adherent (SAB) ruminal bacteria from dairy cows fed diets varying in forage:concentrate ratio (F:C) and level of linseed, sunflower, or fish oil. J. J. Loor1,2, K. Ueda1, A. Ferlay1, Y. Chilliard1, and M. Doreau1, 1INRA, 63122 St.-Genes Champanelle, France, 2Department of Animal Sciences, University of Illinois.

T146  Effects of free methionine and lysine on performance and ruminal fermentation of late lactation Holstein cows. Y. H Chung*, H. G. Bateman, C. C. Williams, C. C. Stanely, P. A. Terrell, and D. T. Gantt, LSU AgCenter, Baton Rouge, LA.

T147  Transfer of dietary fatty acids and hydrogenation intermediates from duodenum to milk in cows fed diets varying in forage:concentrate ratio and level of linseed, sunflower, or fish oil. J. J. Loor1,2, K. Ueda1, A. Ferlay1, M. Doreau1, and Y. Chilliard1, 1INRA, 63122 St.-Genes Champanelle, France, 2Department of Animal Sciences, University of Illinois.


T151 Effects of essential oils and monensin on ruminal pH, ammonia concentration and in situ degradation of dry matter and nitrogen in the rumen of lactating dairy cows. C. Benchaar*1,2, T. D. Whyte2, H. V. Petit1, R. Berthiaume1, D. R. Ouellet1, and P. Y. Chouinard3, 1Agriculture and Agri-Food Canada, Lennoxville, Quebec, Canada, 2Nova Scotia Agricultural College, Truro, Nova Scotia, Canada, 3Universite Laval, Ste-Foy, QC, Canada.

T152 Effect of vitamin E supplementation in late lactation on milk production and milk fatty acid profile. J. K. Kay, L. H. Baumgard, E. S. Kolver, and J. R. Roche, 1Dexcel (formerly Dairying Research Corporation), Hamilton, New Zealand, 2University of Arizona, Tucson, Arizona.


T154 Biotin supplementation for periparturient dairy cows. O. Rosendo1, C. R. Staples*1, L. R. McDowell1, R. J. McMahon1, and W. M. Seymour2, 1University of Florida, Gainesville, FL, 2Roche Vitamins, Inc., Parsippany, NJ.

T155 Effects of dietary addition of essential oils and monensin on nutrient digestibility, nitrogen retention, milk production and milk composition of Holstein cows. C. Benchaar*1,2, T. D. Whyte2, R. Berthiaume1, H. V. Petit1, D. R. Ouellet1, and P. Y. Chouinard3, 1Agriculture and Agri-Food Canada, Lennoxville, Quebec, Canada, 2Nova Scotia Agricultural College, Truro, Nova Scotia, Canada, 3Universite Laval, Ste-Foy, QC, Canada.


T157 Response of pre-partum and early lactation dairy cows to dietary inclusion of ruminally inert conjugated linoleic acid. T. R. Dhiman*, M. S. Zaman1, and N. D. Luchini2, 1Utah State University, Logan, UT, 2Bioproducts, Incorporated, Fairlawn, OH.


T161 Milk production and composition and prostaglandin secretion in dairy cows fed different fat sources. H. V. Petit*, C. Germainet, and D. Lebel3, 1Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, 2Département de Biologie, Université de Sherbrooke.

T162 Effects of monensin and (or) high levels of zinc on ruminal degradation of free lysine and liquid hydroxymethylthiobutanoic acid. H. G. Bateman, II*1, C. C. Williams1, D. T. Gantt1, Y. H. Chung2, A. E. Beem3, C. C. Stanley1, G. E. Goodier1, P. G. Hoyt2, and L. D. Bunting1, 1LSU AgCenter, Baton Rouge, LA, 2LSU School of Vet Medicine, Baton Rouge, LA, 3Archer Daniels Midland Company, Quincy, IL.


T164 Milk choline concentration as an index of bioavailability of rumen-protected choline. J. R. Newbold* and J. Lavrijsen, Provimi Research and Technology Centre, Brussels, Belgium.


T166 Limiting amino acids of some tropical forages and their residues after rumen incubation, related to milk protein amino acidic composition. Lidia Miranda1, Norberto Rodrigues2, Roberto Sainz2, Elzania Pereira3, Miguel Gonzijo Netto3, Cristina Veloso6, and Augusto Queiroz2, 1FEAD-Minas, Brazil, 2Universidade Federal Minas Gerais, Brazil, 3University of California- Davis, USA, 4Universidade Estadual Oeste Parana, 5EMBRAPA Gado de Corte, Brazil.

T167 Changes in volatile fatty acid and trans fatty acid concentrations in the rumen of lactating Holstein cows fed four concentrations of unsaturated free fatty acids. S. A. Mosley, E. J. Thies, E. E. Mosley, and T. C. Jenkins*, Clemson University, Clemson, SC 29634.
| T168 | Milk protein response to rumen protected methionine in two commercial herds in central Mexico. H. Gutierrez*, G. Zavala*, and R. A. Patton1, 1Ganaderos Asociados de Queretaro, Queretaro, Mexico, 2Degussa Mexico, Mexico City, Mexico, 3Nittany Dairy Nutrition, Mifflinburg, PA. |
| T169 | Rumen undegradable protein characterization of three protein sources. W.H. Kolath*, P.L. Bond Jr., and M.S. Kerley, 1University of Missouri - Columbia, 2Mid South Milling, Memphis, TN. |
| T170 | Effects of nonfiber carbohydrate source and protein degradability on lactation performance and ruminal pH of Holstein cows. C. C. Larson* and M. B. Hall, University of Florida, Gainesville, Florida, USA. |
| T175 | Effect of VFA on [15N]ammonia utilization for amino acid and urea synthesis by ruminal epithelial and duodenal mucosal cells isolated from growing sheep. M. Oba*, R. L. Baldwin, IV, S. L. Owens, and B. J. Bequette, Department of Animal and Avian Sciences, University of Maryland, College Park, MD. 2Bovine Functional Genomics Laboratory, ANRI, USDA-ARS, Beltsville, MD. |

**Production, Management, and the Environment**

| T181 | The effects of cooling strategy and level of milk production on milk constituents and body composition quality traits during summer heat stress in lactating Holstein dairy cattle. H. Evans, J. Murphy, E. Cuadra, T. Dickerson, S. Gandy, S. Willard, and R. Vann, Brown Loam Branch Experiment Station, Raymond, MS. 2Mississippi State University, Mississippi State, MS. 3Coastal Plains Branch Experiment Station, Newton, MS. 4Alcorn State University, Alcorn State, MS. |
| T182 | Relationships between body condition score and peak milk in Holsteins. M. L. Theurer*, M. A. McGuire, and J. J. Higgins, University of Idaho, Moscow. 2Standard Nutrition, Richland, WA. |
| T183 | BeefSys: An interactive database program for on-going experiments and archival of livestock data. F. M. Rouquette, Jr., K. D. Norman, G. M. Clary, and C. R. Long, Texas A&M University Agricultural Research & Extension Center, Overton, TX/USA. |
| T184 | Contribution of manure and legume nitrogen to crop fertilization plans of Wisconsin dairy farms. B. J. Towns* and M. A. Wattiaux, University of Wisconsin-Madison. |
| T185 | Impact of manure application timing in dairy pastures on the migration of nitrates to groundwater. T. Downing*, B. Lambert, and M. Gamroth, Oregon State University. |
| T187 | Exposure to short days during the dry period increase milk production in subsequent lactation in dairy goats. Sameer J mabjeesh*, Avi Shamay2, Geoff E Dahl3, and Thomas T McFadden4, 1The Hebrew University of Jerusalem, The Faculty of Agriculture, Israel., 2The Volcani Center, Agricultural Research Organization, Israel, 3University of Illinois, Urbana, 4University of Vermont, Burlington. |
| T188 | Forage mineral concentrations in West Virginia pastures. E. B. Rayburn, W. L. Shockey*, and R. M. Wallbrown, West Virginia University, Morgantown, WV. |
| T189 | The effects of irrigation of soil and stage of harvest on mineral contents of grasslands located at high altitude. A. Hayirli*, I. Kaya1, K. Haliloglu1, and S. Yildiz2, 1Dept. of Animal Nutrition, College of Veterinary Medicine, Ataturk University, Erzurum 25700, Turkey, 2Dept. of Animal Nutrition, School of Veterinary Medicine, Kafkas University, Kars 36100, Turkey. |
| T190 | Effects of soil irrigation and maturity stage on organic macronutrient composition and nutritive value of grasslands at high altitude. I. Kaya1, A. Hayirli*, K. Haliloglu1, and S. Yildiz2, 1Dept. of Animal Nutrition, College of Veterinary Medicine, Kafkas University, Kars 36100, Turkey, 2Dept. of Animal Nutrition, School of Veterinary Medicine, Ataturk University, Erzurum 25700, Turkey. |
| T191 | Nitrate concentration of cereal forage species at three stages of maturity. L.M.M. Surber*, S. D. Cash, J.G.P. Bowman, and M. C. Meuchel, Montana State University, Bozeman, MT USA. |
| T193 | Relationship of starch content in common forages to dry matter, crude protein, non-fiber carbohydrate and neutral detergent fiber. R. T. Ward1, M. J. Stevenson2, and R. A. Patton*, 1Cumberland Valley Analytical Service, Maugansville, MD, 2Degussa Canada Inc., Burlington, ON, 3Nittany Dairy Nutrition, Mifflinburg, PA. |
| T196 | Optimal sampling schedule of diet components. B. Cobanov*1 and N. R. St-Pierre1, 1The Ohio State University. |
| T198 | The relationship between non-structural carbohydrates and total dry matter yield in cool season grasses. T. Downing*, A. Buyserie1, and M. Gamroth1, 1Oregon State University. |
| T199 | Influence on ration formulation of on-farm variability in methionine and lysine content of alfalfa haylage and corn silage. M. J. Stevenson*1 and R. McKay2, 1Degussa Canada Inc., Burlington, ON, 3Maple Leaf Feeds Agresearch, Burford, ON. |
| T200 | Effect of different storage forms of alfalfa hay on the digestion characteristics in Holstein steers. M. Lopez*, M. Cervantes*, and J. Guerrero2, 1ICA. Universidad Autónoma de Baja California, Mexicali, 2Desert Research and Extension Center, University of California, Davis. |
| T201 | Effect of method of conservation on the n-alkane C31 concentration of alfalfa and two temperate grasses. M. R. Reyes-Reyes1, S. E. Buntinx1, F.S. Barajas-Torres2, I. C. Gavilan-Garcia1, and F. A. Castrejon-Pineda1, 1Facultad de Medicina Veterinaria y Zootecnia, 2Facultad de Quimica, Universidad Nacional Autonoma de Mexico. |
| T202 | The effect of milling on physical material lost through dacron bags of 53 micron pore size. C. W. Cruywagen*, G. Bunge, and L. Goosen, 1University of Stellenbosch, South Africa. |
| T203 | Measuring detergent insoluble protein and fiber in corn silage using crucibles or filter bags. G. Ferreira*, D. R. Mertens1, 1Univ. of Wisconsin, 2USDA-ARS, US Dairy Forage Research Center, Madison, WI. |
| T204 | Orchardgrass soluble carbohydrate and digestibility levels in sward horizons under defoliation sequences initiated in morning and evening. T. C. Griggs1, J. W. MacAdam1, H. F. Mayland2, and J. C. Burns1, 1Utah State University, Logan, UT, 2USDA-Agricultural Research Service, Kimberly, ID, 3USDA-ARS, Raleigh, NC, and North Carolina State Univ., Raleigh, NC. |
### Dairy Foods

**Cultured Dairy Products and Dairy Proteins**

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<td>B. S. Oommen* and D. J. McMahon, Department of Nutrition and Food Sciences, Utah State University.</td>
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<td>Microencapsulation of water-soluble isoflavone and physico-chemical property in milk</td>
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<td>FAT free sugar free plain set yogurt fortified with folic acid</td>
<td>C. A. Boeneke* and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge, LA.</td>
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<td>Microstructure of folic acid fortified fat free sugar free plain set yogurt</td>
<td>K. J. Aryana*, Louisiana State University Agricultural Center, Baton Rouge, LA.</td>
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<td>S. Mahajan, M. Qian*, and L. Goddik, Oregon State University.</td>
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<td>Ingredient interactions with derivatized whey protein powders</td>
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<td>Effect of drying methods on the physical and chemical properties of whole milk powder</td>
<td>L. F. Osorio*, J. U. McGregor*, J. S. Godber*, and N. Y. Farkye*, Escuela Agrícola Panamericana, Zamorano, Tegucigalpa, Honduras, Food Science and Human Nutrition Dept., Clemson University, Clemson, SC, Food Science Dept., LSU Ag Center, Baton Rouge, Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo, CA.</td>
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<td>T224</td>
<td>Rheological properties at fracture of thermally induced whey protein with lecithin emulsion gels</td>
<td>G. Perez-Hernandez*, R. Suhareli, and R. L. Richter, Texas A&amp;M University, College Station, TX.</td>
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<td>T225</td>
<td>Microencapsulated iron for drink yogurt fortification</td>
<td>H. S. Kwak, J. Ahn, and J. S. Seok, Sejong University, Seoul, Korea.</td>
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Impact of flax oil emulsion composition on the oxidative stability of omega-3 enriched milk beverages. S. Lamothe*, G. Trudeau2, and M. Britten1, 1FRDC, Agriculture and Agri-Food Canada, St-Hyacinthe, Qc, Canada, 2Agropur, Granby, Qc, Canada.

Rheological properties of concentrated skim milk: Influence of heat treatment and genetic variants on the changes in viscosity during storage. A. Bienvenue1, H. Singh1, and R Jimenez-Flores*, 1Cal Poly Dairy Products Technology Center, 2Massey University, New Zealand.

Effect of pore size and temperature on the fractionation of buttermilk using microfiltration. P. Morin*, R. Jimenez-Flores, and Y. Pouliot1, 1Centre de recherche STELA, Universite Laval, Quebec, Canada, 2Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo, CA.


Observation of bacterial exopolysaccharide in dairy products using cryo-scanning electron microscopy. Ashraf Hassan*, Joseph Frank1, and Morsi Elsoda2, 1The University of Georgia, USA, 2Alexandria University, Egypt.

Fat-level dependent impact of selected flavor volatiles on strawberry-flavored ice creams. S. T. Loeb*, I. U. Gruen1, H. Heymann2, K. Adhikari1, L. N. Fernando1, and R. D. Linhardt1, 1University of Missouri, Columbia, 2University of California, Davis.


Use of chemical mutagenesis approach and spiral-sheet bioreactor for the production of lactose free milk. S. A. Ibrahim*, M. M. Salameh1, G. Shahbazi1, R. R. Shaker2, and V. Shirley1, 1North Carolina A&T State University, 2Jordan University of Science and Technology.

Milk protein composition and its role in the phase separation phenomenon in soft-serve ice cream. C. Vega* and D. Goff, University of Guelph, Guelph, ON, Canada.

Optimization of Solid Phase Microextraction (SPME) for the analysis of volatile compounds in milk. H. Clarkson*, S. Duncan, and S. O’Keefe, Virginia Polytechnic Institute and State University, Blacksburg, VA.
Poster Presentations

Wednesday, June 25, 2003
7:30 am – 9:30 am
Exhibit Hall D

Physiology

**Metabolism, Growth, and Stress**

W1 Identification and initial characterization of the adipocyte hormone adiponectin in Holstein bull calves. R. C. Cheatham*1, P. C. Gentry1, G. C. Duff2, and R. J. Collier1, 1University of Arizona.


W3 Feeding Holstein cows anionic and cationic diets prepartum coupled with short dry periods and bST. M. S. Gulay*1, M. J. Hayen, and H. H. Head, University of Florida, Department of Animal Sciences.


W5 Use of bST in transition dairy cows: Effects on dry matter intake, body weight, BCS and milk yields. M. S. Gulay*1, M. J. Hayen1, T. I. Beloso1, M. Liboni1, and H. H. Head1, University of Florida.

W6 Effect of low dose of bovine somatotropin (bST) on hormone, IGF-I and metabolite concentrations during the transition period. M. S. Gulay*, M. J. Hayen1, and H. H. Head1, University of Florida.

W7 Nutritional modulation of hepatic growth hormone responsiveness in late-lactating dairy cows. R. P. Rhoads*1, L. H. Baumgard2, M. E. Van Amburgh1, and Y. R. Boisclair3, 1Cornell University, Ithaca, NY, 2University of Arizona, Tucson, AZ.


W10 Preliminary evaluation of a sustained-release delivery system of porcine (p) somatotropin (ST) in pigs. H. S. Ringerose*1, K. E. Govoni1, T. A. Hoagland1, S. Martinod2, and S. A. Zinn1, 1University of Connecticut, 2Smart Drug Systems, Inc.

W11 Actions of lipopolysaccharide, prostaglandin-F2a, and the nitric oxide generator, sodium nitroprusside dihyd- rate, on oocyte maturation and embryonic development in cattle. P Soto1, RP Natzke1, and PJ Hansen*1, 1Dept. of Animal Sciences, University of Florida.

W12 Postpartum changes in hormones and metabolites during early lactation in summer and winter calving Holstein cows. L. I. Nordbladh*, A. E. Sweetman, and C. S. Whisnant, North Carolina State University, Raleigh, NC.

W13 Differences in sensitivity to heat-shock between preimplantation embryos from heat-tolerant (Brahman and Romosinuano) and heat-sensitive (Angus) breeds. J Hernández-Cerón*1, CC Chase Jr2, and PJ Hansen1, 1Dept. de Reproducción, Universidad Nacional Autónoma de México, México D.F., 2USDA-ARS Subtropical Agricultural Research Station, Brooksville, FL, 3Dept. of Animal Sciences, University of Florida, Gainesville, FL 32611-0910.

W14 Differences in sensitivity to heat-shock between preimplantation embryos from heat-tolerant (Brahman and Romosinuano) and heat-sensitive (Angus) breeds. J. Hernández-Cerón*1, CC Chase Jr2, and PJ Hansen1, 1Dept. de Reproducción, Universidad Nacional Autónoma de México, México D.F., 2USDA-ARS Subtropical Agricultural Research Station, Brooksville, FL, 3Dept. of Animal Sciences, University of Florida, Gainesville.

W15 Heat shock protein-70 is upregulated in retained testicles of cryptorchid stallions. J. N. Oyarzo*, P. C. Gentry1, G. R. Dawson1, R. L. Ax2, and R. J. Collier1, 1University of Arizona, Tucson AZ.

W16 Nucleotide and predicted amino acid sequence of equine bmal1: a key biological clock component showing high homology to human bmal1. B. A. Murphy* and B. P. Fitzgerald, 1University of Kentucky, Lexington, Kentucky.
W17 Characterization of soluble CD14 in bovine milk. J.-W. Lee*, X. Zhao1, and M. J. Paape1, 1Department of Animal Science, McGill University, 2IDRL, USDA-ARS, Beltsville, MD.

W18 Effects of recombinant bovine growth hormone on levels of the bacteria Edwardsiella ictaluri in channel catfish (Ictalurus punctatus). B.C. Peterson* and A.L. Bilodeau, 1USDA/ARS.

W19 Effect of Iranain Kilka fish meal on performance and some blood metabolites in early lactating dairy cows. A.R. Heravi M*, M. Danesh Mesgaran1, D. Zamiri1, and F. Eftekhary1, 1Department of Animal Science, Ferdowsi University, Mashhad, Iran, 2Department of Animal Science, Shiraz University, Shiraz, Iran.

W20 Withdrawn


Lactation Biology

W22 Characterization of a 4,600 gene bovine microarray. C.M. Stiening* 1, J. Hoying1, A. Hoying1, D. Henderson1, P. Gentry1, Y. Kobayashi2, and R. Collier1, 1Univ. of Arizona, 2Michigan State Univ.

W23 Effects of varying energy intakes on the deposition of type IV collagen (Col IV) and fibronectin (FN) in the mammary tissue of pre-pubertal heifers. J. W. Forrest*, R. M. Akers1, R. E. Pearson1, E. G. Brown2, M. J. VandeHaar2, and M. S. Weber Nielsen3, 1Virginia Tech, Blacksburg, VA, 2Michigan State University, East Lansing, MI.


W25 Expression of translation initiation factors in mammary glands of lactating and dry dairy cows. A.R. Heravi M*1, M. Danesh Mesgaran 1, D. Zamiri 2, and F. Eftekhary 1, 1Department of Animal Science, Ferdowsi University, Mashhad, Iran, 2Department of Animal Science, Shiraz University, Shiraz, Iran.


W29 Mammary mRNA expression of bovine haptoglobin and LPS-induced alterations. S. Hiss*1, M. Mielenz1, S. Schmitz2, R. M. Bruckmaier2, and H. Sauerwein1, 1Institute of Physiology, Biochemistry and Animal Hygiene, Bonn University, Germany, 2Institute of Physiology, Techn. Univ. Munich, Germany.

W30 mRNA expression of apoptosis-related genes in mammary tissue and milk cells in response to LPS treatment and during subclinical mastitis. A. Didier and R. M. Bruckmaier*, Institute of Physiology, Technical University of Munich, Germany.

W31 Gene expression profiles in porcine mammary gland tissue during formation of colostrum. P. M. Schnulle and W. L. Hurley*, University of Illinois, Urbana.

W32 Tight junction (TJ) protein expression during engorgement of rat and bovine mammary glands. C. V. Cooper*1,2,3, K. Stelwagen1, C. D. McMahon2, K. Singh2, V. C. Farr1, and S. R. Davis2, 1Dexcel Ltd., Hamilton, New Zealand, 2AgResearch, Hamilton, New Zealand, 3Massey University, Palmerston North, New Zealand.

W33 Developmental regulation of glucosidase II in mouse mammary gland. J. Feng and I. K. Vijay, University of Maryland, College Park.

Growth & Development

W34 Impact of 5α-dihydrotestosterone on musculoskeletal status of mature laying hens. T. D. Faidley, S. E. Nicolich, D. R. Thompson, Merck Research Laboratories, Somerville, NJ.


W36 Dietary supplementation of nucleosides in late pregnant and lactating rats. C. M. De Jesus Arias*, C. E. Oliver, W. L. Keller, and C. S. Park, North Dakota State University, Fargo ND/USA.

W38 Body composition and carcass fatty acid profiles in hybrid striped bass treated with recombinant bovine somatotropin (rbST). S. R. Sanders*, J. L. Collier2, L. H. Baumgard1, and R. J. Collier1,2, 1University of Arizona, 2AquaTrophics Inc., Tucson, AZ.

W39 Effect of restricted post-weaning growth resulting from reduced floor and feeder space on pig growth performance in a wean-to-finish system. B. F. Wolter1, M. Ellis2, J. M. DeDecker3, B. P. Corrigan4, S. E. Curtis1, E. N. Farr3, and D. M. Webel1, The Maschhoffs LLC, Carlyle, IL/USA, 2University of Illinois, Urbana, IL/USA, 3United Feeds, Inc., Sheridan, IN/USA.

W40 Refolding and purification of unprocessed porcine myostatin expressed in E. coli. H.J. Jin, Y.S. Kim*, and M.A. Dunn, University of Hawaii, Honolulu HI.

W41 Effect of flax supplementation and a combined trenbolone acetate and estradiol implant on muscle satellite cell activity in beef cattle. J. D. Dunn*, A. T. Waylan, J. P. Kayser, E. K. Sissom, and B. J. Johnson, Kansas State University, Manhattan.

W42 Walking temporal variables of the sound and lame dairy cow. M. C. Nicodemus* and A. M. Chapa, Mississippi State University, Mississippi State, MS.

W43 Effect of melengestrol acetate (MGA) on bovine muscle satellite cell proliferation and differentiation. E. K. Sissom*, J. P. Kayser, A. T. Waylan, J. D. Dunn, and B. J. Johnson, Kansas State University, Manhattan.

W44 Ontogenetic changes in fatty acid profiles from different tissues in growing Holstein bull calves. H. C. Hafliger, III*, P. C. Gentry, S. R. Sanders, L. H. Baumgard, and R. J. Collier, University of Arizona, Tucson, AZ.

W45 Tissue deposition rates and empty body composition of purebred and crossbred Nellore bulls. A. Berndt1, G. M. da Cruz2, G. F. Alleoni2, M. Alencar2, and D.P.D. Lanna*1, 1ESALQ/USP, Piracicaba, SP, Brazil, 2CPPSe, EMBRAPA, Sao Carlos, SP, Brazil, 1I2, Nova Odessa, SP, Brazil.

W46 Morphological, behavioral and physiological measurements and their relationships with growth in beef cattle. K. Uetake*, T. Ishiwata1, N. Abe2, and T. Tanaka1, 1School of Veterinary Medicine, Azabu University, 2Faculty of Agriculture, Tamagawa University.


W50 Effects of Prepubertal Growth Rate and POSILAC® Treatment of Replacement Dairy Heifers on Subsequent Milk Production and Economics. J. L. Vicini*, D. T. Galligan1, S. E. Bettis1, C. R. Bilby1, S. C. Denham1, R. L. Hintz1, J. L. Holst1, T. H. Klusmeyer1, E. D. Plunkett1, B. A. Crooker2, W. J. Weber2, and M. E. Van Amburgh3, 1Monsanto Co. St. Louis, MO, 2University of Pennsylvania, Kennett Square, PA, 3University of Minnesota, St. Paul, MN, 4Cornell University, Ithaca, NY.


W52 Associations between first lactation milk yields and pubertal and peripubertal growth rates of Holstein heifers fed diets with different concentrations of protein and energy, protein:energy ratios and injected with bST. T.I. Belloso*, M. Liboni, M.S. Gulay, M.J. Hayen, K.C. Bachman, and H.H. Head, University of Florida.


W55 Calf socialization, non-forage fiber supplementation and rumen development in white and pink veal production systems. C. W. Cruywagen* and L. C. Hoffman, University of Stellenbosch, South Africa.

W56 Glucose metabolism in neonatal calves: effects of glucocorticoids and dependence on colostrum feeding. S. N. Sauter, J. W. Blum, and H. M. Hammon*, University of Berne, Berne, Switzerland.
W57 Effects of age and accelerated growth on circulating concentrations of ß-carotene and vitamins A, E, and D in milk replacer-fed calves. M. R. Foote1, B. J. Nonnecke2, M. A. Fowler1, B. L. Miller3, T. E. Johnson3, D. C. Beitz1, and R. L. Horst3, 1Iowa State University, Ames, IA, 2National Animal Disease Center, ARS, USDA, Ames, IA, 3Land O’Lakes Inc., Webster City, IA.


W60 Cell proliferation and apoptosis rates and B- and T-lymphocytes numbers in gut-associated lymphoid tissues, thymus, and lymphnodes of pre-term and full-term calves. C. W. David, J. Normann, H. M. Hammon, and J. W. Blum*, University of Berne, Berne, Switzerland.

W61 Effects of dexamethasone (DEXA) and growth hormone (ST) on glucose production in calves. H. M. Hammon*, J. W. Blum1, and S. S. Donkin2, 1University of Berne, Berne, Switzerland, 2Purdue University, West Lafayette, IN.

W62 The response of the somatotropic axis to growth hormone (ST) and dexamethasone (DEXA) in calves. H. M. Hammon*, H. Sauerwein2, J. W. Blum1, and S. S. Donkin3, 1University of Berne, Berne, Switzerland, 2Bonn University, Germany, 3Purdue University, West Lafayette, IN.

W63 Small intestinal and colon morphometry, epithelial cell proliferation, and absorptive capacity in neonatal calves fed milk-derived insulin-like growth-factor-I (IGF-I) or a colostrum extract. B. Roffler1, A. Fäh1, S. N. Sauter1, H. M. Hammon1, P. Gallmann2, G. Brem3, and J. W. Blum4*, 1University of Berne, Berne, Switzerland, 2Swiss Federal Dairy Research Station, Liebefeld, Switzerland, 3University of Vienna, Vienna, Austria.


W65 Temporal and spatial expression of MUC1 mRNA along the gastrointestinal tract. C. Liu*, A. K. Erickson, and D. R. Henning, South Dakota State University, Brookings SD/USA.

W66 Cloning and characterization of the bovine class 1 and class 2 insulin-like growth factor-I mRNA. Y. Wang*, S. E. Price, D. E. Eversole, and H. Jiang, Virginia Polytechnic Institute & State University.


W68 The bovine growth hormone receptor promoter 1 is positively regulated by hepatocyte nuclear factor 4? via the same element for hepatocyte nuclear factor 4a. H. Jiang*, M. C. Lucy2, and Q. Xu1, 1Virginia Polytechnic Institute & State University, 2University of Missouri.


Meat Science & Muscle Biology

Manipulation of Meat Quality

W70 Antioxidant effects of rosemary extract and whey powder on the oxidative stability of wiener sausages during 10 months frozen storage. S. A. Coronado1, F. R. Dunshea2, and N. P. Shah1, 1Victoria University, Melbourne, Australia, 2Victorian Institute of Animal Science, Werribee, Australia.


W74 Oxidative stability, shear force, and color of stored pork from pigs heterozygous for Rendement Napole and/or Halothane genes and consuming magnesium through drinking water. B. R. Frederick*, E. van Heugten, and M. T. See, North Carolina State University, Raleigh, NC.
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<td>W75</td>
<td>The influence of dietary protein on market barrows and gilts supplemented creatine monohydrate in conjunction with a high glycemic carbohydrate.</td>
<td>C. A. Stahl1, B. R. Wiegand2, M. S. Carlson1, D. L. McNamara1, T. B. Schmidt1, and E. P. Berg1, 1University of Missouri, Columbia, MO, 2Illinois State University, Normal, IL.</td>
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<td>W76</td>
<td>Improving pork tenderness using hydrodynamic pressure.</td>
<td>M.B. Solomon* and V. Pursel, USDA-ARS, Beltsville, MD USA.</td>
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<td>W77</td>
<td>Densitometric analysis of myofibrillar proteins in muscle samples from Angus bulls with high or low blood serum IGF-I concentration.</td>
<td>A. Yilmaz1, M. E. Davis*, R. C. M. Simmen2, and M. Yamaguchi1, 1Department of Animal Sciences, The Ohio State University, 2Department of Animal Science, University of Florida.</td>
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<td>W79</td>
<td>Effect of genotype and diet on daily weight gain and carcass quality traits.</td>
<td>I. Holló1, E. Szücs2, G. Holló2, J. Seregi1, Z. Andrássy1, Cs. Abraham*, and I. Repa, 1University of Kaposvár, Kaposvár H-7401, 2Szent István University, Gödöllő H-2103.</td>
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<td>W81</td>
<td>Evaluation of ultrasonic estimates of fat thickness and longissimus muscle area in de-haired hanging beef carcasses at chain speed.</td>
<td>T. Perkins* and A. Rimal, Southwest Missouri State University.</td>
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<td>W82</td>
<td>Effect of breed, sex, and slaughter weight on meat quality of lambs.</td>
<td>J. Peinado* 1, P. De Miguel2, D. García1, M. Cortés1, and M.I. Gracia1, 1Masde Agropecuaria, S.L., Spain, 2GRUPO CARNICO MAGNUS, S.A., Spain, 3Estación Tecnológica de la Carne de Guijuelo, Spain.</td>
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<td>W83</td>
<td>Cholesterol level and sensory evaluation of lambs of various hair x wool sheep crosses.</td>
<td>S. Wang*, T.D. Bunch, R.C. Evans, C.P. Brenand, D.R. Whittier, and B.J. Taylor, Utah State University, Logan, Utah, USA.</td>
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**Breeding & Genetics**

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<td>W84</td>
<td>Estimation of correlations of reproductive traits with blood serum IGF-I concentration in Angus beef cattle.</td>
<td>A. Yilmaz1, M. E. Davis*, R. C. M. Simmen2, and H. C. Hines1, 1Department of Animal Sciences, The Ohio State University, 2Department of Animal Science, University of Florida.</td>
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<td>W85</td>
<td>Molecular characterisation of myostatin gene in mexican Beefmaster cattle.</td>
<td>A. M. Sifuentes-Rincon1, X. F. De la Rosa-Reyana*, A. Del Bosque 2, and H. A. Barrera-Saldana1, 1Centro de Biotecnologia Genomica-IPN, 2Fac. de Agronomía. UANL.</td>
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<td>W86</td>
<td>Association between promoter region insulin-like growth factor-I polymorphism and genetic merit for production traits in Holstein sires.</td>
<td>G. W. Kazmer*, 1University of Connecticut.</td>
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<td>W87</td>
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<td>A. G Tahvildarzadeh1, J. Shoja1, M. Torchi1, A. M. Tahmasbi*, and S. Aljani1, 1Dept. of Animal Sci. Tabriz University, 2Dept of Plant Breeding and Genetic, Tabriz University, Iran.</td>
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<td>W88</td>
<td>Type trait evaluations and heritabilities of Holstein dairy cattle in northeastern Iran.</td>
<td>M. Jafarikia*, F.E. Shahroudi, and A.A. Naserian, Ferdowsi University of Mashhad, Mashhad, Iran.</td>
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<td>W89</td>
<td>Performance of Holsteins that originated from embryo transfer or twin births.</td>
<td>H. D. Norman, J. R. Wright*, and R. L. Powell, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA.</td>
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<td>W90</td>
<td>Measures of lactation persistency for Iranian Holstein dairy cattle.</td>
<td>M.B. Montazer Torbati*, M. Moradi Shahrbabak 1, S.R. Miraee Ashtiani 1, and M.B. Sayadnezhad 2, 1Tehran University, Karaj, Iran, 2Animal Breeding Center of Iran, Karaj, Iran.</td>
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<td>W91</td>
<td>Genetic correlations between boar semen traits.</td>
<td>S.-H Oh*, M. T. See1, T. E. Long2, and J. M. Galvin2, 1North Carolina State University, Raleigh, NC, 2NPD USA, Roanoke Rapids.</td>
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<td>W92</td>
<td>Effect of selection for testosterone production on testicular morphology and daily sperm production in pigs.</td>
<td>S. Walker*, O. W. Robison, C. S. Whisnant, and J. P. Cassady, North Carolina State University, Raleigh, NC.</td>
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<td>W94</td>
<td>Effect of selection of high or low mature weight and its reciprocal crossing on egg quality characteristics in Japanese quail.</td>
<td>J. J. Portillo*, F. G. Ríos1, I. V. Ferrer1, and R. Barajas1, 1FMVZ-Universidad Autónoma de Sinaloa (Mexico).</td>
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</table>
W95 Heritability estimates for semen characteristics of inbred and non-inbred Hereford bull. B. Tseveenjav*1, H. D. Blackburn2, and R. M. Enns3, 1Department of Animal Sciences Colorado State University, 2National Animal Germplasm Program ARS-USDA.


W97 Colorado State University Center for Genetic Evaluation of Livestock: Current approaches to performing large scale beef cattle genetic evaluations. S. E. Speidel*, R. M. Enns, D. J. Garrick, C. S. Welsh, and B. L. Golden, Colorado State University, Fort Collins, CO.

W98 Identification and characterization of an AFLP marker for protein yield in Canadian Holsteins. B. S. Sharma*1, Z. Jiang2, and G. B. Jansen1, 1Department of Animal and Poutry Science, University of Guelph, Canada, 2Department of Animal Science, Washington State University, USA.

Nonruminant Nutrition
Enzymes and Sow Nutrition

W99 Enzyme addition as a tool to improve early postweaning piglet performance. E. Gómez1, M. Cortés2, J. Sánchez2, F.J. Guzmán3, and P. Medel*4, 1Centro de pruebas de porcino, Hontalbilla, Spain, 2Imasde Agropecuaria, S.L., Spain.

W100 Xylanase, glucanase and amylase supplementation to piglet diets. P. Medel*1, M. I. Gracia1, E. McCartney2, A. Knox3, and J. McNab4, 1Imasde Agropecuaria, Spain, 2Pen & Tec Consulting, Spain, 3Roslin Nutrition, Scotland.

W101 Enzyme supplementation to piglet diets. A. Morillo1, D. Villalba2, A. McCartney2, M. I. Gracia1, and P. Medel*4, 1Test & Trials, Spain, 2U de Lleida, Spain, 3Pen & Tec Consulting, Spain, 4Imasde Agropecuaria, S.L.

W102 Activity of disaccharidase in small intestinal membranes of piglets as influenced by age. Q. M. Yang*1,2, D. F. Li3, and S. Y. Qiao4, 1College of Animal Science and Technology, CAU, Beijing, P.R. China, 2Southern Research and Outreach Center, University of Minnesota.

W103 Effects of feeding flaxseeds on the production traits of sows. S. K. Baidoo*1,2, G. Azunaya1, and A. Fahlad-Rad3, 1Department of Animal Science, University of Manitoba, 2Southern Research and Outreach Center, University of Minnesota.

W104 Dietary effects of flaxseed and vitamin E on the concentration of serum progesterone and vitamin E in sows. S. K. Baidoo*1,2, A. Fahlad-Rad3, and Q. Yang1, 1Department of Animal Science, University of Manitoba, 2Southern Research and Outreach Center, University of Minnesota.

W105 Dietary effects of flaxseed and vitamin E on lipid profiles of sows. S. K. Baidoo*1,2, A. Fahlad-Rad3, and Q. M. Yang1, 1Department of Animal Science, University of Manitoba, 2Southern Research and Outreach Center, University of Minnesota.


W107 A dynamic computer-model to estimate the changes of body composition during lactation in sows. J. G. Kim* and K. Y. Whang, Korea University, Seoul, Korea.

Animal Behavior & Well-Being
Social and Physical Environments


W109 Effect of a cooling system to reduce heat stress during the dry period. L. Avendao-Reyes*1, D. Alvarez-Valenzuela1, F. Rivera-Acua1, R. Hurtado-Durn1, A. Correa-Calderon1, S. Saucedo-Quintero1, J. Verdugo-Zarate1, and P.H. Robinson2, 1ICA, Universidad Autonoma de Baja California, Mexicali, Mexico, 2UCCE, Dept. of Anim. Sci., UC Davis, Davis, CA.

W110 Validation of 24h Polar RR recorder for measuring heart rate variability in pigs. R. M. Marchant-Forde*, D. J. Marlin2, and J. N. Marchant-Forde3, 1De Montfort University, Lincoln, UK, 2Animal Health Trust, Newmarket, UK, 3USDA-ARS, West Lafayette, USA.

W111 Use of digital infrared thermography to assess thermal temperature gradients and pathologies of the bovine claw. S. J. Schmidt*, S. D. Bowers1, K. B. Graves1, R. Carroll2, J. White3, and S. T. Willard4, 1Mississippi State University, Mississippi State, MS, 2Carroll Trimming, Palestine, TX.
Evaluation of drop versus trickle feeding for crated and penned pregnant gilts: Immune measures. Leslie Dabovich*, Julie Morrow, Anthony Rudine, Lindsey Hulbert, Barbara Smith, and John McGlone, Texas Tech University, USDA-ARS.


Effects of an environmental enrichment on the behavior, physiology and growth of beef cattle. T. Ishiwata*, K. Uetake, N. Abe, and T. Tanaka, School of Veterinary Medicine, Azabu University, Faculty of Agriculture, Tamagawa University.

Age and castration stress influence the thermal nociceptive response of calves. S. T. L. Ting, B. Earley, I. Veissier, S. Gupta, Teagasc, Grange Research Centre, Dunsany, Co. Meath, Ireland, Faculty of Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, INRA, Centre Clermont-Ferrand-Theix, F-63122 Saint Genes Champanelle, France.

Effects of age at transport on development of neonatal dairy calves. T. A. Johnson*, S. D. Eicher, J. N. Marchant-Forde, and A. G. Fahey, Purdue University, West Lafayette, IN, USDA-ARS, West Lafayette, IN.

**Goat Species**

**Forage/Browse Utilization**

Goat kid preference for forage. T. W. White*, H. G. Bateman, C. C. Williams, and S. Alford, Louisiana State University Agricultural Center, Baton Rouge, LA.


Effects of method of exposure of crossbred Boer wether goats to Eastern red cedar foliage on cedar consumption. G. Animut*, A. L. Goetsch, R. C. Merkel, G. Detweiler, L. J. Dawson, R. Puchala, T. Sahlu, and R. E. Estell, E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, Animal Science Department, Oklahoma State University, Stillwater, OK, School of Veterinary Medicine, Oklahoma State University, Stillwater, OK, USDA ARS Jornada Experimental Range, Las Cruces, NM.


Spatial-temporal relationships of grazing goats and sheep and their guardian dog monitored by global positioning system collars. T.A. Gipson*, M. Villaquiran, J. Joseph, and A. L. Goetsch, E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK.

**Goat Species**

**Physiology**


W128 Adrenal and metabolic response to exogenous ACTH stimulation in pregnant and non-pregnant Angora and Spanish does. C. A. Toerien*, R. Puchala, and T. Sahl, E (Kika) de la Garza Institute for Goat Research, Langston, OK.


W130 Effects of genotype, diet, and feed intake on the relationship between energy expenditure and heart rate in goats. R. Puchala*, I. Tovar-Luna, A. L. Goetsch, T. Sahl, and Z. B. Johnson, E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, 2Department of Animal Science, University of Arkansas, Fayetteville, AR.

W131 Interactions among body condition, protein supplementation, serum insulin levels and ovarian activity in goats. C. A. Meza H.*, J. M. Sanchez, J. G. Chavez-Perches, H. Salinas, J. Urrutia, and M. Mellado, 1Universidad Autonoma Chapingo-URUZA, 2Radiodiagnostico y Ultrasonografia, 3INIFAP, 4UAAAN.

**Goat Species**

**Management**

W132 Performance of lactating does fed different levels of ruminally undegradable intake protein. I. Tovar-Luna*, N. Y. Castillo-Ceron, and D. M. Hallford, 1Universidad Autonoma Chapingo, URUZA, Bermejillo, Dgo. Mexico, 2New Mexico State University, Las Cruces, NM, USA.


W134 Growth performance by Alpine, Angora, Boer, and Spanish wether goats consuming 50 or 75% concentrate diets. M. Urge, R. C. Merkel*, T. Sahl, G. Animut, and A. L. Goetsch, 1Animal Science Department, Alemaya University, Dire Dawa, Ethiopia, 2E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK.

W135 Economical feedstuffs for on-farm meat goat diets. S. Schoenian*, N. C. Whitley, and E. Johnson, 1Maryland Cooperative Extension, Keedysville, MD, 2University of Maryland Eastern Shore, Princess Anne, MD.

W136 Effect of breed type and feed level on production efficiency in meat goats. S. E. Kom*, N. C. Beckford, and J. M. Dzakuma, Prairie View A&M University, Prairie View, TX.


W138 Evaluation of goat eye mucous membrane scoring for determination of the need for anthelmintic treatment. S. P. Hart*, W. Pomroy, and T. A. Gipson, 1E (Kika) de la Garza Institute for Goat Research, Langston University, OK, 2Massey University, Palmerston North, New Zealand.

**Sheep**

**Sheep Production & Management**

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<td>W143</td>
<td>Assessment of different extenders for ovine semen cryopreservation.</td>
<td>M. A. Lopez*1, C. F. Arechiga1, M. A. Castillo-Pecina1, M. Perez2, and J. Gutierrez2, UAMVZ-Universidad Autonoma de Zacatecas, Zacatecas, Mexico.</td>
<td>2FZ-Universidad Autonoma de Chihuahua, Chihuahua, Mexico.</td>
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<td>W144</td>
<td>Evaluation of synchronized-ovulation (Ovsynch) schemes to be implemented in programmed breeding of hair sheep.</td>
<td>B. I. Camargo-Salcedo2, Y. Garcia-Guevara3, H. Rodriguez-Frausto1, R. M. Rincon1, J. I. Aguilera1, R. Bañuelos, J. I. Aguilera, and C. F. Arechiga*1</td>
<td>Universidad Autonoma de Zacatecas, 2Universidad Autonoma de Nayarit, 3Universidad Autonoma de Guerrero, Mexico.</td>
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<td>W146</td>
<td>Effects of the energy source (rendered beef fat or sugar cane molasses) on performance in lambs of hair sheep breeds fed whole rations.</td>
<td>J. A. Chavez, I. Martinez, F. M. Loya, E. G. Cienfuegos, J. C. Martinez, and A. Gonzalez*</td>
<td>Agronomía, Universidad Autonoma de Tamaulipas.</td>
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<td>W147</td>
<td>Feed efficiency, growth rates, carcass evaluation and sensory evaluation of lambs of various hair x wool sheep crosses.</td>
<td>T. D. Bunch*, R. C. Evans, S. Wang, C. P. Brenard, D. R. Whittier, and B. J. Taylor</td>
<td>Utah State University, Logan, Utah, USA.</td>
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**Beef Species**

**Beef Cattle Performance and Genetic Relationships in the Feedlot**

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<td>T. L. Fernandes*, J. W. Wilton1, I. B. Mandell1, and C.J.B. Devitt2, University of Guelph, Department of Animal and Poultry Science, 2Beef Improvement Ontario.</td>
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<td>W149</td>
<td>Effects of growth promotant (Revalor-G) implantation on feed efficiency and meat quality in Korean native cattle.</td>
<td>S. Sun*, B. Ahn1, K. Myung2, Y. Cho2, and K.C. Olson3, Chonnam national University, Gwangju, Korea, 3National Livestock research Institute, Namwon, Korea, 4University of Missouri, Columbia, MO.</td>
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**Ruminant Nutrition**

**Dairy and Beef**

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<td>A. Taghizadeh, M. Danesh Mesgaran*, R. Valizadeh, and F. Eftekhar shahroodi, Ferdowsi university, Mashhad, Iran.</td>
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<td>Rumen digestibility of five forages estimated from the in situ degradation and rate of passage.</td>
<td>M. Murillo-Ortiz*, F. O. Carrete-Carreon2, and O. Ruiz-Barrera1, Juarez University of Durango State, INIFAP-DGO., University of Chihuahua.</td>
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<td>F. O. Carrete-Carreon*, M. Murillo-Ortiz2, and O. Ruiz-Barrera3, INIFAP-DGO., Juarez University of Durango State, INIFAP-DGO., University of Chihuahua.</td>
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<td>W154</td>
<td>Effect of urea treatment and Fibrozyme® addition on in situ dry-matter degradability of corn bran.</td>
<td>J. I. Aguilera*, M. A. Castillo-Pecina1, C. F. Arechiga1, C. Arzola2, and O. Ruiz-Barrera2, UAMVZ-Universidad Autonoma de Zacatecas, Zacatecas, Mexico.</td>
<td>2FZ-Universidad Autonoma de Chihuahua, Chihuahua, Mexico.</td>
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<td>Effect of urea treatment and Fibrozyme® addition on in situ dry-matter degradability of oat hulls.</td>
<td>J. I. Aguilera*, M. A. Castillo-Pecina1, C. F. Arechiga1, C. Arzola2, and O. Ruiz-Barrera2, UAMVZ-Universidad Autonoma de Zacatecas, Zacatecas, Mexico.</td>
<td>2FZ-Universidad Autonoma de Chihuahua, Chihuahua, Mexico.</td>
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| W156         | Effect of exogenous fibrolytic enzyme on digestibility of ammoniated or non-ammoniated bluegrass seed straw fed to beef cattle. | J. I. Szasz*, C. W. Hunt1, L. R. Kennington1, and K. A. Johnson2, University of Idaho, Washington State University. | 2Washing-

Effect of exogenous fibrolytic enzymes (Fibrozyme) on *in vitro* digestibility of dry matter and cell wall of *Brachiaria* cultivars hays. J. H. Avellaneda-Cevallos1, S. S. Gonzalez2*, J. M. Pinos-Rodriguez3, A. Hernandez2, R. Barcena2, M. Cobos2, D. Hernandez-Sanchez2, and M. Crosby-Galvan2, 1Universidad Tecnica Estatal de Quevedo, Ecuador, 2Colegio de Postgraduados, Mexico, 3Universidad Autonoma de San Luis Potosi, Mexico.


Continuous culture fermentation of three fescue varieties supplemented at four energy levels. R. E. Vibart*, S. P. Washburn, V. Fellner, and J. T. Green, North Carolina State University, Raleigh.

Effect of field peas inclusion on in situ disappearance rate of grass hay, soybean hulls, and field peas in beef steers fed medium concentrate diets. S. A. Soto-Navarro*, G. J. Williams, M. L. Bauer, G. P. Lardy, D. Landblom, and J. S. Caton, North Dakota State University, Fargo.

Effects of sun-curing, formic acid-treatment or microbial inoculation on ruminal kinetic parameters of timothy. R. Martineau*, H. Lapiere3, D. R. Ouellet4, D. Pellerin5, and R. Berthiaume2, 1Univ. Laval, Quebec, Canada, 2Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Lenoxxville, Quebec, Canada.

The effects of distillers dried grain with solubles as the protein source in a creep feed. P. Lancaster*, J. Williams, J. Corners, L. Thompson, and M. Ellersieck, University of Missouri-Columbia, Columbia, Missouri.

Sodium and magnesium sulphates reduce water consumption by beef cattle. A.S. Zimmerman1*, D.M. Veira2, D.M. Weary1, M.A.G. von Keyserlingk1, and D. Fraser1, 1University of British Columbia Animal Welfare Program, 2Agriculture and Agri-Food Canada.

Kinetic parameters of digesta flow in calves under different herbage allowances of *Panicum maximum* cv. Tanzania-1. M.M. Gontijo Neto1, D. Nascimento Júnior2, V.P.B. Euclides1, A.J. Regazzi2, L.F. Miranda3, 1Embrapa Gado de Corte, Brazil, 2Universidade Federal de Viçosa, Brazil, 3FEAD-Minas, Centro de Gestao Empreendedor, Brazil.

Comparison of commercial white and yellow corn from Sinaloa Mexico, on starch composition, in vitro digestibility, and physical characteristics. O.G. Lozano1*, M. Chaidez-Ibarra1, A. Sanchez-Bautista1, X. Perales-Sanchez1, C. Mora-Uzeta1, and E. Vazquez-Garcia1, 1Universidad Autonoma de Sinaloa. Mexico.

Fractionation and in vitro degradation kinetics of carbohydrates constituents of sugar cane with different cycles of production and three cut times. A. Fernandez1*, A. Queiroz2, E. Pereira2, L. Cabral2, and A. Alex3, 1Universidade Estadual do Norte Fluminense, 2Universidade Federal de Viçosa, Brazil, 3Universidade Estadual do Oeste do Paraná, 4Universidade Federal do Mato Grosso.

Digestion of alfalfa and alfalfa:sainfoin mixture preserved as hay or as silage. Y. Wang1*, B. P. Berg2, L. R. Barbieri3, and T. A. McAllister4, 1Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, 2Alberta Agriculture, Food and Rural Development, Lethbridge, AB.


Effect of condensed tannins on in vitro digestion of alfalfa and mixed alfalfa:sainfoin silages. Y. Wang1*, Z. Xu1, B. P. Berg2, L. R. Barbieri3, and T. A. McAllister4, 1Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, 2Alberta Agriculture, Food and Rural Development, Lethbridge, AB.


Effects of dry and steam processing on in situ ruminal digestion kinetics of barley grain. A. Nikkhah* and G. R. Ghorbani*, Isfahan university of Technology, Isfahan, Iran.

Effect of the processing method of soybean meal on production response of lactating cows. C. Leonardi1*, W. Stockland2, and L.E. Armentano1, 1University of Wisconsin-Madison, 2AG Processing Inc., Omaha, NE.

Sugar cane fiber effectiveness in dairy rations. M.L.M. Lima1*, W. Mattos2, and L. G. Nussio2, 1Escola de Veterinaria, Goiania - GO - Brazil, 2Universidade de Sao Paulo, ESALQ, Piracicaba - SP - Brazil.


W180 Effects of physically effective NDF on rumen fermentation and digestion of dairy cows fed diets based on barley or corn silage. W. Z. Yang*1 and K. A. Beauchemin1, 1Agriculture and Agri-Food Canada, Lethbridge, Canada.

W181 Increased concentrations of wet corn distillers grains in dairy cow diets. A. R. Hippen*, K. N. Linke1, K. F. Kalscheur1, D. J. Schingoethe1, and A. D. Garcia1, South Dakota State University, Brookings.


W183 Total antioxidant capacity: A tool for evaluating the nutritional status of dairy heifers and cows. P. Mandebvu1,2, J. B. Castillo1, D. J. Steckley1, and E. Evans1, 1Maple Leaf Foods Agresearch, Guelph, ON, Canada, 2W.H. Miner Agricultural Research Institute, Chazy, NY 12921, USA.

W184 Utilization of sugarbeet pulp and a high-sugar product for early lactation dairy cows. G. D. Marx*, C. R. Dahlen1, and A. C. Cox2, 1University of Minnesota, Crookston, MN, 2Malt-O-Meal Company, Northfield, MN.


W186 Effect of forage to concentrate ratio on the efficiency of utilization of energy for milk production in dairy cows. E. Kebreab*, J. France1, J.A.N. Mills1, L.A. Crompton1, R.E. Agnew2, and T. Yan2, 1The University of Reading, Reading, United Kingdom, 2The Agricultural Research Institute of Northern Ireland, Hillsborough, United Kingdom.

W187 Estimation of mean ruminal retention time of DNDF in dairy cows based on combined data from rumen evacuations and marker excretion curves. P. Lund*, M.R. Weisbjerg, and T. Hvelplund, Danish Institute of Agricultural Sciences, Denmark.


W190 Grain processing, forage:concentrate, and forage length effects on ruminal N degradation and flows of amino acids to duodenum in lactating dairy cows. W. Z. Yang*1, K. A. Beauchemin1, and L. M. Rode2, 1Agriculture and Agri-Food Canada, Lethbridge, Canada, 2Rosebud Technologies Development, Ltd. Lethbridge, Canada.

W191 Grain processing, forage:concentrate, and forage length effects on intestinal digestibility of amino acids by lactating dairy cows. W. Z. Yang*1, K. A. Beauchemin1, and L. M. Rode2, 1Agriculture and Agri-Food Canada, Lethbridge, Canada, 2Rosebud Technologies Development, Ltd. Lethbridge, Canada.

W192 Chemical composition of sugar cane varieties (Saccharum spp l.) with different cycles of production in three cut time. A. Fernandes*, A. Queiroz2, L. Cabral1, E. Pereira1, and A. Arruda4, 1Universidade Estadual do Norte Fluminense, 2Universidade Federal de Viçosa, 3Universidade Estadual do Oeste do Paraná, 4Universidade Estadual do Oeste do Paraná.


W195 Effect of age on ruminal fermentation in growing calves fed high concentrate diets with two levels of NDF. A. Rotger, A. Ferret*, S. Calsamiglia, and X. Manteca, Universitat Autonoma de Barcelona.
W196 Effect of age on in situ degradation kinetics of plant protein supplements in growing calves fed high concentrate diets with two levels of NDF. A. Rotger, A. Ferret*, S. Calsamiglia, and X. Manteca, Universitat Autonoma de Barcelona.

W197 Effect of substitution of a corn-canola meal blend by cull chickpeas on apparent digestibility of diets for sheep. J. F. Obregon*, R. Barajas, and A. Estrada, FMVZ-Universidad Autónoma de Sinaloa (México).


W199 Effect of substitution of alfalfa hay by hay from long time stored mature Clitoria ternatea on apparent digestibility of diets for growing sheep. A. Estrada*, R. Barajas, and J. F. Obregon, FMVZ-Universidad Autónoma de Sinaloa (México).


W201 Ruminal degradation of dry matter of sudan grass hay grew in a subtropical weather, harvested at two ages in rumen of sheep using nylon bag technique. R. Barajas*, J.F. Obregon1, and A. Estrada1, FMVZ-Universidad Autónoma de Sinaloa (México).

W202 Effect of substitution of sesame meal by cotton seed meal on apparent digestibility of diets for sheep. R. Barajas*, J. F. Obregon, and J. J. Portillo, FMVZ-Universidad Autónoma de Sinaloa (Mexico).


W204 Effects of Aspergillus oryzae fermentation extract on growth, enzyme production, and carbon source utilization of rumen bacteria grown separately and in co-culture with and without rumen fungi. S. Albright, G. Calza, and R. Calza*, Washington State University, Pullman.

W205 RUSITEC to characterize Aspergillus oryzae extracts effects on in vitro fermentation and populations of microorganisms. R. Calza*, F. McIntosh2, J. Wallace2, and J. Newbold2, Washington State University, Pullman/U.S.A., Rowett Research Institute, Aberdeen/Scotland.


W208 Effects of slick vs non-slick bunk management on intake, performance, and carcass merit responses by finishing beef steers. P. J. Defoor*, D. A. Walker, and K. J. Malcolm-Callis, New Mexico State University, Clayton, NM.

W209 Effects of winter implant status and monensin feeding on winter and subsequent summer performance by steers grazing tallgrass prairie. T. N. Bodine, H. T. Purvis II, G. W. Horn, and D. A. Cox, Oklahoma Agricultural Experiment Station.

W210 Correlation of marbling and yearling weight EPD’s with performance and carcass characteristics of early-weaned Simmental steers. N. A. Pyatt*, L. L. Berger1, D. B. Faulkner1, and F. M. Walker2, University of Illinois at Urbana-Champaign, Illinois State University, Normal.


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W212 Serum progesterone in cycling ewes treated with progesterone-impregnated intravaginal inserts on the day of estrus. J. L. Duffey*, D. M. Hallford, C. A. Gifford, and R. L. Rosencrans, New Mexico State University, Las Cruces, NM/USA.

W213 Progesterone release and clearance patterns of progesterone-impregnated intravaginal inserts in ewes. C. A. Gifford*, J. L. Duffey, R. L. Rosencrans, and D. M. Hallford, New Mexico State University, Las Cruces, NM/USA.

W214 Effects of seminal traits and mating behavior on number of progeny sired in multi-sire herds. W. A. Whitworth1, D. W. Forrest*, L. R. Sprout1, B. G. Warrington2, and J. W. Holloway2, Department of Animal Science, Texas A&M University, College Station, Texas Agricultural Experiment Station, Uvalde.
W215 Effects of an injectable trace mineral supplement on conception rate of lactating dairy cows. J. A. Vanegas*, J. Reynolds, and R. Atwill, University of California, Davis. Veterinary Medicine Teaching and Research Center, Tulare CA.


W217 Effect of a birth weight selection index on Hereford calves from inbred and outcross matings. D. C. Anderson*1, D. D. Kress2, and K. C. Davis2, 1Northern Agricultural Research Center, Havre, 2Montana State University, Bozeman.


W219 Effect of live weight, pre-slaughter handling, and gender on blood acid-base status in finishing pigs. D. Hamilton*1, M. Ellis1, T. Bertol1, and K. D. Miller2, 1University of Illinois, Urbana, IL, USA, 2Elanco Animal Health, Greenfield, IN, USA.

W220 Prediction of wool base, vegetable matter base, fiber diameter, and prickle factor of greasy wool with near-infrared reflectance spectroscopy (NIRS). C. J. Lupton*, J. W. Walker, B. S. Engdahl, and F. A. Pfeiffer, Texas Agricultural Experiment Station, San Angelo.

W221 Field versus lab measurements for four important wool traits. F. A. Pfeiffer*, C. J. Lupton, and A. A. Simpson, Texas Agricultural Experiment Station, San Angelo.

W222 Protocols of reproductive management and their influences on improvement of fertility in Iranian Holstein dairy cattle. Ghasem Koolabadi1, Reza Tahmasbi1, Behnam Saremi*,2, and Abasali Naseri1,1Dasht Dairy Farm, Neyshabour, Khorasan, Iran, 2Ferdowsi University of Mashhad, Khorasan, Iran.

W223 Milk citrate as a potential metabolic indicator in dairy cows. L.L. Masson*1, T.T. Mottram1, and P.C. Garnsworthy2, 1Silsoe Research Institute, Silsoe, U.K., 2University of Nottingham, Sutton Bonington, U.K.


W226 Honeybee-keeping sector in Hungary. Levente Nyars2, J Sandor Zsarnoczai1*, and Huda F Salem1, 1Szent Istvan University, Godollo, Hungary, 2Research and Information Institute for Agricultural Economics, Budapest, Hungary.

W227 Particle size, feed intake, milk yield and chewing activity in Holstein cows. Pedro Melendez*, Nathan Back2, Shelly Lanhart1, and Art Donovan1, 1College of Veterinary Medicine, University of Florida, 2North Florida Holstein, Inc.


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Grazing, Cultivars, Forage Management

W229 Nutritional quality of twenty alfalfa (Medicago sativa L) cultivars from Embrapa's Brazil germplasm bank. H. Carneiro*, M. de A. Botrel1, E. de S. Sobrinho1, and M. Villaquiran2, 1EMBRAPA, CNPGL, Minas Gerais, Brazil, 2E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK.


W231 Grazing and supplementation effects of lablab (Lablab purpureus) on weight gains of St. Croix White hair sheep lambs during the dry season. E. Valencia*, R. W. Godfrey, and S. Weiss, University of the Virgin Islands, Agricultural Experiment Station.


W233 Rabbit preference, intake and digestibility of afternoon- or morning-cut alfalfa hay fed ad libitum as pellets. H.F. Mayland*, J.C. Burns2, and B.E. Mackey3, 1USDA-ARS, Kimberly, ID, 2USDA-ARS, Raleigh, NC, 3USDA-ARS, Albany, CA.
W234 Effect of previous exposure of sheep to monoterpene odors on intake of alfalfa pellets treated with camphor or a-pinene. R. E. Estell¹, E. L. Fredrickson¹, D. M. Anderson¹, K. M. Havstad¹, and M. D. Remmenga², ¹USDA, ARS, Jornada Experimental Range, Las Cruces, NM, ²New Mexico State University, Las Cruces, NM.

W235 Effects of polyethylene glycol and feed blocks on carbohydrate fermentation of woody species. Aziza Boubaker¹, Chedly Kayouli¹, and André Buldgen², ¹Institut National Agronomique Tunis, ²Faculté des Sciences Agronomiques Gembloux Belgique.

W236 Effects of windrowed or baled forage on forage quality and beef cattle production during the winter. V. Nayigihugu², A. D. Schleicher¹, B. W. Hess¹, D. W. Koch², and J. W. Flake², ¹Department of Animal Science, ²Department of Plant Science, University of Wyoming.

W237 Performance comparison of three hay rake designs. W. A. Greene*, D. A. Munn, and G. L. Sautter, The Ohio State University, Wooster USA.


W240 Performance of cow/calf pairs grazing common crabgrass. D. W. Sanson*, E. K. Twidwell², and B. C. Venuto³, ¹LSU Ag. Center, Rosepine Research Station, Rosepine, ²LSU Ag. Center, Agronomy Department, Baton Rouge, ³LSU Ag. Center, Southeast Research Station, Franklinton.

W241 Effects of corn or soybean hulls supplementation to bermudagrass hay on ruminal in situ disappearance of DM, NDF, ADF and CP of hay, corn and soybean hulls. V. T. Nguyen*, I. A. Orr, B. J Rude, and D. G. St. Louis, Mississippi State University, MS.

W242 Effect of wintering period growth rate on finishing growth rate, final weight and carcass parameters from forage or high concentrate finished cattle. J. P. Neel*, J. P. Fontenot², W. M. Clapham¹, and S. K. Duckett³, ¹USDA-ARS, AFSCRC, Beaver, WV, ²Virginia Tech, Blacksburg, ³The University of Georgia, Athens.


W244 Influence of turning cows out to pasture on fatty acid profile of milk. R. C. Khanal*, T. R. Dhiman¹, and R. L. Boman¹, ¹Department of Animal, Dairy and Veterinary Sciences, Utah State University.

W245 Consumer acceptability characteristics of conjugated linoleic acid (C LA) enriched milk and cheese. R. C. Khanal*, T. R. Dhiman¹, C. Brennand¹, R. L. Boman¹, and D. J. McMahon¹, ¹Utah State University.

W246 Influence of genotype, heading date and cutting date on fatty acid composition of ryegrass. V. R. Loyola*¹, J. J. Murphy⁵, M. O’Donovan⁵, N. Gowen², M. D. S. Oliveira¹, and C. Stanton¹, ¹Teagasc, Dairy Products Research Centre, Moorepark, Fermoy, Ireland, ²Teagasc, Dairy Production Research Centre, Moorepark, Fermoy, Ireland, ³Universidade Estadual Paulista, UNESP, Jaboticabal, Brasil, supported by FAPESP.

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W247 Consumer response to beef quality assurance certification of producers. J. W. Comerford*, J. P. Slayton², and L. Zerby³, ¹Penn State University, University Park, PA USA, ²Pennsylvania Beef Council, Middletown, PA USA.

W248 Dairy beef: Maximizing quality & profits—an educational program for dairy producers. D.A. Moore¹, J. Kirk¹, F. Garry², W. Wailes², J. Dalton*¹, J. Busboom⁴, D.J. Klingborg¹, M. Payne¹, J. Marchello¹, and M. Poe¹, ¹University of California, Davis, ²Colorado State University, ³University of Idaho, ⁴Washington State University, ⁵University of Arizona.

W249 Bacteria counts on the surface and subsurface of italicize{Klebsiella pneumoniae inoculated sand and wood shavings. L. Clow, R. Bey, J. Reneau*, and R. Farnsworth, University of Minnesota, St. Paul, MN 55108.

W250 Oregon dairy environmental stewardship program. M. E. French*, T. W. Downing, and P. D. French, Oregon State University, Corvallis, OR/USA.

W251 Effect of artificial insemination versus natural service breeding on production and reproduction parameters. J. W. Smith, L. O. Ely, W. D. Gilson, and W. M. Graves, University of Georgia.

W252 Ranking of dairy farms based on economic measures per cwt milk sold and per cwt milk equivalent. A. E. M. de Araujo* and A. de Vries, University of Florida.
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- W266 Encapsulation of *Lactobacillus reuteri* with sodium alginate for continuous production of lactic acid. S. A. Ibrahim*, C. W. Seo, S. Phetsomphou, and G. Shahbazi, North Carolina A&T State University.
- W269 The effect of the incorporation of lactobacilli and whey protein isolate on the level of cell glutathion and immunoglobulin M (Ig M). Y. H. Yoon* and J. R. Byun, Department of Animal Science and Technology, Chung-Ang University.
- W271 Effects of co-culturing EPS and non-EPS starter cultures and supplementation with WPC on syneresis, textural and rheological properties of set yoghurt. T. Amatayakul*, B. Zisu, F. Sherkat, and N.P. Shah, Victoria University, Melbourne, Australia.
- W272 Thermophilin 110: a broad spectrum bacteriocin of *Streptococcus thermophilus*. G. A. Somkuti* and D. H. Steinberg, Eastern Regional Research Center, ARS-USDA.
W274 Effect of c2 phage peptide on acid development in milk inoculated with Lactococcus lactis spp lactis C2 with and without c2 phage infection. I. Surjawan and C. L. Hicks*, University of Kentucky, Lexington, KY 40546.

W275 Inhibition of Salmonella and Escherichia coli phage with c2 phage peptide. C. L. Hicks, J. Tang, and I. Surjawan, University of Kentucky, Lexington, KY 40546.

W276 Correlation between the USU stretch test and the pizza fork test. B. L. Moyes*, D. J. McMahon1, and C. J. Oberg2, 1Utah State University, Department of Nutrition and Food Sciences, 2Weber State University, Department of Microbiology.

W277 Impact of cheese defects on U.S. graded cheeses. M Smukowski*, W. L. Wendorff, Y. Ping1, and R. D. Rao2, 1WI Center for Dairy Research, Madison, WI, USA, 2University of Wisconsin-Madison, Madison, WI, USA.


W279 Comparison of microbial populations of unfrozen and frozen control goat cheeses with those of 3 month frozen-stored ones. J. H. Lee*, S. J. Lee, A. Kalantari, and Y. W. Park, Fort Valley State University, Fort Valley, GA.

W280 Quantitative analysis of water-soluble volatile free fatty acids in commercial Swiss-type cheeses. T. Ji, W. Harper, and V. Alvarez, The Ohio State University, Columbus, Ohio.

W281 Compositional differences between whey, salty whey, and press whey from commercial manufacture of cheddar cheese. R. D Rao* and W. L. Wendorff, University of Wisconsin-Madison, Madison, WI, USA.

W282 Physico-chemical and microbiological characteristics of Cheddar cheese manufactured with a cholesterol lowering spread and oil high in omega-3 fatty acids. K. J. Aryana* and R. Gough, Louisiana State University Agricultural Center.

W283 RAPID method of cheese sample preparation for microstructural studies by electron microscopy. K. J. Aryana*1 and M. C. Henk2, 1Louisiana State University Agricultural Center, 2Louisiana State University.

W284 Effect of setting pH on the properties of mozzarella cheese made from whole milk and dry milk protein concentrate by direct acidification. S. Rehman, N. Farkye, and Y. Boorus, California Polytechnic State University, San Luis Obispo, CA.

W285 Effect of calcium on functionality of fat free Mozzarella cheese. N. S. Joshi, R. I. Dave, and K. Muthukumarappan, South Dakota State University, Brookings, SD.

W286 Changes in microstructure of part skim Mozzarella cheese as a function of calcium. N. S. Joshi, K. Muthukumarappan, and R. I. Dave, South Dakota State University, Brookings, SD.

W287 Effects of stage of lactation and aging on functional properties of Colby and Cheddar cheeses manufactured from goats’ milk. D. W. Olson*1, D. L. Van Hekken1, M. H. Tunick1, K. A. Soryal2, and S. S. Zeng2, 1USDA, ARS, Eastern Regional Research Center, Wyndmoor, PA, 2Garza Institute for Goat Research, Langston University, Langston, OK.

W288 Effects of milk pasteurization and aging on functional properties of Mexican Mennonite cheese. D. W. Olson*1, D. L. Van Hekken1, M. H. Tunick1, P. M. Tomasula1, F. J. Molina-Corral2, and A. A. Gardea2, 1USDA, ARS, Eastern Regional Research Center, Wyndmoor, PA, 2Centro de Investigacion en Alimentacion y Desarrollo, Cuauhtemoc, Chihuahua, Mexico.

W289 Proteolysis and rheology of soft goat milk cheese after frozen storage. D. L. Van Hekken*1, M. H. Tunick1, D. W. Olson1, and Y. W. Park2, 1USDA, ARS, Eastern Regional Research Center, Wyndmoor, PA, 2Fort Valley State University, Fort Valley, GA.

W290 Effect of sodium chloride and acid on rennet coagulation and curd firmness of high heat-treated milk. M. R. Acharya* and V. V. Mistry, MN-SD Dairy Foods Research Center, South Dakota State University.


W292 Influence of feeding strategy (pasture vs TMR) on proteolysis in Rugusano cheese during ripening. V. Fallico*1, L. Chianese2, J. Horne1, S. Carpino1, and G. Licitra1, 1CoRfiLaC, Regione Siciliana, 97100 Ragusa, Italy, 2Food Science Department, Naples University, Portici, Italy.


Lexicon development of appearance and texture descriptors for melted cheddar cheese. K. M. Asato*, I. M. Tsai, and M. R. McDaniel, Oregon State University, Corvallis, OR.

Monitoring spores and spore-forming bacteria populations in commercial skim milk powder production plants using conventional and molecular methods. C. Murillo**, C. Kitts², and R. Jimenez-Flores¹, ¹Cal Poly Dairy Products Technology Center, ²Cal Poly Biological Sciences Department.

Enterotoxigenic Bacillus spp. DNA fingerprints revealed in powdered milk products using rep-PCR. R. M. Cooper* and J. L. McKillip, Ball State University, Muncie, IN.

Food Safety

Food Safety: Methods, Prevalence, and Control

Detection of viable Enterobacteriaceae in milk by using real-time broad-range RT-PCR. S. H. Choi* and S. B. Lee, Sangji University, Wonju, Korea.


Survey of bulk tank milk in the United States for food-borne bacterial pathogens. J. S. Van Kessel**, J. S. Karns¹, B. J. McCluskey², and M. L. Perdue¹, ¹USDA-ARS, Beltsville, MD, ²USDA-APHIS, Fort Collins, CO.

Efficacy of lactic acid to prevent rapid Salmonella infection in market weight swine. M. D. Howard*¹, H. S. Hurd², and J. K. Gailey², ¹National Swine Research and Information Center, ²National Animal Disease Center, Ames, IA.
### Program at a Glance - Sunday, June 22

<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 21-22</td>
<td>Set up Exhibit Hall D</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 23-24</td>
<td>(3 pm - 4 pm) ADSA Prod Div. Res Comm</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 25</td>
<td>(3 pm - 5 pm) '03 &amp; '04 Program Chairs Meeting</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 26-27</td>
<td>(2 pm - 4 pm) ADSA Cmt on Eval of Dairy Prods</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 28-29</td>
<td>(3 pm - 4 pm) ADSA '06 Task Force</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 30 &amp; 35</td>
<td>(3 pm - 4 pm) ADSA Prod. Div. Nom. Meeting; (5 pm - 6 pm) ADSA Prod. Div. Bus. Meeting</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 36</td>
<td>ADSA Cmt on Eval of Dairy Prods</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 37</td>
<td>(3 pm - 4 pm) ADSA Prod Div. Res Comm</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 38</td>
<td>(3 pm - 4 pm) ADSA Prod Div. Res Comm</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 39</td>
<td>Triennial Growth Symposium</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 40-41</td>
<td>Triennial Growth Symposium</td>
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<tr>
<td>8 am - 5 pm</td>
<td>Tucson 42</td>
<td>Triennial Growth Symposium</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 43</td>
<td>Triennial Growth Symposium</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 11</td>
<td>SAD Activities (12 pm - 1 pm) SAD Welcome Pizza Party/ Orientation</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 12</td>
<td>(11 am - 12 pm) SAD Officers/Advisors Meeting</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 13-15</td>
<td>SAD Activities</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 16-17</td>
<td>SAD Activities (1 pm - 5 pm) ADSA SAD Quiz Bowl Seating &amp; Preliminary Rounds; (6:30 pm - 7 pm), SAD Quiz Bowl Final Round</td>
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<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 18</td>
<td>(5 pm - 6 pm) ADSA DF Council Meeting</td>
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<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 19</td>
<td>(5 pm - 6 pm) ADSA DF Council Meeting</td>
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<tr>
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<td>Phoenix 20</td>
<td>(5 pm - 6 pm) ADSA DF Council Meeting</td>
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<tr>
<td>8 am - 5 pm</td>
<td>Tucson 36</td>
<td>Growth and Development Symposium</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 37</td>
<td>Physiology</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 38</td>
<td>Ruminant Nutrition</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 39</td>
<td>Ruminant Nutrition</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 40-41</td>
<td>Food Safety Symposium (5:15 pm - 6:15 pm) ADSA Town Hall Meeting</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 42</td>
<td>Rare Breeds International Swine Symposium</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Tucson 43</td>
<td>Rare Breeds International Swine Symposium</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 11</td>
<td>(9:30 am - 10:30 am) SAD Judging of Yearbooks</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 12</td>
<td>(9:30 am - 10:30 am) SAD Interviews for Outstanding Student &amp; Advisor Awards</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 13-15</td>
<td>(9 am - 9:30 am) Business Meeting; (9:30 am - 10:30 am) SAD Student Activities Symposium; (11 am - 12:30 pm) ADSA SAD Undergraduate Paper Presentations</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 16-17</td>
<td>(1:30 pm - 5 pm) ADSA SAD Undergraduate Paper Presentations</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 18</td>
<td>ADSA-ASAS NE Grad Student Paper Competition</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 19</td>
<td>ADSA Dairy Foods Grad Student Paper Competition</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Phoenix 20</td>
<td>Dairy Foods</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 31</td>
<td>8 am - 12 pm Speaker Ready Room</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 32</td>
<td>8 am - 12 pm Show Office</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 33</td>
<td>8 am - 12 pm Media Room</td>
</tr>
<tr>
<td>8 am - 5 pm</td>
<td>Yuma 34</td>
<td>8 am - 12 pm Show Management</td>
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### Program at a Glance - Monday, June 23

<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 21-22</td>
<td>Companion Animal Symposium</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 23-24</td>
<td>Breeding and Genetics Symposium</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 25</td>
<td>International Animal Agriculture Symposium</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 26-27</td>
<td>Teaching/UG &amp; Grad Education</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 28-29</td>
<td>Animal Health Symposium</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 30 &amp; 35</td>
<td>WSASAS Grad Student Paper Competition</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Tucson 36</td>
<td>Growth and Development Symposium</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Tucson 37</td>
<td>Production, Management &amp; the Environment</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Tucson 38</td>
<td>Ruminant Nutrition</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Tucson 39</td>
<td>Ruminant Nutrition</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Tucson 40-41</td>
<td>Food Safety Symposium (5:15 pm - 6:15 pm) ADSA Town Hall Meeting</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Tucson 42</td>
<td>Rare Breeds International Swine Symposium</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Tucson 43</td>
<td>Rare Breeds International Swine Symposium</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Phoenix 11</td>
<td>(9:30 am - 10:30 am) SAD Judging of Yearbooks</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Phoenix 12</td>
<td>(9:30 am - 10:30 am) SAD Interviews for Outstanding Student &amp; Advisor Awards</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Phoenix 13-15</td>
<td>(9 am - 9:30 am) Business Meeting; (9:30 am - 10:30 am) SAD Student Activities Symposium; (11 am - 12:30 pm) ADSA SAD Undergraduate Paper Presentations</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Phoenix 16-17</td>
<td>(1:30 pm - 5 pm) ADSA SAD Undergraduate Paper Presentations</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Phoenix 18</td>
<td>ADSA-ASAS NE Grad Student Paper Competition</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Phoenix 19</td>
<td>ADSA Dairy Foods Grad Student Paper Competition</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Phoenix 20</td>
<td>Dairy Foods</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 31</td>
<td>8 am - 12 pm Speaker Ready Room</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 32</td>
<td>8 am - 12 pm Show Office</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 33</td>
<td>8 am - 12 pm Media Room</td>
</tr>
<tr>
<td>7:30 am - 9:30 am</td>
<td>Yuma 34</td>
<td>8 am - 12 pm Show Management</td>
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**Program at a Glance - Tuesday, June 24**

<table>
<thead>
<tr>
<th>TUESDAY, JUNE 24</th>
<th>Room</th>
<th>7:30 am - 9:30 am</th>
<th>9:30 am - 12 pm</th>
<th>1 pm - 5 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuma 21-22</td>
<td></td>
<td>Posters Only in Exhibit Hall D</td>
<td>(9:30 am - 12 pm) ARPAS - FASS Symp. (12 pm - 1 pm) ARPAS Business Meeting</td>
<td>Alpharma Beef Cattle Symposium</td>
</tr>
<tr>
<td>Yuma 23-24</td>
<td></td>
<td>Physiology Symposium</td>
<td>Physiology</td>
<td></td>
</tr>
<tr>
<td>Yuma 25</td>
<td></td>
<td>Horse</td>
<td>Horse Symposium</td>
<td></td>
</tr>
<tr>
<td>Yuma 26-27</td>
<td></td>
<td>Companion Animals</td>
<td>Companion Animals</td>
<td></td>
</tr>
<tr>
<td>Yuma 28-29</td>
<td></td>
<td>Breeding and Genetics</td>
<td>Breeding and Genetics</td>
<td></td>
</tr>
<tr>
<td>Yuma 30 &amp; 35</td>
<td></td>
<td></td>
<td>Animal Health</td>
<td></td>
</tr>
<tr>
<td>Tucson 36</td>
<td></td>
<td>Forages and Pastures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tucson 37</td>
<td></td>
<td>Ruminant Nutrition (Invited)</td>
<td>Ruminant Nutrition</td>
<td></td>
</tr>
<tr>
<td>Tucson 38</td>
<td></td>
<td>Production, Management &amp; the Environment</td>
<td>Ruminant Nutrition</td>
<td></td>
</tr>
<tr>
<td>Tucson 39</td>
<td></td>
<td>Growth and Development Symposium</td>
<td>FDA-CVM and CAST Symposium</td>
<td></td>
</tr>
<tr>
<td>Tucson 40-41</td>
<td></td>
<td>Meat Science and Muscle Biology</td>
<td>Growth and Development</td>
<td></td>
</tr>
<tr>
<td>Tucson 42</td>
<td></td>
<td>Nonruminant Nutrition</td>
<td>Nonruminant Nutrition</td>
<td></td>
</tr>
<tr>
<td>Phoenix 11</td>
<td></td>
<td>SAD Activities</td>
<td>(12 pm - 2 pm) Student Awards Luncheon; (2 pm - 3 pm) SAD Pictures</td>
<td></td>
</tr>
<tr>
<td>Phoenix 12</td>
<td></td>
<td>SAD Activities</td>
<td>(12 pm - 2 pm) Student Awards Luncheon; (2 pm - 3 pm) SAD Pictures</td>
<td></td>
</tr>
<tr>
<td>Phoenix 13-15</td>
<td></td>
<td>(8 am - 8:30 am) SAD Business Meeting - Election of Officers</td>
<td>(2 pm - 3 pm) SAD Committee Meeting - Old/ New Officers &amp; Advisors; (3 pm - 4 pm) ’06 Budget Planning</td>
<td></td>
</tr>
<tr>
<td>Phoenix 16-17</td>
<td></td>
<td>(9:30 am - 10:30 am) ADSA Dairy Foods Scholar Lecture; (10:45 am - 11:45 am) ADSA Dairy Production Scholar Lecture</td>
<td>Dairy Foods Listeria Symposium</td>
<td></td>
</tr>
<tr>
<td>Phoenix 18</td>
<td></td>
<td>Dairy Foods; (11am - 12pm) Business Meeting</td>
<td>Dairy Foods Hispanic Style Cheeses Symposium</td>
<td></td>
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<tr>
<td>Phoenix 19</td>
<td></td>
<td>(8:45 am - 11:45 am) Student Careers Symposium: Congressional Insights Program</td>
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<tr>
<td>Phoenix 20</td>
<td></td>
<td>ADSA Southern Branch Symposium</td>
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<tr>
<td><strong>Show Management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yuma 31</td>
<td>8 am - 12 pm</td>
<td>Speaker Ready Room</td>
<td>1 pm - 5 pm Speaker Ready Room</td>
<td></td>
</tr>
<tr>
<td>Yuma 32</td>
<td>8 am - 12 pm</td>
<td>Show Office</td>
<td>1 pm - 5 pm Show Office</td>
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</tr>
<tr>
<td>Yuma 33</td>
<td>8 am - 12 pm</td>
<td>Media Room</td>
<td>1 pm - 5 pm Media Room</td>
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<tr>
<td>Yuma 34</td>
<td>8 am - 12 pm</td>
<td>Show Management</td>
<td>1 pm - 5 pm Show Management</td>
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**Program at a Glance - Wednesday, June 25**

<table>
<thead>
<tr>
<th>WEDNESDAY, JUNE 25</th>
<th>Room</th>
<th>7:30 am - 9:30 am</th>
<th>10:30 am - 12 pm</th>
<th>1 pm - 5 pm</th>
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<tbody>
<tr>
<td>Yuma 21-22</td>
<td></td>
<td>Dairy Foods Symposium</td>
<td>Growth and Development Symposium</td>
<td></td>
</tr>
<tr>
<td>Yuma 23-24</td>
<td></td>
<td>(10 am - 10:30 am) ADSA Business Meeting</td>
<td>Ruminant Nutrition Fats and Fatty Acids</td>
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</tr>
<tr>
<td>Yuma 25</td>
<td></td>
<td>Food Safety</td>
<td>Food Safety</td>
<td></td>
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<tr>
<td>Yuma 26-27</td>
<td></td>
<td>(10 am - 10:30 am) ASAS Business Meeting</td>
<td>Contemporary Issues Symposium &amp; FASS Biotech Committee</td>
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</tr>
<tr>
<td>Yuma 28-29</td>
<td></td>
<td>Extension Education</td>
<td>Animal Behavior and Well Being Symposium</td>
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<tr>
<td>Yuma 30 &amp; 35</td>
<td></td>
<td>Sheep</td>
<td>Goat Species Symposium</td>
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<tr>
<td>Tucson 36</td>
<td></td>
<td>Physiology</td>
<td>Physiology</td>
<td></td>
</tr>
<tr>
<td>Tucson 37</td>
<td></td>
<td>Production, Management &amp; the Environment</td>
<td>Meat Science/Muscle Biology (Invited)</td>
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</tr>
<tr>
<td>Tucson 38</td>
<td></td>
<td>Ruminant Nutrition</td>
<td>Ruminant Nutrition</td>
<td></td>
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<tr>
<td>Tucson 39</td>
<td></td>
<td>Lactation Biology</td>
<td>Forages and Pastures Symposium</td>
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<tr>
<td>Tucson 40-41</td>
<td></td>
<td>Ruminant Nutrition (Feed Intake)</td>
<td>Production, Management &amp; the Environment Symposium (*web based option available)</td>
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<tr>
<td>Tucson 42</td>
<td></td>
<td>Breeding and Genetics</td>
<td>Breeding and Genetics</td>
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<tr>
<td>Tucson 43</td>
<td></td>
<td>Beef Species</td>
<td>Nonruminant Nutrition</td>
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<tr>
<td><strong>Show Management</strong></td>
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</tr>
<tr>
<td>Yuma 31</td>
<td>8 am - 12 pm</td>
<td>Speaker Ready Room</td>
<td>1 pm - 5 pm Speaker Ready Room</td>
<td></td>
</tr>
<tr>
<td>Yuma 32</td>
<td>8 am - 12 pm</td>
<td>Show Office</td>
<td>1 pm - 5 pm Show Office</td>
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</tr>
<tr>
<td>Yuma 33</td>
<td>8 am - 12 pm</td>
<td>Media Room</td>
<td>1 pm - 5 pm Media Room</td>
<td></td>
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<tr>
<td>Yuma 34</td>
<td>8 am - 12 pm</td>
<td>Show Management</td>
<td>1 pm - 5 pm Show Management</td>
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</table>
### Program at a Glance - Thursday, June 26

<table>
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<tr>
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<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuma 21-22</td>
<td>8 am - 12 pm</td>
<td>Lactation Biology Symposium</td>
</tr>
<tr>
<td>Yuma 23-24</td>
<td>8 am - 12 pm</td>
<td>Growth &amp; Development</td>
</tr>
<tr>
<td>Yuma 25</td>
<td>8 am - 12 pm</td>
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<tr>
<td>Yuma 26-27</td>
<td>8 am - 12 pm</td>
<td></td>
</tr>
<tr>
<td>Yuma 28-29</td>
<td>8 am - 12 pm</td>
<td></td>
</tr>
<tr>
<td>Yuma 30 &amp; 35</td>
<td>8 am - 12 pm</td>
<td></td>
</tr>
<tr>
<td>Tucson 36</td>
<td>8 am - 12 pm</td>
<td>Contemporary Issues Symposium</td>
</tr>
<tr>
<td>Tucson 37</td>
<td>8 am - 12 pm</td>
<td>Extension Education</td>
</tr>
<tr>
<td>Tucson 38</td>
<td>8 am - 12 pm</td>
<td>Ruminant Nutrition</td>
</tr>
<tr>
<td>Tucson 39</td>
<td>8 am - 12 pm</td>
<td>Production, Management &amp; the Environment</td>
</tr>
<tr>
<td>Tucson 40-41</td>
<td>8 am - 12 pm</td>
<td>Nonruminant Nutrition Symposium (*web based option available)</td>
</tr>
<tr>
<td>Tucson 42</td>
<td>8 am - 12 pm</td>
<td>Breeding and Genetics</td>
</tr>
<tr>
<td>Tucson 43</td>
<td>8 am - 12 pm</td>
<td>Animal Behavior and Well Being</td>
</tr>
</tbody>
</table>

### Show Management

<table>
<thead>
<tr>
<th>Room</th>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuma 31</td>
<td>8 am - 12 pm</td>
<td>Speaker Ready Room</td>
</tr>
<tr>
<td>Yuma 32</td>
<td>8 am - 12 pm</td>
<td>Show Office</td>
</tr>
<tr>
<td>Yuma 33</td>
<td>8 am - 12 pm</td>
<td>Media Room</td>
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