Sunday, July 9

SYMPOSIA AND ORAL SESSIONS

Triennial Reproduction Symposium

Chair: George Seidel, Colorado State University

Sponsors: Select Sires, USDA-NRI

Lecture Hall 2

Symposium I -- The Follicle and Oocyte

Time	Abstract #	
8:00 AM	1	The dominant ovarian follicle. M. C. Lucy*, *University of Missouri*, *Columbia*.
8:45 AM	2	Oocyte cytoplasmic maturation: A key mediator of both oocyte and embryo developmental competence. A. Watson*[1,2], [1]*The University of Western Ontario*, *London, Ontario, Canada*, [2]*Children's Health Research Institute*, *London, Ontario, Canada*.
9:30 AM	3	Regulation of oocyte meiotic maturation. F. J. Richard*, *Université Laval*, *Québec, QC, Canada*.
10:15 AM		Break

Casida Award for Graduate Education

10:45 AM		Casida Award for Graduate Education.

The USDA-NRI in Reproduction -- Relevance to Production Agriculture

11:15 AM	4	The National Research Initiative (NRI) competitive grants program in animal reproduction: Changes in priorities and scope relevant to U.S. animal agriculture. M. A. Mirando*, *Cooperative State Research, Education, and Extension Service, United States Department of Agriculture*, *Washington, DC*.
11:25 AM	5	A researcher's perceptions of USDA funding in reproduction. J. J. Reeves*, *Washington State University*, *Pullman*.
11:35 AM	6	National Research Initiative (NRI) in reproduction: Challenges for success. W. W. Thatcher*, *University of Florida*, *Gainesville*.
11:45 AM		Discussion
12:00 PM		Lunch Break

Molecular Techniques and Statistics

1:10 PM	7	RNA interference: a new approach to *in vivo* study of gene function. R. V. Anthony* and J. D. Cantlon, *Colorado State University*, *Fort Collins*.
1:35 PM	8	Interpretation of microarray data: Trudging out of the abyss towards elucidation of biological significance. G. W. Smith*[1], G. J. M. Rosa[1], P. M. Coussens[1], R. Halgren[1], A. C. O. Evans[2], M. Mihm[3], P. Lonergan[2], and J. J. Ireland[1], [1]*Michigan State University*, *East Lansing*, [2]*University College Dublin*, *Dublin, Ireland*, [3]*University of Glasgow*, *Glasgow, UK*.
2:00 PM	9	Statistical power calculations. R. Lenth*, *University of Iowa*, *Iowa City*.
2:25 PM	10	Procedures for statistical treatment of binomial and categorical data. R. Quaas*, *Cornell University*, *Ithaca, NY*.
2:50 PM		Break

Symposium II -- Reproductive Immunology

3:20 PM	11	Regulation of immune cells in the uterus during pregnancy in ruminants. P. J. Hansen*, *University of Florida*, *Gainesville*.
4:00 PM	12	Why is the fetal allograft not rejected? C. J. Davies*, *Washington State University*, *Pullman*.
4:45 PM	13	Seminal plasma signalling in the female reproductive tract. S. A. Robertson*, *The University of Adelaide*, *Adelaide SA, Australia*.
5:30 PM		Adjourn

Dairy Foods Symposium

Advances in Cultured Foods

Chair: Clair Hicks, University of Kentucky

Sponsors: Brewster Cheese

200 D-E

Time	Abstract #	
10:30 AM	14	Historical overview of lactic cultures. R. Sellars*, *R. L. Sellars and Associates*, *Waukesha, WI*.
11:00 AM	15	Non-starter lactic acid bacteria. T. M. Cogan* and T. P. Beresford, *Moorepark Food Research Centre Teagasc*, *Fermoy, Ireland*.
12:00 PM		Lunch Break
1:00 PM	16	Insights from genomic studies on dairy lactic acid bacteria. J. L. Steele*, *University of Wisconsin*, *Madison*.
1:40 PM	17	Engineering culture attributes. J. Broadbent*, *Utah State University*, *Logan*.
2:20 PM		Break
2:30 PM	18	Use of bacteriophage peptides as vectors or blockers to receptors on lactic cell membranes. C. Hicks*, *University of Kentucky*, *Lexington*.
3:00 PM	19	Media development for selective enumeration of lactic acid bacteria. N. P. Shah*, *Victoria University*, *Melbourne, Victoria, Australia*.
3:30 PM	20	Probiotics and health: Their potential role in modulation of immune function. Z. Ustunol*, *Michigan State University*, *East Lansing*.
4:10 PM		Panel Discussion
4:30 PM		Product tasting. (Cheddar type cheeses from around the world).
5:00 PM		Adjourn

Biosecurity Risk Assessment Workshop

200 B-C

Disease Risk Management Tools for Beef and Dairy Producer: Train the Trainer

The Center for Food Security and Public Health (CFSPN) at Iowa State University has prepared an extensive set of resources on disease risk management for beef and dairy producers. These materials have been developed by veterinarians but are designed to be used by livestock extension specialists to educate beef and dairy producers in group or one-on-one settings. This project was funded by the USDA Risk Management Agency and includes a train the trainer component to distribute the materials. Participants are being selected from each of the 50 states to attend this one day training session on Sunday, July 9. If you are interested in becoming a part of this session, please contact: Dr. Danelle Bickett-Weddle at dbweddle@iastate.edu or 515-294-1492 for registration information. Pre-registration is required as space and materials are limited.

Monday, July 10
POSTER PRESENTATIONS

Animal Health I
Exhibit Hall A

Abstract #

M1 Parturient steroids and labor duration associate with dystocia and stillbirth. J. L. Burton*[1], P. S. D. Weber[1], A. A. Bush[1], L. Neuder[1], W. Raphael[1], R. J. Erskine[1], J. Carrier[2], and S. Godden[2], [1]*Michigan State University*, *East Lansing*, [2]*University of Minnesota*, *St. Paul*.

M2 The association between hoof lesions and milk production in Ontario dairy cows. G. Cramer*[1], K. Lissemore[1], D. Kelton[1], C. Guard[2], and K. Leslie[1], [1]*University of Guelph*, *Guelph, ON, Canada*, [2]*Cornell University*, *Ithaca, NY*.

M3 The association between hoof lesions and culling risk in Ontario dairy cows. G. Cramer*[1], K. Lissemore[1], D. Kelton[1], C. Guard[2], and K. Leslie[1], [1]*University of Guelph*, *Guelph, ON, Canada*, [2]*Cornell University*, *Ithaca, NY*.

M4 Effect of intrauterine infusion of ceftiofur on uterine health and conception rate in dairy cows. K. N. Galvao*, L. F. Greco, J. M. Vilela, and J. E. P. Santos, *University of California*, *Tulare*.

M5 Evaluation of high concentrations of non-esterified fatty acids in plasma around parturition as a risk factor for occurrence of subclinical ketosis. S. O. Juchem*, J. E. P. Santos, R. L. A. Cerri, E. J. DePeters, and M. Villaseñor, *University of California*, *Davis*.

M6 Evaluation of clinical mastitis therapy used on commercial dairy farms. K. J. Hohmann*, D. A. Rhoda, and P. L. Ruegg, *University of Wisconsin*, *Madison*.

M7 Use of producer-recorded health data in determining incidence risks and relationships between health events and culling. J. B. Cole[1], A. H. Sanders*[1], and J. S. Clay[2], [1]*Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*, [2]*Dairy Records Management Systems*, *Raleigh, NC*.

M8 Effects of nutrition, weaning age and incidence of subclinical mastitis on colostrum and milk quality of santa inês breed. S. Fernandes, E. R. Siqueira, P. F. Domingues, E. V. Z. Stasieniuk, L. S. Serrão, and R. M. S. Emediato*, *São Paulo State University*, *Botucatu, São Paulo, Brazil*.

M9 Mastitis treatment practices on organic dairy herds. M. Pol and P. L. Ruegg*, *University of Wisconsin*, *Madison*.

M10 Age-specific prevalence of *Mycoplasma* spp. in the nares of calves in the San Joaquin Valley, California. D. A. C. Bacon*[1], J. Reynolds[1], R. R. Sakai[1], and C. Collar[2], [1]*University of California - Veterinary Teaching and Research Center*, *Tulare*, [2]*University of California Cooperative Extension*, *Hanford*.

M11 Effect of sampling protocol on plasma NEFA concentration. A. E. Kulick*, R. R. Rastani, and R. R. Grummer, *University of Wisconsin*, *Madison*.

M12 Bacteremia not detected during experimental coliform mastitis infection. J. Goff*[1], H. Springer[2], D. Bannerman[3], and M. Paape[3], [1]*NADC, USDA-ARS*, *Ames, IA*, [2]*Iowa State University*, *Ames*, [3]*BARC, USDA-ARS*, *Beltsville, MD*.

M13 Changes in feeding behavior but not dry matter intake identify dairy cows as risk for metritis. J. M. Huzzey*[1], D. M. Veira[2], D. M. Weary[1], and M. A. G. von Keyserlingk[1], [1]*Animal Welfare Program, University of British Columbia*, *Vancouver, BC, Canada*, [2]*Pacific Agri-Food Research Centre*, *Agassiz, BC, Canada*.

M14 The impact of colostrum supplement processing on serum IgG levels in Holstein neonates. K. J. Whitman*[1], J. R. Wenz[1], F. B. Garry[1], A. N. Merritt[2], A. N. Putnam[2], and J. H. Crabb[2], [1]*Colorado State University*, *Fort Collins*, [2]*Immucell Corp*, *Portland, ME*.

Beef Species
Exhibit Hall A

Abstract #

M15 Impact of feedlot morbidity on performance, carcass characteristics and profitability of New Mexico ranch to rail steers. J. W. Waggoner*[1], C. P. Mathis[1], C. A. Loest[1], J. E. Sawyer[2], and F. T. McCollum, III[3], [1]*New Mexico State University*, *Las Cruces*, [2]*Texas A&M University*, *College Station*, [3]*Texas A&M University*, *Amarillo*.

M16 Management factors affecting selling prices of Arkansas beef calves. T. R. Troxel*, B. L. Barham, S. Cline, J. Foley, D. Hardgrave, R. Wiedower, and W. Wiedower, *University of Arkansas Cooperative Extension Service*, *Little Rock*.

M17 Impact of the phenotypic expression of calf genetics on the selling price of Arkansas beef calves. T. R. Troxel, B. L. Barham*, S. Cline, J. Foley, D. Hardgrave, R. Wiedower, and W. Wiedower, *University of Arkansas Cooperative Extension Service*, *Little Rock*.

M18 A meta-analysis study on the effect of maturity and implant status on carcass characteristics. M. J. McPhee*, J. W. Oltjen, T. R. Famula, and R. D. Sainz, *University of California*, *Davis*.

M19 Growth performances of Angus Plus calves grazing on pasture in Hawaii subtropical climates. J. Yang*[1], M. DuPonte[1], G. Fukumoto[1], and R. Ferreira[2], [1]*University of Hawaii*, *Honolulu*, [2]*Olumau Angus Plus LLC*, *Lihue, HI*.

M20 Age at first calving and the longevity of beef cows of different breeds. F. Szabo* and I. Dakay, *University of Veszprem Georgikon Faculty of Agriculture*, *Keszthely, Hungary*.

M21 Determining the corn replacement value of wet brewers grains for feedlot cattle. J. W. Homm*, L. L. Berger, and T. G. Nash, *University of Illinois*, *Urbana*.

Breeding and Genetics I

Exhibit Hall A

Abstract #

M22 Crossbreed dairy cattle production in the tropical area in Mexico. R. Lopez*, C. Vite, J. G. Garcia-Muñiz, and P. A. Martinez, *Universidad Autonoma Chapingo*, *Chapingo, Mexico*.

M23 Influence of the reproductive system on gestation length and birth weight of Nelore Cattle in the sub-tropical area of Bolivia. J. A. C. Pereira[1], J. H. Landivar[1], A. H. Brown, Jr.*[2], Z. B. Johnson[2], and D. W. Kellogg[2], [1]*Gabriel Rene Moreno University*, *Bolivia*, [2]*University of Arkansas*, *Fayetteville*.

M24 Synchronization effects on parameters for days open. M. T. Kuhn, J. L. Hutchison, and R. H. Miller*, *Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*.

M25 THRGIBBS1F90 for estimation of variance components with threshold and linear models. S. Tsuruta* and I. Misztal, *University of Georgia*, *Athens*.

M26 Methodology for prediction of bull fertility from field data. M. T. Kuhn* and J. L. Hutchison, *Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*.

M27 Comparison of Brown Swiss, Holstein and Brown Swiss x Holstein crosses for production, somatic cell score and days open. M. I. Phelps*[1], C. D. Dechow[1], A. L. Mosholder[1], J. B. Cooper[2], and G. W. Rogers[2], [1]*The Pennsylvania State University*, *University Park*, [2]*The University of Tennessee*, *Knoxville*.

M28 Heritability estimates of milk yield and electronically recorded daily body weight. J. K. Toshniwal*[1], C. D. Dechow[1], J. A. D. R. N. Appuhamy[2], and B. G. Cassell[2], [1]*The Pennsylvania State University*, *University Park*, [2]*Virginia Polytechnic and State University*, *Blacksburg*.

M29 Genetic differences between Holstein maturity rates in the Netherlands and United States. H. D. Norman[1], J. R. Wright*[1], R. L. Powell[1], P. M. VanRaden[1], and G. de Jong[2], [1]*Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*, [2]*NRS*, *Arnhem, Netherlands*.

M30 Estimation of genetic parameters for maturity of lactation in Japanese Holsteins. Y. Masuda* and M. Suzuki, *Obihiro University of Agriculture and Veterinary Medicine*, *Obihiro, Japan*.

M31 Genetic parameters for birth weight, dystocia, gestation length, and perinatal mortality in Holstein cattle. J. M. Johanson*[1], P. J. Berger[1], S. Tsuruta[2], and I. Misztal[2], [1]*Iowa State University*, *Ames*, [2]*University of Georgia*, *Athens*.

M32 Phenotypic relationships between multivariate measures of lactation curve shape and somatic cell count in Italian Simmental cows. N. P. P. Macciotta*[1], D. Vicario[2], and A. Cappio-Borlino[1], [1]*Università di Sassari*, *Sassari, Italy*, [2]*ANAPRI*, *Udine, Italy*.

M33 Genetic variation of lactation gross energy efficiency and its association with a number of traits in Holstein dairy cattle. P. Zamani*[1], S. R. Miraei-Ashtiani[2], A.-A. Naserian[3], and A. Nik-Khah[2], [1]*BuAli University*, *Hamedan, Iran*, [2]*University of Tehran*, *Tehran, Iran*, [3]*Ferdowsi University*, *Mashhad, Iran*.

M34 Bayesian heritability estimates of monthly test day milk yields for Iranian Holsteins. H. Farhangfar*[1] and H. Mehraban[2], [1]*Birjand University*, *Birjand, Iran*, [2]*Zabol University*, *Zabol, Iran*.

M35 Estimation of phenotypic and genetic trends for milk and fat yield traits in Khorasan province Holsteins of Iran by using a univariate model. H. Naeemipour*[1], H. Farhangfar[1], H. Moravej[2], and M. Rokoei[3], [1]*Birjand University*, *Birjand, Iran*, [2]*Tehran University*, *Tehran, Iran*, [3]*Zabol University*, *Zabol, Iran*.

M36 Comparison of lactation and test day models for genetic evaluation of 305-day milk trait in Iranian Holstein heifers. H. Farhangfar* and H. Rezaee, *Birjand University*, *Birjand, Iran*.

M37 Phenotypic study of lactation curve in Iranian Holsteins. H. Farhangfar* and H. Naeemipour, *Birjand University*, *Birjand, Iran*.

M38 Estimation of genetic trends for milk production traits in Iranian Holsteins. H. Farhangfar*, H. Naeemipour, and M. R. Asghari, *Birjand University*, *Birjand, Iran*.

Forages and Pastures

Forage Quality

Exhibit Hall A

Abstract #

M39 Direct or sequential determination of ADF in legume forages. M. J. Marichal*, M. Carriquiry, and A. I. Trujillo, *Facultad de Agronomía*, *Montevideo Uruguay*.

M40 Direct verses sequential analysis of acid-detergent insoluble nitrogen in forage legume hays. J. H. Grabber* and D. R. Mertens, *USDA-Agricultural Research Service, US Dairy Forage Research Center*, *Madison, WI*.

M41 Ruminal dry matter, crude protein, neutral detergent fiber and acid detergent fiber degradation parameter kinetics of *Agropyron tauri*, *Agropyron trichophorum*, and *Bromus tomentellus*. P. Shawrang[1], A. Nikkhah*[1], and A. A. Sadeghi[2], [1]*Tehran University*, *Karaj, Iran*, [2]*Science and Research Campus, Islamic Azad University*, *Tehran, Iran*.

M42 Voluntary feed intake, rumen fermentation characteristics and nitrogen retention in Iranian Balouchi sheep fed halophyte forages. A. Riasi*[1], M. Danesh Mesgaran[2], H. Nassiri Moghaddam[2], and A. Heravi Moussavi[2], [1]*University of Birjand*, *Birjand, Khorasan, Iran*, [2]*Ferdowsi University of Mashad*, *Mashad, Khorasan, Iran*.

M43 Effective neutral detergent fiber supply to dairy grazing cows by alfalfa pasture. R. Gregoret*[1], M. Gallardo[1], P. Ludueña[2], and M. Cagnolo[2], [1]*INTA Rafaela Experimental Station*, *Rafaela, Santa Fe, Argentina*, [2]*Villa Maria National University*, *Villa Maria, Cordoba, Argentina*.

M44 Forage conservation effects on conjugated linoleic acid and trans-C18:1 production by rumen microbes when incubated with soybean oil and fish oil in continuous culture. R. Buckles, A. AbuGhazaleh*, and G. Apgar, *Southern Illinois University*, *Carbondale*.

M45 The effect of fatty acid source and forage source on trans-C18:1 and conjugated linoleic acid production by ruminal microbes in batch culture. R. Buckles, A. AbuGhazaleh*, and G. Apgar, *Southern Illinois University*, *Carbondale*.

M46 Using the Synchrotron (SRFTIRM) to Reveal Molecular Structural-Chemical Differences between Two Types of Forages Seeds –Winterfat *(Krascheninnikovia lanata)*. P. Yu*, R. Wang, and Y. Bai, *University of Saskatchewan*, *Saskatoon, Canada*.

M47 Assessment of forage production and nutritional value of subtropical grasses in north-western Argentina. M. V. Cornacchione[1] and J. I. Arroquy*[1,2], [1]*Instituto Nacional de Tecnología Agropecuaria*, *Santiago del Estero, Argentina*, [2]*Consejo Nacional de Investigaciones Científicas y Técnicas*, *Santiago del Estero, Argentina*, [3]*Universidad Nacional de Santiago del Estero*, *Santiago del Estero, Argentina*.

M48 In vitro ruminal degradation of anthocyanidin-containing alfalfa transformed with the maize *Lc* regulatory gene. Y. Wang*[1], T. A. McAllister[1], and M. Y. Gruber[2], [1]*Agriculture and Agri-Food Canada Research Centre*, *Lethbridge, Alberta, Canada*, [2]*Agriculture and Agri-Food Canada Research Centre*, *Saskatoon, Saskatchewan, Canada*.

M49 Antiherbivory compounds on the leaf surface of intact and resprouted tarbush. R. Estell*[1], E. Fredrickson[1], and M. Remmenga[2], [1]*USDA-ARS Jornada Experimental Range*, *Las Cruces, NM*, [2]*New Mexico State University*, *Las Cruces*.

M50 Chemical composition, intake and *in vitro* gas production of the forage selected by cattle in a grassland of Northern Mexico. M. Murillo-Ortíz, O. Reyes-Estrada, E. Herrera-Torres, M. Guerrero-Cervantes, G. Nevárez-Carrasco, R. Montoya-Escalante, A. S. Juárez-Reyes, and M. A. Cerrillo-Soto*, *Universidad Juárez del Estado de Durango*, *Durango, Dgo. México.*

M51 Effect of nitrogen-fertilizer application on chemical compositions and in vitro rumen digestibility of corn stovers. Q. Meng*[1,2] and G. Yan[1,2], [1]*State Key Laboratory of Animal Nutrition*, *Beijing, China*, [2]*Beef Cattle Research Center and College of Animal Science & Technology, China Agricultural University*, *Beijing, China*.

M52 *In vitro* evaluation of various energy supplements for tropical and temperate forages. R. D. L. Pacheco*[1], D. D. Millen[1], N. DiLorenzo[2], and A. DiCostanzo[2], [1]*FMVZ/UNESP*, *Botucatu, Sao Paulo, Brazil*, [2]*University of Minnesota*, *St. Paul*.

M53 Neutral detergent fiber digestibility of cool-season grasses. P. D. French*, T. W. Downing, B. D. Frisch, J. L. Chamberlain, and J. L. Warntjes, *Oregon State University*, *Corvallis*.

M54 Effect of Lactobacillus buchneri applied to alfalfa hay treated at high moisture. G. E. Higginbotham*[1], S. Mueller[1], and R. Kuber[2], [1]*University of California Cooperative Extension*, *Fresno*, [2]*Conner Marketing*, *Clovis, CA*.

M55 Effect of fibrolytic enzymes or ammonia treatment on the nutritive value of 6-wk and 8-wk regrowths of guineagrass hay. D. B. Dean*[1,2], A. T. Adesogan[1], E. Valencia[3], and N. Krueger[1], [1]*University of Florida*, *Gainesville*, [2]*Universidad del Zulia*, *Maracaibo, ZU, Venezuela*, [3]*Universidad de Puerto Rico*, *Mayaguez, PR*.

Goat Species

Feeding Management of Goats

Exhibit Hall A

Abstract #

M56 Characterization of pubertal development in nanny-fed and synthetic milk-fed crossbred meat goat does. K Collard*[1], M. S. Torres[1], E Gonzales[1], C. W. O'Gorman[1], R. L. Stanko[1,2], and M. R. Garcia[1], [1]*Texas A&M University*, *Kingsville*, [2]*Texas A&M University Agriculture Research Station*, *Beeville*.

M57 Water balance in goats under feed restriction. K. T. Resende*[1,4], I. A. M. A. Teixeira[1], J. M. Pereira Filho[2], and P. J. Murray[3], [1]*Universidade Estadual Paulista/FCAV*, *Jaboticabal, SP, Brazil*, [2]*Universidade Federal de Campina Grande*, *Patos, PB, Brazil*, [3]*School of Animal Studies, University of Queensland*, *Gatton, Qld, Austrália*, [4]*FAPESP*, *São Paulo, SP, Brazil*.

M58 Energy and protein requirements for maintenance and growth of Boer crossbred kids*. M. H. M. R. Fernandes*[1], K. T. Resende[1], L. O. Tedeschi[2], J. S. Fernandes Jr.[1], H. M. Silva[1], G. E. Carstens[2], and I. A. M. A. Teixeira[1], [1]*Universidade Estadual Paulista/FCAV*, *Jaboticabal, Sao Paulo, Brazil*, [2]*Texas A&M University*, *College Station*.

M59 Effects of feeding method, diet nutritive value and physical form, and genotype on feed intake, feeding behavior, and growth performance by meat goats. T. Gipson*, A. Goetsch, G. Detweiler, and T. Sahlu, *American Institute for Goat Research, Langston University*, *Langston, OK*.

M60 Methane emission by goats consuming diets with different levels of condensed tannin-containing lespedeza and sorghum-sudangrass. G. Animut*[1], R. Puchala[1], A. Goetsch[1], T. Sahlu[1], G. Detweiler[1], A. Patra[1], V. Varel[2], and J. Wells[2], [1]*American Institute for Goat Research, Langston University*, *Langston, OK*, [2]*US Meat Animal Research Center*, *Clay Center, NE*.

M61 Efficiency of energy use for pregnancy by crossbred Boer x Spanish does with different litter size. I. Tovar-Luna[1], A. L. Goetsch[1], R. Puchala*[1], T. Sahlu[1], G. E. Carstens[2], H. C. Freetly[3], and Z. B. Johnson[4], [1]*Kika de la Garza American Institute for Goat Research*, *Langston, OK*, [2]*Texas A&M University*, *College Station*, [3]*USDA/ARS Meat Animal Research Center*, *Clay Center, NE*, [4]*University of Arkansas*, *Fayetteville*.

M62 Relationship between energy expenditure and heart rate in pregnant Boer x Spanish does with different litter size. R. Puchala*, I. Tovar-Luna, A. L. Goetsch, and T. Sahlu, *E (Kika) de la Garza American Institute for Goat Research*, *Langston, OK*.

M63 Tethering meat goats grazing forage of high nutritive value and moderate to high mass. A. Patra*[1], R. Puchala[1], G. Detweiler[1], L. Dawson[2], G. Animut[1], T. Sahlu[1], and A. Goetsch[1], [1]*American Institute for Goat Research, Langston University*, *Langston, OK*, [2]*Oklahoma State University*, *Stillwater*.

M64 Tethering meat goats grazing forage of high nutritive value and low to moderate mass. A. Patra*[1], R. Puchala[1], G. Detweiler[1], L. Dawson[2], G. Animut[1], T. Sahlu[1], and A. Goetsch[1], [1]*American Institute for Goat Research, Langston University*, *Langston, OK*, [2]*Oklahoma State University*, *Stillwater*.

M65 Effect of polyethylene glycol on *in vitro* gas production and substrate degradation of diets selected by grazing goats. M. A. Cerrillo-Soto*, M. Guerrero-Cervantes, G. Nevárez-Carrasco, R. Montoya-Escalante, E. Herrera-Torres, M. Murillo-Ortíz, and A. S. Juárez-Reyes, *Universidad Juárez del Estado de Durango*, *Durango, Dgo. Mexico*.

M66 Evaluation of cultivated summer pastures for meat goats in Tennessee. M. Lema*, K. Souleymane, R. Opio, and C. Fenderson, *Tennessee State University*, *Nashville*.

Growth and Development

Exhibit Hall A

Abstract #

M67 Differences in adipogenesis between bovine intramuscular and subcutaneous preadipocytes are not related to expression of PPARΓ_2 or secretion of PGI_2. G. Ortiz-Colón*, A. C. Grant, M. E. Doumit, and D. D. Buskirk, *Michigan State University*, *East Lansing*.

M68 Effect of retinoic acid on sheep preadipocyte gene expression during terminal differentiation. P. Martinez, A. Arana, I. Encio, L. Alfonso, and B. Soret*, *Universidad Publica de Navarra*, *Pamplona, Navarra, Spain.*

M69 Localization of IGFBP-3 and IGFBP-5 in cultured porcine embryonic myogenic cells. X. Gang, E. I. Kamanga-Sollo, M. R. Hathaway, M. E. White*, M. S. Pampusch, and W. R. Dayton, *University of Minnesota*, *St. Paul*.

M70 Use of RNA interference (RNAi) to silence IGFBP-3 and IGFBP-5 expression in porcine embryonic myogenic cell cultures. X. Gang, M. R. Hathaway, M. E. White, E. I. Kamanga-Sollo, M. S. Pampusch, and W. R. Dayton*, *University of Minnesota*, *St. Paul*.

M71 Effects of clenbuterol and serum on the activation of mitogen-activated protein kinase in cultured bovine satellite cells. J. M. Scheffler* and S. J. Jones, *University of Nebraska*, *Lincoln*.

M72 Production of a polyclonal antibody against unprocessed chicken myostatin and the effects of in-ovo administration of the antibody on post-hatch broiler growth and muscle mass. N. K. Bobbili*, Y. K. Lee, and Y. S. Kim, *University of Hawaii*, *Honolulu*.

M73 Maternal immunization against myostatin enhances post-hatch broiler growth and muscle mass. Y. S. Kim[1], Y. C. Huh[2], and C. J. Kim*[2], [1]*University of Hawaii*, *Honolulu*, [2]*Chungnam National University*, *Daejeon, Korea*.

M74 Effects of colostrum (C) feeding and dexamethasone (Dexa) treatment on sodium-dependent glucose co-transporter-1 (SGLT1) in the small intestine of neonatal calves. H. M. Hammon* and U. Schoenhusen, *Research Institute for the Biology of Farm Animals (FBN)*, *Dummerstorf, Germany*.

M75 Oral nucleotides enhance immune status of neonatal dairy calves. K. M. Ballou*, D. E. Schimek, W. L. Keller, M. L. Bauer, and C. S. Park, *North Dakota State University*, *Fargo*.

M76 Effects of nutrition and weaning age on performance of ewes and lambs and incidence of subclinical mastitis in santa inês breed. S. Fenandes, E. R. Siqueira, P. F. Domingues, E. V. Z. Estasieniuk, L. S. Serrão, and R. M. S. Emediato*, *São Paulo State University*, *Botucatu, São Paulo, Brazil*.

M77 Opioid agonist modulation of long term food intake in sheep. F. Y. Obese[1], B. K. Whitlock[1], F. C. Buonomo[2], and J. L. Sartin*[1], [1]*Auburn University*, *Auburn, AL*, [2]*Monsanto Co*, *St Louis, MO*.

M78 Effects of feeding *ad-lib* fresh milk or milk replacer during nursing and added protein at pre-puberty period to Holstein heifers on growth rates and production during first lactation. U. Moallem*[1], D. Werner[2], H. Lehrer[1], M. Katz[1], L. Livshitz[1], I. Bruckental[1], and A. Shamay[1], [1]*Institute of Animal Science, ARO*, *Israel*, [2]*Extension Service, Ministry of Agriculture*, *Israel*.

M79 Performance of calves fed whole milk and milk replacer in different sequences. M. C. Scott*, R. E. James, and M. L. McGilliard, *Virginia Polytechnic Institute and State University*, *Blacksburg*.

M80 Development of specific breeds equations to estimate chemical empty body composition using the 9-10-11th rib cut composition. A. Berndt[1], G. M. da Cruz[3], G. F. Alleoni[4], M. M. Alencar[3], and D. P. D. Lanna*[2], [1]*APTA/SP*, *Andradina, São Paulo, Brazil*, [2]*ESALQ/USP*, *Piracicaba, São Paulo, Brazil*, [3]*EMBRAPA/CPPSe*, *São Carlos, São Paulo, Brazil*, [4]*IZ/SP*, *Nova Odessa, São Paulo, Brazil*.

M81 Phenotypical characterization of genetically different cattle in segregating family structures, growth and carcass characteristics. R. Pfuhl*, O. Bellmann, J. Wegner, K. Ender, and C. Kühn, *Research Institute for the Biology of Farm Animals*, *Dummerstorf, Germany*.

M82 Residual feed intake (RFI), behavioral, and physiological measures in Angus Bulls. J. P. Cassady*, C. S. Whisnant, M. H. Poore, and G. B. Huntington, *North Carolina State University*, *Raleigh*.

Meat Science and Muscle Biology

Exhibit Hall A

Abstract #

M83 Fatty acid profile in selected rodent and fish species from Colombia. L. L. Betancourt*[1] and G. J. Díaz[2], [1]*Universidad de La Salle, Facultad de Zootecnia*, *Bogotá, Distrito Capital, Colombia*, [2]*Universidad Nacional de Colombia, Facultad de Medicina Veterinaria y Zootecnia*, *Bogotá, Distrito Capital, Colombia*.

M84 Fatty acid composition in bovine and buffalo beef. L. Betancourt*[1], C. Bustamante[1], and G. Díaz[2], [1]*La Salle University*, *Bogotá Distrito Capital, Colombia*, [2]*National of Colombia University*, *Bogotá, Distrito capital, Colombia*.

M85 Prediction of melting point of intramuscular fat of Japanese Black cattle by image analysis method using high resolution digital image. M. Oishi*[1], S. Fukushima[1], S. Hidaka[1], H. Tsukuda[2], and K. Kuchida[1], [1]*Obihiro Univ. of AVM*, *Obihiro-shi, Japan*, [2]*Livestock Implov. Assoc.*, *Makubetsu-cho,Japan*.

M86 Comparison of belly and loin volumes between cattle breeds by image analysis using mirror-type photographic equipment. Y. Hamasaki*[1], T. Osawa[1], S. Hidaka[1], T. Hori[2], H. Kodaka[3], Y. Sasaki[4], and K. Kuchida[1], [1]*Obihiro University of A&VM*, *Obihiro, Hokkaido, Japan*, [2]*Hokkaido Indust. Res. Inst.*, *Sapporo, Hokkaido, Japan*, [3]*HAYASAKA Sci. and Engin. Corp.*, *Sapporo, Hokkaido, Japan*, [4]*SASAKI Livestock Corp.*, *Obihiro, Hokkaido, Japan*.

M87 Effect of suckling regimen on intramuscular collagen properties of *Comisana* lambs. G. Maiorano*[1], A. Ciarlariello[1], C. Cavone[1], R. J. McCormick[2], and A. Manchisi[1], [1]*University of Molise*, *Campobasso, Italy*, [2]*University of Wyoming*, *Laramie*.

M88 Image analysis of marbling in pork rib eye and prediction of crude fat contents. K. Kuchida*[1], M. Oishi[1], Y. Kuwabara[2], M. Hanada[1], and S. Hidaka[1], [1]*Obihiro University of A&VM*, *Obihiro, Hokkaido, Japan*, [2]*Fuji Nojo Service*, *Fujinomiya, Shizuoka, Japan*.

M89 Effect of type of pasture and time of supplementation on fatty acid composition of grazing beef heifers. G. J. Depetris*[1], E. Pavan[1], F. J. Santini[1], E. L. Villarreal[1], and T. P. Garcia[2], [1]*EEA INTA Balcarce- Fac Cs. Agrarias. UNMdP*, *Balcarce, Buenos Aires, Argentina*, [2]*Inst. de Tecnología de Alimentos. INTA Castelar*, *Moron. Buenos Aires, Argentina*.

M90 Effect of type of pasture and time of supplementation on meat quality traits of grazing beef heifers. G. J. Depetris*[1], E. Pavan[1], F. J. Santini[1], E. L. Villarreal[1], G. Grigioni[2], M. Irurueta[2], and F. Carduza[2], [1]*EEA INTA Balcarce- Fac Cs. Agrarias, UNMdP*, *Balcarce, Buenos Aires, Argentina*, [2]*Inst. de Tecnolog&iactue;a de alimentos, INTA Castelar*, *Morón, Buenos Aires, Argentina*.

M91 Field pea inclusion in high grain diets for beef heifers improves beef tenderness without altering performance. K. R. Maddock Carlin*[1], G. P. Lardy[1], R. J. Maddock[2], B. Ilse[3], and V. L. Anderson[3], [1]*North Dakota State University*, *Fargo*, [2]*South Dakota State University*, *Brookings*, [3]*Carrington Research Extension Center*, *Carrington*.

M92 Physical and sensorial traits of meat from different ovine categories. A. G. da Silva Sobrinho*, R. S. B. Pinheiro, H. B. A. de Souza, and S. M. Yamamoto, *Unesp- São Paulo State University*, *Jaboticabal, São Paulo, Brazil*.

M93 Changes in caspase activities post mortem and their relationships to shear force in porcine *longissumus* muscle. C. M. Kemp*, R. G. Bardsley, and T. Parr, *University of Nottingham*, *Nottingham, Nottinghamshire, UK*.

M94 Effects of adding sunflower or soybean seeds on fatty acid composition of intramuscular fat in feedlot heifers. J. A. Navarro*[1], F. J. Santini[1], G. J. Depetris[1], E. L. Villarreal[1], D. H. Rearte[1], and P. T. García[2], [1]*EEA INTA Balcarce, Fac. Cs. Agrarias, UNMdP*, *Balcarce, Buenos Aires, Argentina*, [2]*Inst. de Tecnología de Alimentos, INTA Castelar*, *Morón, Buenos Aires, Argentina*.

M95 Effect of different breeds on fatty acid composition and cla concentration of beef cattle. A. A. Souza, L. Suguisawa*, H. N. Oliveira, and A. C. Silveira, *São Paulo State University*, *São Paulo, Brazil*.

M96 Response of M- and m-Calpains in the Presence of Calpastatin After Hydrogen Peroxide-Induced Oxidation. E. M. Steadham*[1], K. R. Maddock Carlin[2], E. Huff-Lonergan[1], and S. M. Lonergan[1], [1]*Iowa State University*, *Ames*, [2]*North Dakota State Unversity*, *Fargo*.

M97 Effects of postmortem storage on M- and m-calpain in bovine skeletal muscle. J. P. Camou*, J. A. Marchello, and D. E. Goll, *University of Arizona*, *Tucson*.

M98 Effect of substitution of concentrate by sweet potato (*Ipomoea batatas* L.) meal in carcass traits of finishing pigs. O. E. Moron*, S. Pietrosemoli, A. Paez, C. Chirinos, and A. Marrugo, *Facultad de Agronomia. La Universidad del Zulia*, *Maracaibo, Zulia, Venezuela*.

Nonruminant Nutrition

Dietary Influences in Nursery Pigs

Exhibit Hall A

Abstract #

M99 Validation of the NCCC-42 vitamin-trace mineral premix in starter pigs. T. D. Crenshaw*[1], M. J. Azain[2], G. H. Hill[3], P. S. Miller[4], and NCCC-42 Swine Nutrition Committee[1], [1]*University of Wisconsin*, *Madison*, [2]*University of Georgia*, *Athens*, [3]*Michigan State University*, *East Lansing*, [4]*University of Nebraska*, *Lincoln*.

M100 True phosphorus digestibility and the gastrointestinal endogenous P outputs associated with brown rice in weanling pigs. H. Yang[1], Y. L. Yin*[1,2], T. J. Li[1], R. L. Huang[1], and M. Z. Fan[1], [1]*The Chinese Academy of Sciences*, *Changsha, Hunan Province, China*, [2]*University of Guelph*, *Ontario, Canada*.

M101 True phosphorus digestibility and the endogenous phosphorus outputs in diets for weaned pigs determined by the substitution method. Z. R. Wang[1], L. Liu[2], X. J. Yang[2], T. C. Rideout[2], C. Yang[2], Y. L. Yin[2,3], T. Archbold[2], and M. Z. Fan*[2], [1]*Xinjiang Agricultural University*, *Urumqi, Xinjiang, China*, [2]*Institute of Subtropical Agriculture, the Chinese Academy of Sciences*, *Changsha, Hunan, China*, [3]*University of Guelph*, *Ontario, Canada*.

M102 Impact of genetics and dietary phosphorus restriction on growth performance and bone integrity in pigs. L. Alexander*, S. Cutler, M. Yu, M. F. Rothschild, and C. H. Stahl, *Iowa State University*, *Ames*.

M103 Evaluation of plasma protein replacement strategies in complex and semi-complex phase 1 and 2 diets, followed by either high or low soybean meal subsequent nursery diets. G. Willis*[1], P. Wilcock[1], and B. Richert[2], [1]*Primary Nutrition*, *Dundee, IL*, [2]*Purdue University*, *West Lafayette, IN*.

M104 Nutrient digestibility of vegetable protein sources of different particle size in young pigs. D. G. Valencia, M. P. Serrano, R. Lázaro, and G. G. Mateos*, *Universidad Politécnica de Madrid*, *Spain*.

M105 The evaluation of several protein sources on amino acids digestibility in early-weaned pigs. B. J. Min*[1], J. H. Cho[1], Y. J. Chen[1], H. J. Kim[1], J. S. Yoo[1], I. H. Kim[1], S. S. Lee[2], and W. T. Cho[2], [1]*Dankook University*, *Cheonan, Chung nam, Korea*, [2]*Genebiotech Co. Ltd.*, *Gongju, Chung nam, Korea*.

M106 The effects of fermented soy protein in simple or complex diet on growth performance and amino acids digestibility in weaned pigs. B. J. Min*[1], J. H. Cho[1], Y. J. Chen[1], H. J. Kim[1], J. S. Yoo[1], I. H. Kim[1], S. S. Lee[2], and W. T. Cho[2], [1]*Dankook University*, *Cheonan, Chungnam, Korea*, [2]*GenebiotechCo. Ltd.*, *Gongju, Chungnam, Korea*.

M107 Optimal lysine level of fermented soy protein diet in weaned pigs. B. J. Min*[1], J. H. Cho[1], Y. J. Chen[1], H. J. Kim[1], I. H. Kim[1], S. S. Lee[2], and W. T. Cho[2], [1]*Dankook University*, *Cheonan, Chungnam, Korea*, [2]*Genebiotech Co. Ltd.*, *Gongju, Chungnam, Korea*.

M108 Lysine requirement of gilts following a protein restriction from 4 to 8 weeks of age. C. L. Collins[1,3], S. X. Fu[2], R. Hinson[2], B. J. Leury[3], B. G. Tatham[1], G. L. Allee[2], and F. R. Dunshea*[1,3], [1]*Department of Primary Industries*, *Werribee, Victoria, Australia*, [2]*University of Missouri*, *Columbia*, [3]*University of Melbourne*, *Parkville, Victoria, Australia*.

M109 Dietary lysine needs of a lean, late maturing strain of pigs. T. R. Lutz, R. C. Clayton, and T. S. Stahly*, *Iowa State University*, *Ames*.

M110 Effect of dietary electrolyte balance (dEB) and source in high synthetic amino acid nursery diets. A. M. Gaines[1], B. W. Ratiff[1], B. Hinson*[1], G. L. Allee[1], and J. L. Usry[2], [1]*University of Missouri*, *Columbia*, [2]*Ajinimoto Heartland LLC*, *Chicago, IL*.

M111 Efficacy of methionine hydroxy analog free acid relative to DL-methionine in growing pigs. F. O. Opapeju*[1], C. M. Nyachoti[1], M. Rademacher[2], and G. H. Crow[1], [1]*University of Manitoba*, *Winnipeg, MB, Canada*, [2]*Degussa AG*, *63457 Hanau-Wolfgang, Germany*.

M112 Proteomic evaluation of brush border proteins in pig small intestine. X. Xiao, P. M. Williams, E. A. Wong, and K. E. Webb, Jr.*, *Virginia Tech*, *Blacksburg*.

M113 Effect of probiotics supplementation on growth performance and intestinal microbiology in weaning pigs. H. J. Jung*, J. C. Park, Y. H. Kim, H. K. Moon, I. C. Kim, and S. J. Lee, *National Livestock Research Institute, RDA*, *Cheonan, Korea*.

M114 Growth performance of pigs fed diets supplemented with an ammoniated formic acid (FA) solution. A. F. Harper*[1], M. J. Estienne[1], and H. Miettinen[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Kemira Oyj*, *Helsinki, Finland*.

M115 Effect of inorganic acids on growth performance and health status in piglets. D. T. Liem[1], C. Lückstädt[2], and G. Schatzmayr*[3], [1]*University of Agriculture and Forestry*, *Ho Chi Minh City, Vietnam*, [2]*Biomin Deutschland GmbH*, *Zell u. A., Germany*, [3]*Biomin GmbH*, *Herzogenburg, Austria*.

M116 Impact of various dietary cereals on clinical response to *E. coli*. J. Buckingham[1], F. Ji*[2], P. J. Laski[2], and J. E. Pettigrew[2], [1]*QAF Meat Industries Pty Ltd.*, [2]*University of Illinois*, *Urbana*.

M117 Efficacy of a mannan oligosaccharide and antimicrobial on the gastrointestinal microbiota of young pigs. J. C. Miguel*, P. J. Laski, and J. E. Pettigrew, *University of Illinois at Urbana-Champaign*, *Urbana*.

M118 Evaluation of three mannanoligosacchride products in swine nursery diets. H. Yang[1], T. Shipp*[2], J. Less[3], T. Radke[1], and M. Cecava[1], [1]*ADM Animal Nutrition*, *Quincy, IL*, [2]*ADM Animal Health and Nutrition*, *Quincy, IL*, [3]*ADM Specialty Feed Ingredients*, *Decatur, IL*.

M119 Growth performance of nursery pigs fed different cereal grains on a commercial farm. V. G. Perez-Mendoza*[1], M. U. Steidinger[2], G. R. Hollis[1], and J. E. Pettigrew[1], [1]*University of Illinois*, *Urbana-Champaign*, [2]*Swine Nutrition Services Inc*, *Anchor, IL*.

M120 Glycemic index in young pigs fed rice or corn either raw or cooked. B. Vicente, D. G. Valencia, J. M. González, D. Menoyo, R. Lázaro, and G. G. Mateos*, *Universidad Politécnica de Madrid*, *Spain*.

M121 Development of a model to determine preferences for feed ingredients in young pigs. E. van Heugten*[1], K. Ange-van Heugten[1], W. Zhang[1], and E. Roura[2], [1]*North Carolina State University*, *Raleigh*, [2]*Lucta SA*, *Barcelona, Spain*.

M122 Effects of diet type and an artificial high intensity sweetener (SUCRAM®) on weaned piglet performances. P. Schlegel*[1] and R. Hall[2], [1]*Pancosma S.A.*, *Le Grand-Saconnex, Geneva, Switzerland*, [2]*Cooperative Research Farms*, *Richmond, VA*.

M123 Adding a milky flavor in drinking water and an enhanced milky flavor in feed improves piglet growth compared to the use of no flavor or a sweetener. E. Roura*[1], J. Coma[2], and D. Torrallardona[3], [1]*Lucta SA*, *Barcelona, Spain*, [2]*Vall Companys*, *Lleida, Spain*, [3]*IRTA, Centre Mas Bové*, *Reus, Spain*.

M124 The use of an enhanced milky flavor but not of standard flavors in feed improves growth of pigs at weaning compared to a non-flavored control feed. E. Roura*[1], L. Levrouw[2], D. Solà-Oriol[3], and D. Torrallardona[3], [1]*Lucta SA*, *Barcelona, Spain*, [2]*DSM, Nutritional Products NV*, *Belgium*, [3]*IRTA, Centre Mas Bové*, *Reus, Spain*.

M125 Effects of dietary delta-aminolevulinic acid and chitooligosaccharide on growth performance, nutrient digestibility and hematological characteristics in weanling pigs. Y. J. Chen*[1], B. J. Min[1], J. H. Cho[1], H. J. Kim[1], J. S. Yoo[1], J. D. Kim[3], D. K. Kang[1], H. R. Kim[2], and I. H. Kim[1], [1]*Dankook University*, *Cheonan, Chungnam, Korea*, [2]*Pukyong*, *Busan, Korea*, [3]*CJ Feed Co.*, *Incheon, Korea*.

M126 Dietary supplementation with the Chinese herb improves growth performance and tissue integrity in weanling piglets. F. G. Yin[1], X. F. Kong[1], Y. L. Yin*[1], H. J. Liu[1], Y. P. Liao[1], and G. Y. Wu[1,2], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences*, *Changsha, Hunan, P.R. China*, [2]*Texas A&M University*, *College Station*.

Physiology and Endocrinology

Estrous Synchronization

Exhibit Hall A

Abstract #

M127 Post-AI interventions in lactating dairy cattle. I. Ovarian responses to GnRH, hCG, and exogenous progesterone (CIDR). J. S. Stevenson*, D. E. Tenhouse, M. A. Portaluppi, and A. Lloyd, *Kansas State University*, *Manhattan*.

M128 Post-AI interventions in lactating dairy dattle. II. Conception rates and pregnancy survival in response to GnRH, hCG, and exogenous progesterone (CIDR). J. S. Stevenson*[1], D. E. Tenhouse[1], M. A. Portaluppi[1], D. R. Eborn[1], S. Kacuba[2], and J. M. DeJarnette[2], [1]*Kansas State University*, *Manhattan*, [2]*Select Sires*, *Plain City, OH*.

M129 Induction of cyclicity in postpartum anestrous beef cows using progesterone, GnRH and estradiol cypionate (ECP). J. Wheaton*[1] and G. Lamb[2], [1]*University of Minnesota*, *St. Paul*, [2]*University of Minnesota*, *Grand Rapids*.

M130 Effects of feeding palm oil fatty acids on milk production and composition and follicle size in early lactating cows. A. Heravi Moussavi* and M. Danesh Mesgaran, *Center ofFerdowsi University of Mashhad*, *Mashhad, Iran*.

M131 Effect of timing of the second GnRH injection of a timed AI protocol on fertility of lactating holstein cows after first postpartum and Resynch AI services. R. A. Sterry*[1], P. W. Jardon[2], B. Ryzebol[3], and P. M. Fricke[1], [1]*University of Wisconsin*, *Madison*, [2]*West Central*, *Ralston, IA*, [3]*Ryzebol Dairy*, *Bailey, MI*.

M132 Characterization of follicular dynamics, timing of estrus, and response to GnRH and PG in replacement beef heifers after presynchronization with a 14-day CIDR. D. J. Schafer*, D. C. Busch, M. F. Smith, and D. J. Patterson, *University of Missouri*, *Columbia*.

M133 Factors affecting synchronization and conception rate (CR) after the Ovsynch protocol in lactating dairy cows. K. N. Galvao* and J. E. P. Santos, *University of California Davis*, *Tulare*.

M134 Conception rates after altered timing of AI associated with the CO-Synch + CIDR protocol. C. A. Dobbins*[1], D. E. Tenhouse[1], D. R. Eborn[1], K. R. Harmoney[2], S. K. Johnson[3], and J. S. Stevenson[1], [1]*Kansas State University*, *Manhattan*, [2]*Agricultural Research Center*, *Hays, KS*, [3]*Northwest Area Extension Office*, *Colby, KS*.

M135 Effect of progesterone therapy post AI via a previously used CIDR insert on embryonic loss and for the resynchronization of estrus in cattle. J. L. Fain*, W. M. Graves, J. M. Haslett, J. W. Durham, S. C. Nickerson, and J. K. Bernard, *University of Georgia*, *Athens*.

M136 Serum progesterone concentrations in ovariectomized cows bearing new or previously used CIDR devices with or without autoclaving. J. F. Zuluaga* and G. L. Williams, *Texas A&M University Agricultural Research Station*, *Beeville*.

M137 Induction of a new follicular wave in holstein heifers with persistent follicles, synchronized with norgestomet. E. Garcia*[1,2], T. Sanchez[1], J. Peralta[1], J. Cordero[1], O. Montañez[3], P. Molina[1], and R. Avila[1], [1]*Especialidad de Ganaderia Colegio de Postgraduados*, *Texcoco, Mexico*, [2]*CUCSUR Universidad de Guadalajara*, *Autlan, Jalisco, Mexico*, [3]*CUSUR Universidad de Guadalajara*, *Cd. Guzman, Jalisco, Mexico*.

M138 The use of a progesterone releasing device (CIDR), with GnRH and prostaglandin F2α (PGF), for a fixed-time artificial insemination in beef heifers. J. M. Howard[1], D. G. Falk[1], K. G. Carnahan[1], J. C. Dalton[2], R. C. Chebel[2], T. C. Blair[1], and A. Ahmadzadeh*[1], [1]*University of Idaho*, *Moscow*, [2]*University of Idaho*, *Caldwell*.

M139 Evaluation of GnRH administration at 17 days after timed AI on conception rates and pregnancy losses in lactating dairy cows. A. P. Cunha, A. H. Souza, E. P. B. Silva, D. J. Brusveen, C. D. F. Silva, J. A. Powell, P. M. da Cunha*, J. N. Guenther, and M. C. Wiltbank, *University of Wisconsin*, *Madison*.

M140 Conception rates at ET in lactating dairy recipient cows after estrous or ovulation synchronization. D. T. G. Jardina[1], R. M. Santos[1], D. G. B. Demetrio[1], C. A. Rodrigues[2], and J. L. M. Vasconcelos*[1], [1]*FMVZ-UNESP*, *Botucatu, SP, Brazil*, [2]*Clinica Veterinaria Samvet*, *Sao Carlos, SP, Brazil*.

M141 Effects of selenium (Se) sources on dairy cows. F. T. Silvestre*[1], D. T. Silvestre[1], J. E. P. Santos[2], C. Risco[1], C. R. Staples[1], and W. W. Thatcher[1], [1]*University of Florida*, *Gainesville*, [2]*University of California*, *Davis*.

M142 The first ovulation of dominant follicle within three weeks postpartum closely relates to metabolic status and peak milk yield in high-producing dairy cows. A. Miyamoto*, M. Kataoka, Y. Masuda, C. Kawashima, E. Kaneko, N. Matsunaga, M. Matsui, M. Ishii, K. Kida, Y.-I. Miyake, and M. Suzuki, *Obihiro University of Agriculture and Veterinary Medicine*, *Obihiro, Hokkaido, Japan*.

M143 Effectiveness of GnRH treatment before, or before and after ovarian stimulation with FSH on superovulation response and embryo quality. D. J. Ambrose*[1], R. Rajamahendran[2], G. Giritharan[2], J. Kurtu[2], and P. Madan[2], [1]*Alberta Agriculture Food and Rural Development*, *Edmonton, Alberta, Canada*, [2]*University of British Columbia*, *Vancouver, BC, Canada*.

M144 Effect of source of supplemental Se on uterine health and embryo quality in high-producing dairy cows. R. L. A. Cerri*[1], H. M. Rutigliano[1], F. S. Lima[1], D. S. Brito[1], J. Hillegass[1], W. W. Thatcher[2], and J. E. P. Santos[1], [1]*University of California Davis*, *Tulare*, [2]*University of Florida*, *Gainesville*.

Production, Management and the Environment I

Exhibit Hall A

Abstract #

M145 Postruminal survivability of *Fusarium graminearum* in infected barley kernels. Y. Wang*[1], D. L. McLaren[2], G. D. Inglis[1], S. L. Scott[2], T. K. Turkington[3], and T. A. McAllister[1], [1]*Agriculture and Agri-Food Canada Research Centre*, *Lethbridge, Alberta, Canada*, [2]*Agriculture and Agri-Food Canada Research Centre*, *Brandon, Manitoba, Canada*, [3]*Agriculture and Agri-Food Canada Research Centre*, *Lacombe, Alberta, Canada*.

M146 Response of bovine lateral saphenous vein to increasing concentrations of lysergic acid and ergovaline. J. L. Klotz*[1], B. C. Arrington[2], L. P. Bush[2], and J. R. Strickland[1], [1]*USDA-ARS, FAPRU*, *Lexington, KY*, [2]*University of Kentucky*, *Lexington*.

M147 Evaluation of the vasoconstrictive capacity of tall fescue alkaloids using fescue naïve bovine lateral saphenous veins. J. L. Klotz*[1], B. H. Kirch[1], G. E. Aiken[1], L. P. Bush[2], B. C. Arrington[2], and J. R. Strickland[1], [1]*USDA-ARS, FAPRU*, *Lexington, KY*, [2]*University of Kentucky*, *Lexington*.

M148 Effect of pulse grains on feedlot performance of newly weaned steers. V. L. Anderson*[1] and J. P. Schoonmaker[2], [1]*North Dakota State University*, *Carrington*, [2]*Land O' Lakes Inc.*, *Madison, WI*.

M149 Effect of using a sheath protector at time of insemination on the pregnancy rate of beef cattle synchronized with CIDRs. W. A. Greene and M. L. Borger*, *The Ohio State University*, *Wooster*.

M150 Intake and performance of beef steers with ad-libitum access to a balanced ration or the same ingredients of the balanced diet but delivered in separated bunks. J. Arroquy*[1,2], J. Saravia[1], A. Fumagalli[1,3], F. Moretto[3], A. Lopez[3], and C. Lopez[3], [1]*Instituto Nacional de Tecnología Agropecuaria, EEA-Santiago del Estero*, *Santiago del Estero, Argentina*, [2]*Consejo Nacional de Investigaciones Científicas y Técnicas*, *Argentina*, [3]*Universidad Nacional de Santiago del Estero*, *Santiago del Estero, Argentina*.

M151 Evaluation of forage-based weaning systems in spring-born cross-bred beef calves. J. F. Odhiambo*, E. E. Felton, R. A. Dailey, and P. I. Osborne, *West Virginia University*, *Morgantown*.

M152 Relationship of two measures of disposition and gain performance of steers. R. L. Weaber and F. E. Creason*, *University of Missouri*, *Columbia*.

M153 Effect of a mineral mix containing Tasco® meal on performance and reproduction in mature beef cows. J. E. Stegner*[1], B. Laudermilch[1], W. D. Whittier[1], R. Kasimanickam[1], D. Colling[2], and J. B. Hall[1], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Acadian Agritech*, *Dartmouth, NS, Canada*.

M154 Relationships between endocrine status, temperament, growth and carcass traits in replacement beef heifers supplemented with dietary fat. A. R. Dos Santos*[1,2], S. T. Willard[1], R. C. Vann[2], and B. Macoon[2], [1]*Mississippi State University*, *Starkville*, [2]*Brown Loam Experiment Station*, *Raymond, MS*.

M155 Crop-livestock production system for fattening lambs under desert farming. N. Eweedah*, *Faculty of Agricultre*, *Kafr El-Sheihk, Egypt*.

M156 Predicting fineness of instrument-classed wool lines using an Optical-based Fibre Diameter Analyser (OFDA2000). C. J. Lupton and F. A. Pfeiffer*, *Texas Agricultural Experiment Station*, *San Angelo, TX*.

M157 Twin rate influences milk yield in Sarda dairy sheep in organic and conventional farms. G. Canu[1], C. Dimauro[2], A. Natale[3], C. Patta[1], and G. Pulina*[2], [1]*Istituto Zooprofilattico Sperimentale per la Sardegna*, *Sassari, Italy*, [2]*Università di Sassari*, *Sassari, Italy*, [3]*Associazione Regionale Allevatori della Sardegna*, *Cagliari, Italy*.

M158 The effect of two management systems of dairy ewes on milk production. S. A. Maestá, E. R. Siqueira, M. M. Stradiotto, C. C. Boucinhas, A. Piccinin, and R. M. S. Emediato*, *São Paulo State University*, *Botucatu, São Paulo, Brazil*.

M159 Effect of suckling management on skeletal development and productive performance of *Comisana* lambs. A. Ciarlariello[1], G. Maiorano*[1], C. Cavone[1], R. J. McCormick[2], and A. Manchisi[1], [1]*University of Molise*, *Campobasso, Italy*, [2]*University of Wyoming*, *Laramie*.

M160 Effects of an aluminum-water treatment residual on performance and mineral status of feeder lambs. R. Van Alstyne, L. R. McDowell*, P. A. Davis, N. S. Wilkinson, and G. A. O'Connor, *University of Florida*, *Gainesville*.

M161 Effects of age, location, and nutrition on body weight, fiber production, and fiber quality characteristics of penned alpaca males. C. J. Lupton*[1], R. P. Elvestad[2], F. A. Pfeiffer[1], and K. MacKinnon[2], [1]*Texas Agricultural Experiment Station*, *San Angelo, TX*, [2]*Natural Fibre Centre & Testing Laboratory*, *Olds, Alberta, Canada*.

M162 Gestation length in Alaskan reindeer. M. P. Shipka* and J. E. Rowell, *University of Alaska Fairbanks*, *Fairbanks, AK*.

M163 The diversity of bacterial community in the gut differs between different hatches of broiler chicks. G. W. Tannock[1], S. Musa[1], K. Munro[1], and V. Ravindran*[2], [1]*University of Otago*, *Dunedin, New Zealand*, [2]*Monogastric Research Centre, Massey University*, *Palmerston North, New Zealand*.

Ruminant Nutrition

Fat Feeding, Metabolism, & Composition

Exhibit Hall A

Abstract #

M164 Influence of short-term feed restriction on milk production traits of Sarda dairy ewes. G. Pulina*, A. Mazzette, G. Battacone, and A. Nudda, *Dipartimento di Scienze Zootecniche, University of Sassari*, *Sassari, Italy*.

M165 Influence of short-term feed restriction on milk fatty acid profile in dairy ewes fed complete pelleted diet. A. Nudda, S. Fancellu, A. Mazzette, G. Battacone, and G. Pulina*, *Università di Sassari*, *Sassari, Italia*.

M166 Fat stability and preservation of fatty acids with AGRADO® antioxidant in feed ingredients used in ruminant rations. J. Andrews* and M. Vazquez-Anon, *Novus International*, *St. Louis, MO*.

M167 Meta-analysis on the effects of lipid supplementation on methane emissions and milk performance of lactating dairy cows. M. Eugène*, C. Benchaar, J. Chiquette, and D. Massé, *Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre*, *Lennoxville, QC, Canada*.

M168 Fatty acid composition in milk from Flemish conventional and organic dairy farm management systems. V. Fievez* and B. Vlaeminck, *Laboratory for Animal Nutrition and Animal Product Quality, Ghent University*, *Melle, Belgium*.

M169 Feed a pound of fat strategy to improve productivity of dairy cows. B. F. Richards*[1], T. R. Dhiman[1], D. R. Mertens[2], A. J. Young[1], and L. C. Solorzano[3], [1]*Utah State University*, *Logan*, [2]*US Dairy Forage Research Center*, *Madison, WI*, [3]*Milk Specialties Company*, *Dundee, IL*.

M170 Milk production response to increased fatty acid level in the feed. M. R. Weisbjerg* and L. Wiking, *Danish Institute of Agricultural Sciences*, *Tjele, Denmark*.

M171 Performance of dairy cows fed Ca-salts of saturated and unsaturated fatty acids. T. R. Dhiman*[1], A. Hopkins[1], R. Thompson[1], L. R. Godfrey[1], and N. D. Luchini[2], [1]*Utah State University*, *Logan*, [2]*NutriScience Technologies Company*, *Fairlawn, OH*.

M172 Influence of method of processing and feeding level of safflower seeds on the performance of dairy cows. L. R. Godfrey and T. R. Dhiman*, *Utah State University*, *Logan*.

M173 Milk production, milk composition, digestion, and feed intake of cows fed different concentrations of whole flaxseed. H. V. Petit*[1] and P. Mir[2], [1]*Agriculture and Agri-Food Canada*, *Lennoxville, QC, Canada*, [2]*Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*.

M174 Effect of flaxseed and flaxseed oil supplementation on milk fatty acid composition in dairy cows fed high- or low- forage diets. C. Benchaar*[1], H. V. Petit[1], T. A. McAllister[2], and P. Y. Chouinard[3], [1]*Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre*, *Lennoxville, QC, Canada*, [2]*Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*, [3]*Université Laval*, *Quebec, QC, Canada*.

M175 Bovine somatotropin and dietary fat enriched with omega-3 fatty acids in dairy cows: I. Lactation performance. M. Carriquiry*, W. J. Weber, C. R. Dahlen, G. C. Lamb, and B. A. Crooker, *University of Minnesota*, *St. Paul.*

M176 Bovine somatotropin and dietary fat enriched with omega-3 fatty acids in dairy cows: II. Milk fatty acid composition. M. Carriquiry*[1], W. J. Weber[1], C. R. Dahlen[1], G. C. Lamb[1], S. R. Sanders[2], L. H. Baumgard[2], and B. A. Crooker[1], [1]*University of Minnesota*, *St. Paul*, [2]*University of Arizona*, *Tucson*.

M177 The abomasal infusion of wheat starch or cottonseed oil with casein on milk yield and compositions in Sannen dairy goats. M. Bashtani*[1], A. A. Naserian[2], and R. Valizadeh[2], [1]*Birjand University*, *Birjand, Southern Khorasan, Iran*, [2]*Mashhad University*, *Mashhad, Khorasan, Iran*.

M178 Effects of adding whole safflower seeds to dairy Lacaune sheep diets on CLA in milk, fatty acids profile and dairy performances. M. A. Bouattour, R. Casals*, E. Albanell, X. Such, and G. Caja, *Universitat Autònoma de Barcelona*, *Bellaterra, Spain*.

M179 Milk fatty acid composition and dairy performances in Lacaune sheep fed whole linseed and linseed oil with reference to CLA. M. A. Bouattour, R. Casals*, E. Albanell, X. Such, and G. Caja, *Universitat Autónoma de Barcelona*, *Bellaterra, Spain*.

M180 The long term effect of supplementing grazing dairy cows diet with fish oil and sunflower oil on milk conjugated linoleic acid. L. Holmes* and A. AbuGhazaleh, *Southern Illinois University*, *Carbondale*.

M181 Effectiveness of linoleic and linolenic acid for enhancing conjugated linoleic acid in milk from dairy cows. B. Dengpan[1], J. Wang*[1], T. R. Dhiman[2], and L. Shijun[1], [1]*Institute of Animal Science, Chinese Academy of Agricultural Sciences*, *Beijing, P.R. China*, [2]*Animal, Dairy and Veterinary Sciences Department, Utah State University*, *Logan, UT*.

M182 The effect of pH and polyunsaturated C18 fatty acid source on the production of vaccenic acid and conjugated linoleic acids in ruminal cultures incubated with docosahexaenoic acid. A. AbuGhazaleh* and B. Jacobson, *Southern Illinois University*, *Carbondale*.

M183 The relationship between the concentration in milk of c18:1 t10 and the concentration of total milk fat. P. J. Moate*[1], R. C. Boston[1], I. J. Lean[2], and W. Chalupa[1], [1]*University of Pennsylvania*, *Kennett Square*, [2]*University of Sydney*, *Sydney, NSW, Australia*.

M184 The effect of *trans*-10, *cis*-12 CLA on milk fat synthesis and cheese yield in sheep fed at two levels of energy intake. A. L. Lock*[1], R. M. Early[2], D. E. Bauman[1], and L. A. Sinclair[2], [1]*Cornell University*, *Ithaca, NY*, [2]*Harper Adams University College*, *Newport, UK*.

M185 Distrubution of supplemental L-carnitine among tissues and fluids of periparturient dairy cows. D. B. Carlson*[1], N. B. Litherland[1], J. C. Woodworth[2], and J. K. Drackley[1], [1]*University of Illinois*, *Urbana*, [2]*Lonza, Inc.*, *Allendale, NJ*.

M186 Effect of feeding Ca salts of *trans*-octadecenoic fatty acids and linoleic acid on productive and metabolic responses of dairy cows during the transition period. S. G. Onetti[1], S. J. Bertics[1], N. D. Luchini[2], and R. R. Grummer*[1], [1]*University of Wisconsin*, *Madison*, [2]*Virtus Nutrition*, *Fairlawn, OH*.

M187 Production, metabolic and reproductive responses of transition Holstein cows fed *trans* fatty acids. C. J. Rodríguez-Sallaberry*, C. Caldari-Torres, E. S. Greene, C. R. Staples, and L. Badinga, *University of Florida*, *Gainesville*.

M188 Lactation response of cows to intravenous infusion of conjugated linolenic acids. R. Gervais* and P. Y. Chouinard, *Université Laval*, *Québec, Québec, Canada*.

M189 Effect of diets rich in oleic acid (cis or trans), linoleic and linolenic acids on plasma bST, IGF-I, and PGFM of Holstein cows. B. C. do Amaral*, C. R. Staples, L. Badinga, S. A. Sennikov, and W. W. Thatcher, *University of Florida*, *Gainesville*.

M190 Effect of diets enriched in oleic (cis or trans), linoleic or linolenic acids on concentration of blood and liver fatty acids of Holstein cows. B. C. do Amaral*, C. R. Staples, S. C. Kim, L. Badinga, and W. W. Thatcher, *University of Florida*, *Gainesville*.

M191 Effects of abomasal infusion of tallow or linseed oil on responses to glucose and insulin challenges of Holstein cows. J. A. A. Pires*, A. E. Kulick, N. Silva del Rio, and R. R. Grummer, *University of Wisconsin*, *Madison*.

M192 Effect of feeding whole soybeans on thermal balance and fatty acid profiles on early lactation cows during heat stress. J. D. Sampson, D. E. Spiers, and J. N. Spain*, *University of Missouri*, *Columbia*.

M193 A comparison of the fatty acid profiles of red deer and sheep adipose tissues. G. A. Romero-Perez*[1], R. W. Mayes[1], and J. R. Scaife[2], [1]*The Macaulay Institute*, *Aberdeen,UK*, [2]*Writtle College*, *Essex, UK*.

M194 Differences in expression and activity of B, B-carotene-15, 15′-oxygenase between yellow and white bovine fat carcasses. A. Morales[1], A. González[1], A. Varela-Echavarria[2], A. Shimada[1], and O. Mora*[1], [1]*Facultad de Estudios Superiores Cuautitlán, UNAM*, *Querétaro, Querétaro, México*, [2]*Instituto de Neurobiología, UNAM*, *Querétaro, Querétaro, México*.

M195 Evaluation of fat tissue deposition and Leptin hormone measurement in early Angus-Nellore cattle treated with recombinant bovine somatotropin (rbST). C. L. Martins, R. D. C. Cervieri, M. D. B. Arrigoni, A. C. Silveira, C. A. de Oliveira, E. C. G. Felippe, H. N.s Oliveira, L. A. L. Chardulo, D. D. Millen*, and R. D. L. Pacheco, *FMVZ/UNESP*, *Botucatu, Sao Paulo, Brazil*.

M196 Effects of feeding soybean oil and high-corn silage diets on feedlot performance of beef cattle. C. K. Reynolds*, F. L. Fluharty, and S. C. Loerch, *The Ohio State University*, *Wooster*.

M197 Effects of adding sunflower or soybean seeds on heifers feedlot performance. J. A. Navarro*, F. J. Santini, G. J. Depetris, E. L. Villarreal, and D. H. Rearte, *EEA INTA Balcarce, Fac. Cs. Agrarias, UNMdP*, *Balcarce, Buenos Aires, Argentina*.

M198 Effects of rumen-protected Ca salts of conjugated linoleic acid (CLA) and previous rate of gain on growth performance, immune function, and carcass characteristics of feedlot cattle. H. Flórez-Díaz*[1], E. B. Kegley[1], G. F. Erf[1], D. L. Kreider[1], K. P. Coffey[1], J. K. Apple[1], and N. D. Luchini[2], [1]*Department of Animal Science, Division of Agriculture, University of Arkansas*, *Fayetteville*, [2]*NutriScience Technologies, Inc.*, *Fairlawn, OH*.

M199 Influence of rate of growth and rumen-protected Ca salts of conjugated linoleic acid (CLA) on growth performance, immune function, and lipid metabolism of growing cattle. H. Flórez-Díaz*[1], E. B. Kegley[1], G. F. Erf[1], D. L. Kreider[1], K. P. Coffey[1], N. D. Luchini[2], and S. L. Krumpelman[1], [1]*University of Arkansas*, *Fayetteville*, [2]*NutriScience Technologies, Inc.*, *Fairlawn, OH*.

M200 Maternal nutrition effects on lipogenic enzyme messenger RNA in adipose tissue of suckling calves. C. M. Murrieta*[1], S. L. Lake[2], E. J. Scholljegerdes[3], B. W. Hess[1], and D. C. Rule[1], [1]*University of Wyoming*, *Laramie*, [2]*Purdue University*, *West Lafayette, IN*, [3]*USDA ARS*, *Mandan, ND*.

Ruminant Nutrition

Metabolism & Immunology

Exhibit Hall A

Abstract #

M201 Is OmniGen-AF capable of augmenting markers of immune health when blended into a nutritional block? N. Forsberg*, Y. Wang, and S. Puntenney, *Oregon State University*, *Corvallis*.

M202 Effect of feeding blends of feedstuffs naturally contaminated with Fusarium mycotoxins on performance, metabolism and immunological parameters of dairy cattle. S. Korosteleva* and T. Smith, *University of Guelph*, *Guelph, Ontario, Canada*.

M203 Effect of feeding whole soybeans on hepatic gene expression in lactating dairy cows. J. D. Sampson*[1], R. P. Rhoads[1], R. J. Tempelman[2], S. S. Sipkovsky[2], P. M. Coussens[2], M. C. Lucy[1], J. N. Spain[1], and D. E. Spiers[1], [1]*University of Missouri*, *Columbia*, [2]*Michigan State University*, *East Lansing*.

M204 Effects of feeding Tasco® *Ascophyllum nodosum* to large and small dairy cows during summer months in central Arkansas. D. W. Kellogg*[1], J. A. Pennington[2], Z. B. Johnson[1], K. S. Anschutz[1], D. P. Colling[3], and A. B. Johnson[4], [1]*University of Arkansas*, *Fayetteville*, [2]*University of Arkansas*, *Little Rock*, [3]*Acadian Agritech*, *Dartmouth, Nova Scotia, Canada*, [4]*Bio-Ingenuity, LLC*, *Chanhassen, MN*.

M205 Effects of feeding adsorbents on lactating dairy cows hematology and milk yield during summer. F. Abeni, L. Migliorati, F. Calza, and G. Pirlo*, *CRA Istituto Sperimentale per la Zootecnia*, *Cremona, Italy*.

M206 Effects of dietary antioxidant plant extracts on udder health and milk quality. T. Doriana*, G. Sara, M. Marina, and B. Valerio, *University of Milan*, *Milan, Italy*.

M207 A simulation model to integrate ruminal volatile fatty acids (VFA) and blood glucose metabolism in transition dairy cows under steady state conditions. X. Markantonatos*[1], Y. Aharoni[3], T. Cassidy[1], R. K. McGuffey[2], L. F. Richardson[2], and G. A. Varga[1], [1]*The Pennsylvania State University*, [2]*Elanco Animal Health*, [3]*Newe Ya'ar Research Center*, *Israel*.

M208 Splanchnic metabolism of [U-13C]glucose in lactating dairy cows. N. B. Kristensen*, B. M. L. Raun, and B. A. Røjen, *Danish Institute of Agricultural Sciences*, *Tjele, Denmark*.

M209 Feeding a high energy diet on a restricted basis during the dry period does not negatively affect postpartum milk yield or dry matter intake. L. A. Winkelman* and C. K. Reynolds, *The Ohio State University*, *Columbus*.

M210 Systemic metabolic and endocrine changes and net portal flux in dairy cows fed a fat-based diet (FBD) compared to a starch-based diet (SBD). H. M. Hammon*[1], C. C. Metges[1], F. Becker[1], O. Bellmann[1], F. Schneider[1], P. Junghans[1], P. Dubreuil[2], M. C. Thivierge[3], and H. Lapierre[4], [1]*Research Institute for the Biology of Farm Animals (FBN)*, *Dummerstorf, Germany*, [2]*University of Montreal*, *St-Hyacinthe, QC, Canada*, [3]*Département des sciences animales, Université Laval*, *Québec, QC, Canada*, [4]*Dairy and Swine Research and Development Centre*, *Lennoxville, QC, Canada*.

M211 Effects of postpartum drenching on acute and chronic responses of blood metabolites in primiparous Holstein cows. J. W. McFadden*, R. L. Wallace, and J. K. Drackley, *University of Illinois*, *Urbana*.

M212 Plasma aflatoxin concentrations over time in bolus fed lactating dairy cows. M. Moschini[1], F. Mosoero[1], D. E. Diaz[2], A. Gallo[1], A. Pietri[1], and G. Piva*[1], [1]*Catholic University of Piacenza*, *Piacenza, Italy*, [2]*Utah State University*, *Logan, UT*.

M213 Milk production as a function of nutrient supply follows a Michaelis-Menten relationship. J. J. O. Pimentel*[1,3], R. P. Lana[1,2], B. Zamperline[1], M. F. Paulino[1,2], S. C. Valadares Filho[1,2], R. M. A. Teixeira[1,3], and D. C. Abreu[1,2], [1]*Universidade Federal de Viçosa*, *Viçosa, MG, Brazil*, [2]*CNPq*, *Brasília, DF, Brazil*, [3]*FAPEMIG*, *Belo Horizonte, MG, Brazil*.

M214 Physiological responses to heat stress in steers following ruminal administration of ground endophyte-infected tall fescue seed. L. E. Wax*, G. Rottinghaus, and D. E. Spiers, *University of Missouri*, *Columbia*.

M215 Assessment of blended sorbitol and mannitol as a prepartum glucogenic supplement for periparturient dairy cows. J. W. McFadden*[1], S. S. Block[2], and J. K. Drackley[1], [1]*University of Illinois*, *Urbana*, [2]*ADM Alliance Nutrition, Inc.*, *Decatur, IN*.

Ruminant Nutrition

Nitrogen Metabolism/Amino Acids - Dairy

Exhibit Hall A

Abstract #

M216 Effects of the isopropylester of the hydroxylated analogue of methionine (HMBi) on production performance of dairy cows in early lactation. S. Jurjanz*[1], J. C. Robert[2], and F. Laurent[1], [1]*INRA-ENSAIA, Laboratoire de Sciences Animales*, *Vandoeuvre, France*, [2]*Adisseo France SAS*, *Commentry, France*.

M217 Evaluation of rumen-protected methionine (RP-Met) sources and period length on performance of lactating dairy cows within Latin squares. B. C. Benefield*[1], R. A. Patton[2], M. J. Stevenson[3], and T. R. Overton[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Nittany Dairy Nutrition, Inc.*, *Mifflinburg, PA*, [3]*Degussa Corporation*, *Kennesaw, GA*.

M218 The effect of various rumen protected methionine sources on milk yield, milk composition and nitrogen efficiency of cows in mid-lactation. J. A. Strzetelski[1], J. Kowalczyk[2], and W. Heimbeck*[3], [1]*National Research Institute of Animal Production*, *Balice, Poland*, [2]*The Kielanowski Institute of Animal Physiology and Nutrition*, *Jablonna, Poland*, [3]*Degussa AG*, *Hanau, Germany*.

M219 Milk composition as technique to evaluate the relative bio-availability of rumen protected methionine sources. Z. Bester, L. J. Erasmus*, and R. J. Coertze, *University of Pretoria*, *Pretoria,South Africa*.

M220 Supplemental rumen-protected choline and methionine for lactating dairy cows. M. L. Eastridge*, J. Engel, and C. V. D. M. Ribeiro, *The Ohio State University*, *Columbus*.

M221 Milk production and carry-over effects of methionine supplements in lactating dairy cows. H. F. Bucholtz*[1], R. A. Patton[2], J. S. Liesman[1], P. N. Naasz[3], and M. J. Stevenson[4], [1]*Michigan State University*, *East Lansing*, [2]*Nittany Dairy Nutrition, Inc.*, *Mifflinburg, PA*, [3]*Michigan State University Upper Peninsula Experiment Station*, *Chatham*, [4]*Degussa Corporation*, *Kennesaw, GA*.

M222 Plasma lysine irreversible loss rate to determine the effect of treatment of soybean meal on lysine availability in dairy cattle. S. I. Borucki Castro*[1,2], H. Lapierre[2], L. E. Phillip[1], P. Jardon[3], and R. Berthiaume[2], [1]*McGill University*, *Ste Anne de Bellevue QC, Canada*, [2]*Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre*, *Lennoxville QC, Canada*, [3]*West Central*, *Ralston IA*.

M223 Effect of post-ruminal supplementation of amino acids on production performance of lactating dairy cows. T. Whyte*[1], A. Hayirli[1], H. Lapierre[2], and L. Doepel[1], [1]*University of Alberta*, *Edmonton, AB, Canada*, [2]*Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre*, *Lennoxville, QC, Canada*.

M224 Metabolizable essential amino acids in mature ewes fed limited amounts of beet pulp. B. W. Hess*[1], P. W. Nathanielsz[2], and S. P. Ford[1], [1]*University of Wyoming*, *Laramie*, [2]*University of Texas Health Sciences Center*, *San Antonio*.

M225 Metabolizable essential amino acids in mature ewes fed limited amounts of beet pulp and supplementary ruminally undegradable protein. B. W. Hess*[1], P. W. Nathanielsz[2], and S. P. Ford[1], [1]*University of Wyoming*, *Laramie*, [2]*University of Texas Health Sciences Center*, *San Antonio, TX*.

M226 An *in-silico* comparison of nitrogen fraction parameter estimates derived from data in the 1996 Beef NRC and 2001 Dairy NRC feed libraries. M. Barry*, *AgModels, LLC*, *Tully, NY*.

M227 Milk odd and branched chain fatty acids in relation to rumen protein digestion. T. Van Nespen[1], W. van Straalen[2], and V. Fievez*[1], [1]*Laboratory for Animal Nutrition and Animal Product Quality, Ghent University*, *Melle, Belgium*, [2]*Schothorst Feed Research*, *Lelystad, The Netherlands*.

M228 Effects of reducing rumimally degradable protein in the diets of lactating dairy cows. J. Cyriac*, A. G. Rius, M. L. McGilliard, and M. D. Hanigan, *Virginia Polytechnic Institute and State University*, *Blacksburg*.

M229 Evaluation of Biuret as a slowly degradable non-protein nitrogen source for lactating dairy cows. K. J. Daniels, P. H. Doane*, N. A. Pyatt, and M. J. Cecava, *ADM Animal Nutrition Research*, *Decatur, IN*.

M230 Effect of RDP source on ruminal digestion in lactating dairy cows. S. M. Reynal*, G. A. Broderick, and J. Leibovich, *US Dairy Forage Research Center*, *Madison, WI*.

M231 Effects of replacement of animal protein with soy protein in lactating Holstein cows. A. Garcia*[1], P. W. Jardon[2], and R. A. Patton[3], [1]*Instituto Tecnologico y de Estudios Superiores de Monterrey*, *Queretaro, Mexico*, [2]*West Central*, *Ralston, IA*, [3]*Nittany Dairy Nutrition, Inc.*, *Mifflinburg, PA*.

M232 Effect of dietary protein levels on milk production and nitrogen efficiency in dairy cattle. M. Baik*[1], J. R. Aschenbach[2], M. J. VandeHaar[3], and J. S. Liesman[3], [1]*Chonnam National University*, *Gwangju, South Korea*, [2]*Institute of Veterinary Physiology Leipzig University*, *Leipzig, Germany*, [3]*Michigan State University*, *East Lansing*.

M233 Optimal nutrient intake and digestion for ruminal microbial protein and milk yields in lactating dairy cows. S. M. Reynal* and G. A. Broderick, *US Dairy Forage Research Center*, *Madison, WI*.

M234 Effect of dietary energy and protein level on dry matter intake, body weight changes and milk yield of Holstein cows in transition period. R. Lopez*[1], D. Gomez-Perez[1], J. G. Garcia-Muniz[1], G. D. Mendoza[2], and A. Lara[3], [1]*Universidad Autonoma Chapingo*, *Chapingo, Estado de Mexico, Mexico*, [2]*Colegio de Postgraduados*, *Montecillo. Texcoco. Edo. de Mexico, Mexico*, [3]*Cooperativa Agropecuaria y Forestal Chapingo S. C. de R. L.*, *Chapingo, Edo. de México, Mexico*.

Ruminant Nutrition

Non-fibrous Carbohydrate & By-Product Feedstuffs

Exhibit Hall A

Abstract #

M235 Altering structural to non-structural carbohydrate ratio in the diet of transition dairy cows grazing pasture did not affect subsequent health or production. J. R. Roche*, *Dexcel*, *Hamilton, New Zealand*.

M236 The feeding value of corn distillers solubles for lactating dairy cows. A. K. Sasikala-Appukuttan*[1], D. J. Schingoethe[1], A. R. Hippen[1], K. F. Kalscheur[1], K. Karges[2], and M. L. Gibson[2], [1]*South Dakota State University*, *Brookings*, [2]*Dakota Gold Research Association*, *Sioux Falls, SD*.

M237 Effect of feeding wet pressed beet pulp on milk yield of dairy cows. J. C. Dalton*[1], N. Rimbey[1], B. Shafii[2], W. J. Price[2], M. A. McGuire[2], D. Costesso[3], and J. Stewart[4], [1]*University of Idaho*, *Caldwell*, [2]*University of Idaho*, *Moscow*, [3]*Amalgamated Sugar, LLC*, *Ogden, UT*, [4]*Stewart Farms, Inc.*, *Nampa, ID*.

M238 The interaction of barley composition, processing method, and exogenous enzyme addition on dry matter and neutral detergent fiber disappearance. T. L. Benson*, J. J. Michal, R. L. Kincaid, C. T. Gaskins, and K. A. Johnson, *Washington State University*, *Pullman*.

M239 Effect of extent of barley grain processing on productivity of lactating dairy cows varying in milk yield and days in milk. G. McGregor[1], M. Dehghan-banadaky[1], R. Corbett[2], and M. Oba*[1], [1]*University of Alberta*, *Edmonton, Alberta, Canada*, [2]*Alberta Agriculture Food and Rural Development*, *Edmonton, Alberta, Canada*.

M240 Effect of dietary wheat on dairy cow performance is not influenced by the addition of rumen buffers. L. Doepel* and A. Cox, *University of Alberta*, *Edmonton, Alberta, Canada*.

M241 Effect of wheat supplementation on rumen pH and lactation performance in dairy cows. L. Doepel*, A. Cox, and A. Hayirli, *University of Alberta*, *Edmonton, Alberta, Canada*.

M242 Performance and blood metabolites of growing hairy sheep fed sorghum diets with urea and dried citrus pulp. H. Morales-Treviño, J. González-Rodríguez, E. Gutiérrez-Ornelas*, H. Bernal-Barragán, and J. Colín-Negrete, *Facultad de Agronomía, Universidad Autónoma de Nuevo León*, *Carretera Zuazua-Marín Km 17.5, Marín, Nuevo León, México*.

M243 Effect of partial replacement of forage NDF with byproduct NDF in close-up diets of dairy cattle on periparturient metabolism and performance. H. M. Dann*[1], R. J. Grant[1], C. S. Ballard[1], M. P. Carter[1], K. W. Cotanch[1], H. M. Wolford[1], J. W. Darrah[1], S. A. Flis[1], C. T. Hill[1], and T. Takano[2], [1]*William H. Miner Agricultural Research Institute*, *Chazy, NY*, [2]*Zen-Noh National Federation of Agricultural Co-operative Associations*, *Tokyo, Japan*.

M244 Effect of soybean hull supplementation frequency on the performance of steers grazing fall cool-season pastures with clover. R. L. Mills*[1], J. C. Waller[1], and C. J. Richards[2], [1]*The University of Tennessee*, *Knoxville*, [2]*Oklahoma State University*, *Stillwater*.

M245 Application of advanced Synchrotron-based analytical technique (SR-FTIR) to feed science and ruminant nutrition. P. Yu*, *University of Saskatchewan*, *Saskatoon, Canada*.

Ruminant Nutrition

Ruminal Fermentation

Exhibit Hall A

Abstract #

M246 Effect of T-2 toxin on growth of ruminal bacteria in batch culture. D. Srichana*[1,2], G. E. Rottinghaus[1], P. Srichana[1,3], J. H. Porter[1], M. S. Kerley[1], and J. N. Spain[1], [1]*University of Missouri*, *Columbia*, [2]*Thammasat University*, *Phathumthani, Thailand*, [3]*Charoen Pokphand Group Co., Ltd.*, *Bangkok, Thailand*.

M247 *Lactobacillus acidophilus* isolated from cattle with potential to improve starch utilization. L. D. Early*, J. A. Nangle, and S. E. Gilliland, *Oklahoma State University*, *Stillwater*.

M248 Evaluation of rumen microbial fluctuations in response to sub acute rumen acidosis using 16S rDNA profiles. H. Purvis II*[1], S. Fernando[1], K. Rutz[1], F. Najar[2], B. Roe[2], and U. DeSilva[1], [1]*Oklahoma State University*, *Stillwater*, [2]*University of Oklahoma*, *Norman*.

M249 The negative effects of one cycle of eight hours at suboptimal pH on rumen fermentation are not reduced by splitting it into various cycles. M. Cerrato, S. Calsamiglia*, and A. Ferret, *Universitat Autonoma de Barcelona*, *Bellaterra, Spain*.

M250 Effect of the magnitude of the decrease of rumen pH and its fluctuations on rumen microbial fermentation. M. Cerrato, S. Calsamiglia*, and A. Ferret, *Universitat Autonoma de Barcelona*, *Bellaterra, Spain*.

M251 Conservation of fermentation energy and control of the VFA profile in the rumen. E. M. Ungerfeld* and R. A. Kohn, *University of Maryland*, *College Park*.

M252 Buffer pH and clarified ruminal liquid effects on stability of an exogenous fibrolytic enzyme. E. Meraz-Romero[1], S. S. González*[1], G. Mendoza-Martínez[2], O. Loera-Corral[3], M. Meneses-Mayo[1], M. Cobos-Peralta[1], and J. Avellaneda-Cevallos[4], [1]*Colegio de Postgraduados*, *Montecillo, Edo. de México, México*, [2]*UAM-Xochimilco*, *México D.F., México*, [3]*UAM-Iztapalapa*, *México D.F., México*, [4]*Universidad Técnica Estatal de Quevedo*, *Quevedo, Ecuador*.

M253 *In vitro* fermentative characteristics of tropical grasses supplemented with tree/shrub forage. E. González*[1,2], O. Cáceres[1], E. Albanell[2], G. Caja[2], and J. Arece[1], [1]*Estación Experimental de Pastos y Forrajes*, *Matanzas, Cuba*, [2]*Universitat Autònoma de Barcelona*, *Bellaterra, Barcelona, Spain*.

M254 Microbial yield and fiber digestion from sucrose, starch, pectin and bermudagrass fiber fermentation. L. Holtshausen*[1] and M. B. Hall[2], [1]*Stellenbosch University*, *Stellenbosch, South Africa*, [2]*USDA-ARS*, *Madison, WI*.

M255 The relationship between feed acidogenic value and in vitro ruminal pH changes. B. Rustomo*, J. P. Cant, M. P. Fan, T. F. Duffield, N. E. Odongo, and B. W. McBride, *University of Guelph*, *Guelph, Ontario, Canada*.

Swine Species

Exhibit Hall A

Abstract #

M256 Effects of conjugated linoleic acid (CLA) on sow and litter performance. R. Patterson*, M. L Connor, C. M. Nyachoti, and D. O. Krause, *University of Manitoba*, *Winnipeg, Canada*.

M257 The effects of feeding grains naturally-contaminated with Fusarium mycotoxins to gestating and lactating sows on metabolism and reproduction and the efficacy of a polymeric glucomannan adsorbent in preventing those effects. G. Díaz-Llano* and T. K. Smith, *University of Guelph*, *Ontario, Canada*.

M258 Effects of exogenous porcine somatotropin and transportation on physiological parameters in weaned pigs. C. J. Kojima*, P. E. Roberson, M. P. Roberts, T. Sun, and H. G. Kattesh, *University of Tennessee*, *Knoxville*.

M259 Use of a ground raw soybean diet to enhance reproductive efficiency in gilts. D. Sykes*, S. Couvillion, P. Gerard, M. Crenshaw, and P. Ryan, *Mississippi State University*, *Mississippi State*.

M260 Litter performance in the swine nucleus herds of Sri Lanka. J. A. D. R. N. Appuhamy*, L. P. Silva, and C. M. B. Dematawewa, *University of Peradeniya*, *Peradeniya, Sri Lanka*.

M261 Effect of the consistency of collection frequency on semen quality of boars. W. L. Flowers* and M. C. Seal, *North Carolina State University*, *Raleigh*.

M262 Effect of group size and floor space during the growing period on the growth performance of pigs after the heaviest pigs have been removed. J. M. DeDecker*[1], M. Ellis[1], B. F Wolter[2], and B. A. Peterson[1], [1]*University of Illinois*, *Urbana*, [2]*The Maschhoffs, Inc*, *Carlyle, IL*.

SYMPOSIA AND ORAL SESSIONS

Animal Health I

Chair: John R., Wenz, Colorado State University

M100 G-H

Time	Abstract #	
9:30 AM	ADSA Pioneer	Mineral research and metabolic diseases. H. R. Conrad, *Ohio State University, Wooster*.
9:45 AM	21	Application of a novel biochip for rapid detection of mastitis-causing pathogens in bulk tank milk in Taiwan. K. H. Lee*[1], Y. M. Shy[1], Y. T. Lin[2], L. Y. Liu[2], S. J. Lee[1], C. L. Chang[1], M. C. Wu[1], and C. H. Chi[3], [1]*Hsinchu Branch, COA-LRI*, *Hsinchu, Taiwan, R.O.C.*, [2]*DR. Chip Biotechnology Inc.*, *Chu-Nan, Taiwan, R.O.C.*, [3]*University of Taiwan*, *Taipei, Taiwan, R.O.C.*
10:00 AM	22	Relationship of intramammary infection prevalence with somatic cell score in commercial herds. R. L. Bamber*[1], G. E. Shook[1], G. J. Bennett[2], Y. H. Schukken[2], and P. L. Ruegg[1], [1]*University of Wiscosin*, *Madison*, [2]*Cornell University*, *Ithaca, NY*.
10:15 AM	23	An evaluation of DeLaval DCC for determining udder health status in dairy cattle. K. Leslie*, J. Yeung, R. Dingwell, A. Bashiri, N. Perkins, and E. Vernooy, *University of Guelph*, *Guelph, Ontario, Canada*.
10:30 AM	24	Effect of winter housing on cow dirt score, somatic cell score and mastitis incidence in dairy cows. K. O'Driscoll*[1,2], L. Boyle[1], P. French[1], B. Meaney[1], and A. Hanlon[2], [1]*Dairy Production Research Centre*, *Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*, [2]*School of Agriculture, Food Science and Veterinary Medicine, NUI Dublin*, *Belfield, Dublin 4, Ireland*.
10:45 AM	25	Intramammary infection affects incidence of clinical infection after infusion of *Streptococcus uberis*. K. M. Sanders[1], S. McDougall[2], L. R. McNaughton*[1], G. E. Stanley[1], D. L. Johnson[1], S. Harcourt[1], and R. J. Spelman[1], [1]*Livestock Improvement Corporation Ltd*, *Hamilton, Waikato, New Zealand*, [2]*Animal Health Centre*, *Morrinsville, Waikato, New Zealand*.
11:00 AM	26	Antimicrobial susceptibility patterns and trends in resistance development in bacteria isolated from milk, 2000-2004. P. J. Rajala-Schultz*[1] and B. C. Love[2], [1]*The Ohio State University*, *Columbus*, [2]*Penn State University*, *University Park*.
11:15 AM	27	Neutrophil extracellular trap formation: An important neutrophil killing mechanism that is not inhibited by milk. J. Lippolis*, T. Reinhardt, J. Goff, and R. Horst, *National Animal Disease Center /ARS/USDA*, *Ames, IA*.
11:30 AM	28	Hepatic ApoB100 and ApoE mRNA in periparturient dairy cows. U. Bernabucci*[1], B. Ronchi[1], L. Basiricò[1], D. Pirazzi[1], F. Rueca[2], N. Lacetera[1], E. Lepri[2], and A. Nardone[1], [1]*DiPA, Università della Tuscia*, *Viterbo, Italy*, [2]*Veterinary Medicine, Università di Perugia*, *Perugia, Italy*.
11:45 AM	29	Effect of isoflupredone acetate with or without long acting insulin on postparturient energy metabolism in lactating dairy cows. H. Seifi[1], S. LeBlanc[2], K. Leslie*[2], and T. Duffield[2], [1]*School of Veterinary Medicine, Ferdowsi University of Mashhad*, *Iran*, [2]*Ontario Veterinary College, University of Guelph*, *Canada*.
12:00 PM	30	Use of rectal temperature monitoring to identify post-partum metritis in dairy cattle. J. R. Wenz*, S. M. Scott, S. E. Dobberstein, and W. Wailes, *Colorado State University*, *Fort Collins*.
12:15 PM	31	Rectal temperature measurement versus peripheral temperature sensing using radio-frequency implants in periparturient dairy cattle. E. D. Reid*, K. E. Karvetski, J. M. Velasco, R. L. Wallace, and G. E. Dahl, *University of Illinois*, *Urbana*.

Breeding and Genetics

Statistical Breeding

Chair: Michael MacNeil, USDA-ARS

L100 J

Time	Abstract #	
9:30 AM	32	A computer program for detecting additive, dominance, imprinting, sex-influenced and the overall QTL effects. Y. Duan, J. Garbe, N. London, and Y. Da*, *University of Minnesota*, *St. Paul*.
9:45 AM	33	A mixed model approach to map QTL controlling complex binary disease traits and interacting with environments. Y. Li and H. N. Kadarmideen*, *Statistical Animal Genetics Group, Swiss Federal Institute of Technology*, *ETH Zentrum, Zürich, Switzerland*.
10:00 AM	34	A comparison of sire and animal model genetic parameter estimates from herds with high and low within-herd heritabilities. C. D. Dechow*[1] and H. D. Norman[2], [1]*The Pennsylvania State University*, *University Park*, [2]*Animal Improvement Programs Laboratory*, *Beltsville, MD*.
10:15 AM	35	Modeling extended lactations in Holsteins. C. M. B. Dematawewa*[1], R. E. Pearson[1], and P. M. VanRaden[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Animal Improvement Programs Laboratory, Agricultural Research Services, USDA*, *Beltsville, MD*.
10:30 AM	36	Improving stability and reliability of test day model evaluation in the Italian Holstein. F. Canavesi*, S. Biffani, and F. Biscarini, *Associazione Nazionale Allevatori Frisona Italiana*, *Cremona, Italy*.
10:45 AM		Break
11:00 AM	37	Use of phenotypic information to ascertain paternity. R. L. Sapp*, R. Rekaya, W. Zhang, and J. K. Bertrand, *The University of Georgia*, *Athens*.
11:15 AM	38	Ascertaining paternity using phenotypic and molecular information. R. L. Sapp*, R. Rekaya, and J. K. Bertrand, *The University of Georgia*, *Athens*.
11:30 AM	39	The combination of genetic test information and phenotypic records for the prediction of breeding values. M. L. Spangler*, R. Rekaya, and J. K. Bertrand, *The University of Georgia*, *Athens*.
11:45 AM	40	Genetic evaluations for mixed breed populations. P. M. VanRaden*, M. E. Tooker, J. B. Cole, G. R. Wiggans, and J. H. Megonigal, Jr., *Animal Improvement Programs Laboratory, USDA*, *Beltsville, MD*.
12:00 PM	41	A new statistical model and method of multiple breeds evaluation. L. Zhang*[1,2], E. J. Pollak[2], and R. L. Quaas[2], [1]*Inner Mongolia Agricultural University*, *Huhhot, China*, [2]*Cornell University*, *Ithaca, NY*.
12:15 PM	42	Use of Principal Components and Factor Analysis to factorize genetic correlation matrices of multivariate phenotypes. N. P. P. Macciotta*, N. Bacciu, C. Dimauro, and A. Cappio-Borlino, *Dipartimento di Scienze Zootecniche, Università di Sassari*, *Sassari, Italia*.

SYMPOSIUM

Food Safety

Ruminants as Reservoirs for Shiga Toxin-Producing Escherichia coli

Chair: Bhushan Jayarao, Pennsylvania State University

Symposium meets AAVSB'S RACE requirement for 3 hr CE.

200 B-C

Time	Abstract #	
9:30 AM		Introduction. B. Jayarao, *Pennsylvania State University, University Park*.
9:35 AM	43	Shiga toxin-producing *Escherichia coli*: The big picture. C. L. Gyles*, *University of Guelph*, *Guelph, Ontario, Canada*.
10:20 AM	44	Prevalence and pathogenicity of Shiga toxin-producing *Escherichia coli* in beef cattle and their products. H. S. Hussein*, *University of Nevada*, *Reno*.
11:05 AM	45	Pre-harvest control of *Escherichia coli* O157. J. T. LeJeune* and A. N. Wetzel, *The Ohio State University*, *Wooster*.
11:50 AM		Discussion

Forages and Pastures
Quality and Antiquality
Chair: Sam Coleman, USDA ARS, Brooksville, FL
101 D-E

Time	Abstract #	
9:30 AM	46	The biochemistry of tannins: Role in ruminant production. J. Foster*, *USDA, ARS, Appalachian Farming Systems Research Center*, *Beaver, WV*.
10:00 AM	47	Polyphenols and mechanical maceration shift protein fractions in legume hays from rapidly to slowly degraded forms. J. H. Grabber*, *USDA-Agricultural Research Service, US Dairy Forage Research Center*, *Madison, WI*.
10:15 AM	48	Lipolysis of red clover with differing polyphenol oxidase activities in batch culture. M. R. F. Lee*[1], L. J. Parfitt[2], and F. R. Minchin[1], [1]*Institute of Grassland and Environmental Research*, *Aberystwyth, Ceredigion, UK*, [2]*Institute of Rural Studies, University of Wales*, *Aberystwyth, Ceredigion, UK*.
10:30 AM	49	Physiological changes in heifers following grazing of toxic or non-toxic tall fescue. G. E. Aiken*[1], M. L. Looper[2], and B. H. Kirch[1], [1]*USDA-ARS, Forage-Animal Production Research Unit*, [2]*USDA-ARS, Dale Bumpers Small Farms Research Center*.
10:45 AM	50	Differences in morphological and cell wall traits of alfalfa plants selected for divergent stem in vitro fiber digestibility. H. G. Jung* and J. S. F. Lamb, *USDA-ARS*, *St. Paul, MN*.
11:00 AM		Break
11:15 AM	51	Length of the daylight period before cutting improves rumen fermentation of alfalfa assessed by in vitro gas production. R. Berthiaume*[1], G. Tremblay[2], Y. Castonguay[2], A. Bertrand[2], G. Bélanger[2], C. Lafrenière[3], and R. Michaud[2], [1]*Agriculture & Agri-Food Canada*, *Lennoxville, QC, Canada*, [2]*Agriculture & Agri-Food Canada*, *Sainte-Foy, QC, Canada*, [3]*Agriculture & Agri-Food Canada*, *Kapuskasing, ON, Canada*.
11:30 AM	52	Effect of harvest schedule and plant part on in vitro gas production of temperate forages. J. L. Repetto*[1], A. Britos[1], N. Errandonea[1], D. Cozzolino[2], and C. Cajarville[1], [1]*Departamento de Nutrición Animal, Facultad de Veterinaria*, *Montevideo, Uruguay*, [2]*The Australian Wine Research Institute*, *Adelaide, Australia*.
11:45 AM	53	Effect of the timing of cut on ruminal environment of lambs consuming temperate pastures. C. Cajarville*, A. Pérez, M. Aguerre, A. Britos, and J. L. Repetto, *Departamento de Nutrición Animal, Facultad de Veterinaria*, *Montevideo, Uruguay*.
12:00 PM	54	Gas production and volatile fatty acid profile of subtropical grasses from México incubated in rumen fluid *in vitro*. A. S. Juárez-Reyes[1], M. A. Cerrillo-Soto*[1], E. Gutiérrez-Ornelas[2], E. Romero-Treviño[3], J. Colín-Negrete[2], and H. Bernal-Barragán[2], [1]*Universidad Juárez del Estado de Durango*, *Durango, Dgo. México*, [2]*Universidad Autónoma de Nuevo León*, *Monterrey, N.L. México*, [3]*Instituto Tecnológico Agropecuario N° 4*, *Altamira, Tamps. México*.
12:15 PM	55	Coastal, Russell and Tifton 85 bermudagrass hay consumption by growing beef steers and in situ digestion. V. A. Corriher*, G. M. Hill, and B. G. Mullinix, Jr., *University of Georgia*, *Tifton*.

SYMPOSIUM
Goat Species
Potential of Goats as Biological Agents to Produce Meat, Control Vegetation and Restore Land
Chair: Maximino Huerta Bravo, University of Chappingo, Mexico
M100 D-E

Time	Abstract #	
9:30 AM	56	Meat goat industry, an emerging animal-agriculture enterprise in the U.S. S. Solaiman*, *Tuskegee University*, *Tuskegee, AL*.
10:00 AM	57	Nutritional quality assessment of browse for goats. W. Pittroff*, *University of California*, *Davis*.
10:30 AM	58	Vegetation control using goats. S. Hart*, *Langston University*, *Langston, OK*.
11:00 AM	59	Utilization of goats for rejuvenation, reclamation and land cleaning. A. Peischel*, *Tennessee State University*, *Nashville*.
11:30 AM		Discussion. M. Bravo, *University of Chappingo, Mexico*.

Graduate Student Paper Competition

Northeastern ASAS/ADSA Graduate Competition

Chair: Steven Zinn, University of Connecticut

101 F-G

Time	Abstract #	
9:30 AM	60	Milk production of dairy cows fed diets constant or varied in phosphorus content during lactation. J. Elizondo*[1], D. Beegle[1], J. Fergusson[2], and Z. Wu[1], [1]*Pennsylvania State University*, *University Park*, [2]*University of Pennsylvania*, *Kennett Square*.
9:45 AM	61	Effects of forage source and corn particle size on milk production and composition, nutrient digestibility and ammonia emission from manure in Holstein dairy cows. N. E. Brown*, V. A. Ishler, T. W. Cassidy, K. Heyler, and G. A. Varga, *The Pennsylvania State University*, *University Park*.
	62	Withdrawn by author.
10:00 AM	63	Accelerated calf growth: When does it make sense? D. Berthiaume* and J. Smith, *University of Vermont*, *Burlington*.

Graduate Student Paper Competition

National ADSA Foods Division

Chair: David McCoy, Chr. Hansen

200 D-E

Time	Abstract #	
9:30 AM	64	Fatty acid composition and thermal properties of lipid from milk and butter from lactating Holstein cows fed a supplemental lipid either high or low in palmitic acid. M. K. Beam*[1], L. W. Lassonde[2], B. C. Veltri[1], S. J. Taylor[1], R. Jimenez-Flores[2], and E. J. DePeters[1], [1]*University of California*, *Davis*, [2]*California Polytechnic State University*, *San Luis Obispo*.
9:45 AM	65	Influence of fatty acid chain length and unsaturation on mid-infrared milk analysis. K. Kaylegian* and D. Barbano, *Cornell University*, *Ithaca*.
10:00 AM	66	Binding of flavor compounds to native and denatured whey protein using headspace solid-phase microextraction. J. Kühn*[1,2], T. Considine[3], and H. Singh[1], [1]*Riddet Centre*, *Palmerston North, New Zealand*, [2]*Institute of Food, Nutrition, and Human Health*, *Palmerston North, New Zealand*, [3]*Fonterra Research Centre*, *Palmerston North, New Zealand*.
10:15 AM	67	Improving the texture of nonfat processed cheese for use in baking applications. C. A. Brickley*[1,2], S. Govindasamy-Lucey[3], J. J. Jaeggi[3], M. E. Johnson[3], P. L. H. McSweeney[1], and J. A. Lucey[2], [1]*University College Cork*, *Cork, Ireland*, [2]*University of Wisconsin*, *Madison*, [3]*Wisconsin Center for Dairy Research*, *Madison, WI*.
10:30 AM	68	Impact of mixtures of emulsifying salts on the properties of process cheese. S. Kaliappan*, M. E. Johnson, J. J. Jaeggi, and J. A. Lucey, *University of Wisconsin*, *Madison*.
10:45 AM		Break
11:00 AM	69	Improving texture and flavor of reduced fat Cheddar cheese using an exopolysaccharide-producing culture and ultrafiltration. P. Agrawal* and A. N. Hassan, *South Dakota State University*, *Brookings*.
11:15 AM	70	Ecology of psychrotolerant aerobic sporeformers present in dairy production systems. J. Huck*, B. Hammond, S. Murphy, and K. Boor, *Milk Quality Improvement Program, Cornell University*, *Ithaca, NY*.
11:30 AM	71	Growth and enterotoxin production by *Staphylococcus aureus* in milk. N. M. Kauffman* and R. F. Roberts, *The Pennsylvania State University*, *University Park*.
11:45 AM	72	Development of a novel immunoassay system for immunobiotics that modulate intestinal immunity through Toll-like receptor 2. M. Tohno*, T. Shimosato, Y. Kawai, T. Saito, and H. Kitazawa, *Graduate School of Agricultural Science, Tohoku University*, *Sendai, Japan*.

Graduate Student Paper Competition

National ADSA Dairy Production Division

Chair: Zhiguo Wu, Pennsylvania State University

101 H-I

Time	Abstract #	
9:30 AM	73	Evaluation of feeding dried distillers grains plus solubles (DDGS) with corn silage or alfalfa hay as the primary forage source. D. H. Kleinschmit*, D. J. Schingoethe, A. R. Hippen, and K. F. Kalscheur, *South Dakota State University*, *Brookings*.
9:45 AM	74	The effect of supplemental dietary forage on the concentration of phosphorus and nitrogen in feces of lactating cows. E. M. O'Rourke*[1], J. J. Michal[1], R. L. Kincaid[1], J. H. Harrison[2], and C. T. Gaskins[1], [1]*Washington State University*, *Pullman*, [2]*Washington State University*, *Puyallup*.
10:00 AM	75	Suppressor of cytokine signaling-2 mRNA increases after calving in dairy cows and is associated with elevated estradiol-17B concentrations before calving. L. A. Winkelman*[1], M. C. Lucy[2], and C. K. Reynolds[1], [1]*The Ohio State University*, *Columbus*, [2]*University of Missouri*, *Columbia*.
10:15 AM	76	Effects of dietary allocation of barley grains differing in expected starch digestion on rumen fermentation and productivity of lactating dairy cows. C. Silveira*[1], M. Oba[1], W. Z. Yang[2], and K. A. Beauchemin[2], [1]*University of Alberta*, *Edmonton, AB, Canada*, [2]*Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*.
10:30 AM	77	Characterization of cytokine gene expression in periparturient dairy cows naturally infected with Mycobacterium avium subsp. paratuberculosis. E. L. Williams* and J. R. Stabel, *USDA-ARS-National Animal Disease Center*, *Ames, IA*.
10:45 AM	78	Response in diurnal variation of circulating blood metabolites to nocturnal vs. diurnal provision of fresh feed in lactating cows. A. Nikkhah*, J. C. Plaizier, C. Furedi, and A. D. Kennedy, *University of Manitoba*, *Winnipeg, MB, Canada*.
11:00 AM	79	Assessment of the effects of cinnamon leaf oil on rumen microbial fermentation using two continuous culture systems. G. R. Fraser*[1], A. V. Chaves[2], Y. Wang[2], T. A. McAllister[2], K. A. Beauchemin[2], and C. Benchaar[3], [1]*Nova Scotia Agricultural College*, *Truro, NS, Canada*, [2]*Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*, [3]*Agriculture and Agri-Food Canada, Dairy and Swine R&D Centre*, *Lennoxville, QC, Canada*.
11:15 AM	80	Feed peas can successfully replace soybean meal and corn grain in dairy cow diets. M. Vander Pol* and A. N. Hristov, *University of Idaho*, *Moscow*.
11:30 AM	81	17B-estradiol concentration in raw and pasteurized/homogenized whole milk. D. A. Pape-Zambito*, R. F. Roberts, N. M. Kauffman, and R. S. Kensinger, *Pennsylvania State University*, *University Park*.
11:45 AM	82	Effects of varying CLA doses on production and bioenergetic variables during the transition period. L. J. Odens*[1], R. Burgos[1], B. C. Pollard[1], M. L. Innocenti[1,2], S. H. Baker[1], S. R. Sanders[1], J. K. Kay[1], M. L. Rhoads[1], C. E. Moore[1], M. J. VanBaale[1], and L. H. Baumgard[1], [1]*The University of Arizona*, *Tucson*, [2]*University of Milan*, *Milan, Italy*.

Meat Science and Muscle Biology

Chair: Floyd McKeith, University of Illinois

L100 D-E

Time	Abstract #	
9:30 AM	83	Dose titration of ractopamine evaluating the effects on carcass cutout yields in feedlot steers. A. Schroeder*[1], D. Hancock[1], D. Mowrey[1], S. Laudert[1], G. Vogel[1], D. Polser[1], and F. McKeith[2], [1]*Elanco Animal Health*, *Greenfield, IN*, [2]*University of Illinois*, *Urbana*.
10:00 AM	84	Selection for improvement in pig growth rate does not alter fresh pork quality. C. E. Wagner*[1], E. Huff-Lonergan[1], M. F. Rothschild[1], A. A. Sosnicki[1,2], S. B. Jungst[2], K. J. Prusa[1], and S. M. Lonergan[1], [1]*Iowa State University*, *Ames*, [2]*PIC North America*, *Franklin, KY*.
10:15 AM	85	Interaction of MC4R and PRKAG3 genotypes with genetic potential for growth on meat quality traits. S. E. F. Guimaraes[1,3], M. F. Rothschild[1], E. Huff-Lonergan[1], A. A. Sosnicki[1,2], S. B. Jungst[2], M. Yu[1], and S. M. Lonergan*[1], [1]*Iowa State University*, *Ames*, [2]*PIC North America*, *Franklin, KY*, [3]*Universidade Federal de Vicosa*, *Vicosa, MG, Brazil*.

10:30 AM	86	Associations between animal, transportation, and slaughterhouse practices and meat pH in beef. N. Mach*[1], M. Devant[1], A. Bach[2,1], and A. Velarde[3], [1]*Unitat Remugants, IRTA*, *Barcelona, Spain*, [2]*ICREA*, *Barcelona, Spain*, [3]*Centre de Tecnologia de la Carn, IRTA*, *Spain*.
10:45 AM	87	The role of integrin and desmin in water-holding capacity in pork. W. Zhang*, E. Huff-Lonergan, and S. Lonergan, *Iowa state University*, *Ames*.
11:00 AM	88	Impacts of beef cattle diets containing corn or sorghum distillers grains on beef color, fatty acid profiles, and sensory attributes. R. K. Gill*[1], D. L. VanOverbeke[2], and A. DiCostanzo[1], [1]*University of Minnesota*, *St. Paul*, [2]*Oklahoma State University*, *Stillwater*.
11:15 AM	89	Solution enhancement and post-enhancement storage effects on the quality, sensory and retail display characteristics of beef triceps brachii muscles. C. W. Rowe*[1], R. T. Baublits[1], A. H. Brown, Jr.[1], F. W. Pohlman[1], E. J. Yancey[2], Z. B. Johnson[1], and P. Dias-Morse[1], [1]*University of Arkansas*, *Fayetteville*, [2]*Tyson Foods, Inc.*, *Rogers, AR*.
11:30 AM	90	Dietary high-tannin sorghum reduces oxidation in rat muscles. R. Larraín* and J. Reed, *University of Wisconsin*, *Madison*.
11:45 AM	91	Effect of birth weight and feeding strategies during the growing-finishing period on growth performance, carcass characteristics, and meat quality in pigs. G. Bee*, C. Biolley, B. Dougoud, W. Herzog, and G. Guex, *Agroscope Liebefeld-Posieux, Swiss Federal Research Station for Animal Production and Dairy Products (ALP)*, *Posieux, Fribourg, Switzerland*.
12:00 PM	92	Intramuscular administration of zinc metallothionein to preslaughter-stressed pigs improves anti-oxidative function and pork quality. L. L. Li[1], Z. P. Hou[1], Y. H. Liu[2], D. X. Hou[3], B. Zhang[2], G. Y. Wu[1,4], C. B. Yang[1], X. J. Yang[1], Z. R. Tang[1], Y. L. Yin*[1], and M. Z. Fan[1,5], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences*, *Changsha, Hunan, P.R. China*, [2]*Hunan Agricultural University*, *Changsha, Hunan, P.R. China*, [3]*Kagoshima University*, *Kagoshima, Japan*, [4]*Texas A&M University*, *College Station*, [5]*University of Guelph*, *Guelph, Ontario, Canada*.

Nonruminant Nutrition

Nursery Nutrition - Swine

Chair: Chris Knight, Novus International, Inc. and Mike Rincker, Distributors Processing, Inc.

L100 H-I

Time	Abstract #	
9:30 AM	93	Supplemental inulin affects digesta soluble Fe and sulfide concentrations in weanling pigs. K. Yasuda*[1], K. R. Roneker[1], D. D. Miller[2], R. M. Welch[3], and X. G. Lei[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Cornell University*, *Ithaca, NY*, [3]*USDA/ARS, U.S. Plant, Soil and Nutrition Laboratory*, *Ithaca, NY*.
9:45 AM	94	Additivity of effects of copper and zinc in diets for weaned piglets on a commercial farm. V. G. Perez-Mendoza*[1], M. U. Steidinger[2], G. R. Hollis[1], T. M. Fakler[3], and J. E. Pettigrew[1], [1]*University of Illinois*, *Urbana-Champaign*, [2]*Swine Nutrition Services Inc*, *Anchor, IL*, [3]*Zinpro Corporation*, *Eden Prairie, MN*.
10:00 AM	95	Importance of vitamin B_{12} enterohepatic cycle in growing pigs. D. P. Prévéraud*[1,2], C. L. Girard[1], F. Guay[2], N. Le Floc'h[3], and J. J. Matte[1], [1]*Agriculture and Agri-Food Canada*, *Lennoxville, QC, Canada*, [2]*Laval University*, *Ste-Foy, QC, Canada*, [3]*INRA*, *St-Gilles, France*.
10:15 AM	96	Bioavailability of dietary cyanocobalamin (vitamin B_{12}) in growing pigs. J. J. Matte*[1], D. P. Prévéraud[1,2], F. Guay[2], and C. L. Girard[1], [1]*Agriculture and Agri-Food Canada*, *Lennoxville, QC, Canada*, [2]*Université Laval*, *Québec, QC, Canada*.
10:30 AM	97	Evaluation of a extruded wheat and milk by–product mixture in diets for early-weaned pigs. J. C. Sánchez, M. P. Serrano, D. G. Valencia, R. Lázaro, and G. G. Mateos*, *Universidad Politécnica de Madrid*, *Spain*.
10:45 AM	98	Use of rice in substitution of corn and zinc oxide in diets for young pigs. B. Vicente, D. G. Valencia, J. C. Sánchez, R. Lázaro, and G. G. Mateos*, *Universidad Politécnica de Madrid*, *Spain*.
11:00 AM		Break
11:15 AM	99	Dietary spray dried (immune) plasma protects against experimental F4+ Escherichia coli post-weaning diarrhea in pigs. T. Niewold[1], A. Van Dijk*[2], P. Geenen[3], H. Roodink[4], R. Margry[2], and J. Van Der Meulen[1], [1]*Katholieke Universiteit Leuven*, *Leuven, Belgium*, [2]*CCL Research*, *Veghel, The Netherlands*, [3]*Utrecht University*, *Utrecht, The Netherlands*, [4]*Sonac*, *Loenen, The Netherlands*, [5]*Animal Sciences Group of Wageningen UR*, *Lelystad, The Netherlands*.
11:30 AM	100	Effects of soybean meal concentration on growth performance of nursery pigs fed simple and complex diets. P. M. Clark*, J. D. Hancock, K. C. Behnke, and A. C. Fahrenholz, *Kansas State University*, *Manhattan*.

11:45 AM	101	Supplemental effects of lactobacillus based probiotics on aerial odor production and growth performance of pigs. S. K. Kommera*, R. D. Mateo, D. A. Monson, and S. W. Kim, *Texas Tech University*, *Lubbock*.
12:00 PM	102	The effect of salmon protein hydrolysate and spray-dried porcine plasma on growth performance of nursery pigs. J. Tucker*, B. Perkins, S. Johnston, T. Bidner, and L. Southern, *LSU Agricultural Center*, *Baton Rouge*.
12:15 PM	103	Prediction of the proximate content of homogenized whole Pacific Herring (*Clupea pallasi*) using near-infrared reflectance spectroscopy (NIRs). C. Morishige[1], J. R. Carpenter*[1], and B. Rasco[2], [1]*University of Hawaii at Manoa*, *Honolulu*, [2]*Washington State University*, *Pullman*.
12:30 PM	104	Catabolism of essential amino acids in enterocytes of growing pigs. L. .X. Chen*[1,2], Y. L. Yin[1], W. S. Jobgen[2], D. A. Knabe[2], and G. Wu[1,2], [1]*The Chinese Academy of Sciences*, *Changsha, Hunan, P.R. China*, [2]*Texas A&M University*, *College Station*.

SYMPOSIUM
Physiology and Endocrinology
Metabolic Regulation of Food Intake
Chair: Tom Adams, University of California
Symposium meets AAVSB'S RACE requirement for 3 hr CE.
L100 A

Time	Abstract #	
9:30 AM	105	Hepatic energy status as a stimulus for hunger and satiety. M. Friedman*, *Monell Chemical Senses Center*, *Philadelphia, PA*.
10:15 AM	106	The role of ghrelin in the regulation of energy balance in the sheep. I. Clarke*, *Monash University*, *Melbourne, Australia*.
11:00 AM	107	Metabolic regulation of food intake in ruminants. M. S. Allen* and B. J. Bradford, *Michigan State University*, *East Lansing*.
11:45 AM	108	Effect of body composition on feed intake and macronutrient selection in growing pigs. M. J. Azain*, *University of Georgia*, *Athens*.

Ruminant Nutrition
Growing/Finishing Nutrition - Beef
Chair: Steven Loerch, The Ohio State University
L100 F-G

Time	Abstract #	
9:30 AM	109	Performance evaluation of calf- and yearling-finishing. W. A. Griffin*, T. J. Klopfenstein, G. E. Erickson, D. M. Feuz, and J. C. MacDonald, *University of Nebraska*, *Lincoln*.
9:45 AM	110	Effect of phase feeding protein on cattle performance and nitrogen mass balance in the summer. S. Quinn*, G. Erickson, T. Klopfenstein, R. Stowell, and K. Vander-Pol, *University of Nebraska*, *Lincoln*.
	111	Withdrawn by author.
	112	Withdrawn by author.
10:00 AM	113	Evaluation of cotton gin trash as a low-cost feedstuff for growing cattle. J. B. Kennedy* and D. L. Rankins, Jr., *Auburn University*, *Auburn, AL*.
10:15 AM	114	Digestibility of cottonseed and Tifton 85 hay fed to growing beef steers. G. M. Hill*, B. C. Hand, and B. G. Mullinix, Jr., *University of Georgia*, *Tifton*.
10:30 AM	115	Assessment of energy enhanced roughage (EER) based diets for growing/finishing cattle. J. R. Carpenter*[1] and B. Sporleder[2], [1]*University of Hawaii at Manoa*, *Honolulu*, [2]*Byproducts Enhancement Technologies Corporation (BETC)*, *Fort Collins, CO*.

10:45 AM	116	Evaluation of feed efficiency traits in growing Brahman heifers and relationship with body composition ultrasound traits and feeding behavior. F. R. B. Ribeiro*[1], G. E. Carstens[1], P. A. Lancaster[1], L. O. Tedeschi[1], and M. H. M. R. Fernandes[2], [1]*Texas A&M University*, *College Station*, [2]*Universidade Estadual Paulista-FCAV*, *Jaboticabal, SP, Brazil*.
11:00 AM	117	Effects of sorting and supplementation of optaflexx on yearling feedlot performance. W. A. Griffin*, T. J. Klopfenstein, G. E. Erickson, K. J. Vander Pol, D. M. Feuz, and M. A. Greenquist, *University of Nebraska*, *Lincoln*.
11:15 AM	118	Evaluation of feeding ractopamine (Optaflexx®) with various levels of dietary crude protein on growth performance in feedlot steers. S. Sachtleben[1], E. Thomas[2], W. Platter[2], and A. Schroeder*[2], [1]*Kent Feeds, Inc.*, *Muscatine, IA*, [2]*Elanco Animal Health*, *Greenfield, IN*.
11:30 PM	119	Evaluation of feeding ractopamine (Optaflexx®) with various levels of dietary crude protein on carcass characteristics in feedlot steers. S. Sachtleben[1], E. Thomas[2], W. Platter[2], and A. Schroeder*[2], [1]*Kent Feeds, Inc.*, *Muscatine, IA*, [2]*Elanco Animal Health*, *Greenfield, IN*.
11:45 PM	120	The effects of dose and duration of ractopamine-HCl administration on finishing performance and carcass traits of non-implanted beef heifers. M. J. Quinn*, J. S. Drouillard, C. D. Reinhardt, A. S. Webb, J. M. Pozuelo, M. L. May, C. E. Walker, and S. J. Winterholler, *Kansas State University*, *Manhattan*.

Ruminant Nutrition

Rumen Fermentation Modifiers

Chair: Todd Callaway, USDA-ARS, Southern Plains Agriculture Research Center

101 B-C

Time	Abstract #	
9:30 AM	121	A modified glucomannan as a method for mitigating fescue toxicosis. I. Cattle performance. S. A. Gunter*, J. D. Shockey, P. A. Beck, and C. A. Masino, *University of Arkansas*, *Hope*.
9:45 AM	122	A modified glucomannan as a method for mitigating fescue toxicosis. II. Cattle behavior. J. D. Shockey*, S. A. Gunter, P. A. Beck, and C. A. Masino, *University of Arkansas*, *Hope*.
10:00 AM	123	Effects of *Saccharomyces cerevisiae* (Sc47) on the rumen digestion, fermentation and protozoa population of bulls fed either alfaalfa hay or corn silage diet. A. Nikkhah* and E. Ghasemi, *Tehran University*, *Karaj, Tehran, Iran*.
10:15 AM	124	Effects of essential oils on rumen microbial fermentation evaluated in vitro. L. Castillejos*[1], S. Calsamiglia[1], J. Martin-Tereso[2], and H. ter Wijlen[2], [1]*Universitat Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*Nutreco Ruminant Research Center*, *Boxmeer, The Netherlands*.
10:30 AM	125	Effect of CRINA RUMINANTS AF, a mixture of essential oil compounds, on finishing beef steer performance. N. Meyer*[1], G. Erickson[1], T. Klopfenstein[1], P. Williams[2], and R. Losa[2], [1]*University of Nebraska*, *Lincoln*, [2]*Intervet*, *Millsboro, DE*.
10:45 AM	126	Effects of concentration and duration of Rumensin application on milk production efficiency in multiparous Holstein cows. A Arieli*[1], C. M. Martinez[2], T. W. Cassidy[2], and G. A. Varga[2], [1]*Hebrew University of Jerusalem*, *Rehovot, Israel*, [2]*Pennsylvania State University*, *University Park*.
11:00 AM	127	Effects of monensin on dairy cows fed diets differing in fiber source and starch concentration. A. M. Gehman*[1], P. J. Kononoff[1], B. N. Janicek[1], and F. Bargo[2], [1]*University of Nebraska*, *Lincoln*, [2]*University of Buenos Aries*, *Argentina*.
11:15 AM	128	Effects of molasses and monensin in alfalfa hay or corn silage diets on rumen fermentation, total digestibility and milk production in holstein cows. E. R. Oelker*, C. Reveneau, and J. L. Firkins, *The Ohio State University*, *Columbus*.
11:30 AM	129	Effect of inhibition of methane synthesis on biohydrogenation in the presence or absence of protozoa in continuous culture. S. K. R. Karnati*, C. V. D. M. Ribeiro, J. T. Sylvester, and J. L. Firkins, *The Ohio State University*, *Columbus*.
11:45 AM	130	Manipulation of fermentation profile and methane production with microbial inhibitors and protozoal retention in continuous culture. S. K. R. Karnati*, J. T. Sylvester, L. E. Gilligan, and J. L. Firkins, *The Ohio State University*, *Columbus*.

12:00 PM	131	Gastrointestinal metabolism and plasma concentrations of the methane-inhibitor, nitroethane, in fed steers. R. Anderson*[1], N. Ramlachan[1], H. Gutiérrez-Bañuelos[2], G. Carstens[2], W. Majak[3], R. McDiarmid[3], T. Callaway[1], R. Harvey[1], S. Horrocks[1], T. Edrington[1], and D. Nisbet[1], [1]*USDA/ARS, Food & Feed Safety Research Unit*, *College Station, TX*, [2]*Texas A&M University*, *College Station*, [3]*Agriculture & Agri-Food Canada, Kamloops Range Research Unit*, *Kamloops, BC, Canada*.
12:15 PM	132	Effects of feeding a polyclonal antibody preparation against Streptococcus bovis on rumen fermentation of heifers switched from a high forage to a high concentrate diet. M. Blanch*[1], S. Calsamiglia[1], N. DiLorenzo[2], and A. DiCostanzo[2], [1]*Universitat Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*University of Minnesota*, *St. Paul*.

Graduate Student Paper Competition

ADSA Southern Branch

Chair: Bill Graves, University of Georgia

101 F-G

Time	Abstract #	
11:00 AM	133	Waste milk supply and pasteurizer performance on three North Carolina dairy farms. M. C. Scott*[1], R. E. James[1], M. L. McGilliard[1], and B. A. Hopkins[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*North Carolina State University*, *Raleigh*.
11:15 AM	134	Breed differences in postpartum cyclicity of pasture-based dairy cows. C. M. Williams*, S. P. Washburn, A. N. Elias, and C. S. Whisnant, *North Carolina State University*, *Raleigh*.
11:30 AM	135	Effect of feed additives on aflatoxin in milk of dairy cows fed aflatoxin-contaminated diets. J. Stroud*[1], E. English[1], S. Davidson[1], B. Hopkins[1], G. Latimer[2], W. Hagler[1], C. Brownie[1], and L. Whitlow[1], [1]*North Carolina State University*, *Raleigh*, [2]*Texas A&M University*, *College Station*.
11:45 AM	136	Using dietary heat increment to alter energy use in dairy cows during hot weather. L. M. Pacetti*, J. W. West, J. K. Bernard, and C. D. Wildman, *The University of Georgia*, *Tifton*.

ADSA-SAD – Undergraduate Competition

Dairy Production

Chair: Cathleen C. Williams, Louisiana State University

200 H

Time	Abstract #	
11:00 AM	137	The use of copper sulfate to improve hoof health in dairy cattle. M. Konzelman*, *Louisiana State University*, *Baton Rouge*.
11:15 AM	138	The agricultural workforce: Changing times and issues. K. Connelly*, *Pennsylvania State University*, *University Park*.
11:30 AM	139	Dairy production in south China: Challenges and opportunities. L. Schultz*[1], and B. Moss[3], [1]*Iowa State University*, *Ames*, [2]*Agricultural Trade Office, U.S. Consulate General*, *Guangzhou, China*, [3]*Auburn University*, *Auburn, AL*.
11:45 AM	140	Methane digestion- same manure- more energy and nutrients- less odor. A. Offenheiser*, *University of Kentucky*, *Lexington*.
12:00 PM	141	Why crossbreed dairy cattle? J. Yoder*, *Virginia Polytechnic Institute and State University*, *Blacksburg*.
12:15 PM	142	The effect of selenium source on the health and performance of dairy cattle. R. J. Mast* and E. H. Jaster, *California Polytechnic State University*, *San Luis Obispo*.

Women and Minority Issues in Animal Agriculture Luncheon

Chair: Katharine Knowlton, Virginia Polytechnic Institute and State University

200 A

Time	Abstract #	
12:30 PM	143	Mutual mentoring: A strategy for success in academia and industry. M. Lederman*, *Virginia Tech*, *Blacksburg*.

Animal Health

Johne's Disease

Chair: Ken Olson, National Institute for Animal Agriculture

Symposium meets AAVSB'S RACE requirement for 3 hr CE.

M100 G-H

Time	Abstract #	
2:00 PM	144	Johne's Disease integrated program – An overview. V. Kapur*, *University of Minnesota*, *Minneapolis*.
2:30 PM	145	JEI – Producer focused Johne's information. K. E. Olson*, *National Institute for Animal Agriculture*, *Bowling Green, KY*.
2:45 PM	146	Johne's demonstration project in Texas. M. A. Villarino[1], H. M. Scott[2], and E. R. Jordan*[1], [1]*Texas Cooperative Extension, Texas A & M University*, *Dallas*, [2]*Texas A & M University*, *College Station*.
3:00 PM	147	Georgia Johne's Disease demonstration herd. M. Pence*, *University of Georgia*, *Athens*.
3:15 PM	148	Results from Minnesota Johne's Disease demonstration herd control program. C. Ferrouillet* and S. Wells, *University of Minnesota*, *Saint Paul*.
3:30 PM	149	Preliminary results from the national Johne's Disease demonstration herd project. J. Lombard*, S. Jensen, B. Wagner, and L. Garber, *USDA:APHIS:VS; Centers for Epidemiology and Animal Health, National Center for Animal Health Surveillance, National Animal Health Monitoring System*, *Fort Collins, CO*.
3:45 PM		Break
4:00 PM	150	Early diagnosis of Johne's Disease: evaluation of methods. J. Stabel*, S. Robbe-Austerman, and K. Kimura, *USDA-ARS-National Animal Disease Center*, *Ames, IA*.
4:15 PM	151	The impact of Mycobacterium avium subsp paratuberculosis fecal shedding and clinical Johne's disease on lactation performance. E. A. Raizman*[1,2], J. Fetrow[2], S. M. Godden[2], and S. J. Wells[2], [1]*Purdue University*, *West Lafayette, IN*, [2]*University of Minnesota*, *St Paul*.
4:30 PM	152	Identification and implications of MAP supershedders. E. Hovingh*[1], R. H. Whitlock[2], R. W. Sweeney[2], T. Fyock[2], D. R. Wolfgang[1], J. Smith[3], Y. H. Schukken[4], and J. S. Van Kessel[5], [1]*Pennsylvania State University*, *University Park*, [2]*University of Pennsylvania*, *Kennett Square*, [3]*University of Vermont*, *Burlington*, [4]*Cornell University*, *Ithaca, NY*, [5]*United States Department of Agriculture*, *Beltsville, MD*.
4:45 PM	153	Use of a Fecal PCR assay on environmental samples: Implications for detection of dairy cattle herds infected with Johne's disease. N Cernicchiaro*[1], S. J. Wells[1], C. Muñoz-Zanzi[1], J. Gaulke[2], and C. Wees[2], [1]*University of Minnesota*, *St. Paul*, [2]*Minnesota Veterinary Diagnostic Laboratory*, *St. Paul, MN*.
5:00 PM	154	Evaluation of a risk assessment tool in characterizing environmental Salmonella and Mycobacterium paratuberculosis status in dairy herds. D. Collette*, L. Minicucci, and S. J. Wells, *University of Minnesota*, *St. Paul*.

Breeding and Genetics

Dairy Breeding

Chair: Daryl Nash, Ferrum College

L100 J

Time	Abstract #	
2:00 PM	ADSA Pioneer	Dairy cattle breeding in the last half century. A. E. Freeman, *Iowa State University, Ames*.
2:15 PM	155	Genetic impact of utilizing female-sorted semen in commercial and nucleus herds. G. Abdel-Azim* and S. Schnell, *Genex Cooperative Inc.*, *Shawano, WI*.
2:30 PM	156	Net present value of an artificial insemination: non-sexed versus sexed semen. N. J. Olynk* and C. A. Wolf, *Michigan State University*, *East Lansing*.
2:45 PM	157	Domestic versus imported artificial-insemination semen for Holstein graziers in the United States. H. D. Norman, J. R. Wright, and R. L. Powell*, *Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*.
3:00 PM	158	Assessment of the economically optimal voluntary waiting period for first breeding in dairy cattle. A. Bell*, A. de Vries, and P. J. Hansen, *University of Florida*, *Gainesville*.
3:15 PM	159	Optimal breeding and replacement decisions for dairy cows when heifer supply is constrained. A. de Vries*, *University of Florida*, *Gainesville*.
3:30 PM		Break
3:45 PM	160	Protections available for intellectual property in the dairy artificial insemination industry. E. Ogden and K. Weigel*, *University of Wisconsin*, *Madison*.
4:00 PM	161	Genetic analysis of milk urea nitrogen and lactose and their relationships with production traits in Canadian Holstein cattle. F. Miglior*[1,2], A. Sewalem[1,2], J. Jamrozik[3], D. M. Lefebvre[4], and R. K. Moore[4], [1]*Agriculture and Agri-Food Canada - Dairy and Swine Research and Development Centre*, *Lennoxville, QC, Canada*, [2]*Canadian Dairy Network*, *Guelph, ON, Canada*, [3]*Centre for the Genetic Improvement of Livestock, University of Guelph*, *Guelph, ON, Canada*, [4]*Programme d'Analyse des Troupeaux Laitiers du Québec*, *Ste-Anne-de-Bellevue, QC, Canada*.
4:15 PM	162	Blood metabolite profiles in dairy cattle selected for differences in milk component production. M. Westall* and D. Moody Spurlock, *Iowa State University*, *Ames*.
4:30 PM	163	Effects of accounting for heat stress on genetic evaluation of US Holsteins for milk by a test day model. J. Bohmanova[1], I. Misztal*[1], S. Tsuruta[1], H. D. Norman[2], and T. J. Lawlor[3], [1]*University of Georgia*, *Athens*, [2]*Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*, [3]*Holstein Association*, *Brattleboro, VT*.
4:45 PM	164	Estimation of genetic parameters of test day milk yields for Holsteins in Khorasan province of Iran. J. Eslami[1], H. Farhangfar*[2], and H. Naeemipour[2], [1]*Zabol University*, *Zabol, Iran*, [2]*Birjand University*, *Birjand, Iran*.
5:00 PM	165	Studies on drops of PTA from first to second crop for final score in Holsteins. V. Koduru*[1], I. Misztal[1], S. Tsuruta[1], and T. J. Lawlor[2], [1]*The University of Georgia*, *Athens*, [2]*Holstein Association USA Inc.*, *Brattleboro, VT*.

Dairy Foods

Cheese I

Chair: Joe Schlesser, FDA

200 D-E

Time	Abstract #	
2:00 PM	ADSA Pioneer	The cheese industry over time. W. J. Harper, *Ohio State University, Columbus*.
2:15 PM	166	Textural and rheological properties of cream cheese: effect of cream mix homogenization pressure and incubation temperature. M. Brighenti*[1], S. Govindasamy-Lucey[2], J. J. Jaeggi[2], K. Lim[2], M. E. Johnson[2], and J. A. Lucey[1], [1]*University of Wisconsin*, *Madison*, [2]*Wisconsin Center for Dairy Research*, *Madison, WI*.
2:30 PM	167	The effect of high pressure processing on the salt distribution in Turkish white cheese. N. Koca*[1,2], R. Raghupahty[1], V. M. Balasubramaniam[1], and W. J. Harper[1], [1]*The Ohio State University*, *Columbus*, [2]*Ege University*, *Izmir, Turkey*.

2:45 PM	168	Isolation and purification of angiotensin-I-converting enzyme inhibitory peptides from Cheddar cheeses with the addition of probiotic *Lactobacillus casei* or *L. paracasei*. L. Ong[1], N. Shah*[1], and A. Henriksson[2], [1]*Victoria University*, *Werribee, Victoria, Australia*, [2]*DSM Food Specialties*, *NSW, Australia*.
3:00 PM	169	Effects of milk proteins and packaging on occurence of calcium lactate crystals in Cheddar cheese. S. Agarwal*, J. R. Powers, B. G. Swanson, S. Chen, and S. Clark, *Washington State University*, *Pullman*.
3:15 PM		Break
3:30 PM	170	Qualitative analysis of Sicilian traditional cheeses microstructure by scanning electron microscope (SEM). L. Tuminello*[1], M. Caccamo[1], and G. Licitra[1,2], [1]*CoRFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*D.A.C.P.A. Catania University*, *Catania, Italy*.
3:45 PM	171	Impact of milk lactose reduction on the chemical, textural and shredded cheese quality of mozzarella. C. Chen*, A. Bostley, J. Jaeggi, K. Lim, and M. Johnson, *Wisconsin Center for Dairy Research*, *Madison, WI*.
4:00 PM	172	Influence of salt up take and aging temperature on chemical composition and on early gas defects in raw milk pasta filata Ragusano cheese. G. Licitra*[1,2], M. Caccamo[1], G. Marino[1], G. Tumino[1], and G. Farina[1], [1]*CoRFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*D.A.C.P.A. Catania University*, *Catania, Italy*.
4:15 PM	173	Development of Pasteurized Process Queso Fresco. R. Muhar*, N. Y. Farkye, and A. Schaffner, *California Polytechnic State University*, *San Luis Obispo*.
4:30 PM	174	Effect of total calcium content, intact casein content, and pH on the functional properties of process cheese. R. Kapoor* and L. E. Metzger, *MN-SD Dairy Foods Research Center, University of Minnesota*, *St. Paul, MN*.

SYMPOSIUM
Dairy Foods
Political, Economic, and Scientific Considerations of Milk Component Utilization
Chair: Brandon Nelson, Schreiber Foods Inc.
Sponsor: Schreiber Foods
200 B-C

Time	Abstract #	
	175	Withdrawn by author.
2:00 PM		The last 100 years of milk component separation. D. Barbano*, *Northeast Dairy Foods Research Center, Cornell University*, *Ithaca, NY*.
2:15 PM	176	Status of milk component separation and utilisation in Europe. J. F. Kleibeuker*, *European Dairy Association*, *Brussels, Belgium*.
2:50 PM		What to do with lactose. C. Hansen, *Utah State University, Logan*.
3:20 PM		Break
3:30 PM	177	Conditions of competition for milk protein products in the U.S. market. J. Coleman*, *U.S. International Trade Commission*, *Washington, DC*.
4:00 PM		Are U.S. regualtory agencies and markets ready for true milk component utilization? M. Stephenson, *Cornell University, Ithaca, NY*.
4:30 PM		Panel discussion
5:00 PM		Adjourn

Graduate Student Paper Competition

National ADSA Production Division (con't.)

Chair: Zhiguo Wu, Pennsylvania State University

101 H-I

Time	Abstract #	
2:00 PM	178	Development of a mechanistic model to understand the dynamics of liquid flow out of the reticulo-rumen in dairy cattle. S. Seo*[1], C. Lanzas[1], L. Tedeschi[2], and D. Fox[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Texas A&M University*, *College Station*.
2:15 PM	179	Supplementation of diets with limited methionine content with rumen-protected forms of methionine, choline, and betaine in early lactation Holstein cows. S. Davidson*, B. Hopkins, J. Odle, C. Brownie, V. Fellner, and L. Whitlow, *North Carolina State University*, *Raleigh*.
2:30 PM	180	Effect of ruminally degraded protein source on microbial protein flow in Holstein cows. A. B. Peterson*[1], R. L. Baldwin, VI[2], B. J. Bequette[1], and R. A. Kohn[1], [1]*University of Maryland*, *College Park*, [2]*USDA-ARS*, *Beltsville, MD*.
2:45 PM	181	Milk replacer composition and nutrient utilization in pre-weaned calves. S. R. Hill*, K. M. Daniels, K. F. Knowlton, R. E. James, R. E. Pearson, and R. M. Akers, *Virginia Polytechnic Institute and State University*, *Blacksburg*.
3:00 PM	182	Use of infrared thermography to non-invasively identify lesions in dairy cows. B. A. Munsell*[1], D. K. Beede[1], J. J. Domecq[1], W. B. Epperson[2], A. Ragavendran[1], N. T. Wright[1], and A. J. Zanella[1], [1]*Michigan State University*, *East Lansing*, [2]*Ohio State University*, *Columbus*.
3:15 PM	183	Effect of feeding soybean and linseed oils as whey protein gel composites, calcium salts or free oil on rumen fermentation, digestibility and duodenal flow of fatty acids. S. O. Juchem*, J. M. Heguy, E. J. DePeters, J. E. P. Santos, M. Rosenberg, and S. J. Taylor, *University of California*, *Davis*.

Growth and Development

Chair: Mike Azain, University of Georgia and Tony Capuco, USDA

M100 D-E

Time	Abstract #	
2:15 PM	184	Fetal programming of offspring growth due to maternal high protein diet is genotype dependent in mice. M. Langhammer, M. Derno, N. Dietrich, U. Renne, G. Nürnberg, U. Hennig, and C. C. Metges*, *Research Institute for the Biology of Farm Animals (FBN)*, *Dummerstorf, Germany*.
	185	Withdrawn by author.
2:30 PM	186	The adipogenic enzymatic activity of bovine intramuscular, perirenal, and subcutaneous cultured preadipocytes differs, and increases in all depots following exposure to dexamethasone. G. Ortiz-Colón*, A. C. Grant, M. E. Doumit, and D. D. Buskirk, *Michigan State University*, *East Lansing*.
2:45 PM	187	Identification of two cell culture models to study bovine CAT1 activity and expression. S. F. Liao*, C. A. Woods, J. A. Boling, and J. C. Matthews, *University of Kentucky*, *Lexington*.
3:00 PM	188	Leptin increases IGF-I-induced expression of SOCS3 mRNA in prepubertal heifer mammary parenchyma. B. E. Etchebarne*[1], L. F. P. Silva[2], J. S. Liesman[3], and M. J. VandeHaar[3], [1]*Stanford University*, *Palo Alto, CA*, [2]*University of Sao Paulo*, *Pirassununga, SP, Brazil*, [3]*Michigan State University*, *East Lansing*.
3:15 PM	189	Cellular and biochemical features of skeletal muscle and subcutaneous adipose tissue in pigs differing in IGF-II genotype. D. Gardan*[1], I. Louveau[1], K. Van den Maagdenberg[2], N. Buys[3], S. De Smet[2], and F. Gondret[1], [1]*INRA/Agrocampus Rennes, Systèmes d'Elevage, Nutrition Animale et Humaine*, *Saint Gilles, France*, [2]*Laboratory for Animal Nutrition and Animal Product Quality, Department of Animal Production, Ghent University*, *Melle, Belgium*, [3]*Division of Gene Technology, Department of Biosystems, K.U. Leuven*, *Heverlee, Belgium*.

3:30 PM	190	Evaluation of a mathematical model to estimate total feed required for pen-fed Santa Gertrudis steers and heifers based on performance and diet composition. B Bourg*[1], L. O. Tedeschi[1], G. E. Carstens[1], E. Brown[1], and D. G. Fox[2], [1]*Texas A & M University*, *College Station*, [2]*Cornell University*, *Ithaca, NY*.
3:45 PM	191	Using ultrasound to determine body composition of breeding heifers. M. J. Baker*[1], L. O. Tedeschi[2], D. G. Fox[1], W. R. Henning[3], and D. J. Ketchen[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Texas A&M University*, *College Station*, [3]*Pennsylvania State University*, *College Park*.

Lactation Biology

Chair: Thomas McFadden, University of Vermont

101 J

Time	Abstract #	
2:00 PM	ADSA Pioneer	What happened to lactation knowledge in the last 48 years? A. Tucker, *Michigan State University, East Lansing*.
2:15 PM	192	Effects of CLA on bioenergetic and milk production parameters in grazing dairy cows offered ad libitum or restricted pasture. J. K. Kay*[1,2], T. R. Mackle[1], D. E. Bauman[3], N. A. Thomson[1], and L. H. Baumgard[2], [1]*Dexcel*, *Hamilton, New Zealand*, [2]*University of Arizona*, *Tucson*, [3]*Cornell University*, *Ithaca, NY*.
2:30 PM	193	Variation in milk yield response to once-daily milking in Friesian-Jersey crossbred cattle. S. Davis*, L. McNaughton, G. Bracefield, K. Sanders, and R. Spelman, *Livestock Improvement Corporation*, *Hamilton, New Zealand*.
2:45 PM	194	Short day photoperiod increases milk yield in cows with a reduced dry period length. J. M. Velasco*, E. D. Reid, K. E. Karvetski, T. F. Gressley, R. L. Wallace, and G. E. Dahl, *University of Illinois*, *Urbana*.
3:00 PM	195	Circulating metabolites from postpartum cows supplemented with POSILAC® and given various lengths of days dry. T. Klusmeyer*, A. Fitzgerald, J. Ballam, and J. Vicini, *Monsanto Co.*, *St. Louis, MO*.
3:15 PM	196	Identification of putative bovine mammary stem cells by their retention of labeled DNA strands. A. V. Capuco*, *Bovine Functional Genomics Lab, USDA-ARS*, *Beltsville, MD*.
3:30 PM	197	Significance of delta-lactoferrin in mammary tissue: Lack of confirmation for expression of human and bovine isoforms. C. R. Baumrucker*, Y. Wang, and D. L. Greger, *The Pennsylvania State University*, *University Park*.
3:45 PM	198	The tight junction (TJ) protein zonula occludens-1 (ZO-1) is down-regulated during apoptosis of rat mammary glands. C. V. C. Phyn*[1,2], J. M. Dobson[1], C. D. McMahon[1], S. R. Davis[3], K. Stelwagen[1], and K. Singh[1], [1]*AgResearch Ltd.*, *Hamilton, New Zealand*, [2]*Dexcel Ltd.*, *Hamilton, New Zealand*, [3]*ViaLactia Biosciences (NZ) Ltd.*, *Auckland, New Zealand*.
4:00 PM	199	*Streptococcus uberis* increases apoptosis of bovine mammary epithelial cells (MEC) and decreases integrin and focal adhesion kinase (FAK) mRNA expression. K. Singh*[1], J. Dobson[1], C. Phyn[1], S. Davis[2], V. Farr[1], and A. Molenaar[1], [1]*Agresearch Ltd., Ruakura Research Centre*, *Hamilton, New Zealand*, [2]*ViaLactia Biosciences (NZ) Ltd.*, *Auckland, New Zealand*.

Physiology and Endocrinology

Estrous Synchronization

Chair: Pete Hansen, University of Florida

101 D-E

Time	Abstract #	
2:00 PM	ADSA Pioneer	Reflections on past history of estrus synchronization research. W. Thatcher, *University of Florida, Gainesville*.
2:15 PM	200	Assessment of vaginal electrical resistance (VER) as an indicator of follicular maturity and suitability for timed AI in cows subjected to a synchronization of ovulation protocol. J. F. Zuluaga*, J. P. Saldarriaga, D. A. Cooper, J. A. Cartmill, and G. L. Williams, *Texas A&M Agricultural Research Station*, *Beeville*.
2:30 PM	201	Influence of preovulatory concentrations of estradiol on interval to ovulation and uterine pH. G. A. Perry* and B. L. Perry, *South Dakota State University*, *Brookings*.
2:45 PM	202	Optimizing ovulation to 1st GnRH improved outcomes to each hormonal injection of Ovsynch in lactating dairy cows. N. M. Bello*, J. P. Steibel, and J. R. Pursley, *Michigan State University*, *East Lansing*.
3:00 PM	203	Delaying injection of prostaglandin $F_{2\alpha}$ (PGF) in an Ovsynch protocol. J. S. Stevenson*, M. A. Portaluppi, and D. E. Tenhouse, *Kansas State University*, *Manhattan*.

3:15 PM	204	Effects on conception rates of lactating dairy cows by altering the time of the second GnRH and AI during Ovsynch. D. J. Brusveen*, A. P. Cunha, C. D. Silva, P. M. Cunha, R. A. Sterry, E. P. B. Silva, J. N. Guenther, and M. C. Wiltbank, *University of Wisconsin*, *Madison*.
3:30 PM	205	Effect of synchronization protocols on follicular development of dairy heifers. J. L. Stevenson*[1], R. C. Chebel[1], J. C. Dalton[1], J. E. P. Santos[2], R. Sartori[3], and A. Ahmadzadeh[4], [1]*University of Idaho*, *Caldwell*, [2]*University of California-Davis*, *Tulare*, [3]*EMBRAPA*, *Brasilia, DF, Brazil*, [4]*University of Idaho*, *Moscow*.
3:45 PM	206	The effect of postpartum anovulatory interval on first service conception rate in crossbred dairy cattle. L. R. McNaughton*, K. M. Sanders, G. E. Stanley, and R. J. Spelman, *Livestock Improvement Corporation Ltd.*, *Hamilton, Waikato, New Zealand*.
4:00 PM	207	Effects of source of supplemental Se and method of presynchronization on reproduction and lactation of dairy cows. H. M. Rutigliano*[1], F. S. Lima[1], R. L. A. Cerri[1], L. F. Greco[1], J. M. Vilela[1], V. Magalhaes[1], J. Hillegass[1], W. W. Thatcher[2], and J. E. P. Santos[1], [1]*University of California Davis*, *Tulare*, [2]*University of Florida*, *Gainesville*.
4:15 PM	208	Effects of presynchronization with GnRH on conception rates and ovarian events in *Bos indicus*-influenced females synchronized with CO-Synch + CIDR. J. F. Zuluaga*[1], J. P. Saldarriaga[1], D. A. Cooper[1], J. A. Cartmill[1], R. L. Stanko[1,2], and G. L. Williams[1], [1]*Texas A&M University Agricultural Research Station*, *Beeville*, [2]*Texas A&M University*, *Kingsville*.
4:30 PM	209	Effects of ovulation rate and fetal number on fertility in twin-producing cattle. S. Echternkamp*, R. Cushman, and M. Allan, *USDA, ARS, US Meat Animal Research Center*, *Clay Center, NE*.
4:45 PM	210	Factors affecting ovulatory follicle size and ovulation success to GnRH-induced ovulation in postpartum beef cows. J. A. Atkins*[1], T. W. Geary[2], K. J. Wells[3], M. C. Lucy[1], and M. F. Smith[1], [1]*University of Missouri*, *Columbia*, [2]*USDA ARS Fort Keogh*, *Miles City, MT*, [3]*Washington State University*, *Pullman*.
5:00 PM	211	Progesterone concentrations after the first GnRH injection in a GnRH-based estrus synchronization protocol and AI pregnancy rates in primiparous cows exposed to bulls. J. G. Berardinelli* and S. A. Tauck, *Montana State University*, *Bozeman*.

SYMPOSIUM
Ruminant Nutrition
Connecting Rumen Microbiology to Ruminant Nutrition: Are We There Yet?
Chair: Kenneth E. Griswold, Penn State Cooperative Extension and Bill Sanchez, Diamond V Mills, Inc.
Sponsor: West Central

Symposium meets AAVSB'S RACE requirement for 3 hr CE.

L100 A

Time	Abstract #	
2:00 PM	212	Ruminal nitrogen metabolism: The current microbiological outlook. M. Morrison* and Z. Yu, *The Ohio State University*, *Columbus*.
2:45 PM	213	Ruminal nitrogen metabolism: The current nutritional outlook. J. L. Firkins*, *The Ohio State University*, *Columbus*.
3:30 PM		Break
3:45 PM	214	Ruminal acidosis in beef cattle: The current microbiological outlook. T. G. Nagaraja* and E. C. Titgemeyer, *Kansas State University*, *Manhattan*.
4:30 PM	215	Ruminal acidosis in beef cattle: The current nutritional outlook. E. C. Titgemeyer* and T. G. Nagaraja, *Kansas State University*, *Manhattan*.

Ruminant Nutrition

Non-fibrous Carbohydrate & By-Product Feedstuffs

Chair: Ken Kalscheur, South Dakota State University

101 B-C

Time	Abstract #	
2:00 PM	216	Influence of endosperm vitreousness and kernel moisture at harvest on site and extent of digestion of high moisture corn by steers. J. Szasz*[1], C. Hunt[1], P. Szasz[1], R. Weber[2], F. Owens[2], and W. Kezar[2], [1]*University of Idaho*, *Moscow*, [2]*Pioneer Hi-Bred International*, *Johnston, IA*.
2:15 PM	217	Influence of endosperm vitreousness, moisture at harvest, and microbial inoculant on chemical composition, available starch and ruminal dry matter disappearance of ensiled high moisture corn. J. Szasz*[1], C. Hunt[1], P. Szasz[1], R. Weber[2], F. Owens[2], and W. Kezar[2], [1]*University of Idaho*, *Moscow*, [2]*Pioneer Hi-Bred International*, *Johnston, IA*.
2:30 PM	218	Effects of feeding steam-rolled corn in lieu of dry-rolled corn on the odor of finishing beef steer manure. S. L. Archibeque*[1], D. N. Miller[2], D. B. Parker[3], H. C. Freetly[1], and C. L. Ferrell[1], [1]*USDA, ARS, U.S. Meat Animal Research Center*, *Clay Center, NE*, [2]*USDA, ARS, Soil and Water Conservation Research Unit*, *Lincoln, NE*, [3]*West Texas A&M University*, *Canyon*.
2:45 PM	219	Evaluation of dried distillers grains plus solubles compared to soybean hulls as a feedstuff for heifers during the last trimester of gestation. C. L. Engel*, H. H. Patterson, and G. A. Perry, *South Dakota State University*, *Brookings*.
3:00 PM	220	Starch and digestible fiber supplementation to orchardgrass hay based programmed gain heifer diets. R. L. Mills*[1], J. C. Waller[1], J. Dowlen[1], and C. J. Richards[2], [1]*The University of Tennessee*, *Knoxville*, [2]*Oklahoma State University*, *Stillwater*.
3:15 PM	221	The effect of sample grinding on gas production profiles and end-products formation in expander processed barley and peas. A Azarfar*, A. F. B. van der Poel, and S Tamminga, *Wageningen University*, *Wageningen, The Netherlands*.
3:30 PM	222	Effects of corn germ on digestibility of hay and corn. G. Kleinhans* and R. Pritchard, *South Dakota State University*, *Brookings*.
3:45 PM	223	Corn germ from ethanol production as an energy supplement for lactating dairy cows. M. M. Abdelqader*[1], A. R. Hippen[1], D. J. Schingoethe[1], K. K. Kalscheur[1], K. Karges[2], and M. L. Gibson[2], [1]*South Dakota State University*, *Brookings*, [2]*Dakota Gold Research Association*, *Sioux Falls, SD*.
4:00 PM	224	Effect of fatty acid treatment of different particle size of rolled corn and barley on dry matter digestion in rumen studied in-situ. G. Bustamante*[1,2] and I. B. Mandell[2], [1]*Universidad Autonoma de Ciudad Juarez*, *Ciudad Juarez, Chihuahua, Mexico*, [2]*University of Guelph*, *Guelph, Ontario, Canada*.
4:15 PM	225	Evaluating in vitro cell wall polysaccharide digestibility of high-fiber byproduct feeds and forages. J. Wakker*[1], H. G. Jung[1,2], and J. G. Linn[1], [1]*University of Minnesota*, *St. Paul*, [2]*USDA-Agricultural Research Service*, *St. Paul, MN*.
4:30 PM	226	Influence of bovine somatotropin and varying levels of enzose on nutrients intake, digestibility, milk yield and its composition in mid-lactating *Nili-Ravi* buffaloes. M. Nisa*, A. Sufyan, M. Sarwar, and M. A. Shahzad, *University of Agriculture*, *Faisalabad, Pakistan*.

ADSA-SAD – Undergraduate Competition

Dairy Foods

Chair: Cathleen C. Williams, Louisiana State University

200 H

Time	Abstract #	
2:00 PM	227	Effect of pasteurization on the survival of *Mycobacterium avium paratuberculosis*. A. Bush*, *University of Kentucky*, *Lexington*.
2:15 PM	228	Dairy foods and reduced risk of colon cancer. A. Greenbaum*, *Louisiana State University*, *Baton Rouge*.
2:30 PM	229	Probiotic dairy products: A healthy choice. R. Kilgore*, *Pennsylvania State University*, *University Park*.
2:45 PM	230	The rippling effects of processor expansion: A Texas sized example. S. Brauning*, *Virginia Polytechnic Institute and State University*, *Blacksburg*.

SYMPOSIUM

Sheep Species

Application of Genomics to Sheep Production

Chair: Noelle Cockett, Utah State University

Sponsor: USDA, Agricultural Research Service, U.S. Sheep Experiment Station

101 F-G

Time	Abstract #	
2:00 PM	231	Resources available for sheep genomics research. N. E. Cockett*, T. S. Hadfield, C. H. Wu, and K. Nomura, *Utah State University*, *Logan*.
2:20 PM	232	Molecular tools for sheep breeding: DNA-based markers for monogenic traits and QTL. J. E. Beever* and A. D. Markey, *University of Illinois*, *Urbana*.
3:00 PM	233	How genomics will continue to improve productivity for the New Zealand sheep sector. T. Wilson*, *AgResearch, University of Otago*, *Dunedin, New Zealand*.
3:40 PM	234	SheepGenomics – an integrated gene discovery program. T. M. Fischer*, *Australian Wool Innovation*, *Sydney, New South Wales, Australia*.
4:20 PM	235	Genomic regions associated with sheep muscle and carcass traits. C. Bidwell*[1] and N. Cockett[2], [1]*Purdue University*, *West Lafayette, IN*, [2]*Utah State University*, *Logan*.

SYMPOSIUM

Swine Species

Impact of ART in Swine Production: Current and Future

Chair: Mark Wilson, Minitube of America

Sponsors: National Pork Board, PIC, Ralco Nutrition Inc.

Symposium meets AAVSB'S RACE requirement for 3 hr CE.

L100 H-I

Time	Abstract #	
2:00 PM		Introduction. M. Wilson, *Minitube of America, Verona, WI*.
2:10 PM		Bureaucracy around cloning and stem cells. R. Green, *National Program Leader, USDA-ARS*.
2:25 PM		Semen sexing in swine. L. A. Johnson, *ARS*.
2:40 PM		ART of genetic globalization. J. Dobrinsky, *Minitube of America, Verona, WI*.
2:55 PM		An international perspective of cloning and advanced reproductive technologies. R. Campbell, *Pork CRC, Willaston, SA, Australia*.

3:15 PM		The value producers see in ART and cloning. T. M. Coffey, *Smithfield*.
3:35 PM		Biotechnology and production do they go together? G. Foxcroft, *University of Alberta, Edmonton, Alberta*.
4:10 PM		Panel Discussion. Moderated by J. Mabry and M. Wilson.

ADSA-SAD – Undergraduate Competition

Original Research

Chair: Cathleen C. Williams, Louisiana State University

200 H

Time	Abstract #	
3:00 PM	236	Probiotic ice cream manufactured with a weight loss ingredient. M. Brown* and K. J. Aryana, *Louisiana State University*, *Baton Rouge*.
3:15 PM	237	Nitrogen and dry matter digestibility of high and low forage diets in dairy heifers. J. M. Daubert*, M. L. Moody, G. I. Zanton, and A. J. Heinrichs, *Pennsylvania State University*, *University Park*.
3:30 PM	238	Nutritional management practices and current trends on Virginia Grade A dairy farms. J. Leech*, S. Sink, C. Stallings, K. Knowlton, and G. Groover, *Virginia Polytechnic Institute and State University*, *Blacksburg*.
3:45 PM	239	A critique of RFV: Comparing RFV to degradation parameters and proposal of an alternative model. T. J. Hackmann* and J. N. Spain, *University of Missouri*, *Columbia*.
4:00 PM	240	Effects of dietary addition of unsaturated fat, vitamin E, and sorbitol on performance of dairy cows and fatty acid concentrations in milk. A. Todd*, M. L. Eastridge, C. V. D. M. Ribeiro, J. Engel, and B. Mathew, *The Ohio State University*, *Columbus*.
4:15 PM	241	The effect of lactoferrin on the appearance of immunoglobulins in the peripheral blood of Holstein calves. W. Knauer* and J. M. Smith, *University of Vermont*, *Burlington*.
4:30 PM	242	Dairy farmers' perceptions and attitudes about lameness. A. M. Edgecomb*, C. L. Wickens, A. J. Zanella, and D. K. Beede, *Michigan State University*, *East Lansing*.

SYMPOSIUM

Companion Animals

Advances in Companion Animals - BioMarkers

Chair: Greg Aldrich, Pet Food & Ingredient Technologies, Inc.

Sponsors: Nestle Purina PetCare, The Iams Company

200 F-G

Time	Abstract #	
3:15 PM		Welcome. G. Aldrich, *Pet Food & Ingredient Technologies, Inc, Topeka, KS*.
3:20 PM	243	Gut microbial and immunological responses of dogs to diets containing alternative carbohydrates with properties similar to those of dietary fibers. I. S. Middelbos*, N. D. Fastinger, M. R. Godoy, and G. C. Fahey, Jr., *University of Illinois*, *Urbana*.
3:35 PM	244	Mapping QTL for osteoarthritis in dogs. R. G. Mateescu*[1], N. I. Burton-Wurster[1], G. Lust[1], K. Tsai[2], J. Phavaphutanon[3], and R. J. Todhunter[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Texas A&M University*, *College Station*, [3]*Kasetsart University*, *Nakhon-Pathom, Thailand*.
3:50 PM		Nutritional effects on gene expression in canine tissues. K. Swanson, *University of Illinois, Urbana*.
4:10 PM		Break
4:20 PM		Obesity related biomarkers in companion animals. R. Yamka and K. Friesen, *Hill's Pet Nutrition, Topeka, KS*.
4:40 PM		The future of companion animal research at land grant universities. D. L. Harmon, *University of Kentucky, Lexington*.
4:50 PM		Reception.

Tuesday, July 11

POSTER PRESENTATIONS

Animal Health II

Exhibit Hall A

Abstract #

T1 Release of CD14 by bovine neutrophils results in down-regulation of IL-8. M. Paape*[1], E. Sohn[2], E. Connor[1], R. Fetterer[1], R. Peters[2], and D. Bannerman[1], [1]*USDA-ARS*, *Beltsville, MD*, [2]*University of Maryland*, *College Park*.

T2 Assessing changes in gene expression in mammary tissue following experimental induction of *Staphylococcus aureus* mastitis using a cDNA microarray. J. Kelsey*[1], K. Bayles[2], L. Fox[3], and M. McGuire[1], [1]*University of Idaho*, *Moscow*, [2]*University of Nebraska Medical Center*, *Omaha*, [3]*Washington State University*, *Pullman*.

T3 High growth rate fails to enhance adaptive immune responses of neonatal calves and is associated with decreased T cell viability. M. Foote*[1], B. Nonnecke[2], W. Waters[2], D. Beitz[1], M. Fowler[3], T. Johnson[3], and B. Miller[3], [1]*Iowa State University*, *Ames*, [2]*USDA, ARS, National Animal Disease Center*, *Ames, IA*, [3]*Land O'Lakes Inc. Research Farm*, *Webster City, IA*.

T4 Determination of endoparasites population in water buffalos (*Bubalus bubalis*) in Magdalena Medio, Colombia. G. A. Prada-Sanmiguel*, *Universidad de La Salle, Facultad de Medicina Veterinaria*, *Bogotá, Distrito Capital, Colombia*.

T5 Lymphocyte, neutrophil, and mineral responses to *S. aureus* and *E. coli* mastitis. H. R. Springer*[1], J. P. Goff[2], D. D. Bannerman[3], and M. J. Paape[3], [1]*Iowa State University*, *Ames*, [2]*USDA-ARS National Animal Disease Center*, *Ames, IA*, [3]*Bovine Functional Genomics Laboratory*, *Beltsville, MD*.

T6 Development of a ruminant fescue toxicosis model. S. S. Block*, P. H. Doane, and M. J. Cecava, *ADM Animal Nutrition Research*, *Decatur, IN*.

T7 The relationship of copper and zinc with hematological parameters in beef cattle. M. Soch*[1], P. Srejberova[2], and J. Broucek[3], [1]*University of South Bohemia, Faculty of Agriculture*, *Ceske Budejovice, Czech Republic*, [2]*Czech Beef Breeders Association*, *Praha, Czech Republic*, [3]*SCPV*, *Nitra, Slovakia*.

T8 Production of bacteriocins by bacterial isolates from dairy cattle. M. A. V. P. Brito*[1] and G. A. Somkuti[2], [1]*EMBRAPA Dairy Cattle Research Center*, *Juiz de Fora, Brazil*, [2]*Eastern Regional Research Center, USDA-ARS*, *Wyndmoor, PA*.

T9 Evaluation of C. elegans as a pharmacogenetic model to study antihelminthic drugs. M. Worku*, C. Gerard, O. Alexander, I. Abdus-Saboor, and P. Matterson, *North Carolina Agricultural and Technical State University*, *Greensboro*.

T10 Effects of source of supplemental Se on health and immune status of periparturient dairy cows. H. M. Rutigliano*[1], R. L. A. Cerri[1], F. S. Lima[1], L. F. Vettorato[1], D. B. Araujo[1], J. Hillegass[1], W. W. Thatcher[2], and J. E. P. Santos[1], [1]*University of California Davis*, *Tulare*, [2]*University of Florida*, *Gainesville*.

Breeding & Genetics II

Exhibit Hall A

Abstract #

T11 The effect of inbreeding on litter size in Chicago miniature pigs. Y.-C. Jung[1], S.-H. Oh*[2], M. T. See[2], T. E. del Rosario[1], and Y.-B. Kim[3], [1]*Jung P&C Institute*, *Seongnam, Gyeonggi, South Korea*[2], *North Carolina State University*, *Raleigh*, [3]*Rosalind Franklin University of Medicine and Science/Chicago Medical School*, *North Chicago, IL*.

T12 Relationship between sire tenderness EPD and progeny carcass performance. J. W. Bolsen*, J. Minick Bormann, D. W. Moser, and T. T. Marston, *Kansas State University*, *Manhattan*.

T13 Carcass characteristics of different breeds on beef cattle. A. A. Souza*, L. Suguisawa, H. N. Oliveira, and A. C. Silveira, *São Paulo State University*, *Brazil*.

T14 Estimation of genetic parameters for growth traits and image analysis traits of carcass cross section in Japanese Black steers. T. Osawa*[1], K. Kuchida[1], S. Hidaka[1], and H. Tsukuda[2], [1]*Obihiro University of A & VM*, *Obihiro-shi, Hokkaido, Japan*, [2]*Livestock Improvement Association of Japan*, *Makubetsu-cho, Hokkaido, Japan*.

T15 Genetic parameters estimation of birth weight for cashmere goat in southern Khorasan province of Iran. H. Naeemipour*, H. Farhangfar, and M. R. Asghari, *Birjand University*, *Birjand, Iran*.

T16 Genetic analysis of weight records at different ages in Baluchi sheep breed of Iran. M. Mollaee[1], H. Farhangfar*[2], and H. Naeemipour[2], [1]*Zabol University*, *Zabol, Iran*, [2]*Birjand University*, *Birjand, Iran*.

T17 Estimation of genetic parameters for weight at different ages in Lori-Bakhtiari sheep breed of Iran. B. Zinvand[2] and H. Farhangfar*[1], [1]*Birjand University*, *Birjand, Iran*, [2]*Zabol University*, *Zabol, Iran*.

T18 Genetic analysis of average daily gains in Lori - Bakhtiari sheep breed of Iran using orthogonal legendre polynomials. H. Farhangfar*[1], H. Naeemipour[1], M. Zinvand[2], and M. Hosseini[1], [1]*Birjand University*, *Birjand, Iran*, [2]*Zabol University*, *Zabol, Iran*.

T19 Genetic analysis of weight records in Zel sheep breed of Iran. A. Vafadar*[1], H. Farhangfar[2], and H. Naeemipour[2], [1]*Zabol University*, *Zabol, Iran*, [2]*Birjand University*, *Birjand, Iran*.

T20 Correlation of DGAT1 genetic variants with fat content in the Cal Poly Herd. A. Laubscher*[1], S Henderson[1], J. F. Medrano[2], G. Rincón[2], and R. Jiménez-Flores[1], [1]*California Polytechnic State Unniversity*, *San Luis Obispo*, [2]*University of California*, *Davis*.

T21 Bioinformatics analysis of bovine neuropeptides. A. N. Tegge*, B. R. Southey, A. Andinet, J. V. Sweedler, and S. L. Rodriguez-Zas, *University of Illinois*, *Urbana*.

T22 The allele and genotype frequencies of bovine pituitary-specific transcription factor and leptin genes in Iranian cattle and buffalo populations using PCR-RFLP. A. Javanmard*[1], N. Asadzadeh[2], M. H. Banabazi[3], and J. Tavakolian[3], [1]*West and North-West Agriculture Biotechnology Research Institute(ABRII-T)*, *TABRIZ, East Azarbyjan, Iran*, [2]*Department of Animal Production and Management,Animal Science Research Institution of Iran (ASRI)*, *Tehran, Karaj, Iran*, [3]*Department of Biotechnology, Animal Science Research Institution of Iran (ASRI)*, *Tehran, Karaj, Iran*.

T23 Polymorphism of bovine lymphocyte antigen DRB3.2 alleles in Iranian Holstein cattle. M. Pashmi*[1], A. Salehi[1], A. Ghorash[2], M. R. Mollasalehi[3], and A. Javanamrd[4], [1]*Department of Animal Science, University of Tehran*, *Aborahan,Tehran, Iran*, [2]*National Research Center for Genetic Engineering and Biotechnology, Tehran*, *Tehran, Iran*, [3]*National Animal Breeding Center*, *Karaj, Iran*, [4]*North West and West Agriculture Biotechnology Research Center(ABRII)*, *Tabriz, Iran*.

T24 Estimation of genome wide haplotype effects in half-sib designs. D. Kolbehdari*[1,2], L. R. Schaeffer[2], and J. A. B. Robinson[2], [1]*University of Tehran*, *Tehran, Iran*, [2]*University of Guelph*, *Guelph, Ontario, Canada*.

T25 Genetic diversity in piracanjuba populations *Brycon orbignyanus* with the RAPD (random amplified polymorphic dna) markers. N. M. Lopera Barrero*[1], R. P. Ribeiro[1], R. N. Sirol[2], J. A. Povh[1], P. Gomes[1], L. Vargas[1], and D. P. Streit Jr.[1], [1]*Universidade Estadual De Maringá*, *Maringá, Paraná, Brazil*, [2]*Duke Energy International, Geração Paranapanema*, *Salto Grande, São Paulo, Brazil*.

T26 Handling inbreeding and overlapping generations within QTL-mapping. G. Freyer[1] and N. Vukasinovic*[2], [1]*Research Institute for the Biology of Farm Animals (FBN)*, *Dummerstorf, Germany*, [2]*Monsanto Animal AG*, *St. Louis, MO*.

T27 Comparison of the performance of two-dye microarray platforms to characterize gene expression patterns. S. L. Rodriguez-Zas*, R. E. Everts, B. R. Southey, J. K. Drackley, J. J. Loor, and H. A. Lewin, *University of Illinois*, *Urbana*.

T28 Relationship between calpastatin gene polymorphism and beef cattle growth, carcass and meat quality traits. L. Suguisawa, A. A. Souza*, H. N. Oliveira, A. C. Silveira, and R. A. Cury, *São Paulo State University*, *Brazil*.

T29 Corn oil or Corn grain supplementation to forage-finished steers. IV. Effects on gene expression of lipogenic enzymes in the s.c. adipose tissue. E. Pavan*[1,2], S. Joseph[1], K. Robbins[1], S. Duckett[3], and R. Rekaya[1], [1]*University of Georgia*, *Athens*, [2]*INTA*, *Balcarce, Bs. As., Arg.*, [3]*Clemson University*, *Clemson, SC*.

Companion Animals

Nutrition & Health

Exhibit Hall A

Abstract #

T30 Identification of canine markers related to obesity. R. Yamka* and K. Friesen, *Hill's Pet Nutrition, Inc.*, *Topeka, KS*.

T31 Identification of feline markers related to obesity. R. Yamka* and K. Friesen, *Hill's Pet Nutrition, Inc.*, *Topeka, KS*.

T32 Impact of age on gene expression profiles of canine brain tissue. K. Swanson*, C. Apanavicius, B. Vester, and N. Kirby, *University of Illinois*, *Urbana*.

T33 Age impacts skeletal muscle gene expression profiles of young adult and geriatric dogs fed either an animal- or plant-protein based diet. L. Karr-Lilienthal*, C. Apanavicius, B. Vester, and K. Swanson, *University of Illinois*, *Urbana*.

T34 Diet impacts colonic gene expression profiles of young adult and geriatric dogs fed either an animal- or plant-protein based diet. B. Vester*, C. Apanavicius, L. Karr-Lilienthal, and K. Swanson, *University of Illinois*, *Urbana*.

T35 Screening of epitopes of canine enteropathogenic viruses for the production of IgY. S.-E. Woo*[1], S.-O. Shin[1], J.-W. Kim[2], A.-R. Lee[2], S.-O. Shin[2], and S.-Y. Yang[1], [1]*Danbiotech. Inc*, *Cheonan, Chungnam, Rep. of Korea*, [2]*Dankook University*, *Cheonan, Chungnam, Rep. of Korea*.

T36 Comparison of yeast culture and brewers dried yeast as palatability enhancers in dry cat food. J. W. Jones*[1], B. Leiner[1], and H. M. Sullivan[2], [1]*Western Yeast Company*, *Chillicothe, IL*, [2]*New Mexico State University*, *Las Cruces*.

T37 Characterization of strains of *Lactobacillus reuteri* as potential probiotics for dogs. S. McCoy* and S. E. Gilliland, *Oklahoma State University*, *Stillwater*.

T38 Genetic differentation by restriction fragment length polymorphism (RFLPs) in isolates of Giardia spp. in humans and dogs. S. C. Cota-Guajardo*[1], S. M. Gaxiola[1], J. J. Portillo[1], F. Juarez[1], and S. Velarde[2], [1]*FMVZ-Universidad Autonoma de Sinaloa*, *Culiacan, Sinaloa, Mexico*, [2]*Hospital Infantil Federico Gomez*, *Distrito Federal, Mexico*.

T39 Presence of eggs Toxocara spp. in soil of public parks in Culican, Sinaloa. M. C. Rubio Robles*, S. M. Gaxiola camacho, N. Castro del Campo, B. N. Verduzco, and M. N. López, *Universidad Autonoma de Sinaloa*, *Culiacan, Sinaloa, México*.

Dairy Foods

Chemistry and Microbiology

Exhibit Hall A

Abstract #

T40 Partition coefficients for toxic agents in multiple phase foods: Separation of raw whole milk. J. E. Schlesser*[1], J. E Jablonski[1], and P. Mariappagoudar[2], [1]*FDA, National Center for Food Safety*, *Summit, IL*, [2]*Illinois Institute of Technology, National Center for Food Safety*, *Summit, IL*.

T41 Modelling of the high-pressure and temperature induced pH change in whey protein isolate solutions. H. Hernández-Sánchez*[1], J. O. Rodiles-López[1], M. E. Jaramillo-Flores[1], and G. V. Barbosa-Cánovas[2], [1]*Depto. Grads. Alimentos, Escuela Nacional de Ciencias Biologicas, Instituto Politecnico Nacional*, *Mexico, DF, Mexico*, [2]*Washington State University*, *Pullman*.

T42 The impact of B-glucan on the stability of model dairy protein dispersions. J. E. Bock, K. A. Schmidt*, and G. E. Milliken, *Kansas State University*, *Manhattan*.

T43 The stability of a functional dairy based beverage. K. A. Schmidt*, *Kansas State University*, *Manhattan*.

T44 Electrophoretic characterization of protein aggregates formed by high pressure treatment of whey protein concentrate solutions. H. A. Patel*[1,2], H. Singh[3], and L. K. Creamer[2], [1]*Institute of Food, Nutrition and Human Health, Massey University*, *Palmerston North, New Zealand*, [2]*Fonterra Research Centre*, *Palmerston North, New Zealand*, [3]*Riddet Centre, Massey University*, *Palmerston North, New Zealand*.

T45 Comparison of whey protein nitrogen index and aggregation of proteins in low-, medium-, and high-heat skim milk powders. H. A. Patel*[1,2], L. K. Creamer[2], and H. Singh[3], [1]*Institute of Food, Nutrition and Human Health, Massey University*, *Palmerston North, New Zealand*, [2]*Fonterra Research Centre*, *Palmerston North, New Zealand*, [3]*Riddet Centre, Massey University*, *Palmerston North, New Zealand*.

T46 Comparison of the effects of heat and high hydrostatic pressure treatments on the aggregation of proteins in fresh skim milk. H. A. Patel*[1,2], H. Singh[3], S. G. Anema[2,3], and L. K. Creamer[2], [1]*Institute of Food, Nutrition and Human Health, Massey University*, *Palmerston North, New Zealand*, [2]*Fonterra Research Centre*, *Palmerston North, New Zealand*, [3]*Riddet Centre, Massey University*, *Palmerston North, New Zealand*.

T47 Effects of protein concentration and pH on the pressure-induced aggregation of whey proteins in whey protein concentrate solutions. H. A. Patel*[1,2], H. Singh[3], and L. K. Creamer[2], [1]*Institute of Food, Nutrition and Human Health, Massey University*, *Palmerston North, New Zealand*, [2]*Fonterra Research Centre*, *Palmerston North, New Zealand*, [3]*Riddet Centre, Massey University*, *Palmerston North, New Zealand*.

T48 Impact of trisodium citrate on rheology and microstructure of yogurt. T. Ozcan Yilsay*[1,2], W. J. Lee[2], and J. A. Lucey[2], [1]*Uludag University*, *Bursa, Turkey*, [2]*University of Wisconsin*, *Madison*.

T49 Identification of off-flavor compounds in Whey protein concentrate using head space solid phase microextraction-gas chromatography-olfactometry -mass spectrometry. I. Javidipour and M. Qian*, *Oregon State University*, *Corvallis*.

T50 Off-flavor development of whey protein concentrate during storage investigated by headspace solid-phase microextraction-gas chromatography. I. Javidipour and M. Qian*, *Oregon State University*, *Corvallis*.

T51 Differentiation of cheese sauces made with different starches and evaluation of the effect of starch type on flavor loss using FTIR spectroscopy. M. C. M. Soledad*, C. J. Kuo, L. E. Rodriguez-Saona, and W. J. Harper, *The Ohio State University*, *Columbus*.

T52 Validation of ED-XRF as a reliable method for determining the mineral composition of skim milk powders. S. Uson*, C. Immoos, and R. Jiménez-Flores, *California Polytechnic State University*, *San Luis Obispo*.

T53 Impact of storage on sensory profiles and volatile components of skim milk powder. R. E. Miracle, A. E. Croissant*, M. A. Lloyd, S. E. Zevchek, and M. A. Drake, *North Carolina State University*, *Raleigh*.

T54 Evaluation of chemical properties and consumer perception of fluid milk from conventional and pasture-based production systems. A. E. Croissant*[1], L. Dean[2], S. Washburn[1], and M. A. Drake[1], [1]*North Carolina State University*, *Raleigh*, [2]*USDA-ARS*, *Raleigh, NC*.

T55 Heat stability of skim milk powder. M. Faka*[1], M. J. Lewis[1], A. S. Grandison[1], and H. Deeth[2], [1]*University of Reading*, *Reading, United Kingdom*, [2]*University of Queensland*, *Brisbane, Qld, Australia*.

T56 Quantification of fructooligosaccharides in infant formula. S. Gokavi*, M. S. Alam, and M. Guo, *University of Vermont*, *Burlington*.

T57 Effect of individual cow variation and interaction with diet on the content of health-promoting fatty acids in milk fat from dairy cows. C. Tyburczy*, A. L. Lock, J. A. Kelsey, D. G. Peterson, B. A. Corl, and D. E. Bauman, *Cornell University*, *Ithaca, NY*.

T58 Conjugated linoleic acid from butter fat is absorbed and incorporated into tissue lipids to a greater extent than when consumed as a dietary free fatty acid supplement. A. L. Lock*[1], D. E. Bauman[1], and A. M. Salter[2], [1]*Cornell University*, *Ithaca, NY*, [2]*University of Nottingham*, *LEICS., UK*.

T59 Production of the bacteriocin thermophilin 110 in whey-based media. G. A. Somkuti*, S. E. Gilbreth, and D. H. Steinberg, *Eastern Regional Research Center, USDA-ARS*, *Wyndmoor, PA*.

T60 Characterization of the indigenous microflora present in commercial Queso Fresco from Mexico. J. A. Renye Jr.*[1], G. A. Somkuti[1], B. Vallejo-Cordoba[2], D. L. Van Hekken[1], and A. F. Gonzalez-Cordova[2], [1]*USDA-ARS-NAA-ERRC*, *Wyndmoor, PA*, [2]*CIAD, A.C.*, *Hermosillo, Sonora, Mexico*.

T61 Production of potassium acetate from cheese whey using immobilized cell fermentation. M. Alam*, J. Li, and M. Guo, *University of Vermont*, *Burlington*.

T62 Effect of *Lactobacillus spp.* and whey protein isolates on Intracellular glutathione and antioxidative activities. J. R. Byun and Y. H. Yoon*, *Chung-Ang University*, *Ansung-Si, Kyunggi-Do, S. Korea*.

T63 Characterization of a two-component regulatory system implicated in the bile tolerance of *Lactobacillus acidophilus* NCFM. E. A. Pfeiler*[1], M. A. Azcarate-Peril[1,2], and T. R. Klaenhammer[1,2], [1]*North Carolina State University*, *Raleigh*, [2]*Southeast Dairy Foods Research Center*, *Raleigh, NC*.

T64 Characterization of a Gal^+ *Streptococcus thermophilus* MR-1C recombinant strain. G. Robitaille*[1], S. Moineau[2], D. St-Gelais[1], C. Vadeboncoeur[2], and M. Britten[1], [1]*Food Research and Development Centre, Agriculture and Agri-Food Canada*, *Saint Hyacinthe, Quebec, Canada*, [2]*Laval University*, *Quebec City, Quebec, Canada*.

T65 Impacts of Gal^+ phenotype on the capsule production by *Streptococcus thermophilus* MR-1C recombinant strain. G. Robitaille*[1], S. Moineau[2], D. St-Gelais[1], C. Vadeboncoeur[2], and M. Britten[1], [1]*Food Research and Development Centre, Agriculture and Agri-Food Canada*, *Saint-Hyacinthe, Quebec, Canada*, [2]*Laval University*, *Quebec city, Quebec, Canada*.

T66 Pediocin production by *Pediococcus acidilactici* in co-culture with yogurt starter bacteria. G. A. Somkuti* and D. H. Steinberg, *Eastern Regional Research Center, USDA-ARS*, *Wyndmoor, PA*.

T67 Selective enumeration of different strains of *Lactobacullus acidophilus* in goat′s milk yogurt beverage. S. Li*, S. Gokavi, and M. Guo, *University of Vermont*, *Burlington*.

T68 Evaluation of adherence of *Bifidobacterium* and *Lactobacillus* strains to cell membranes by blot analysis and optical tweezers. C. Iñiguez*[2,1], J. Sharpe[1], E. Acedo-Félix[2], and R. Jiménez-Flores[1], [1]*California Polytechnic State University*, *San Luis Obispo*, [2]*Centro de investigación en Alimentación y Desarrollo*, *Hermosillo, Sonora, Mexico*.

T69 Probiotic weight loss yogurt. M. Guillory and K. J. Aryana*, *Louisiana State University Agricultural Center.*, *Baton Rouge*.

T70 Health beneficial bacterial influence on the characteristics of fat free plain set yogurt. M. R. Faciane and K. J. Aryana*, *Louisiana State University Agricultural Center*, *Baton Rouge*.

T71 A novel yogurt manufactured with probiotic bacteria at various levels. S. Ganesh* and K. J. Aryana, *Louisiana State University Agricultural Center*, *Baton Rouge*.

T72 Effect of *Lactobacillus acidophilus* inoculation level on yogurt properties during storage. D. W. Olson* and K. J. Aryana, *Louisiana State University Agricultural Center*, *Baton Rouge*.

Extension Education

Exhibit Hall A

Abstract #

T73 Utilizing the Penn State dairy herd to evaluate precision feeding and the effects on ammonia emissions. V. Ishler*, N. Brown, and G. Varga, *The Pennsylvania State University*, *University Park*.

T74 Financial performance of dairies in Florida and Georgia in 2004. L. Ely*[1], R. Giesy[2], A. deVries[2], B. Broaddus[2], C. Vann[2], and A. Bell[2], [1]*University of Georgia*, *Athens*, [2]*University of Florida*, *Gainesville*.

T75 A team based approach: Development of a comprehensive program for identification of bottlenecks to profitability on dairy farms. L. Holden*, G. Varga, K. Griswold, T. Beck, B. Hilty, M. Douglass, R. Goodling, V. Ishler, and E. Hovingh, *Penn State University*, *University Park*.

T76 Changes in copper sulfate use on northeastern New York and Vermont farms between 2002 and 2005. S. A. Flis*, C. S. Ballard, M. A. LeVitre, R. M. Conant, and E. D. Thomas, *W.H. Miner Agricultural Research Institute*, *Chazy, NY*.

T77 Record keeping on Idaho dairies. M. Chahine* and J. B. Glaze, Jr., *University of Idaho*, *Twin Falls*.

T78 Spanish language educational opportunities for Idaho dairy employees-raising healthy calves. M. Chahine*[1], R. Norell[2], S. Jensen[3], J. Dalton[4], R. Carranza[5], S. Etter[4], and R. Chebel[4], [1]*University of Idaho*, *Twin Falls*, [2]*University of Idaho*, *Idaho Falls*, [3]*University of Idaho*, *Marsing*, [4]*University of Idaho*, *Caldwell*, [5]*Pfizer Animal Health*, *Meridian, ID*.

T79 Spanish language educational opportunities for Idaho dairy employees-milker school. M. Chahine*, *University of Idaho*, *Twin Falls*.

T80 Identifying management areas that limit farm profitability using a combination of industry benchmarks and economic loss factors. K. Griswold, T. Beck*, D. Baver, M. Douglass, R. Goodling, B. Hilty, L. Holden, E. Hovingh, V. Ishler, M. O'Connor, J. Tyson, and G. Varga, *Penn State University*, *University Park*.

T81 A multidisciplinary approach to address nutrient management in large dairy operations or a confined animal feeding operation (CAFO). C. N. Lee*, R. B. Valencia-Gila, G. Porter, R. Pattnaik, R. S. Yost, and C. I. Evensen, *University of Hawaii-Manoa*, *Honolulu*.

T82 Dairy VIP: A user-friendly computer program to compare the economic consequences of management changes on dairy farms. A. de Vries*, *University of Florida*, *Gainesville*.

T83 Advising model for the dairy farm development in Mexico. V. Mariscal-Aguayo*[1], H. Estrella-Qunitero[1], A. Martinez-Cuevas[2], and S. Castro-Aguilar[3], [1]*Universidad Autonoma Chapingo*, *Chapingo, Mexico*, [2]*Asesor Independiente*, *Zapotlanejo, Jalisco, Mexico*, [3]*Agropec Star*, *Guadalajara, Jalisco, Mexico*.

T84 Development model for farms. H. Estrella-Quintero*[1,2] and V. Mariscal-Aguayo[1], [1]*Universidad Autónoma Chapingo*, *Chapingo, México*, [2]*Agropec Star*, *Gudalajara, Jalisco, México*.

T85 The Missouri Show-Me-Select™ Replacement Heifer Program. D. J. Patterson*, R. L. Weaber, M.F. Smith, D. C. Busch, and J. L. Parcell, *University of Missouri*, *Columbia*.

T86 Survey response of beef exhibitors to radio frequency identification device. J. W. Lehmkuhler*[1] and T. Quam[2], [1]*University of Wisconsin*, *Madison*, [2]*Wisconsin Cattlemen's Association*, *Sun Prairie, WI*.

Food Safety

Foodborne Pathogens in Beef and Dairy Cattle

Exhibit Hall A

Abstract #

T87 Effect of plant extract supplementation on digestive tract microbiota and carcass contamination in young Holstein bulls receiving a high-concentrate diet. M. Devant*[1], C. Adelantado[2], A. Anglada[1], A. Bach[1,3], and M. A. Calvo[2], [1]*IRTA-Unitat de Remugants*, *Barcelona, Spain*, [2]*UAB-Departament de Sanitati d'Anatomia Animals*, *Barcelona, Spain*, [3]*ICREA, Institució Catalana de Recerca i Estudis Avançats*, *Barcelona, Spain*.

T88 Reduction adhesion of *E. coli* O157:H7 on CACO-2 cell by phage displayed peptides. C. J. Fu*, F. J. Schmidt, and M. S. Kerley, *University of Missouri*, *Columbia*.

T89 Effects of potassium lactate, sodium metasilicate, peroxyacetic acid and acidified sodium chlorite on physical properties of ground beef. S. A. Quilo*, F. W. Pohlman, A. H. Brown, P. G. Crandall, P. N. Dias-Morse, R. T. Baublits, and C. Bokina, *University of Arkansas*, *Fayetteville*.

T90 A long-term, sub-clinical, outbreak of *Salmonella enterica* subsp. *enterica* Cerro in a Pennsylvania dairy herd. J. S. Van Kessel*[1], J. S. Karns[1], D. R. Wolfgang[2], E. Hovingh[2], and Y. H. Schukken[3], [1]*USDA-ARS*, *Beltsville, MD*, [2]*Pennsylvania State University*, *University Park*, [3]*Cornell University*, *Ithaca, NY*.

T91 Prevalence of Shiga toxin-producing *Escherichia coli* in beef cattle grazing irrigated pastures or rangeland forages during winter and spring. L. M. Bollinger*[1], H. S. Hussein[1], M. R. Hall[1], and E. R. Atwill[2], [1]*University of Nevada*, *Reno*, [2]*University of California-Davis*, *Tulare*.

T92 Prevalence of Shiga toxin-producing *Escherichia coli* in dairy cattle during winter and spring. H. S. Hussein*[1], L. M. Bollinger[1], M. R. Hall[1], and E. R. Atwill[2], [1]*University of Nevada*, *Reno*, [2]*University of California-Davis*, *Tulare*.

Forages and Pastures

Silages and Dairy

Exhibit Hall A

Abstract #

T93 Dynamics of early fermentation of *Albizia lebbeck* silage. T. Clavero* and R. Razz, *Centro de Transferencia de Tecnologia en Pastos y Forrejes. Facultad de Agronomia. Universidad del Zulia*, *Maracaibo, Zulia, Venezuela*.

T94 Effect of storage time on ruminal starch degradability in corn silage. J. R. Newbold*[1], E. A. Lewis[1], J. Lavrijssen[1], H. J. Brand[1], H. Vedder[2], and J. Bakker[2], [1]*Provimi Research and Technology Centre*, *Brussels, Belgium*, [2]*BLGG*, *Oosterbeek, The Netherlands*.

T95 Corn hybrid forage quality differences as influenced by ensiling. D. J. R. Cherney*, J. H. Cherney, and W. J. Cox, *Cornell University*, *Ithaca, NY*.

T96 Polymerase chain reaction for identification and quantification of *Lactobacillus buchneri* in silage. R. J. Schmidt*, S. Kim, M. G. Emara, and L. Kung, Jr., *University of Delaware*, *Newark*.

T97 The effect of staygreen ranking, maturity and moisture concentration of corn hybrids on the performance of dairy cows. K. G. Arriola*, A. T. Adesogan, C. R. Staples, D. B. Dean, S. C. Kim, N. A. Krueger, J. L. Foster, S. Chikagwa-Malunga, and M. C. Huisden, *University of Florida*, *Gainesville*.

T98 High temperatures have detrimental effects on the stability of silage inoculants that have been rehydrated in water. C. N. Mulrooney*, W. Hu, and L. Kung, Jr., *University of Delaware*, *Newark*.

T99 Effect of corn silage maturity and mechanical processing on nutrient digestibility by lactating dairy cows of different lactation stages. G. Ferreira[1] and D. R. Mertens*[2], [1]*University of Wisconsin*, *Madison*, [2]*USDA-ARS, US Dairy Forage Research Center*, *Madison, WI*.

T100 Conjugated linoleic acid and omega-3 fatty acids in milk of grazing dairy cows fed fish oil and linseed oil. W. Brown*[1], A. AbuGhazaleh[1], and S. Ibrahim[2], [1]*Southern Illinois University*, *Carbondale*, [2]*North Carolina A&T State University*, *Greensboro*.

T101 Economic and environmental impacts of corn silage maturity management. C. S. Ballard*, M. P. Carter, K. W. Cotanch, H. M. Dann, H. M. Wolford, J. W. Darrah, E. D. Thomas, and R. J. Grant, *W. H. Miner Agricultural Research Institute*, *Chazy, NY*.

T102 An evaluation of various nitrogenous additives or a microbial inoculant on the fermentation and aerobic stability of corn silage. R. J. Schmidt*[1], P. G. Summer[2], and L. Kung, Jr.[1], [1]*University of Delaware*, *Newark*, [2]*Ajinomoto USA, Inc.*, *Eddyville, IA*.

T103 Corn silage genotype effects on intake, digestion, and milk production by dairy cows. J. P. Goeser*, R. D. Shaver, and J. G. Coors, *University of Wisconsin*, *Madison*.

T104 The nutritive value of normal- or high-cut normal corn silage versus normal-cut BMR corn silage for lactating dairy cows. B. M. Moulder*, L. Kung, Jr., R. S. Teller, C. N. Mulrooney, and R. J. Schmidt, *University of Delaware*, *Newark*.

T105 Fermentation characteristics of sugarcane silage mixing with *Gliricidia sepium* and cassava tops. T. Clavero*[1], R. Razz[1], and J. Urdaneta[2], [1]*Centro de Transferencia de Tecnología en Pastos y Forrajes. Facultad de Agronomia. Universidad del Zulia*, *Maracaibo, Zulia, Venezuela*, [2]*INIA*, *San Felipe, Yaracuy, Venezuela*.

T106 Use of effective microorganisms (EM) as additive for grass silage. E. González*[1,2], R. Casals[2], and E. Albanell[2], [1]*Estación Experimental Pastos y Forrajes IH*, *Central España, Matanzas, Cuba*, [2]*Grup de Recerca en Remugants; Facultat Veterinaria, Universitat Autòònoma de Barcelona*, *Bellaterra, Barcelona, Spain*.

T107 Fermentation characteristics of hairy indigo (Indigofera hirsuta) and guinea grass (Panicum maximum) ensiled alone or in combination. O. Araujo-Febres* and R. Razz, *Facultad de Agronomia. La Universidad del Zulia*, *Maracaibo, Venezuela*.

T108 An evaluation of extended lactation as a strategy to alleviate reproductive loss in a seasonal pasture-based system. S. T. Butler*, L. Shalloo, and J. J. Murphy, *Teagasc Moorepark DPRC*, *Co. Cork, Ireland*.

Graduate Student Paper Competition

ADSA Production Division Poster Contest

Chair: Mike Akers, Virginia Tech

Exhibit Hall A

Abstract #

T109 Predictors of stillbirth for cows moved to calving pens when calving is imminent. J. Carrier*, S. Godden, J. Fetrow, S. Stewart, and P. Rapnicki, *University of Minnesota*, *St. Paul*.

T110 Effect of grains differing in expected ruminal fermentatibility on productivity of lactating dairy cows. C. Silveira*[1], M. Oba[1], J. Helm[2], and K. A. Beauchemin[3], [1]*University of Alberta*, *Edmonton, AB, Canada*, [2]*Alberta Agriculture Food and Rural Development*, *Lacombe, AB, Canada*, [3]*Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*.

T111 Plasma tumor necrosis factor-α concentrations during the transition period of cows fed at either ad libitum or restricted diet intakes during the dry period. L. A. Winkelman*[1], T. H. Elsasser[2], and C. K. Reynolds[1], [1]*The Ohio State University*, *Columbus*, [2]*USDA, ARS*, *Beltsville, MD*.

T112 The effect of feeding increasing levels of dried distillers grains plus solubles to dairy cows in early lactation. B. N. Janicek* and P. J. Kononoff, *University of Nebraska*, *Lincoln*.

T113 Gut peptide concentrations and dry matter intake in lactating dairy cows fed rumen-inert fats differing in degree of saturation. A. E. Relling* and C. K. Reynolds, *The Ohio State University*, *Wooster*.

T114 Chemical characterization, carbohydrate and protein subfractions, total digestible nutrients and estimated energy values of canola byproducts in ruminants. R. G. N. Heendeniya* and P. Yu, *University of Saskatchewan*, *Saskatoon, SK, Canada*.

T115 The impact of corn grazing on feed intake, milk production and grazing patterns of dairy cattle. B. J. McClenton*, G. B. Triplett, M. E. Boyd, A. Chapa, and T. R. Smith, *Mississippi State University*, *Starkville*.

T116 In situ rumen degradation kinetics of canola byproduct from recent processing technology: Comparison with soybean and canola meals. R. G. N. Heendeniya* and P. Yu, *University of Saskatchewan*, *Saskatoon, SK, Canada*.

T117 Ovulation rates and improved uterine health in cows fed Megalac®-R compared to Megalac®. B. E. Jones*[1], D. Fish[1], A. Martin[2], and R. L. Ax[1], [1]*University of Arizona*, *Tucson*, [2]*Dairy Veterinary Services*, *Chandler, AZ*.

T118 Expression and regulation of glucose transporter gene expression in a bovine mammary epithelial cell line, Mac-T. K. A. Finucane*, A. F. Keating, and F. Q. Zhao, *University of Vermont*, *Burlington*.

T119 Development and evaluation of a mechanistic model to predict liquid passage from the reticulo-rumen of dairy cattle. S. Seo*[1], L. Tedeschi[2], and D. Fox[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Texas A&M University*, *College Station*.

T120 Immune response in dairy cows fed fish oil and condensed corn distillers solubles. M. Bharathan*, D. J. Schingoethe, R. S. Kaushik, K. F. Kalscheur, A. R. Hippen, and G. Moorkanat, *South Dakota State University*, *Brookings*.

T121 Preliminary validation of an on-farm culture system. A. Lago*[1], S. Godden[1], R. Bey[1], K. Leslie[2], R. Dingwell[2], P. Ruegg[3], and L. Timms[4], [1]*University of Minnesota*, *St. Paul*, [2]*University of Guelph*, *Guelph, ON, Canada*, [3]*University of Wisconsin*, *Madison*, [4]*Iowa State University*, *Ames*.

T122 Effects of rumen protected choline and dry propylene glycol on production performance and blood metabolites of periparturient Holstein dairy cows. Y.-H. Chung*[1], I. D. Girard[2], P. Cavassini[3], and G. A. Varga[1], [1]*The Pennsylvania State University*, *University Park*, [2]*Probiotech International Inc.*, *Québec, Canada*, [3]*Ascor Chimici s.r.l.*, *Via Piana, Italy*.

Nonruminant Nutrition

Dietary Influences in Finishing Pigs

Exhibit Hall A

Abstract #

T123 Validation of the NCCC-42 vitamin-trace mineral premix in grower pigs. T. D. Crenshaw*[1], M. D. Lindemann[2], H. H. Stein[3], and NCCC-42 Swine Nutrition Committee[1], [1]*University of Wisconsin*, *Madison*, [2]*University of Kentucky*, *Lexington*, [3]*South Dakota State University*, *Brookings*.

T124 Effect of Se and vitamin E supplementation on growth performance, nutrient digestibility and blood characteristics in finishing pigs. J. C. Park*[1], H. J. Kim[2], B. J. Min[2], J. H. Cho[2], Y. J. Chen[2], J. S. Yoo[2], Q. Wang[2], Y. H. Kim[1], H. J. Jung[1], I. C. Kim[1], S. J. Lee[1], and I. H. Kim[2], [1]*Swine Research Division, National Livestock Research Institute, RDA*, *Cheonan, Chungnam, Korea*, [2]*Dankook University*, *Cheonan, Chungnam, Korea*.

T125 Effect of copper and zinc supplementation on growth performance, nutrient digestibility and carcass characteristics in finishing pigs. Y. H. Kim[1], H. J. Kim*[2], B. J. Min[2], J. H. Cho[2], Y. J. Chen[2], J. S. Yoo[2], Q. Wang[2], J. C. Park[1], H. J. Jung[1], I. C. Kim[1], S. J. Lee[1], and I. H. Kim[2], [1]*Swine Research Division, National Livestock Research Institute, RDA*, *Cheonan, Chungnam, Korea*, [2]*Dankook University*, *Cheonan, Chungnam, Korea*.

T126 Effects of dietary probiotic on growth performance, nutrient digestibility, blood characteristics and fecal noxious gas content in growing pigs. Y. J. Chen*[1], K. S. Son[1], B. J. Min[1], J. H. Cho[1], O. S. Kwon[1], B. C. Park[2], and I. H. Kim[1], [1]*Dankook University*, *Cheonan, Chungnam, Korea*, [2]*NutraBio Inc*, *Seoul, Korea*.

T127 Effects of reducing dietary crude protein on growth performance, noxious gas emission from manure and blood urea nitrogen and IGF-1 concentrations of serum in nursery pigs. J. H. Cho*[1], B. J. Min[1], Y. J. Chen[1], H. J. Kim[1], J. S. Yoo[1], Q. Wang[1], T. C. Ko[2], Y. Hyun[2], and I. H. Kim[1], [1]*Dankook University*, *Cheonan, Chungnam, Korea*, [2]*Dodram B&F Inc*, *Eumseong, Chungbuk, Korea*.

T128 Effects of dietary *bacillus*-based probiotic on growth perf0rmance, nutrient digestibility, blood characteristics and fecal noxious gas content in finishing pigs. Y. J. Chen*[1], B. J. Min[1], J. H. Cho[1], O. S. Kwon[1], K. S. Son[1], H. J. Kim[1], B. C. Park[2], and I. H. Kim[1], [1]*Dankook University*, *Cheonan, Chungnam, Korea*, [2]*NutraBio Inc*, *Seoul, Korea*.

T129 Energetic efficiency of fat deposition from highly fermentable NSP in fattening pigs. V. Halas and L. Babinszky*, *University of Kaposvár*, *Hungary*.

T130 Effect of feeding rye silage on growth performance, blood and carcass characteristics in finishing pigs. J. H. Cho*[1], Y. K. Han[2], B. J. Min[1], Y. J. Chen[1], H. J. Kim[1], J. S. Yoo[1], J. W. Kim[1], and I. H. Kim[1], [1]*Dankook University*, *Cheonan, Chungnam, Korea*, [2]*Sungkyunkwan University, Faculty of Life Science & Technology*, *Suwon, Gyeonggi, Korea*.

T131 Effect of sex and feeding level on productive performance and carcass quality of Iberian × Duroc pigs. M. P. Serrano[1], D. G. Valencia[1], J. C. Sánchez[1], R. Lázaro[1], A. Fuentetaja[2], and G. G. Mateos*[1], [1]*Universidad Politécnica de Madrid*, *Spain*, [2]*Copese*, *Segovia, Spain*.

Physiology and Endocrinology

Reproductive Physiology

Exhibit Hall A

Abstract #

T132 Production and cryopreservation of embryos from Sarabi cattle. M. H. Fazeli*[1,2] and S. M. Mirtorabi[2], [1]*Azad University, Shahre Kord Campus*, *Shahre Kord, Iran*, [2]*Animal Breeding Center*, *Karaj, Iran*.

T133 Fertility of bull semen imported or domestically produced in Iran. M. H. Fazeli*[1,2], F. Raeissi[1], A. Haghighat Nia[3], H. Nabizadeh[2], and F. Zamani[2], [1]*Azad University, Shahre Kord Campus, school of Veterinary Medicine*, *Share Kord, Iran*, [2]*AI Center, Nahadehaye Dami Jahad*, *Karaj, Iran*, [3]*Damshid Softwares*, *Tehran, Iran*.

T134 Profiles of circulating estradiol after different estrogens in dairy cows. A. H. Souza, A. P. Cunha*, D. Z. Caraviello, and M. C. Wiltbank, *University of Wisconsin*, *Madison*.

T135 Observed and predicted numbers of single, twin, and triplet births in a cattle population selected for increased twinning. G. L. Bennett*, M. F. Allan, R. A. Cushman, and S. E. Echternkamp, *USDA-ARS, U.S. Meat Animal Research Center*, *Clay Center, NE*.

T136 Effects of estradiol and testosterone on the peripheral and anterior pituitary IGF system in barrows. J. A. Clapper* and E. M. Stansbury, *South Dakota State University*, *Brookings*.

T137 Accuracy of pregnancy diagnosis in Holstein cows using transrectal ultrasonography based on a serum pregnancy associated glycoprotein (PAG) ELISA. E. Silva*[1], R. A. Sterry[1], D. Kolb[2], N. Mathialagan[3], M. F. McGrath[3], J. M. Ballam[3], and P. M. Fricke[1], [1]*University of Wisconsin*, *Madison*, [2]*Lodi Veterinary Clinic*, *Lodi, WI*, [3]*Monsanto Agricultural Company*, *St Louis, MO*.

T138 Angiogenesis of the endometrium and fetal membranes during early pregnancy in sheep: Morphological evaluation. L. P. Reynolds*[1], A. T. Grazul-Bilska[1], L. Della Salda[2], G. Ptak[2], and P. Loi[2], [1]*North Dakota State University*, *Fargo*, [2]*Universita di Teramo*, *Teramo, Abruzzo, Italia*.

T139 Effect of neonatal environment on adult reproductive function of boars. J. K. Griffin*, M. C. Seal, and W. L. Flowers, *North Carolina State University*, *Raleigh*.

T140 Gonadal response to HCG and GnRH analog in male sheep exposed to excess prenatal testosterone. S. E. Recabarren*[1], P. P. Rojas-Garcia[1], M. P. Recabarren[1], V. Alfaro[1], R. Smith[2], and T. Sir-Petermann[3], [1]*University of Concepcion*, *Chillan, Chile*, [2]*University of Chile*, *Santiago*, [3]*University of Chile*, *Santiago*.

T141 Impact of exogenous ghrelin administration on circulating concentrations of luteinizing hormone in steers. J. A. Daniel*, G. A. Perry, and A. E. Wertz-Lutz, *South Dakota State University*, *Brookings*.

T142 Assessment of a practical method for identifying anovular dairy cows synchronized for first postpartum timed artificial insemination. E. Silva*, R. A. Sterry, and P. M. Fricke, *University of Wisconsin*, *Madison*.

T143 Relationship between metabolic hormones and ovulation of dominant follicle at the first follicular wave postpartum in dairy cows. C. Kawashima*[1], E. Kaneko[1], C. Amaya Montoya[1], M. Matsui[1], T. Shimizu[1], N. Matsunaga[1], K. Kida[1], Y.-I. Miyake[2], D. Schams[2], and A. Miyamoto[1], [1]*Obihiro University of Agriculture and Veterinary Medicine*, *Obihiro, Hokkaido, Japan*, [2]*TU-Munich Weihenstephan*, *Freising-Weihenstephan, Germany*.

T144 Reproductive performance of lactating dairy cows of different leptin genotype. R. C. Chebel*[1] and J. E. P. Santos[2], [1]*University of Idaho*, *Caldwell*, [2]*University of California Davis*, *Tulare*.

T145 Influence of maternal and fetal breed on placental and fetal weight in sheep. P. P. Borowicz*, A. T. Grazul-Bilska, K. A. Vonnahme, J. S. Caton, D. A. Redmer, and L. P. Reynolds, *North Dakota State University*, *Fargo*.

T146 Effect of estradiol cypionate before induction of ovulation on subsequent luteal lifespan in anoestrous Nelore cows. O. G. SáFilho and J. L. M. Vasconcelos*, *FMVZ-UNESP*, *Botucatu, SP, Brazil*.

T147 Effect of progesterone or 17B-estradiol on luteal lifespan in anoestrous Nelore cows. O. G. SáFilho*, C. C. Dias, and J. L. M. Vasconcelos, *FMVZ-UNESP*, *Botucatu, SP, Brazil*.

T148 Factors affecting conception of AI or ET in lactating cows. D. G. B. Demetrio*[1], R. M. Santos[1], C. G. B. Demetrio[2], C. A. Rodrigues[3], and J. L. M. Vasconcelos[1], [1]*FMVZ-UNESP*, *Botucatu, SP, Brazil*, [2]*ESALQ-USP*, *Piracicaba, SP, Brazil*, [3]*SAMVET*, *São Carlos, SP, Brazil*.

T149 Induction of ovulation in sheep using a novel recombinant gonadotropin with dual (LH and FSH) activity. E. P. Lemke*[1], B. M. Adams[1], I. Boime[2], and T. E. Adams[1], [1]*University of California*, *Davis*, [2]*Washington University*, *St. Louis, MO*.

T150 Association of timing of chorioallantoic membrane development with age in dairy cattle. J. D. Rhinehart*, R. A. Dailey, D. H. Poole, and E. K. Inskeep, *West Virginia University*, *Morgantown*.

T151 Postpartum follicular development in Brahman cows under two grazing densities. R. Soto[1], C. S. Galina[1], I. Rubio*[2], E. Castillo[2], I. Hernández[1], and F. Alarcón[1], [1]*Universidad Nacional Autónoma de México*, *Ciudad Universitaria*, [2]*Universidad Nacional Autónoma de México*, *Martínez, de la Torre, Veracruz*.

Production, Management and the Environment II

Exhibit Hall A

Abstract #

T152 Eating behavior and the decline in feed intake of Holstein cows during the transition period. P. D. French*, M. A. DeGroot, and J. L. Chamberlain, *Oregon State University*, *Corvallis*.

T153 The simulated economic return of using Ovsynch in dairy herds. P. D. French*, *Oregon State University*, *Corvallis*.

T154 Effect of yeast (saccharomyces cervisiae) on prepartum and postpartum dry matter intake and performance of Holstein dairy cows. F. Kafilzadeh* and Y. Ghorbani, *Razi University*, *Kermanshah, Kermanshah, Iran*.

T155 Effect of extending the voluntary waiting period on lactation performance of Holstein cows. J. A. Rodrigues*[1], R. C. Chebel[1], and J. E. P. Santos[2], [1]*University of Idaho*, *Caldwell*, [2]*University of California*, *Tulare*.

T156 Estimating the potential contribution of groups of cows within herds to the total herd milk volume. R. Goodling, K. Griswold*, and T. Beck, *Penn State Cooperative Extenstion*, *University Park*.

T157 Effect of feeding method and forage type on herd mean milk urea nitrogen (MUN) levels. K. Griswold*[1], R. Goodling[1], C. Brown[2], T. Nauman[3], N. Kohut[4], L. Yoder[5], and J. Mylin[6], [1]*Penn State Cooperative Extension*, *University Park*, [2]*F. M. Browns Sons, Inc.*, *Birdsboro, PA*, [3]*Hoober Feeds, Inc.*, *Gordonville, PA*, [4]*Purina Mills, Inc.*, *Douglassville, PA*, [5]*Homestead Nutrition, Inc.*, *New Holland, PA*, [6]*Lancaster DHIA*, *Manheim, PA*.

T158 Effect of synchronization protocols on reproductive performance of Holstein heifers. J. L. Stevenson*[1], R. C. Chebel[1], J. C. Dalton[1], and J. E. P Santos[2], [1]*University of Idaho*, *Caldwell*, [2]*University of California*, *Tulare*.

T159 Daily variation in somatic cell counts as a measure of management intensity. J. M. Lukas*, L. A. Espejo, M. I. Endres, and J. K. Reneau, *University of Minnesota*, *St Paul*.

T160 Ability of consistency index to predict SCC standard violations in the next 7 or 30 days. J. M. Lukas*[1], M. L. Kinsel[2], and J. K. Reneau[1], [1]*University of Minnesota*, *St. Paul*, [2]*Agricultural Information Management Inc.*, *Ellensburg, WA*.

T161 The relationship between bodyweight change and disease incidence in early lactation. E. M. Marion*[1], C. D. Dechow[1], J. A. D. R. M. Appuhamy[2], and B. G. Cassell[2], [1]*The Pennsylvania State University*, *University Park*, [2]*Virginia Polytechnic University*, *Blacksburg*.

T162 Effects of environmental factors during rearing on milk yield after first calving. J. Broucek*[1], S. Mihina[1], C. W. Arave[2], P. Kisac[1], M. Uhrincat[1], P. Flak[1], and A. Hanus[1], [1]*Research Institute of Animal Production*, *Nitra, Slovakia*, [2]*Utah State University*, *Logan*.

T163 Temperature influences upon vascular dynamics as measured by doppler ultrasonography. B. H. Kirch*[1], G. E. Aiken[1], and D. E. Spiers[2], [1]*USDA-ARS, Forage-Animal Production Research Unit*, *Lexington, KY*, [2]*University of Missouri*, *Columbia*.

T164 The use of digital infrared thermography for monitoring environmental physiology in dairy cattle. M. B. White, M. Jones, S. Schmidt, A. Chromiak, and S. T. Willard*, *Mississippi State University*, *Mississippi State*.

T165 Physiological responses of Holstein cows (white or black hair coat) under different solar loads: An environmental chamber study. C. N. Lee*[1], P. Hillman[2], R. Collier[3], and K. Gebremedhin[2], [1]*University of Hawaii-Manoa*, *Honolulu*, [2]*Cornell University*, *Ithaca, NY*, [3]*University of Arizona*, *Tucson*.

T166 Frequency and potential production losses from low and inverted fat-protein ratios (FPR) for Pennsylvania dairy herds. R. Goodling*, K. Griswold, and T. Beck, *Penn State Cooperative Extension*, *University Park*.

T167 Effect of dry period length on health and production of Holstein cows during the subsequent lactation. R. D. Watters*[1], J. N. Guenther[1], A. E. Kulick[1], P. W. Clark[2], and R. R. Grummer[1], [1]*University of Wisconsin*, *Madison*, [2]*University of Wisconsin*, *River Falls*.

T168 Conception rate and pregnancy loss rate in lactating Holstein cows of a single herd following timed insemination or insemination at detected estrus. D. J. Ambrose*[1,2], T. Govindarajan[2], and L. A. Goonewardene[1,2], [1]*Alberta Agriculture Food and Rural Development*, *Edmonton, Alberta, Canada*, [2]*University of Alberta*, *Edmonton, Alberta, Canada*.

T169 Factors affecting reproductive performance of Holstein heifers. F. A. Braga*, R. C. Chebel, and J. C. Dalton, *University of Idaho*, *Caldwell*.

T170 The effects of month of insemination and temperature-humidity index on non-return rate in Pennsylvania Holsteins. C. D. Dechow[1], M. L. O'Connor*[1], A. L. Mosholder[1], G. J. Killian[1], and S. Schnell[2], [1]*The Pennsylvania State University*, *University Park*, [2]*Genex Cooperative, Inc.*, *Shawano, WI*.

T171 Effects of management techniques and farm status on bacterial contamination of colostrum. S. I. Kehoe*, B. M. Jayarao, B. A. Straley, and A. J. Heinrichs, *The Pennsylvania State University*, *University Park*.

Ruminant Nutrition

Acidosis

Exhibit Hall A

Abstract #

T172 Rumen and metabolic acidosis in dairy goats are independent. S. Giger-Reverdin*[1], M. DesNoyers[1], C. Duvaux-Ponter[2], and D. Sauvant[2,1], [1]*Institut National de la Recherche Agronomique*, *Paris, France*, [2]*Institut National de la Recherche Agronomique Paris-Grignon*, *Paris, France*.

T173 Effects of chronic metabolic acidosis on acid-base balance and plasma free amino acids in lambs. N. E. Odongo[1], J. E. Las*[1], S. Wadud[1], O. AlZahal[1], M. Lindinger[1], A. Shoveller[1], J. C. Matthews[2], and B. W. McBride[1], [1]*University of Guelph*, *Guelph, Ontario, Canada*, [2]*University of Kentucky*, *Lexington*.

T174 The severity of ruminal acidosis in primiparous Holstein cows near parturition. G. B. Penner*[1,2], K. A. Beauchemin[2], and T. Mutsvangwa[1], [1]*University of Saskatchewan*, *Saskatoon, SK, Canada*, [2]*Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*.

T175 Effects of rumen acid-load from feeds on ruminal pH, dry matter intake, fiber degradability and milk production in the lactating dairy cow. B. Rustomo*, O. AlZahal, J. P. Cant, M. P. Fan, T. F. Duffield, N. E. Odongo, and B. W. McBride, *University of Guelph*, *Guelph, Ontario, Canada*.

T176 Effects of rumen acid-load from feed and forage particle size on ruminal pH, feed intake and milk production and composition. B. Rustomo*, O. AlZahal, N. E. Odongo, T. F. Duffield, and B. W. McBride, *University of Guelph*, *Guelph, Ontario, Canada*.

T177 Effect of physically effective fiber on chewing and ruminal pH of dairy cows fed diets containing barley or corn grains. W. Z. Yang* and K. A. Beauchemin, *Research Center, Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*.

T178 Sampling ruminal pH: How many days and how frequent within day? C. Leonardi*[1], K. M. Krause[2], and D. K. Combs[3], [1]*Louisiana State University*, *Baton Rouge*, [2]*West Virginia University*, *Morgantown*, [3]*University of Wisconsin*, *Madison*.

Ruminant Nutrition

Growing/Finishing Nutrition - Beef

Exhibit Hall A

Abstract #

T179 Intake, digestibility, and performance of crossbred steers fed diets containing high levels of urea. F. H. M. Chizzotti*[1,2], O. G. Pereira[1], L. O. Tedeschi[2], S. C. Valadares Filho[1], M. L. Chizzotti[1,2], L. M. Moura[1], I. C. S. Belo[1], and D. H. Pereira[1], [1]*Universidade Federal de Vicosa*, *Vicosa, MG, Brazil*, [2]*Texas A & M University*, *College Station*.

T180 Effect of corn density on growing steer intake and performance. D. M. Larson*, M. L. Bauer, and G. P. Lardy, *North Dakota State University*, *Fargo*.

T181 Optimal level of corn distillers dried grains in a no roughage diet for pre-conditioned calves. J. E. Williams*, F. Farias, J. M. Wilson, and M. S. Kerley, *University of Missouri*, *Columbia*.

T182 Effect of bacterial inoculants or ammonia on aerobic stability of high moisture ear corn and finishing performance of steers. E. Diaz*[1], A. Amyot[2], C. Thivierge[1], R. Berthiaume[3], and D. R. Ouellet[3], [1]*Laval University*, *Quebec, QC, Canada*, [2]*IRDA*, *Deschambault, QC, Canada*, [3]*Dairy and Swine R&D Centre, Agriculture and AgriFood Canada*, *Lennoxville, QC, Canada.*

T183 Performance of young Angus × Nellore cattle fed with high-moisture corn or high-moisture sorghum. M. S. Igarasi, M. D. B. Arrigoni, C. L. Martins, H. N. Oliveira, A. C. Silveira, D. D. Millen*, R. D. L. Pacheco, and L. A. L. Chardulo, *FMVZ/UNESP*, *Botucatu, Sao Paulo, Brazil*.

T184 Evaluation of chop length in two brown midrib sorghum hybrids silage on feedlot animal performance. G. J. Depetris*, M. D. Montiel, F. J. Santini, A. Chicatún, and E. L. Villareal, *EEA INTA Balcarce-Fac. Cs. Agrarias, UNMdP*, *Balcarce, Buenos Aires, Argentina*.

T185 Feedlot performance of heifers fed with three sorghum hybrids silage or one corn silage diets. G. D. Depetris*, M. D. Montiel, F. J. Santini, A. Chicatun, and E. L Villarreal, *EEA INTA Balcarce- Fac. Cs. Agrarias, UNMdP*, *Balcarce, Buenos Aires, Argentina*.

T186 Performance of feedlot heifers fed with high-tannin high-moisture sorghum treated with urea compared with high moisture corn. M. D. Montiel*, G. J. Depetris, F. J. Santini, A. Chicatún, and E. L. Villarreal, *EEA INTA Balcarce-Fac. Cs. Agrarias, UNMdP*, *Balcarce, Buenos Aires, Argentina*.

T187 Effect of corn processing and soybean meal treatment on performance of finishing beef steers fed corn silage based diet. D. R. Ouellet*[1], M. D'Amours[2], R. Berthiaume[1], L. Faucitano[1], and D. Pellerin[2], [1]*Dairy and Swine R&D Centre, AAFC*, *Lennoxville, Quebec, Canada*, [2]*Laval University*, *Quebec, Canada*.

T188 Influence of supplements on performance of grazing steers during the dry season in Brazil. C. E. S. Baroni*[1], R. P. Lana[1,2], A. B. Mâncio[1], D. M. Lambertucci[1,2], and B. P. C. Mendonça[1], [1]*Universidade Federal de Viçosa*, *Viçosa, MG, Brazil*, [2]*CNPq*, *Brasília, DF, Brazil*.

T189 Effects of different growing systems on performance of feedlot cattle. J. T. Vasconcelos*[1,2], J. E. Sawyer[1], L. O. Tedeschi[1], L. W. Greene[2], and F. T. McCollum, III[2], [1]*Texas A&M University*, *College Station*, [2]*Texas A&M University*, *Amarillo*.

T190 Influence of Ractopamine-HCl and ground white corn or steam-flaked white corn based-diets on growth performance of finishing Brahman cross bulls. R. Barajas*[1], J. M. Romo[1], B. J. Cervantes[1], R. J. Virgilio[2], and J. J. Lomeli[1], [1]*FMVZ-Universidad Autonoma de Sinaloa*, *Culiacan, Sinaloa, Mexico*, [2]*Tecnología de Máxima Prodcción, S.A. de C.V.*, *Culiacan, Sinaloa, Mexico*.

T191 Effect of Ractopamine-HCl and ground white corn or steam-flaked white corn based-diets on carcass characteristics of finishing Brahman cross bulls. R. Barajas*[1], J. M. Romo[1], B. J. Cervantes[1], R. J. Virgilio[2], and J. J. Lomeli[1], [1]*FMVZ-Universidad Autonoma de Sinaloa*, *Culiacan, Sinaloa, Mexico*, [2]*Tecnología de Máxima Prodcción, S.A. de C.V.*, *Culiacan, Sinaloa, Mexico*.

T192 Effect of Synovex-S and ractopamine on serum concentration of IGF-I, performance and carcass characteristics of finishing steers. A. J. M. Rosa*, J. L Clapper, A. M. Sanborn, S. L. Lindblom, C. Smith, D. M. Wulf, C. L. Wright, and J. A. Clapper, *South Dakota State University*, *Brookings*.

T193 Effects of ractopamine and implant regimens containing trenbolone acetate and estradiol on growth and carcass characteristics of feedlot steers. T. C. Bryant*[1,2], J. J. Wagner[2], S. B. Laudert[3], and M. L. Galyean[4], [1]*Five Rivers Cattle Feeding*, *Loveland, CO*, [2]*Colorado State University*, *Fort Collins*, [3]*Elanco Animal Health*, *Greenfield, IN*, [4]*Texas Tech University*, *Lubbock*.

T194 Influence of live weight at first implanting on growth performance and carcass characteristics of calf-fed Holstein steers. R. A. Zinn[1], N. Torrentera*[2], and F. Calderon[2], [1]*University of California*, *Davis*, [2]*UABC*, *Mexicali, BC, MX*.

T195 Effects of supplement type and feeding frequency on performance and physiological responses of yearling Brahman-crossbred steers. R. F. Cooke*, C. R. Staples, X. Qui, and J. D. Arthington, *University of Florida*, *Gainesville*.

T196 Relative abundance of mRNA UCP2 and UCP3 in skeletal muscle and their relationship to metabolic rate in three breeds of beef heifers. K. M. Brennan, J. J. Michal, K. A. Ross, and K. A. Johnson*, *Washington State University*, *Pullman*.

T197 Physical and chemical traits of cattle carcasses from different genetic groups slaughtered at three back fat thickness end points. M. H. Faria, M. D. B. Arrigoni, F. D. Resende, A. G. Razook, A. M. Jorge, C. L. Martins, R. D. L. Pacheco*, D. D. Millen, and H. N. Oliveira, *FMVZ/UNESP*, *Botucatu, Sao Paulo, Brazil*.

T198 Comparison of net protein requirements for growth of bulls, steers, and heifers of Nellore x Red Angus crossbreds. M. L. Chizzotti*[1,2], S. C. Valadares Filho[1], L. O. Tedeschi[2], G. E. Carstens[2], F. H. M. Chizzotti[1,2], P. M. Amaral[1], T. I. Rodrigues[1], D. M. Oliveira[1], and P. D. B. Benedeti[1], [1]*Universidade Federal de Vicosa*, *Vicosa, MG, Brazil*, [2]*Texas A & M University*, *College Station*.

T199 Comparison of energy requirements for maintenance and growth of steers, bulls, and heifers of Nellore x Red Angus crossbreds. M. L. Chizzotti*[1,2], S. C. Valadares Filho[1], L. O. Tedeschi[2], G. E. Carstens[2], F. H. M. Chizzotti[1,2], D. M. Oliveira[1], P. D. B. Benedeti[1], P. M. Amaral[1], and T. I. Rodrigues[1], [1]*Universidade Federal de Vicosa*, *Vicosa, MG, Brazil*, [2]*Texas A & M University*, *College Station*.

T200 Maintenance energy requirements of Nellore bulls in Brazil. P. V. R. Paulino*[1], S. C. Valadares Filho[1], M. A. Fonseca[1], K. A. Magalhães[1], E. Detmann[1], and R. D. Sainz[2], [1]*Universidade Federal de Viçosa*, *Viçosa, Minas Gerais, Brazil*, [2]*University of California*, *Davis*.

T201 Predicting dry matter intake of Nellore cattle in Brazil. P. V. R. Paulino*[1], S. C. Valadares Filho[1], E. Detmann[1], J. A. G. Azevêdo[2], D. S. Pina[1], M. I. Marcondes[1], M. A. Fonseca[1], and R. D. Sainz[3], [1]*Universidade Federal de Viçosa*, *Viçosa, Minas Gerais, Brazil*, [2]*Universidade Estadual de Santa Cruz*, *Ilhéus, Bahia, Brazil*, [3]*University of California*, *Davis*.

Ruminant Nutrition

Minerals & Vitamins

Exhibit Hall A

Abstract #

T202 Net requirements of macrominerals for growth of steers, bulls, and heifers of Nellore x Red Angus crossbreds. M. L. Chizzotti*[1,2], S. C. Valadares Filho[1], L. O. Tedeschi[2], G. E. Carstens[2], F. H. M. Chizzotti[1,2], M. A. Fonseca[1], L. F. C. Silva[1], and M. I. Marcondes[1], [1]*Universidade Federal de Vicosa*, *Vicosa, MG, Brazil*, [2]*Texas A & M University*, *College Station*.

T203 Dietary factors affecting phosphorus digestion in lactating cows. T. H. Yang*[1], K. F. Knowlton[1], C. Shang[1], E. Schwab[2], D. Berry[1], L. Zelazny[1], N. Whitehouse[3], K. Pence[1], and C. Schwab[3], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*University of Wisconsin*, *Madison*, [3]*University of New Hampshire*, *Durham*.

T204 Exogenous phytase plus cellulase and nutrient excretion and digestibility in lactating cows. M. S. Taylor*[1], S. R. Hill[1], K. F. Knowlton[1], K. Wilson[2], and C. Cobb[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Animal Feed Technologies*, *Greeley, CO*.

T205 Clinical responses to SelenoSourceAF™ supplementation in commercial dairy herds. M. Engstrom*[1], B. Crochet[2], J. Rortvedt[2], W. Sanchez[1], and I. Yoon[1], [1]*Diamond V Mills, Inc*, *Cedar Rapids, IA*, [2]*Hubbard Milling Co.*, *Mankato, MN*.

T206 Selenium deficiency in dual purpose cows and its correction with an intraruminal device in a tropical environment. E. Martínez Cuevas*[1], M. Huerta Bravo[1], R. Lopez Arellano[2], J. G. Garcia Muñiz[1], and R. Ramírez Valverde[1], [1]*Universidad Autonoma Chapingo*, *Chapingo, Mexico, Mexico*, [2]*Universidad Nacional Autonoma de Mexico*, *Cuautitlan, Mexico, Mexico*.

T207 Effects of nutrient restriction during early or late gestation and dietary Se supply on cell proliferation and vascularity in maternal jejunal tissue of sheep. J. J. Reed*[1], P. P. Borowicz[1], R. Reddy[1], S. L. Julius[1], J. B. Taylor[2], T. L. Neville[1], L. P. Reynolds[1], D. A. Redmer[1], K. A. Vonnahme[1], and J. S. Caton[1], [1]*North Dakota State University*, *Fargo*, [2]*USDA-ARS, US Sheep Experiment Station*, *Dubois, ID*.

T208 Effects of nutrient restriction during early or late gestation and dietary Se supply on Se concentrations in maternal and fetal tissues in sheep. T. L. Nevelle*[1], J. J. Reed[1], R. Reddy[1], M. A. Ward[1], P. P. Borowicz[1], J. B. Taylor[2], K. A. Vonnahme[1], M. Kappahan[1], D. A. Redmer[1], L. P. Reynolds[1], and J. S. Caton[1], [1]*North Dakota State University*, *Fargo*, [2]*USDA-ARS, US Sheep Experiment Station*, *Dubois, ID*.

T209 Effects of nutrient restriction during early or late gestation and dietary Se supply on maternal and fetal intestinal growth in sheep. R. Reddy*[1], J. J. Reed[1], T. L. Neville[1], J. B. Taylor[2], L. P. Reynolds[1], D. A. Redmer[1], K. A. Vonnahme[1], and J. S. Caton[1], [1]*North Dakota State University*, *Fargo*, [2]*USDA-ARS, US Sheep Experiment Station*, *Dubois, ID*.

T210 Quality assessment of drinking water offered to dairy cows in central Iran. A. A. Najafi[1], G. R. Ghorbani[1], M. Alikhani[1], and A. Nikkhah*[2], [1]*Isfahan University of Technology*, *Isfahan, Iran*, [2]*University of Manitoba*, *Winnipeg, MB, Canada*.

T211 Silage to reduce dietary cation-anion difference. E. Charbonneau*[1], P. Y. Chouinard[1], G. F. Tremblay[2], G. Allard[1], A. Brégard[1], and D. Pellerin[1], [1]*FSAA, Université Laval*, *Québec, QC, Canada*, [2]*Agriculture and Agri-Food Canada*, *Ste-Foy, QC, Canada*.

T212 Hay to reduce dietary cation-anion difference (DCAD). E. Charbonneau*[1], P. Y. Chouinard[1], G. F. Tremblay[2], G. Allard[1], A. Brégard[1], and D. Pellerin[1], [1]*FSAA, Université Laval*, *Québec, Québec, Canada*, [2]*Agriculture and Agri-Food Canada*, *Ste-Foy, Québec, Canada*.

T213 Effect of high-sulfate water on trace mineral status of beef steers. C. L. Wright* and H. H. Patterson, *South Dakota State University*, *Brookings*.

T214 Effect of dried and ensiled sainfoin, a tanniniferous temperate climate forage legume, on the mineral metabolism of lambs. A. Scharenberg[1], A. Gutzwiller[1], Y. Arrigo[1], U. Wyss[1], H. D. Hess[1], M. Kreuzer[2], and F. Dohme*[1], [1]*Agroscope Liebefeld-Posieux, Swiss Federal Research Station for Animal Production and Dairy Products (ALP)*, *Posieux, Switzerland*, [2]*Institute of Animal Sciences, Swiss Federal Institute of Technology (ETH)*, *Zurich, Switzerland*.

T215 Mineral characterization of cattle in Juan Rodríguez Clara, Veracruz, México. E. Martínez Cuevas, M. Huerta Bravo*, J. G. Garcia Muñiz, and R. Ramírez Valverde, *Universidad Autónoma Chapingo*, *Chapingo, México, México*.

T216 Supplementing grazing heifers with copper oxide needles in a tropical environment. E. Martínez Cuevas, M. Huerta Bravo, J. G. García Muñiz*, and R. Ramírez Valverde, *Universidad Autónoma Chapingo*, *Chapingo, México, México*.

T217 Interaction of concentrate: Forage ratio and type of concentrate fed on growth performance and health of growing steers. P. Walker*[1], D. Adams[1], and R. Hall[2], [1]*Illinois State University, Normal,* [2]*Cooperative Research Farms, Richmond, VA*.

T218 Effects of organic zinc, manganese and cupper on mineral content of rumen bacteria and microbial fermentation in continuous culture. P. W. Cardozo[1], S. Calsamiglia*[1], and S. Andrieu[2], [1]*Universitat Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*Alltech*, *Lexington, KY*.

T219 Effect of zinc source and level of on feedlot performance and carcass characteristics of finishing beef steers. J. C. Silva*[1], M. S. Brown[1], E. M. Cochran[1], E. Lauterbach[1], C. E. Smith Sr[1], L. D. Mitchell[1], C. K. Larson[2], and T. Ward[2], [1]*West Texas A&M University*, *Canyon*, [2]*Zinpro Corporation*, *Eden Prairie, MN*.

T220 Effect of cobalt supplementation during late gestation and early lactation on performance and serum concentrations of cobalt and vitamin B_{12}. R. L. Kincaid*[1] and M. T. Socha[2], [1]*Washington State University*, *Pullman*, [2]*Zinpro Corporation*, *Eden Prairie, MN*.

T221 Effects of supplementary folic acid and vitamin B_{12} and rumen-protected methionine on lactational performance of multiparous dairy cows. A. Preynat*[1,2], M. C. Thivierge[2], H. Lapierre[1], J. J. Matte[1], A. Desrochers[3], and C. L. Girard[1], [1]*Agriculture and Agri-Food Canada*, *Lennoxville*, [2]*Université Laval*, *Québec*, [3]*Université de Montréal*, *St-Hyacinthe, QC, Canada*.

T222 Effects of rumen protected choline and dry propylene glycol supplements on plasma folates and vitamin B_{12} in periparturient dairy cows. C. L. Girard*[1], Y. H. Chung[2], and G. A. Varga[2], [1]*Agriculture and Agri-Food Canada*, *Lennoxville, QC, Canada*, [2]*The Pennsylvania State University*, *University Park*.

T223 Apparent ruminal synthesis and intestinal absorption of free and total biotin in dairy cows. D. E. Santschi* and C. L. Girard, *Agriculture and Agri-Food Canada*, *Lennoxville, QC, Canada*.

T224 Effect of biotin supplementation on enzyme activity and gene expression of biotin-dependent carboxylases in the liver of dairy cows. G. Ferreira and W. P. Weiss*, *The Ohio State University-OARDC*, *Wooster*.

T225 Effect of supplemental biotin to dairy cows on in sacco forage NDF disappearance. C. W. Cruywagen* and G. Bunge, *Stellenbosch University*, *Stellenbosch, South Africa*.

T226 Effect of feeding whole raw soybean and niacin to lactating cows in early lactation. M. Sari, A. A. Naserian*, R. Valizadeh, and S. Salari, *Ferdowsi University of Mashhad*, *Mashhad, Khorasan, Iran*.

T227 The effects of nicotinic acid supplementation during late-gestation on lipolysis and feed intake during the transition period. J. L. Chamberlain* and P. D. French, *Oregon State University*, *Corvallis*.

T228 Comparative evaluation of the transfer of two forms of Vitamin A into milk of dairy cows. S. Jurjanz*[1], Y. Le Roux[1], F. Rouffineau[2], and J. C. Robert[2], [1]*Laboratoire de Sciences Animales, INRA-ENSAIA*, *Vandoeuvre, France*, [2]*Adisseo France SAS*, *Commentry, France*.

Ruminant Nutrition

Rumen Fermentation Modifiers

Exhibit Hall A

Abstract #

T229 Effects of high and low inclusion rate yeast culture products on in vitro batch culture ruminal fermentations. H. M. Sullivan* and R. A. Halalsheh, *New Mexico State University*, *Las Cruces*.

T230 Evaluation of the protective effect of probiotics given to dairy cows during a lactic acidosis challenge. J. Chiquette*, *Dairy and Swine Research & Development Centre*, *Lennoxville, Quebec, Canada*.

T231 Effect of feeding Fermenten® to Holstein dairy cows on milk production, composition and blood metabolites. C. M. Martinez*[1], Y-H. Chung[1], M. E. White[1], E. Block[2], and G. A. Varga[1], [1]*The Pennsylvania State University*, *University Park*, [2]*Church & Dwight Co., Inc.*, *Princeton, NJ*.

T232 Effect of Virginiamycin and Poulcox, or both, on performance of Holstein cows. L. Erasmus*[1], C. Muya[1], R. Coertze[1], S. Erasmus[2], and G. Catton[3], [1]*University of Pretoria*, *Pretoria, South Africa*, [2]*ARC-LBD*, *Irene, South Africa*, [3]*D.G.Catton*, *Irene, South Africa*.

T233 Effects of monensin and dietary soybean oil on milk fatty acid profile in lactating cows. O. AlZahal*[1], N. E. Odongo[1], M. Or-Rashid[1], T. Mutsvangwa[2], T. F. Duffield[1], R. Bagg[3], P. Dick[3], G. Vessie[3], and B. W. McBride[1], [1]*University of Guelph*, *Guelph, Ontario*, [2]*University of Saskatchewan*, *Saskatoon, Saskatchewan*, [3]*Elanco Animal Health, Division Eli Lilly Canada Inc.*, *Guelph, Ontario, Canada*.

T234 Effect of lasalocid or monensin supplementation on nitrogen metabolism in midlactating dairy cows. R. Martineau*[1], C. Benchaar[2], H. V. Petit[2], H. Lapierre[2], D. R. Ouellet[2], D. Pellerin[1], and R. Berthiaume[2], [1]*Université Laval*, *Québec, Canada*, [2]*Dairy and Swine R&D Centre, AAFC*, *Lennoxville, Québec, Canada*.

T235 Effects of rumensin and bovine somatotropin (bST) on productive and physiological parameters of Newzeland Holstein cows grazing alfalfa pasture. M. Tarazon*, S. Araiza, E. Rueda, and A. Nuñez, *Universidad de Sonora*, *Santa Ana, Sonora, Mexico*.

T236 Effect of monensin supplement during prepartum and transition phase on rumen fermentation and microbial efficiency. D. Srichana*[1,2], M. S. Kerley[1], and J. N. Spain[1], [1]*University of Missouri*, *Columbia*, [2]*Thammasat University*, *Phathumthani, Thailand*.

T237 Anise and capsicum as alternative to monensin in beef heifers fed a high-concentrate diet. I. Fandiño*[1], S. Calsamiglia[1], A. Ferret[1], and C. Kamel[2], [1]*Universitat Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*Pancosma, SA*, *Bellegarde-sur-Valserine Cedex, France*.

T238 Optimal dose and combination of anise and capsicum as modifiers of ruminal fermentation in beef heifers. I. Fandiño*[1], S. Calsamiglia[1], A. Ferret[1], and C. Kamel[2], [1]*Universitat Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*Pancosma, SA*, *Bellegarde-sur-Valserine Cedex, France*.

T239 Effects of alfalfa extract and a mixture of cinnamaldehyde and eugenol on rumen fermentation in beef heifers fed a high-concentrate diet. P. W. Cardozo[1], S. Calsamiglia*[1], A. Ferret[1], and C. Kamel[2], [1]*Universidad Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*Pancosma SA*, *Bellegarde-sur-Valserine Cedex, France*.

T240 Anise, capsicum, and a mixture of cinnamaldehyde and eugenol modified rumen fermentation in beef heifers fed a high-concentrate diet. P. W. Cardozo[1], S. Calsamiglia*[1], A. Ferret[1], and C. Kamel[2], [1]*Universidad Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*Pancosma, PA*, *Bellegarde-sur-Valserine Cedex, France*.

T241 In vitro effects of eleven essential oils on ruminal fermentation. A. V. Chaves*[1], G. Fraser[2,1], Y. Wang[1], K. A. Beauchemin[1], T. A. McAllister[1], and C. Benchaar[3], [1]*Agriculture and Agri-Food Canada Research Centre*, *Lethbridge, AB, Canada*, [2]*Nova Scotia Agricultural College*, *Truro, NS, Canada*, [3]*Agriculture and Agri-Food Canada Research Centre*, *Lennoxville, QC, Canada*.

T242 Effects of enzymes and herbal extracts on in vitro fermentation kinetics of ruminant feeds. D. Colombatto*[1], A. D. Garciarena[2], G. Lagos[2], C. Lago[3], and F. Nahara[3], [1]*University of Buenos Aires*, *Argentina*, [2]*EEA Balcarce INTA*, *Argentina*, [3]*Porfenc SRL*, *Argentina*.

T243 Effects of specific herbal extracts on in vitro fermentation kinetics of oats, alfalfa hay or a total mixed ration. D. Colombatto*[1], A. D. Garciarena[2], A. J. Flores[2], J. M. Hernandez Vieyra[3], L. Mazuranok[4], and C. Ionescu[4], [1]*University of Buenos Aires*, *Argentina*, [2]*EEA Balcarce INTA*, *Argentina*, [3]*Argent Export SA*, *Argentina*, [4]*Pancosma Bioactives*, *France*.

T244 Effects of five botanicals on rumen microbial fermentation profile. M. Blanch*[1], S. Calsamiglia[1], P. Chicoteau[2], and B. Nielsen[2], [1]*Universidad Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*NOR-FEED*, *Denmark*.

T245 Evaluation of level of plant botanicals in diets fed to lactating dairy cows. K. J. Daniels*, P. H. Doane, and M. J. Cecava, *ADM Animal Nutrition Research*, *Decatur, IN*.

T246 Evaluation of lactating dairy cattle performance when fed plant botanicals in a commercial field setting. K. J. Daniels*, J. L. Dunn, P. H. Doane, and M. J. Cecava, *ADM Animal Nutrition Research*, *Decatur, IN*.

T247 Effect of carvacrol on ruminal fermentation *in vitro*. V. Noirot*[1] and C. Bayourthe[2], [1]*Génuol*, *Albi, France*, [2]*ENSAT*, *Castanet-Tolosan, France*.

T248 Effect of plant extract supplementation on rumen fermentation and metabolism in young Holstein bulls receiving a high-concentrate diet. A. Anglada[1], M. Devant*[1], and A. Bach[1,2], [1]*IRTA*, *Barcelona, Spain*, [2]*ICREA*, *Barcelona, Spain*.

T249 Evaluation of tannins on ammonia release of soybean meal protein under in vitro ruminal conditions. H. Carneiro*[1], T. A. Corrêa[2], and J. C. F. Lima[2], [1]*Empresa Brasileira de Pesquisa Agropecuária*, *Juiz de Fora, MG, Brazil*, [2]*Universidade Federal de Juiz de Fora*, *Juiz de Fora, MG, Brazil*.

T250 Effects of nitroethane on methane production and fermentation balance in fed steers. H. Gutiérrez-Bañuelos*[1], L. J. Slay[1], G. E. Carstens[1], N. Ramlachan[2], S. Horrocks[2], T. R. Callaway[2], T. S. Edrington[2], R. C. Anderson[2], and D. J. Nisbet[2], [1]*Texas A&M University*, *College Station*, [2]*USDA/ARS, Food & Feed Safety Research Unit*, *College Station, TX*.

T251 Effects of hop acids. I. *In vitro* ruminal fermentation. M. A. Schmidt and M. L. Nelson*, *Washington State University*, *Pullman*.

T252 Effects of hop acids. II. Beta acids on ruminal methane emission, protozoal population, fermentation, and CoM concentration in cannulated finishing steers. M. A. Schmidt, M. L. Nelson*, J. J. Michal, and H. H. Westberg, *Washington State University*, *Pullman*.

T253 Use of sodium bicarbonate and an exovenous fibrolytic enzymatic compound on diets for Holstein steers. O. D. Montañez Valdez*[1], J. R. Bárcena Gama[2], S. S. González Muñoz[2], M. E. Ortega Cerrilla[2], M. A. Cobos Peralta[2], L. Landois Palencia[2], E. O. García Flores[3], J. H. Avellaneda Ceballos[4], and I. E. Morales Zambrano[1], [1]*Centro Universitario del Sur. Universidad de Guadalajara*, *Ciudad Guzmán, Jalisco, México*, [2]*Colegio de Postgraduados*, *Montecillos, Texcoco, Estado de México, M\eacute;xico*, [3]*Centro Universitario de la Costa Sur. Universidad de Guadalajara*, *Autlán, Jalisco, México*, [4]*Universidad Técnica Estatal de Quevedo*, *Quevedo, Los Ríos, Ecuador.*

Swine Species
Exhibit Hall A

Abstract #

T254 Protein source affects feed palatability in piglets. D. Solà-Oriol[1], E. Roura*[2], and D. Torrallardona[1], [1]*IRTA-Centre de Mas Bové*, *Reus, Spain*, [2]*Lucta SA*, *Barcelona, Spain*.

T255 Estimation of the ideal ratio of threonine:lysine in diets for growing pigs weighing 30-60 kg. I. Moreira*[1], D. Paiano[1], P. L. O. Carvalho[1], A. R. Poveda Parra[1], A. R. B. Quadros[2], and L. S. Perdigão[1], [1]*Universidade Estadual de Maringà*, *Maringà, Paranà, Brazil*, [2]*Universidade Federal de Santa Maria*, *Santa Maria, Rio Grande do Sul, Brazil*.

T256 Estimation of the ideal ratio of threonine:lysine in diets for finishing pigs weighing 60-90 kg. I. Moreira*, D. Paiano, A. C. Furlan, P. L. O. Carvalho, C. Scherer, and N. Silvestrini, *Universidade Estadual de Maringà*, *Maringà, Paranà, Brazil*.

T257 Nucleotide supplementation enhances piglet performance. S. Tibble*[1], P. Köppel[2], and T. van Kempen[3], [1]*SCA Iberica*, *Spain*, [2]*Chemoforma Ltd.*, *Switzerland*, [3]*Provimi RTC*, *Belgium*.

T258 Palatability of diets with different oil and fat sources in piglets. D. Solà-Oriol[1], E. Roura*[2], and D. Torrallardona[1], [1]*IRTA-Centre de Mas Bové*, *Reus, Spain*, [2]*Lucta SA*, *Barcelona, Spain*.

T259 Effect of inclusion of sweet potato (*Ipomoea batatas* L) meal on weight gain and dressing percentage of finishing pigs. S. Pietrosemoli*, O. Moron, A. Paez, C. Chirinos, and A. Marrugo, *La Universidad del Zulia*, *Maracaibo, Zulia, Venezuela*.

T260 Effects of in-feed anti-salmonella egg yolk antibodies on growth performance and health status in weaned pigs challenged with *Salmonella* Typhimurium. S. Rattanatabtimtong*, A. Mathew, A. Saxton, S. Chattin, E. Jarboe, and R. Clift, *University of Tennessee*, *Knoxville*.

T261 Differential effects of three herbal feed additives on growth and gut microbiota of weanling piglets. T. Doriana*, G. Sara, and S. Simone, *University of Milan*, *Milan, Italy*.

SYMPOSIA AND ORAL SESSIONS

ADSA Foundation Scholar Lecture - Dairy Foods
Chair: Kent A. Weigel, University of Wisconsin
Sponsor: ADSA Foundation
200 D-E

Time Abstract #

9:30 AM Applications of exopolysaccharides-producing lactic cultures in dairy products. A. Hassan, *South Dakota State University, Brookings*.

Danisco International Dairy Science Award Lecture
Chair: Lloyd Metzger, University of Minnesota
Sponsor: Danisco USA Inc.
200 D-E

Time Abstract #

10:30 AM Using enzymes to enhance the technological functionality of milk proteins. K.B. Qvist, *Danisco A/S, Copenhagen, Denmark*.

ALPHARMA Beef Cattle Nutrition Symposium

Chair: Steven Paisley, University of Wyoming

Sponsors: ASAS Foundation and Alpharma

Symposium meets AAVSB'S RACE requirement for 3 hr CE.

101 D-E

Time	Abstract #	
9:30 AM		Introduction. S. Paisley, *University of Wyoming, Laramie*.
9:40 AM		Nutrition and management during gestation: impacts on lifelong performance. J. Caton, *North Dakota State University, Fargo*.
10:20 AM		Health and nutrition post-parturition: impacts on lifelong performance. B. Kegley, *University of Arkansas, Fayetteville*.
11:00 AM		Regulation of growth and efficiency of meat animals by tissue mediated immune response. M. Spurlock, *Iowa State University, Ames*.
11:40 AM		Summarization and research needs. K. Odde, *North Dakota State University, Fargo*.
12:20 PM		Discussion.

SYMPOSIUM

Bioethics

Teaching Animal Ethics Within Today's Animal Science Curriculum

Chair: Candace Croney, Oregon State University

101 A

Time	Abstract #	
9:30 AM		Introductions. C. Croney, *Oregon State University, Corvallis*.
9:40 AM	245	Teaching bioethics in the animal sciences: Challenges and strategies. C. C. Croney*[1] and D. J. R. Cherney[2], [1]*Oregon State University*, *Corvallis*, [2]*Cornell University*, *Ithaca, NY*.
10:00 AM	246	Incorporating ethics into the undergraduate curriculum. D. J. R. Cherney*[1] and C. C. Croney[2], [1]*Cornell University*, *Ithaca, NY*, [2]*Oregon State University*, *Corvalis*.
10:20 AM	247	A successful model for teaching ethics to animal science students. J. Tannenbaum*, *University of California*, *Davis*.
10:40 AM	248	Animal welfare, bio-ethics and animal sciences. E. A. Pajor*, *Purdue University*, *West Lafayette, IN*.
11:00 AM		Discussion.

Breeding and Genetics

Dairy Breeds

Chair: Bennett Cassell, VPI&SU

L100 J

Time	Abstract #	
9:30 AM	ADSA Pioneer	Dairy cattle genetics and breeding: The last 40 years. B. McDaniel, *North Carolina State University, Raleigh*.
9:45 AM	249	Crossbreds of Normande/Holstein, Montbeliarde/Holstein, and Scandinavian Red/Holstein compared to pure Holsteins for reproduction and survival. B. J. Heins, L. B. Hansen*, and A. J. Seykora, *University of Minnesota*, *St. Paul*.
10:00 AM	250	Crossbreds of Jersey/Holstein compared to pure Holsteins for body weight, dry matter intake, feed efficiency, and body condition score. B. J. Heins, L. B. Hansen, A. J. Seykora*, A. R. Hazel, J. G. Linn, M. L. Raeth-Knight, and W. P. Hansen, *University of Minnesota*, *St. Paul*.

10:15 AM	251	Crossbreds of Jersey/Holstein compared to pure Holsteins for production, calving difficulty, stillbirths, and fertility. B. J. Heins, L. B. Hansen, A. J. Seykoa, A. R. Hazel*, J. G. Linn, D. G. Johnson, and W. P. Hansen, *University of Minnesota*, *St. Paul*.
10:30 AM	252	Crossbreds of Normande/Holstein, Montbeliarde/Holstein, and Scandinavian Red/Holstein compared to pure Holsteins for 305-d production. B. J. Heins*, L. B. Hansen, and A. J. Seykora, *University of Minnesota*, *St. Paul*.
10:45 AM	253	Economic efficiency and genetic improvement of alternative breeding schemes for Taiwan dairy cattle population. C. L. Chang*[1] and I. L. Mao[2], [1]*Hsin-chu Branch, COA-LRI*, *Hsin-chu, Taiwan, ROC*, [2]*Michigan State University*, *East Lansing*.
11:00 AM		Break
11:15 AM	254	Genetic parameters of monthly test day milk yields in Iranian buffaloes. H. Farhangfar*[1] and J. Rahmaninia[2], [1]*Birjand University*, *Birjand, Iran*, [2]*Zabol University*, *Zabol, Iran*.
11:30 AM	255	Revised estimates of lifetime net merit for dairy breeds and breed crosses. P. M. VanRaden and M. E. Tooker*, *Animal Improvement Programs Laboratory, USDA*, *Beltsville, MD*.
11:45 AM	256	A survey of Australian dairyfarmers to establish farmer attitudes to crossbreeding. M. F. Pyman* and K. L. Macmillan, *University of Melbourne*, *Werribee, Victoria, Australia*.
12:00 PM	257	A comparative study of the reproductive performance of Holstein and Jersey Holstein first cross cows in 15 Australian dairy herds. M. F. Pyman*, G. A. Anderson, and K. L. Macmillan, *University of Melbourne*, *Werribee, Victoria, Australia*.
12:15 PM	258	Weights and hip heights for Holstein, Jersey and their reciprocal crosses in the Virginia Tech crossbreeding project. K. M. Olson*, B. G. Cassell, D. R. Winston, and J. A. D. R. N. Appuhamy, *Virginia Polytechnic Institute and State University*, *Blacksburg*.
12:30 PM	259	Genetic evaluation of milking speed for Brown Swiss dairy cattle. G. R. Wiggans*[1], L. L. M. Thornton[1], and R. R. Neitzel[2], [1]*Animal Improvement Programs Laboratory, Agricultural Research Service*, *Beltsville, MD*, [2]*Brown Swiss Association*, *Beloit, WI*.

SYMPOSIUM
Companion Animals
Companion Animal Research: Contributions and Conflicts
Chair: Russ Kelley, The Iams Company
Sponsor: The Iams Company
200 B-C

Time	Abstract #	
9:30 AM		Introduction. R. Kelley, *The Iams Company, Lewisburg, OH*.
9:40 AM	260	Marrying science to society — hurdles for the use of companion animals in research. G. Golab*, *American Veterinary Medical Association*, *Schaumburg, IL*.
10:10 AM	261	Conserving endangered wild felids – the invaluable domestic cat connection. W. F. Swanson*, *Cincinnati Zoo's Center for Conservation and Research of Endangered Wildlife*, *Cincinnati, OH*.
10:40 AM		Break
10:55 AM	262	Working Dog Challenges: The interplay between genetics, environment and training. P. Mundell*, *Canine Companions for Independence*, *Santa Rosa, CA*.
11:25 AM	263	Companion Animal Science: State of the discipline. G. Aldrich*[1], N. A. Irlbeck[2], and R. L. Kelley[3], [1]*Pet Food & Ingredient Technology, Inc*, *Topeka, KS*, [2]*Colorado State University*, *Fort Collins*, [3]*The Iams Company*, *Lewisburg, OH*.
11:55 AM		Panel Discussion.

SYMPOSIUM
Extension Education
Profitability of Dairy Farming in a Global Economy
Chair: Jodie Pennington, University of Arkansas and Joe Harrison, Washington State University
Sponsor: Monsanto Company
101 B-C

Time	Abstract #	
9:30 AM	264	Financial records for dairy farms from across the USA . W. T. Cunningham*, *Genske, Mulder & Company, LLP*, *Rancho Cucamongo, CA*.
10:00 AM	265	Determinants of regional profitability on dairy farms. J. Miller*[1,2], [1]*USDA Economic Research Service*, *Washington, DC*, [2]*Retired*, *Harrisonburg, VA*.
10:30 AM		Factors affecting income and costs. B. Matlick, *Moore Stephens Frazer and Torbet, LLP, Visalia, CA*.
11:00 AM	266	Northeast Dairy Profitability. D. Rogers*, *First Pioneer Farm Credit*, *Enfield, CT*.
11:30 AM	267	Profitability of pasture-based versus confinement dairy farming. G. Benson* and S. Washburn, *North Carolina State University*, *Raleigh*.
12:00 PM		Panel Discussion.

Food Safety
Ruminant and Nonruminant Foodborne Pathogens
Chair: Hussein S. Hussein, University of Nevada-Reno
M100 D-E

Time	Abstract #	
9:30 AM	268	Development of a cost-effective method to enumerate *Escherichia coli* O157 in cattle feces. J. T. Fox*, D. G. Renter, M. W. Sanderson, and T. G. Nagaraja, *Kansas State University*, *Manhattan*.
9:45 AM	269	Effect of vaccinating against type III secreted proteins of *E. coli* O157:H7 on its pre- and post-harvest occurrence on cattle hides. R. E. Peterson*, D. R. Smith, R. A. Moxley, T. J. Klopfenstein, and G. E. Erickson, *University of Nebraska*, *Lincoln*.
10:00 AM	270	Influence of exogenous triiodothyronine (T_3) on fecal shedding of *E. coli* O157 in cattle. T. S. Edrington*[1], T. R. Callaway[1], D. M. Hallford[2], R. C. Anderson[1], and D. J. Nisbet[1], [1]*USDA-ARS-FFSRU*, *College Station, TX*, [2]*New Mexico State University*, *Las Cruces*.
10:15 AM	271	Isoamyl acetate application as a method to reduce pathogens and methane production in cattle prior to harvest. T. R. Callaway*, A. M. B. Prazak, T. S. Edrington, R. C. Anderson, and D. J. Nisbet, *USDA/ARS, Food and Feed Safety Research Unit*, *College Station, TX*.
10:30 AM	272	Microbial characteristics of ground beef produced from beef trimmings treated with potassium lactate, sodium metasilicate, peroxyacetic acid or acidified sodium chlorite. S. A. Quilo*, F. W. Pohlman, A. H. Brown, P. G. Crandall, P. N. Dias-Morse, R. T. Baublits, and C. Bokina, *University of Arkansas*, *Fayetteville*.
10:45 AM	273	Effects of feeding wet corn distiller's grains with solubles and monensin and tylosin on the prevalence and antibiotic susceptibilities of fecal commensal and foodborne bacteria in feedlot cattle. M. Jacob*, J. T. Fox, S. Narayanan, J. S. Drouillard, and T. G. Nagaraja, *Kansas State University*, *Manhattan*.
11:00 AM	274	Prevalence of *Salmonella typhimurium* in swine at slaughter. M. H. Rostagno*[1], H. S. Hurd[2], and J. D. McKean[2], [1]*USDA, ARS, Livestock Behavior Research Unit*, *West Lafayette, IN*, [2]*Iowa State University*, *Ames*.
11:15 AM	275	Resting pigs on transport trailers: A potential intervention to reduce *Salmonella* prevalence at slaughter. M. H. Rostagno*[1], H. S. Hurd[2], and J. D. McKean[2], [1]*USDA, ARS, Livestock Behavior Research Unit*, *West Lafayette, IN*, [2]*Iowa State University*, *Ames*.
11:30 AM	276	Project supported by the European Union to find alternatives to antibiotic growth promoters. G. Schatzmayr*[1], R. Beltran[2], and K. C. Mountzouris[3], [1]*BIOMIN GmbH*, *Herzogenburg, Austria*, [2]*BIOMIN USA Inc.*, *San Antonio, TX*, [3]*Agricultural University of Athens*, *Athens, Greece*.

Forages and Pastures

Silages

Chair: Charles Staples, University of Florida

M100 B-C

Time	Abstract #	
9:30 AM	277	Mastication and rumination effects on digestion and passage. M. R. Murphy* and K. E. Cowles, *University of Illinois*, *Urbana*.
10:00 AM	278	Effect of forage particle length and sorting of dietary ingredients by lactating dairy cows on performance and health. L. Armentano*, *University of Wisconsin*, *Madison*.
10:30 AM	279	Effect of brown midrib mutation and stage of development at harvest on chemical composition and in situ disappearance of millet forage. F Hassanat*, A. F. Mustafa, and P. Seguin, *McGill University*, *Ste. Anne De Bellevue, Quebec-Canada*.
10:45 AM	280	Performance of dairy cows fed soybean silage. E. Vargas*, A. F. Mustafa, and P. Seguin, *McGill University*, *Ste-Anne-De-Bellevue, Quebec, Canada*.
11:00 AM		Break
11:15 AM	281	Effects of propionic acid-based additive (Solution Foin) on short-term ensiling characteristics of corn. T. Levital*, A. F. Mustafa, and P. Seguin, *McGill University*, *Montreal, QC, Canada*.
11:30 AM	282	Genetic determinism and QTL mapping of plant parameters involved in the efficient and sustainable utilisation of forage maize in animal nutrition. L. A. Lethbridge[1], J. K. Margerison*[1], C. S. Brennan[1], M. Chrenkova[2], and L. Hentenyi[2], [1]*Massey University, Institute of Food, Nutrition and Human Health*, *Palmerston North, New Zealand*, [2]*RIAP*, *Slovakia*.
11:45 AM	283	Effect of multi enzyme cocktails on the digestion and fermentation of bahiagrass hay. N. A. Krueger* and A. T. Adesogan, *University of Florida*, *Gainesville*.
12:00 PM	284	Meta-analysis on the effect of main dietary forage on N excretion from dairy cows. V. R. Moreira[1] and C. Leonardi*[2], [1]*Lousiana State University AgCenter Southeast Research Station*, *Franklinton*, [2]*Lousiana State University*, *Baton Rouge*.
12:15 PM	285	Forage production and water use efficiency of 30 species used in the Australian dairy industry. J. S. Neal*[1], W. S. Fulkerson[1], and K. Greenwood[2], [1]*The University of Sydney*, *Camden, New South Wales, Australia*, [2]*Department of Primary Industries Victoria*, *Kyabrum, Victoria, Australia*.

SYMPOSIUM

Growth and Development

IGF and IGF Binding Proteins

Chair: James Sartin, Auburn University and Honglin Jiang, Virginia Tech

L100 A

Time	Abstract #	
9:30 AM	286	Insulin-like growth factor-I, a link between nutrient intake and growth. D. Clemmons*, *University of North Carolina*, *Chapel Hill*.
10:25 AM		Role of IGFBP-3 and IGFBP-5 in muscle growth: Mediation of the proliferation-suppressing actions of myostatin and TGF-B in porcine myogenic cells. W. R. Dayton, M. E. White, and M. R. Hathaway, *University of Minnesota, St. Paul*.
11:10 AM	287	Effects of short day photoperiod on mammary growth of dry cows: Altered prolactin and IGF signaling. G. E. Dahl*[1], E. H. Wall[2], and T. B. McFadden[2], [1]*University of Illinois*, *Urbana*, [2]*University of Vermont*, *Burlington*.

SYMPOSIUM
Nonruminant Nutrition
New Frontiers in Amino Acid Research in Nonruminant Nutrition
Chair: Sung Woo Kim, Texas Tech University and Ming Fan, University of Guelph
Sponsors: Ajinomoto Co., Inc., Ajinomoto Heartland LLC

Symposium meets AAVSB'S RACE requirement for 3 hr CE.

L100 H-I

Time	Abstract #	
9:30 AM		Introduction. S. W. Kim, *Texas Tech University, Lubbock*.
9:35 AM	288	Branched chain amino acid metabolism and nutrition in monogastric animals. S. M. Hutson*[1], P. She[2], T. M. Reid[1], M. Janket[1], S. K. Bronson[2], A. Sweatt[1], and C. J. Lynch[2], [1]*Wake Forest University School of Medicine*, *Winston-Salem, NC*, [2]*Penn State College of Medicine*, *Hershey*.
10:05 AM	289	Nutrition of the arginine-family amino acids in nonruminant animals. G. Wu*[1,3], S. W. Kim[2,1], D. A. Knabe[1], and Y. L. Yin[3], [1]*Texas A&M University*, *College Station*, [2]*Texas Tech University*, *Lubbock*, [3]*The Chinese Academy of Sciences*, *Changsha, Hunan, P.R. China*.
10:35 AM	290	Biological roles of tryptophan and its metabolism in pigs. N. Le Floc'h* and B Sève, *UMR INRA-Agrocampus SENAH*, *Saint Gilles, France*.
11:05 AM	291	Methionine: Nutrition and metabolism. J. T. Brosnan*, *Memorial University of Newfoundland*, *St. John's, NF, Canada*.
11:35 AM	292	Effects of L-arginine supplementation on lactation performance of first parity sows. R. D. Mateo*[1], G. Wu[1,2], J. A. Carroll[3], I. Shinzato[4], H. K. Moon[5], and S. W. Kim[1,2], [1]*Texas Tech University*, *Lubbock*, [2]*Texas A&M University*, *College Station*, [3]*USDA-ARS-LIRU*, *Lubbock, TX*, [4]*Ajinomoto*, *Tokyo, Japan*, [5]*RDA*, *Suwon, Korea*.
11:50 AM	293	Skeletal muscle protein synthesis in neonatal pigs is stimulated by α-ketoisocaproic acid, but not by norleucine. J. Escobar*, J. W. Frank, A. Suryawan, H. V. Nguyen, and T. A. Davis, *Baylor College of Medicine*, *Houston, TX*.
12:05 PM	294	A flooding dose of valine can be used to measure protein synthesis in growing pigs. A. J. Libao-Mercado*[1,3], M. Rademacher[2], and C. F. M. de Lange[1], [1]*University of Guelph*, *Guelph, Ontario, Canada*, [2]*Degussa AG*, *Hanau, Germany*, [3]*Cargill Animal Nutrition Phils.*, *Bulacan, Philippines*.
12:20 PM		Summary and questions.

Production, Management and the Environment I
Chair: Ken Kephart, Pennsylvania State University
M100 I-J

Time	Abstract #	
9:30 AM	295	Comparison of swine manure composition using multiple manure sampling methods. D. M. Sholly*, R. B. Hinson, K. L. Saddoris, M. C. Walsh, D. T. Kelly, B. T. Richert, A. L. Sutton, and J. S. Radcliffe, *Purdue University*, *West Lafayette*.
9:45 AM	296	Comparison of daily milk weight data with the multiple trait prediction model. M. Quist*[1], D. Kelton[1], S. LeBlanc[1], K. Hand[2], D. Lazenby[2], and F. Miglior[3,4], [1]*University of Guelph, Ontario Veterinary College*, *Guelph, Ontario, Canada*, [2]*CanWest Dairy Herd Improvement Corporation*, *Guelph, Ontario, Canada*, [3]*Agriculture and Agri-Food Canada - Dairy and Swine Research and Development Centre*, *Lennoxville, Quebec, Canada*, [4]*Canadian Dairy Network*, *Guelph, Ontario, Canada*.
10:00 AM	297	Simulation of variation in methane emissions from enteric fermentation in dairy cattle in the Netherlands. J. Dijkstra*[1], A. Bannink[2], K. W. van der Hoek[3], and W. Smink[4], [1]*Wageningen University*, *Wageningen, The Netherlands*, [2]*Wageningen University and Research Centre*, *Lelystad, Tthe Netherlands*, [3]*RIVM*, *Bilthoven, The Netherlands*, [4]*Feed Innovation Services*, *Wageningen, The Netherlands*.
10:15 AM	298	Relationship between size of vegetated buffers and transport of fecal coliform bacteria from pasturelands treated with dairy cow manure. T. J. Sullivan[1], J. A. Moore[2], T. W. Downing*[2], D. Thomas[2], E. Mallory[3], K. U. Snyder[1], M. Wustenberg[4], and S. Mackey[1], [1]*E+S Environmental*, *Corvallis, OR*, [2]*Oregon State University*, *Corvallis*, [3]*Oregon Streamside Service*, *Tillamook, OR*, [4]*Kilchis Dairy Herd Service*, *Bay City, OR*.

10:30 AM	299	Effects of dietary crude protein on ammonia emissions from dairy heifers. W. A. Jackson*, E. J. DePeters, J. G. Fadel, and F. M. Mitloehner, *University of California*, *Davis*.
10:45 AM	300	Nitrogen, phosphorus, and potassium balance and potential for reducing phosphorus imports in Idaho dairy farms. A. N. Hristov*, W. Hazen, R. Etter, and J. W. Ellsworth, *University of Idaho*, *Moscow*.
11:00 AM	301	Daily manure production from a lactating cow facility. M. Hollmann*[1], K. F. Knowlton[1], C. M. Parsons[1], M. D. Hanigan[1], and T. N. Rensch[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Integrity Nutrient Control Systems, Inc.*, *Chambersburg, PA*.

Ruminant Nutrition

Forage & Fiber

Chair: Masahito Oba, University of Alberta

101 F-G

Time	Abstract #	
9:30 AM	ADSA Pioneer	Changes in the use of forages for dairy cattle during the last 60 years. J. W. Thomas, *Michigan State University, East Lansing*.
9:45 AM	302	Meta analysis of romina digestive responses of cattle to dietary NDF. D. Sauvant*[1] and D. Mertens[2], [1]*Institut National Agronomique Paris Grignon*, *Paris, France*, [2]*US Dairy Forage Research Center*, *Madison, WI.*
10:00 AM	303	Meta analysis of multiple responses of dairy goat to diet concentrate content. D. Sauvant*[1,2] and S. Giger-Reverdin[2], [1]*Institut National Agronomique Paris Grignon*, *Paris, France*, [2]*Institut National de la Recherche Agronomique*, *Paris, France*.
10:15 AM	304	Investigating Silphium perfoliatum (cup plant) silage for growing cattle. M. H. Ramos*, J. W. Lehmkuhler, S. C. Arp, and K. A. Albrecht, *University of Wisconsin*, *Madison*.
10:30 AM	305	Particle size distribution in rumen contents and faeces from cows fed grass silages in different physical form or barley straw supplemented with grass pellets. P. Norgaard* and L. F. Kornfelt, *The Royal Veterinary & Agricultural University*, *Copenhagen, Denmark*.
10:45 AM	306	Effect of yeast culture on efficiency of nutrient utilization for milk production and impact on fiber digestibility and fecal particle size. J. Harrison[1], R. White*[1], D. Mertens[2], I. Yoon[3], W. Sanchez[3], and L. Nicholson[3], [1]*Washington State University*, *Puyallup*, [2]*USDFRC*, *Madison, WI*, [3]*Diamond V Mills*, *Cedar Rapids, IA*.
11:00 AM	307	Effects of chop lengths of alfalfa and oat silage on feed intake, milk production, rumen pH, and feeding behavior of dairy cows fed total mixed rations. S. K. Bhandari*, J. C. Plaizier, K. H. Ominski, and K. M. Wittenberg, *University of Manitoba*, *Winnipeg, MB, Canada*.
11:15 AM	308	Effects of enhanced in vitro fiber digestibility of barley silage on dry matter intake and milk yield of dairy cows. L. Chow*[1], M. Oba[1], V . Baron[2], and R. Corbett[3], [1]*University of Alberta*, *Edmonton, AB, Canada*, [2]*Agriculture, Agri-Food Canada*, *Lacombe, AB, Canada*, [3]*Alberta Agriculture Food and Rural Development*, *Edmonton, AB, Canada*.
11:30 AM	309	Voluntary feed intake affects response to dietary forage content. J. A. Voelker Linton* and M. S. Allen, *Michigan State University*, *East Lansing*.
11:45 AM	310	Effect of SIlAll4x4 inoculation on silage fermentation and protein quality of grass silage at different levels of dry matter. A. M. van Vuuren*, P. G. van Wikselaar, and A. H. van Gelder, *Animal Sciences Group of Wageningen UR*, *Lelystad, The Netherlands*.
12:00 PM	311	Treating corn silage with formaldehyde and urea: Their effect on nutritve value using gas production technique. A. Taghizadeh*, M. Hatami, and G. A. Moghaddam, *Tabriz University*, *Tabriz, East Azarbayjan, Iran*.

Ruminant Nutrition

Transition Cow Metabolism

Chair: Tom Overton, Cornell University

L100 D-E

Time	Abstract #	
9:30 AM	ADSA Pioneer	A journey through volatile fatty acids, gluconeogenesis, and fatty liver. J. W. Young, *Franklin, TN*.
9:45 AM	312	Phlorizin administration does not attenuate hypophagia induced by intraruminal propionate infusion. B. J. Bradford* and M. S. Allen, *Michigan State University*, *East Lansing*.
10:00 AM	313	Response of plasma concentrations of gut peptides to abomasal infusion of casein, starch, or soybean oil in lactating dairy cows. A. E. Relling* and C. K. Reynolds, *The Ohio State University*, *Wooster*.
10:15 AM	314	Effect of fatty acid saturation on gut and pancreatic hormone concentrations. B. J. Bradford*, K. J. Harvatine, and M. S. Allen, *Michigan State University*, *East Lansing*.
10:30 AM	315	Prepartum nutrient intake alters gluconeogenic capacity in liver slices from peripartal dairy cows. N. B. Litherland*, H. M. Dann, and J. K. Drackley, *Universtiy of Illinois*, *Urbana*.
10:45 AM	316	Effects of PPAR-α agonists on in vitro liver fatty acid metabolism in Holstein calves. N. B. Litherland*, D. B. Carlson, R. L. Wallace, and J. K. Drackley, *University of Illinois*, *Urbana*.
11:00 AM	317	Effects of abomasal lipid infusion on liver triglyceride accumulation during fatty liver induction. A. E. Kulick*, T. F. Gressley, J. A. A. Pires, and R. R. Grummer, *University of Wisconsin*, *Madison*.
11:15 AM	318	Acute effects of subcutaneous injections of glucagon and/or oral administration of glycerol on blood metabolites and hormones of dairy cows affected with fatty liver disease. M. A. Osman*, N. A. Mehyar, G. Bobe, J. F. Coetzee, D. C. Beitz, and K. Keohler, *Iowa State University*, *Ames*.
11:30 AM	319	Effect of prepartum anionic diets on cortisol, adiponectin, and tumour necrosis factor-α expression at varying levels of body mass index in preparturient dairy cows; implications for insulin resistance. S. B. Puntenney* and P. D. French, *Oregon State University*, *Corvallis*.
11:45 AM	320	Prepartum energy intake affects health and lactational performance in primiparous and multiparous Holstein cows. N. A. Janovick Guretzky*, N. B. Litherland, K. M. Moyes, and J. K. Drackley, *University of Illinois*, *Urbana*.
12:00 PM	321	Effect of dietary energy source on energy partitioning in dairy cattle in early lactation. A. van Knegsel*, H. van den Brand, J. Dijkstra, S. Tamminga, and B. Kemp, *Wageningen University*, *Wageningen, The Netherlands*.
12:15 PM	322	The effect of calcium pantothenate on productive and reproductive performance in lactating dairy cows. J. Nocek[1] and M. Vazquez-Anon*[2], [1]*Spruce Haven Farm and Research Center*, *Auburn, NY*, [2]*Novus International*, *St. Louis, MO*.

Sheep Species

Chair: Michael Thonney, Cornell University

101 J

Time	Abstract #	
9:30 AM	323	Effect of supplementation and stage of lactation on performance of grazing ewes. C. M. Mikolayunas*, D. L. Thomas, K. A. Albrecht, and Y. M. Berger, *University of Wisconsin*, *Madison*.
9:45 AM	324	The effect of bypass fat in the diet on milk composition of dairy ewes. M. M. Stradiotto, E. R. Siqueira, R. M. S. Emediato*, S. A. Maestá, and A. Piccinin, *São Paulo State University*, *Botucatu, São Paulo, Brazil*.
10:00 AM	325	Effect of fermentable fiber level and protein source on feed intake and efficiency of growing lambs. A. Carneiro, A. Esquivel, D. E. Hogue, and M. L. Thonney*, *Cornell University*, *Ithaca, NY*.

Swine Species

Chair: George Foxcroft, University of Alberta

M100 A

Time	Abstract #	
11:00 AM	326	Factors related to piglet pre-weaning mortality in a bedded group farrowing system. Y. Z. Li*, L. J. Johnston, and A. M. Hilbrands, *University of Minnesota*, *Morris*.
11:15 AM	327	Impact of gestation housing system on weaned pig production costs. P. J. Lammers* and M. S. Honeyman, *Iowa State University*, *Ames*.
11:30 AM	328	Effects of physiological traits on weaning-to-estrous interval in first-litter gilts. Y. Wang*[1], T. Wise[2], G. Rohrer[2], K. Hanford[1], and D. Van Vleck[2], [1]*University of Nebraska*, *Lincoln*, [2]*U.S. Meat Animal Research Center*, *Clay Center, NE*.
11:45 AM	329	Influence of a phytogenic feed additive on performance of weaner piglets. A. Kroismayr*[1,3], T. Steiner[1], and C. Zhang[2], [1]*Biomin GmbH*, *Herzogenburg, Austria*, [2]*Biomin Feed Additive Co. Ltd*, *Shanghai, China*, [3]*University of Natural Resources and Applied Life Sciences*, *Vienna, Austria*.
12:00 PM	330	Liquid feeding of newly weaned pigs using whey permeate. T. D. Woods*, C. Zhu, E. Jeaurond, and C. F. M. de Lange, *University of Guelph*, *Ontario, Canada*.

ADSA Foundation Scholar Lecture - Dairy Production

Chair: Kent A. Weigel, University of Wisconsin

Sponsor: ADSA Foundation

200 D-E

Time	Abstract #	
2:00 PM		Resolving the role of carbohydrates on the production, health and environmental impact of dairy cattle. M. B. Hall, *USDA/ARS, Madison, WI*.

SYMPOSIUM

ADSA Southern Section Symposium

Practical and Applied Approaches to Managing Dairy Businesses in the Future

Chair: Donna M. Amaral-Phillips, University of Kentucky

101 B-C

Time	Abstract #	
2:00 PM		Introduction. D. M. Amaral-Phillips, *University of Kentucky, Lexington*.
2:05 PM	331	Labor management strategies in the next decade. D. C. Grusenmeyer*, *New York Farm Viability Institute*, *Syracuse, NY*.
2:45 PM	332	Challenges for feeding dairy cows in the next decade. M. Hutjens*, *University of Illinois*, *Urbana*.
3:15 PM		Awards- S-ADSA Honor Award and Graduate Student Paper Competition Awards.
3:30 PM	333	Future challenges for reproductive management of dairy cattle. P. M. Fricke*, *University of Wisconsin*, *Madison*.
4:00 PM	334	Dairy facilities and cow comfort for the next decade. J. Smith*, J. Harner III, K. Dhuyvetter, and M. Brouk, *Kansas State University*, *Manhattan*.
4:30 PM		Why am I investing in the future of the dairy industry? D. Sumrall, *Dairy Production Systems, Florida*.
5:00 PM		Panel Discussion.
5:30 PM		S-ADSA Business Meeting.

SYMPOSIUM
Animal Health
Immunophysiology of Host-environment Interactions: Implications for Disease Pathogenesis and Health Management of Production Livestock
Chair: John R. Wenz, Colorado State University
Sponsor: Intervet
Symposium meets AAVSB'S RACE requirement for 3 hr CE.
101 D-E

Time	Abstract #	
2:00 PM	335	The effect of transport by road and sea on physiology, immunity, and behavior of beef cattle. B. Earley*, *Teagasc, Grange, Beef Research Centre, Dunsany, Co. Meath, Ireland.*
2:45 PM	336	Making sense about stress and immunity: Th1 and Th2 aspects of the immune system respond differently to stress. J. L. Salak-Johnson*, *University of Illinois*, *Urbana*.
3:30 PM		Break
3:40 PM	337	Nutritional modulation of innate immunity: Practical approaches. N. Forsberg*[1], S. Puntenney[1], Y. Wang[1], and J. Burton[2], [1]*Oregon State University*, *Corvallis*, [2]*Michigan State University*, *East Lansing*.
4:25 PM	338	Cumulative physiological events influence the inflammatory response of the bovine udder to E.coli infections during the transition period. C. Burvenich*[1], M. Kehrli[2], M. Paape[3], D. Bannerman[2], and J. Lippolis[2], [1]*Ghent University, Faculty of Veterinary Medicine, Milk secretion and mastitis research center*, *Merelbeke, Belgium*, [2]*Periparturient Diseases of Cattle Research Unit, USDA, ARS*, *Ames, IA*, [3]*Bovine Functional Genomics Laboratory, U.S. Department of Agriculture, Agricultural Research Service*, *Beltsville, MD*.
5:10 PM		Panel Discussion.

Breeding and Genetics
Genetic Fitness
Chair: Filippo Miglior, Agriculture and Agri-Food Canada
L100 J

Time	Abstract #	
2:00 PM	ADSA Pioneer	Historial perspectives on genetic fitness research. R. Powell, *USDA, Beltsville, MD*.
2:15 PM	339	Stillbirth (co)variance components for a sire-maternal grandsire threshold model. J. Cole*, G. Wiggans, P. VanRaden, and R. Miller, *Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*.
2:30 PM	340	Genetic parameters for calf vigor in the Montana Line 4 inbred Hereford herd. J. M. Rumph*[1], D. D. Kress[1], K. C. Davis[1], D. C. Anderson[1,2], H. C. Van Wagoner[3], and D. L. Boss[2], [1]*Montana State University,* [2]*Montana State University, Northern Agricultural Experiment Station*, *Havre*, [3]*Montana State University, Bair Ranch*, *Martinsdale*.
2:45 PM	341	Genetic parameters for rear legs/rear view in Brown Swiss cattle. G. R. Wiggans[1], L. L. M. Thornton*[1], and R. R. Neitzel[2], [1]*Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*, [2]*Brown Swiss Association*, *Beloit, WI*.
3:00 PM	342	Quantifying the impact of multiple independent heterozygous loci on survival. H. A. Adams* and R. D. Shanks, *University of Illinois*, *Urbana*.
3:15 PM	343	Mapping quantitative trait loci affecting calves immune function and birth weight in a Holstein x (Holstein x Jersey) backcross population. C. Maltecca*, H. Khatib, V. R. Schutzkus, and K. A. Weigel, *University of Wisconsin*, *Madison*.
3:30 PM	344	Genetic parameters of cortisol and creatinine in pigs as indicators for behavioral and nutritional disorders. H. N. Kadarmideen*[1], S. Gebert[2], and C. Wenk[2], [1]*Statistical Animal Genetics, Institute of Animal Science, Federal Institute of Technology (ETH)*, *Zurich, Switzerland*, [2]*Nutritional Biology, Institute of Animal Science, Federal Institute of Technology (ETH)*, *Zurich, Switzerland*.

3:45 PM		Break
4:00 PM	345	Success of rebreeding given first parity calving ease scores in Canadian Charolais cattle. M. L. Spangler*, R. Rekaya, and J. K. Bertrand, *The University of Georgia*, *Athens*.
4:15 PM	346	Conception rates trend of Holsteins in South-East USA. C. Huang*[1], S. Tsuruta[1], I. Misztal[1], T. J. Lawlor[2], and J. S. Clay[3], [1]*University of Georgia*, *Athens*, [2]*Holstein Association USA Inc.*, *Brattleboro, VT*, [3]*Dairy Records Management System*, *Raleigh, NC*.
4:30 PM	347	Relationship between reproduction traits and functional longevity in Canadian dairy breeds. A. Sewalem*[1,2], G. Kistemaker[2], F. Miglior[1,2], and B. Van Doormaal[2], [1]*Agriculture and Agri-Food Canada - Dairy and Swine Research and Development Centre*, *Lennoxville, QC, Canada*, [2]*Canadian Dairy Network*, *Guelph, ON, Canada*.
4:45 PM	348	Factors that impact longevity of Holsteins in the United States. H. D. Norman* and J. R. Wright, *Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*.
5:00 PM	349	Health, immune function, and survival of calves from Holstein dams and Holstein or crossbred Jersey x Holstein sires. C. Maltecca*, K. Weigel, H. Khatib, V. Schutzkus, and P. Hoffman, *University of Wisconsin*, *Madison*.

Dairy Foods

Chemistry and Microbiology

Chair: Charles A. Boeneke, Louisiana State University Agricultural Center

200 B-C

Time	Abstract #	
2:00 PM	ADSA Pioneer	Reflections on the safety of dairy foods. E. Zottola, *University of Minnesota, St. Paul.*
2:15 PM	350	Effect of EPA and DHA fortification on the oxidation stability of caprine milk infant formula analogue. C. O. Maduko*[1], Y. W. Park[2], and C. Akoh[1], [1]*University of Georgia*, *Athens*, [2]*Fort Valley State University*, *Fort Valley, GA*.
2:30 PM	351	Identification and putative proteolytic origin of some major water-soluble peptides produced during ripening of Ragusano cheese. C. Pediliggieri[1], T. M. Carnemolla[1], V. Gagnaire[2], D. Mollé[2], V. Fallico[1], S. Carpino[1], G. Licitra[1,3], and S. Lortal*[2], [1]*CoRFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*UMR Science et Technologie du Lait et de L'Oeuf*, *Rennes Cedex, France*, [3]*D.A.C.P.A. Catania University*, *Catania, Italy.*
2:45 PM	355	Microbiological safety of Ragusano cheese through traditional farmhouse manufacturing: A preliminary study. G. Licitra*[1,2], A. Fiori[1], M. Manenti[1], S. La Terra[1], P. Campo[1], and S. Carpino[1], [1]*CoRFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*D.A.C.P.A. Catania University*, *Catania, Italy*.
3:00 PM	353	Effect of mountain and sea level pasture on Conjugated Linoleic Acid content in plasma and milk. S. La Terra*[1], S. Carpino[1], S. Banni[2], M. Manenti[1], M. Caccamo[1], and G. Licitra[1,3], [1]*CorFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*Cagliari University*, *Cagliari Italy*, [3]*D.A.C.P.A Catania University*, *Catania, Italy*.
3:15 PM		Break
3:30 PM	354	Immunobiotic lactic acid bacteria induce immune responses in immature gut-associated lymphoid tissues via Toll-like receptors 2 and 9. H. Kitazawa*, M. Tohno, T. Shimosato, H. Aso, Y. Kawai, and T. Saito, *Graduate School of Agricultural Science, Tohoku University*, *Sendai, Japan*.
3:45 PM	352	Measurement of ionic calcium in milk by molecular probes and front face fluorescence spectroscopy. R. R. Gangidi* and L. E. Metzger, *MN-SD Dairy Research Center, University of Minnesota*, *St. Paul*.
4:00 PM	356	Development of a new evaluation system for the selection of probiotic lactic acid bacteria (LAB) with specific adhesion to human blood type A-antigen of intestinal mucosa. H. Uchida*[1], H. Kinoshita[1], Y. Kawai[1], H. Kitazawa[1], K. Miura[2], K. Shiiba[2], A. Horii[2], K. Kimura[3], N. Taketomo[3], M. Oda[3], T. Yajima[3], and T. Saito[1], [1]*Graduate School of Agricultural Science, Tohoku University*, *Sendai, Miyagi, Japan*, [2]*Graduate School of Medicine, Tohoku University*, *Sendai, Miyagi, Japan*, [3]*Meiji Dairies Corporation*, *Odawara, Kanagawa, Japan*.
4:15 PM	357	Identification of the microflora in the complete Ragusano cheese processing from milk produced at two different farm locations. G. Licitra[1,2], S. Parayre[3], H. Falentin[3], S. Carpino[1], V. Fallico[1], C. Pediliggieri[1], and S. Lortal*[3], [1]*CoRFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*D.A.C.P.A. Catania University*, *Catania, Italy*, [3]*UMR Science et Technologie du Lait et de L'Oeuf*, *Rennes Cedex, France*.
4:30 PM	358	Rheological properties of rennet-induced milk gels made from milk protein concentrate solutions with different ratios of α_s-: B-casein. J. A. O'Mahony*[1,2], P. L. H. McSweeney[1], and J. A. Lucey[2], [1]*University College*, *Cork, Ireland*, [2]*University of Wisconsin*, *Madison*.

SYMPOSIUM
Dairy Foods
Production Meets Processing: A Vital Link for High Quality Dairy Foods
Chair: Scott A. Rankin, University of Wisconsin-Madison
200 D-E

Time	Abstract #	
	359	Production meets processing: A vital link for high quality dairy foods. S. A. Rankin*[1], S. P. Washburn[2], B. Luth[3], G. Licitra[4], S. Carpino[4], and P. Kindstedt[5], [1]*University of Wisconsin*, *Madison*, [2]*North Carolina State University*, *Raleigh*, [3]*Tillamook County Creamery Association*, *Tillamook, OR*, [4]*CoRFiLaC*, *Regione Siciliana, Ragusa, Italy*, [5]*University of Vermont*, *Burlington*.
2:00 PM		Grazing and cheese flavor. S. A. Rankin, *University of Wisconsin, Madison*.
2:30 PM		Farm production considerations for value-added dairy products. S. P. Washburn, *North Carolina State University, Raleigh*.
3:00 PM		The brand is a promise. B. Luth, *Tillamook County Creamery Association, OR*.
3:30 PM		Case studies and applied research involving dairy production and processing in Italy. G. Licitra and S. Capino, *CoRFiLaC, Ragusa, Italy*.
4:00 PM		Linking milk quality with finished product quality: The growing urgency for integrated research. P. Kindstedt *University of Vermont, Burlington*.
4:30 PM		Discussion.

Extension Education
Chair: Twig Marston, Kansas State University
M100 D-E

Time	Abstract #	
2:00 PM	360	The Pennsylvania RFID project – An overview. K. E. Olson*[1], G. T. Cudoc[2], J. High[3], J. S. Clay[4], and J. Mattison[1], [1]*National Dairy Herd Improvement Association*, *Verona, WI*, [2]*Dairy One*, *Ithaca, NY*, [3]*Lancaster Dairy Herd Improvement Association*, *Manheim, PA*, [4]*Dairy Records Management Systems*, *Raleigh, NC*.
2:15 PM	361	Factors affecting udder singeing in dairy cattle. T. Harrington[1], J. Pennington*[1], Z. Johnson[2], A. H. Brown[2], D. W. Kellogg[2], C. Rosenkrans[2], M. Andrews[1], and J. Hawkins[1], [1]*University of Arkansas Cooperative Extension Service*, *Little Rock*, [2]*University of Arkansas*, *Fayetteville*.
2:30 PM	362	CowTime: Making milking more productive and easier. D. Klindworth*[1], R. Greenall[2], and D. Carr[1], [1]*Primary Industries Resarch Victoria (PIRVic)*, *Ellinbank, Victoria, Austalia*, [2]*University of Melbourne*, *Parkville, Victoria*.
2:45 PM	363	Development of a stochastic simulation model to assess the potential economic benefits associated with investments in precision dairy farming technologies. J. M. Bewley*[1], M. D. Boehlje[1], A. W. Gray[1], S. J. Kenyon[1], S. D. Eicher[2], and M. M. Schutz[1], [1]*Purdue University*, *West Lafayette, IN*, [2]*USDA-ARS*, *West Lafayette, IN*.
3:00 PM	367	Review of Wisconsin corn silage milk per ton models. R. Shaver* and J. Lauer, *University of Wisconsin*, *Madison*.
3:15 PM	364	SPAC – Information on demand. K. E. Olson*[1], K. Roy[2], B. Carlson[3], and A. F. Kertz[4], [1]*KEO Consulting*, *Schaumburg, IL*, [2]*Federation of Animal Science Societies*, *Savoy, IL*, [3]*American Dairy Science Association*, *Savoy, IL*, [4]*ANDHIL LLC*, *St Louis, MO*.
3:30 PM	365	Choosing the best forage species for a dairy farm - The Whole-farm approach. M. Neal*[1], J. Neal[2,3], and W. Fulkerson[3], [1]*Risk and Sustainable Management Group, University of Queensland*, *Brisbane, Queensland, Australia*, [2]*New South Wales Department of Primary Industries*, *Camden, New South Wales, Australia*, [3]*Faculty of Veterinary Science, University of Sydney*, *Camden, New South Wales, Australia*.
3:45 PM	366	Choosing corn hybrids for silage: A partial budget approach. M. S. Allen*, *Michigan State University*, *East Lansing*.
4:00 PM	368	Sustainable self-financed producer study groups in Oregon. W. Lane*, *Lane Livestock Services*, *Roseburg, OR*.
4:15 PM	369	Methodology of Connecticut's horse industry survey: Results and implications for future studies. J. Nadeau*[1], F. Shah[1], A. Chaudhry[2], and J. Maripani[1,2], [1]*University of Connecticut*, *Storrs*, [2]*University of Wyoming*, *Laramie*, [3]*University of Magallanes*, *Punta Arenas, Chile*.

Nonruminant Nutrition

Amino Acid Nutrition - Nursery to Finisher

Chair: Russell Fent, Ralco Nutrition Inc. and Lee Southern, Louisana State University

L100 H-I

Time	Abstract #	
2:00 PM	370	True ileal digstible isoleucine requirement and ratio in 12 to 22 kg pigs. S. X. Fu*[1], A. M. Gaines[1], R. W. Fent[1], G. L. Allee[1], and J. L. Usry[2], [1]*University of Missouri*, *Columbia*, [2]*Ajinomoto Heartland, LLC*, *Chicago, IL*.
2:15 PM	371	Branched chain amino acid interactions and isoleucine imbalance in late-finishing pigs. S. X. Fu*[1], R. W. Fent[1], G. L. Allee[1], and J. L. Usry[2], [1]*University of Missouri*, *Columbia*, [2]*Ajinomoto Heartland, LLC*, *Chicago, IL*.
2:30 PM	372	Branched chain amino acid interactions increases isoleucine requirement in late-finishing pigs. S. X. Fu*[1], R. W. Fent[1], G. L. Allee[1], and J. L. Usry[2], [1]*University of Missouri*, *Columbia*, [2]*Ajinomoto Heartland, LLC*, *Chicago, IL*.
2:45 PM	373	Stimulation of muscle protein synthesis by leucine is dependent on plasma amino acid availability. J. Escobar*, J. W. Frank, A. Suryawan, H. V. Nguyen, and T. A. Davis, *Baylor College of Medicine*, *Houston, TX*.
3:00 PM	374	Evaluation of the true ileal digestible (TID) valine requirement of 8 to 20 kg pigs. A. M. Gaines*[1], P. Srichana[1], B. W. Ratliff[1], G. L. Allee[1], and J. L. Usry[2], [1]*University of Missouri*, *Columbia*, [2]*Ajinimoto Heartland LLC*, *Chicago, IL*.
3:15 PM	375	Dietary supplementation of L-Arginine for finishing pigs. N. R. Augspurger*[1], D. M. Webel[1], and G. Wu[2], [1]*JBS United, Inc.*, *Sheridan, IN*, [2]*Texas A & M University*, *College Station, TX*.
3:30 PM	376	Nitrogen retention response of pigs to DL-methionine (DLM) and methionine hydroxy analog free acid (MHA-FA). J. A. Jendza*[1], M. Rademacher[2], and O. Adeola[1], [1]*Purdue University*, *West Lafayette, IN*, [2]*Degussa AG*, *Hanau-Wolfgang, Germany*.
3:45 PM	377	The effect of soybean hulls inclusion on the apparent and true ileal digestibility of selected amino acids in growing pigs. L. Dégen*[1], J. Tossenberger[2], V. Halas[2], and L. Babinszky[2], [1]*Agribrands Europe Hungary RT*, *Karcag, Hungary*, [2]*University of Kaposvár*, *Kaposvár, Hungary*.
4:00 PM	378	Amino acid digestibility and measurement of blocked lysine in five samples of distillers dried grains with solubles in growing pigs. A. A. Pahm*[1], D. Hoehler[2], C. Pedersen[1], D. Simon[1], and H. H. Stein[1], [1]*South Dakota State University*, *Brookings*, [2]*Degussa Corp.*, *Kennesaw, GA*.
4:15 PM	379	Amino acid and energy digestibility in NutriDense corn and other cereal grains fed to growing pigs. C. Pedersen*, M. G. Boersma, and H. H. Stein, *South Dakota State University*, *Brookings*.
4:30 PM	380	Effect of increasing dietary crude protein and crystalline amino acids on carcass composition and IGF-I mRNA expression in growing pigs. R. Fischer*[2], P. Miller[1], A. Cupp[1], and D. Clopton[1], [1]*University of Nebraska*, *Lincoln*, [2]*Sioux Nation Ag Center*, *Sioux Falls, SD*.
4:45 PM	381	Effects of dietary crude protein level and crystalline amino acid supplementation on odor from pig manure. P.-D. Le*, A. Aarnink, and M. Verstegen, *Animal Sciences Group*, *Wageningen, The Netherlands*.
5:00 PM	382	Dietary sources of starch affect intestinal absorption and metabolism of glucose and amino acids in growing pigs. J. Zhang[1], Y. L. Yin*[1], and G. Y. Wu[1,2], [1]*The Chinese Academy of Sciences*, *Changsha, Hunan, P.R. China*, [2]*Texas A&M University*, *College Station*.

Physiology and Endocrinology

Metabolic Physiology

Chair: Arnold Hippen, South Dakota State University

101 J

Time	Abstract #	
2:00 PM	ADSA Pioneer	Experiments in metabolic physiology are incomplete until equations are parameterized. R. L. Baldwin, *University of California, Davis*.
2:15 PM	383	Fertility of lactating dairy cows administered bovine somatotropin during heat stress. F. D. Jousan*, L. A. de Castro e Paula, J. Block, and P. J. Hansen, *University of Florida*, *Gainesville*.
2:30 PM	384	Effect of the addition of insulin-like growth factor-1 to embryo culture medium on pregnancy rate following timed embryo transfer in lactating dairy cows. J. Block* and P. J. Hansen, *University of Florida*, *Gainesville*.

2:45 PM	385	Regulation of hepatic leptin receptor expression in periparturient dairy cows. S. R. Thorn*, R. A. Ehrhardt, M. J. Meyer, R. P. Rhoads, M. E. Van Amburgh, and Y. R. Boisclair, *Cornell University*, *Ithaca, NY*.
3:00 PM	386	Effect of dry period duration on reproductive measures during the subsequent lactation in Holstein cows. R. D. Watters*, M. C. Wiltbank, P. M. Fricke, J. N. Guenther, A. E. Kulick, and R. R. Grummer, *University of Wisconsin*, *Madison*.
3:15 PM	387	Effects of dietary supplementation with trans- and omega-3 fatty acids on $PGF_{2\alpha}$ secretion and production parameters in dairy cows. B. C. Benefield*[1], E. Castaneda-Gutierrez[1], D. E. Bauman[1], T. R. Overton[1], R. O. Gilbert[1], N. D. Luchini[2], and W. R. Butler[1], [1]*Cornell University*, *Ithaca, NY*, [2]*NutriScience Technologies, Inc.*, *Fairlawn, OH*.
3:30 PM	388	Effect of body weight gain and bovine somatotropin treatment on plasma concentrations of IGF-I in postpartum beef cows. M. J. Prado-Cooper*, I. Rubio, M. P. Davis, N. M. Long, R. P. Wettemann, and L. J. Spicer, *Oklahoma State University*, *Stillwater*.
3:45 PM	389	Evaluation of the mechanism of action of conjugated linoleic acid (CLA) isomers on reproduction - uterine release of $PGF_{2\alpha}$. E. Castaneda-Gutierrez*[1], B. C. Benefield[1], R. O. Gilbert[1], M. J. de Veth[2], W. R. Butler[1], and D. E. Bauman[1], [1]*Cornell University*, *Ithaca, NY*, [2]*BASF-AG*, *Offenbach/Queich, Germany*.
4:00 PM	390	Liver expression of the clock gene *TIMELESS* is reduced by long day photoperiod in dairy steers. T. F. Gressley*[1], E. E. Connor[2], and G. E. Dahl[1], [1]*University of Illinois*, *Urbana, IL*, [2]*Bovine Functional Genomics Laboratory, USDA-ARS*, *Beltsville, Maryland*.
4:15 PM	391	Effects of conjugated linoleic acid on prostaglandin production by bovine endometrial cells. A. Heravi Moussavi*[1], R. O. Gilbert[2], W. R. Butler[2], D. E. Bauman[2], E. Castaneda-Gutierrez[2], and H. B. Roman[2], [1]*Ferdowsi University*, *Mashhad, Iran*, [2]*Cornell University*, *Ithaca, NY*.
4:30 PM	392	Prepartum administration of 2,4-thiazolidinedione alters metabolic dynamics and production of transition dairy cows. K. L. Smith*, S. E. Stebulis, M. R. Waldron, and T. R. Overton, *Cornell University*, *Ithaca, NY*.
4:45 PM	393	Effect of breed on leptin concentrations in early lactation. P. J. Back* and N. A. Thomson, *Dexcel*, *Hamilton, New Zealand*.
5:00 PM	394	Effects of heat stress and rbST on production parameters and glucose homeostasis. J. B. Wheelock*, S. R. Sanders, G. Shwartz, L. L. Hernandez, S. H. Baker, J. W. McFadden, L. J. Odens, R. Burgos, S. R. Hartman, R. M. Johnson, B. E. Jones, R. J. Collier, R. P. Rhoads, M. J. VanBaale, L. H. Baumgard, *University of Arizona*, *Tucson*.

Production, Management and the Environment II

Chair: Sandra K. Johnson, Kansas State University

M100 I-J

Time	Abstract #	
2:00 PM	395	Incorporating environmental compliance costs into livestock diet formulation. J. C. Hadrich, C. A. Wolf*, and S. B. Harsh, *Michigan State University*, *East Lansing*.
2:15 PM	396	Development and integration of a national feed management education program and assessment tools into a comprehensive nutrient management plan. J. H. Harrison[1], R. A. White*[1], T. J. Applegate[2], R. T. Burns[3], G. H. Carpenter[4], G. E. Erickson[5], and A. L. Sutton[2], [1]*Washington State University*, *Puyallup*, [2]*Purdue University*, *West Lafayette, IN*, [3]*Iowa State University*, *Ames*, [4]*USDA, NRCS*, *Beltsville, MD*, [5]*University of Nebraska*, *Lincoln*.
2:30 PM	397	Decision support model of nutrient excretion in beef feedlots. C. B. Williams* and T. G. Jenkins, *USDA, ARS, U.S. Meat Animal Research Center*, *Clay Center, NE*.
2:45 PM	398	Maximized lactational performance for improving postweaning reproductive performance on commercial farms. Y. Tanaka* and Y. Koketsu, *Meiji University*, *Kawasaki, Kanagawa, Japan*.
3:00 PM	399	Effect of parity and rearing segregation at birth on productive performance and health status of pigs. C. Pineiro*[1], J. Morales[1], G. G. Mateos[2], and X. Manteca[3], [1]*PigCHAMP Pro Europa, S.A.*, *Segovia, Spain*, [2]*U.P. Madrid*, *Spain*, [3]*U.A. Barcelona*, *Spain*.
3:15 PM	400	Effect of mixing pigs or maintaining pen integrity on the response to grow-finish space allocation. R. Goodband[1], M. Brumm*[2], L. Johnston[3], K. Stalder[4], and NCR-89 Committee on Swine Management, [1]*Kansas State University*, *Manhattan*, [2]*University of Nebraska*, *Lincoln*, [3]*University of Minnesota*, *St. Paul*, [4]*Iowa State University*, *Ames*.
3:30 PM	401	Influence of thymol on coliform bacteria, VFA, and methane production from pull-plug swine manure pits. V. H. Varel* and J. E. Wells, *USDA, ARS, U.S. Meat Animal Research Center*, *Clay Center, NE*.

Ruminant Nutrition

Fat Feeding, Metabolism & Composition

Chair: James K. Drackley, University of Illinois

L100 D-E

Time	Abstract #	
2:00 PM	ADSA Pioneer	Feeding fat to dairy cows - how did we get here? D. Palmquist, *Ohio State University, Wooster*.
2:15 PM	402	Artificial neural networks to model the rumen fermentation pattern in dairy cattle. M. Craninx, B. Vlaeminck, and V. Fievez*, *Ghent University*, *Melle, Belgium*.
2:30 PM	403	^{13}C Enrichment of conjugated linoleic acids and other fatty acids in cultures of ruminal microorganisms dosed with a stable isotope of linoleic acid. C. Thompson, J. Mulz, M. Reynolds, E. Thies, and T. Jenkins*, *Clemson University*, *Clemson, SC*.
2:45 PM	404	The effect of fish oil supplementation on ruminal C18 PUFA metabolism in beef steers offered either grass or red clover silage. M. R. F. Lee*[1], K. J. Shingfield[2], and N. D. Scollan[1], [1]*Institute of Grassland and Environmental Research*, *Aberystwyth, Ceredigion, UK*, [2]*MTT Agrifood Research*, *Jokioinen, Finland*.
3:00 PM	405	Characterization of the acute lactation response to *trans*-10, *cis*-12 conjugated linoleic acid (CLA). K. J. Harvatine*, D. A. Dwyer, and D. E. Bauman, *Cornell University*, *Ithaca, NY*.
3:15 PM	406	*Trans*-10, *cis*-12 conjugated linoleic acid reduces milk fat synthesis in lactating goats. M. Rovai*[1], A. L. Lock[2], T. A. Gipson[1], A. L. Goetsch[1], and D. E. Bauman[2], [1]*E (Kika) de la Garza American Institute for Goat Research*, *Langston, OK*, [2]*Cornell University*, *Ithaca, NY*.
3:30 PM	407	Comprehensive two-dimensional gas chromatography (GC×GC) for the analysis of fatty acids (FA) in milk. B. Vlaeminck*[1], J. Harynuk[2], K. Korkiasaari[3], V. Fievez[1], and P.J. Marriott[2], [1]*Ghent University*, *Belgium*, [2]*RMIT University*, *Australia*, [3]*University of Turku*, *Finland*.
3:45 PM	408	Whey protein gel composites of soybean and linseed oils used as a dietary method to modify the unsaturated fatty acid composition of milk lipids. J. M. Heguy*, S. O. Juchem, E. J. DePeters, M. Rosenberg, J. E. P. Santos, and S. J. Taylor, *University of California*, *Davis*.
4:00 PM	409	Feed intake, milk production and milk composition of dairy cows fed extruded linseed. M. C. Fuentes*[1], S. Calsamiglia[1], C. Sanchez[2], A. Gonzalez[3], J. E. Santos[4], J. R. Newbold[5], and J. Fontecha[6], [1]*Universidad Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*Tauste Ganadera*, *Zaragoza, Spain*, [3]*Nutral, SA*, *Madrid, Spain*, [4]*University of California*, *Davis*, [5]*PROVIMI*, *Brussels, Belgium*, [6]*CSIC*, *Madrid, Spain*.
4:15 PM	410	Effects of dietary addition of unsaturated fat, vitamin E, and sorbitol on performance of dairy cows and fatty acid concentrations in milk. A. Todd*, M. L. Eastridge, C. V. D. M. Ribeiro, J. Engel, and B. Mathew, *The Ohio State University*, *Columbus*.
4:30 PM	411	Effects of flaxseed processing on the recovery of α-linolenic acid in milk. G. Thangavelu*[1], M. Oba[1], M. Dehghan-banadaky[1], D. J. Ambrose[2], and E. Okine[1], [1]*University of Alberta*, *Edmonton, AB, Canada*, [2]*Alberta Agriculture Food and Rural Development*, *Edmonton, AB, Canada*.
4:45 PM	412	The effect of bypass fat in the diet of dairy ewes on milk production. R. M. S. Emediato*, E. R. Siqueira, M. M. Stradiotto, S. A. Maestá, and A. Piccinin, *São Paulo State University*, *Botucatu, São Paulo, Brazil*.
5:00 PM	413	The effect of feed delivery time on dairy cattle production. C. J. Furedi*, A. D. Kennedy, and J. C. Plaizier, *University of Manitoba*, *Winnipeg, MB, Canada*.
5:15 PM	414	Impact of providing total mixed ration at evening vs. morning on feed intake, rumen pH, and productivity of lactating Holsteins. A. Nikkhah*, J. C. Plaizier, C. Furedi, and A. D. Kennedy, *University of Manitoba*, *Winnipeg, MB, Canada*.

SYMPOSIUM
Ruminant Nutrition
Identifying Opportunities for Maximizing Forage Utilization?
Chair: David W. Bohnert, Oregon State University
L100 A

Time	Abstract #	
2:00 PM	415	Beef cattle diets and forage optimization strategies on western rangelands. T. DelCurto*, *Oregon State University*, *Union*.
2:35 PM	416	Nutritional management strategies for effcient utilization of forage resources. F. T. McCollum*, *Texas A&M University*, *College Station*.
3:10 PM	417	Nutritional wisdom revisited: From instinct to experience with implications for use of forages by herbivores. F. D. Provenza*, *Utah State University*, *Logan*.
3:45 PM	418	Forage intake, digestion and milk production by dairy cows. R. Shaver*, *University of Wisconsin*, *Madison*.
4:20 PM	419	Forage feeding in relation to animal and human health. T. R. Dhiman*, *Utah State University*, *Logan*.

SYMPOSIUM
Teaching/Undergraduate and Graduate Education
Student Engagement...The Classroom and Beyond
Chair: Linda C. Martin, Oklahoma State University
101 A

Time	Abstract #	
2:00 PM		Symposium Introduction. L. C. Martin, *Oklahoma State University, Stillwater*.
2:10 PM	420	Using the National Survey of Student Engagement to understand students' experiences in the Agricultural and Related Sciences. T. Nelson Laird*, *Indiana University*, *Bloomington*.
3:00 PM	421	Active and collaborative learning. J. Swanson* and J. McClaskey, *Kansas State University*, *Manhattan*.
3:30 PM	422	Strategies for engaging students in large classes. W. E. Beal*, *Virginia Polytechnic Institute and State University*, *Blacksburg, VA*.
4:00 PM	423	Student engagement at a distance using virtual teaching assistants in the classroom and beyond. M. Latour* and K. Orvis, *Purdue University*, *West Lafayette, IN*.
4:30 PM	424	Enriching the educational experience through co-curricular activities. T. Klopfenstein*, *University of Nebraska*, *Lincoln*.
5:00 PM	425	The role of academic advising in student engagement. L. C. Martin*, *Oklahoma State University*, *Stillwater*.

Wednesday, July 12

POSTER PRESENTATIONS

Animal Behavior and Well-Being

Exhibit Hall A

Abstract #

W1 Analysis of the association of change in average daily gain of finisher pigs remaining after pulling out heavier pigs with the change in allometric space allowance. L. Anil*, S. S. Anil, and J. Deen, *University of Minnesota*, *St. Paul*.

W2 The effects of different frequencies of weekly human interaction on handling responses in market hogs. J. A. Brown*[1], E. L. Toth[1], A. L. Stanton[1], T. M. Widowski[1], and P. Lawlis[2], [1]*University of Guelph*, *Guelph, Ontario, Canada*, [2]*Ontario Ministry of Agriculture and Food*, *Guelph, Ontario, Canada*.

W3 Impact of animal management and transportation factors on transport losses in market weight pigs at the packing plant. M. J. Ritter*[1], M. Ellis[1], C. R. Bertelsen[1], R. Bowman[2], J. Brinkmann[2], J. M. DeDecker[1], O. Mendoza[1], C. M. Murphy[1], B. A. Peterson[1], A. Rojo[1], J. M. Schlipf[1], and B. F. Wolter[2], [1]*University of Illinois*, *Urbana*, [2]*The Maschhoffs, Inc.*, *Carlyle, IL*.

W4 Maternal stress: Behavior and endocrine response of the progeny. J. N. Landgrebe*, N. C. Burdick, and J. C. Laurenz, *Texas A&M University*, *Kingsville*.

W5 Analysis of the association of shoulder lesions during lactation with sow-level factors. S. S. Anil*, L. Anil, and J. Deen, *University of Minnesota*, *St. Paul*.

W6 Decreasing feed tossing behavior in dairy cows by emplacing a cable in front of manger. F. Farivar*[1] and F. Kafilzadeh[2], [1]*Gorgan University*, *Gonbad, Gorgan, Iran*, [2]*Razi University*, *Kermanshah, Kermanshah, Iran*.

W7 Behavioral patterns change when primiparous cows are mixed with multiparous cows. C. Iglesias*[1], A. Bach[2,3], M. Devant[3], X. Manteca[4], S. Calsamiglia[4], and A. Ferret[4], [1]*SEMEGA*, *Spain*, [2]*ICREA*, *Spain*, [3]*IRTA-Unitat de Remugants*, *Spain*, [4]*Universitat Autónoma de Barcelona, UAB*, *Spain*.

W8 The impact of machine milking on milk production traits and blood cortisol in primiparous dairy ewes. S. P. G. Rassu[1], E. A. Cannas[2], P. Nicolussi[2], P. Bonelli[2], and G. Pulina*[1], [1]*Dipartimento di Scienze Zootecniche - University of Sassari*, *Sassari, Italy*, [2]*Istituto Zooprofilattico sperimentale per la Sardegna*, *Sassari, Italy*.

W9 Regional differences in sweat rate response of steers to short-term heat stress. D. E. Spiers*[1], L. E. Wax[1], B. Scharf[1], and G. E. Aiken[2], [1]*Univeristy of Missouri*, *Columbia*, [2]*USDA-ARS, Forage-Animal Production Research Unit*, *Lexington, KY*.

W10 Blood indicators of stress are not affected when primiparous cows are mixed with multiparous cows. C. Iglesias*[1], A. Bach[2,3], M. Devant[3], X. Manteca[4], S. Calsamiglia[4], and A. Ferret[4], [1]*SEMEGA*, *Girona, Spain*, [2]*ICREA*, *Barcelona, Spain*, [3]*Unitat de Remugants-IRTA*, *Barcelona, Spain*, [4]*Universitat Autónoma de Barcelona (UAB)*, *Barcelona, Spain*.

W11 Automatic monitoring of lying, standing and walking behavior in dairy cattle. L. Munksgaard[1], C. G. Reenen[2], and R. Boyce*[3], [1]*Danish Institute of Agricultural Sciences*, *Research Centre Foulum, Denmark*, [2]*Animal Sciences Group of Wageningen University and Research Centre*, *Lelystad, The Netherlands*, [3]*IceRobotics*, *Roslin BioCentre, Scotland*.

W12 The effect of stocking rate, parity, and lameness on the short-term behavior of dairy cattle. C. T. Hill*[1], R. J. Grant[1], H. M. Dann[1], C. S. Ballard[1], and R. C. Hovey[2], [1]*William H. Miner Agricultural Research Institute*, *Chazy, NY*, [2]*University of Vermont*, *Burlington*.

W13 Age at transport effects on behavioral responses in dairy calves to novel stimuli. S. D. Eicher*[1], T. A. Johnson[1,2], and J. N. Marchant-Forde[1], [1]*USDA-ARS*, *West Lafayette, IN*, [2]*Purdue University*, *West Lafayette, IN*.

W14 Effects of age and milk allowance on responses to abrupt weaning in dairy calves. K. Ito, T. J. DeVries*, M. A. G. von Keyserlingk, and D. M. Weary, *Animal Welfare Program, The University of British Columbia*, *Vancouver, Canada*.

W15 Use of recycled paper (news/office) and straw as bedding and their effects on heifer cleanliness and behavior. J. E. Wohlt*, D. B. Imwalle, and L. S. Katz, *Rutgers University*, *New Brunswick, NJ*.

W16 Hair whorls locations of dairy heifers affects their growth, but not behavior. J. Broucek*[1], S. Mihina[1], M. Uhrincat[1], C. W. Arave[2], P. Kisac[1], and A. Hanus[1], [1]*Research Institute of Animal Production*, *Nitra, Slovakia*, [2]*Utah State University*, *Logan*.

W17 Effect of transport for up to 24 hours followed by twenty-four hours recovery on liveweight, physiological and hematological responses of bulls. B. Earley*, D. J. Prendiville, and E. G. O' Riordan, *Teagasc, Grange, Beef Research Centre*, *Dunsany, Co. Meath, Ireland*.

Animal Health III

Exhibit Hall A

Abstract #

W18 Maternal stress: Effect on the stress response and immune function of the progeny. M. Reyna*[1], S. Martinez[1], T. H. Welsh, Jr.[2], J. A. Carroll[3], and J. C. Laurenz[1], [1]*Texas A&M University*, *Kingsville*, [2]*Texas A&M University and Texas Agriculture Experiment Station*, *College Station*, [3]*USDA-ARS Livestock Issues Research Unit*, *Lubbock, TX*.

W19 Maternal stress modulates the acute stress response and immune function of the pig. N. C. Burdick*[1], T. H. Welsh, Jr.[2], J. A. Carroll[3], and J. C. Laurenz[1], [1]*Texas A&M University*, *Kingsville*, [2]*Texas A&M University*, *College Station*, [3]*USDA-ARS Livestock Issues Research Unit*, *Lubbock, TX*.

W20 Non-nutrient additives alter the weaned pig's stress response to a *Mycoplasma hyponeumoniae* vaccination. J. Carroll*[1] and K. Haydon[2], [1]*Livestock Issues Research Unit, Agricultural Research Service-USDA*, *Lubbock, TX*, [2]*Prince Agri Products, Inc.*, *Quincy, IL*.

W21 Three strategies to counteract the negative impact of mycotoxins on piglets. U. Hofstetter*[1], D. Schatzmayr[1], G. Schatzmayr[1], and E. M. Binder[2], [1]*Biomin GmbH*, *Herzogenburg, Austria*, [2]*Erber AG*, *Herzogenburg, Austria*.

W22 Successful detoxification of ochratoxin A in weaning piglets. U. Hofstetter*[1], D. Schatzmayr[1], G. Schatzmayr[1], and E. M. Binder[2], [1]*Biomin GmbH*, *Herzogenburg, Austria*, [2]*Erber AG*, *Herzogenburg, Austria*.

W23 The effect of butyrate on cytokine production and proliferation by porcine monocytes. T. E. Weber*[1], C. G. Chitko-McKown[2], and B. J. Kerr[1], [1]*USDA/ARS, National Swine Research and Information Center*, *Ames, IA*, [2]*USDA/ARS, Meat Animal Research Center*, *Clay Center, NE*.

W24 Expression of an active Colicin E1 in the yeast pichia pastoris. S. A. Cutler* and C. H. Stahl, *Iowa State University*, *Ames*.

W25 Polymorphisms within the *lactoferrin* gene promoter in various cattle breeds. M. Daly[1], O. Casey[1], F. Buckley[2], P. Ross[1], and L. Giblin*[1], [1]*Moorepark Food Research Centre*, *Teagasc, Fermoy, Co. Cork, Ireland*, [2]*Moorepark Dairy Production Research Centre*, *Teagasc, Fermoy, Co. Cork, Ireland*.

W26 Using microarray analysis to decipher gene expression in mastitis causing Escherichia coli exposed to bovine whey. M. Worku*, J. Bowman-Simpson, and P. Matterson, *North Carolina Agricultural and Technical State University*, *Greensboro*.

W27 Microarray analysis of bovine blood neutrophils exposed to E. coli endotoxin. M. Worku*, P. Matterson, and Z. Li, *North Carolina Agricultural and Technical State University*, *Greensboro*.

W28 Increased pulmonary arterial pressure (PAP) and maternal undernutrition induces differential gene expression in right ventricle of steers. B. Berg*[1], B. Hess[1], S. P. Ford[1], K. McInnerney[2], W. Means[1], T. Hansen[3], and H. Han[1], [1]*University of Wyoming*, *Laramie*, [2]*Montana State University*, *Bozeman*, [3]*Colorado State University*, *Fort Collins*.

W29 Characterization of cytokine gene expression in periparturient dairy cows naturally infected with Mycobacterium avium subsp. paratuberculosis. E. L. Williams* and J. R. Stabel, *USDA-ARS-National Animal Disease Center, Ames, IA*..

Dairy Foods

Cheese, Products, and Processing

Exhibit Hall A

Abstract #

W30 Probiotic properties of the *Candida kefyr* isolated from kefir. S. J. You[1], J. K. Cho[1], C. G. Ha[2], C. H. Kim[1], and K. C. Heo*[1], [1]*Hankyong National University*, *Anseong, Gyonggi, Republic of Korea*, [2]*Hanyang University*, *Ansan, Gyonggi, Republic of Korea*.

W31 Volatile fraction of Sicilian Pecorino cheese: Comparison of raw and pasteurized milk cheese. T. Rapisarda[1], S. Carpino*[1], G. Azzaro[1], and G. Licitra[1,2], [1]*CoRFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*D.A.C.P.A. Catania University*, *Catania, Italy*.

W32 Characteristics of reduced fat milks as influenced by the incorporation of folic acid. K. Achanta, C. A. Boeneke*, and K. J. Aryana, *Louisiana State University Agricultural Center*, *Baton Rouge*.

W33 Removal of cholesterol from Blue cheese by crosslinked B-cyclodextrin. H. Y. Kim, H. Y. Bae, S. Y. Kim, J. Ahn, and H. S. Kwak*, *Sejong University*, *Seoul, Korea*.

W34 Effect of crosslinked B-cyclodextrin treatment on cholesterol removal and chemical and sensory properties in Feta cheese. H. Y. Bae, H. Y. Kim, T. H. Jung, J. Ahn, and H. S. Kwak*, *Sejong University*, *Seoul, Korea*.

W35 Changes of physicochemical and sensory properties of freeze-concentrated milk treated by ozone during storage. J. H. Hwang, S. J. Lee, S. H. Kim, J. Ahn, and H. S. Kwak*, *Sejong University*, *Seoul, Korea*.

W36 Effects of microencapsulated isoflavone and minerals in milk on serum and urinary calcium metabolism in ovariectomized rats. B. J. Jeon, N. C. Kim, K. H. Seon, H. S. Park, and H. S. Kwak*, *Sejong University*, *Seoul, Korea*.

W37 Effects of isoflavone fortified milk on bone mineral metabolism in ovariectomized rats. B. J. Jeon, N. C. Kim, K. H. Seon, H. S. Park, and H. S. Kwak*, *Sejong University*, *Seoul, Korea*.

W38 Compositional differences between industrial sources of salty whey and sweet whey. K. Blaschek*, W. Wendorff, and S. Rankin, *University of Wisconsin*, *Madison*.

W39 Effect of protein-to-fat ratio of cheese milk on the composition and yields of Cheddar cheese. T. Guinee*, E. Mulholland, J. Kelly, and D. O'Callaghan, *Moorepark Food Research Centre, Teagasc*, *Fermoy, Co. Cork, Ireland*.

W40 Utilization of lactoperoxidase system and/or microfiltration for manufacture of Cheddar cheese from raw milk. Y. Amornkul* and D. Henning, *South Dakota State University*, *Brookings*.

W41 Characterization of Queso Fresco cheeses manufactured in Mexico and the United States. D. L. Van Hekken*[1], M. H. Tunick[1], J. A. Renye[1], B. Vallejo-Cordoba[2], and A. F. Gonzalez-Cordova[2], [1]*USDA, ARS, ERRC*, *Wyndmoor, PA*, [2]*CIAD, A.C.*, *Hermosillo, Sonora, México*.

W42 Manufacture of fresh soft cheese (Domiati-type) from camel milk using ultrafiltration process. M. A. Mehaia*, *Qassim University*, *Buriedah, Qassim, Saudi Arabia*.

W43 Modifying the functionality of reduced-fat Mozzarella cheese by reduction of calcium level or by the addition of emulsifying salts during curd plasticization. J. A. O'Mahony, E. O. Mulholland, and T. P. Guinee*, *Moorepark Food Research Centre*, *Teagasc, Fermoy, Co. Cork, Ireland*.

W44 Impact of exopolysaccharide-containing base cheese on characteristics of reduced fat process cheese. S. Awad, A. N. Hassan*, and V. Mistry, *MN-SD Dairy Foods Research Center, Dairy Science Department*, *Brookings, SD*.

W45 Substituting aged cheese with exopolysaccharide-containing base cheese in making process cheese. S. Awad, A. N. Hassan*, and V. Mistry, *MN-SD Dairy Foods Research Center, Dairy Science Department*, *Brookings, SD*.

W46 Evaluation of isolated starter lactic acid bacteria in Ras cheese ripening and flavour development. S. Awad*, N. Ahmed, and M. El-Soda, *Department of Dairy Science, Faculty of Agriculture, Alexandria University*, *Egypt*.

W47 Utilization of lactoperoxidase system and/or microfiltration for manufacture of Cheddar cheese from raw milk: Proteolysis and sensory characteristics. Y. Amornkul* and D. Henning, *South Dakota State University*, *Brookings*.

W48 Effect of the addition of *Lactobacillus reuteri* over the shelf life of Oaxaca-type cheese. M. Montero-Lagunes*[3], E. Paz-Gamboa[1], E. Herman-Lara[1], P. Valencia-Perez[1], and H. Garcia-Galindo[2], [1]*Instituto Tecnológico de Tuxtepec*, *Tuxtepec, Oax. Mexico*, [2]*Instituto Tecnológico de Veracruz*, *Veracruz, Ver. Mexico*, [3]*Campo Experimental La Posta*, *Veracruz, Ver. Mexico*.

W49 Acceptability of cream cheese. M. Almena*, N. Losambe, and P. S. Kindstedt, *University of Vermont*, *Burlington*.

W50 Characteristics of Swiss cheese manufactured with adjunct *Lactobacillus* strains using low cooking temperature. N. A. Kocaoglu-Vurma*[1], W. J. Harper[1], M. A. Drake[2], and P. D. Courtney[1], [1]*The Ohio State University*, *Columbus*, [2]*North Carolina State University*, *Raleigh*.

W51 Hydrolysis of caseins in Cheddar cheese: Effects of temperature and coagulants. P. J. Joseph*[1], D. J. McMahon[1], J. R. Broadbent[1], and C. J. Oberg[2], [1]*Utah State University*, *Logan*, [2]*Weber State University*, *Ogden, UT*.

W52 Effect of sodium gluconate on the solubility of calcium lactate. C. Phadungath* and L. E. Metzger, *MN-SD Dairy Foods Research Center, University of Minnesota*, *St. Paul, MN*.

W53 Influence of adjunct cultures and accelerated ripening on texture and melting properties of Cheddar cheese. T. C. Rasmussen*[1], D. J. McMahon[1], J. R. Broadbent[1], and C. J. Oberg[2], [1]*Utah State University*, *Logan*, [2]*Weber State University*, *Ogden, UT*.

W54 Effects dietary supplementation of unsaturated fat, vitamin E, and sorbitol on fatty acid concentrations in milk and the properties of Cheddar cheese. F. Parada-Rabell*, M. L. Eastridge, C. J. Kuo, V. Alvarez, A. Todd, C. V. D. M. Ribeiro, and J. Engel, *The Ohio State University*, *Columbus*.

W55 On-farm extraction of proteins from raw whole milk. A. Chand*[1,2], J. E. Swan[1], and C. J. Fee[3], [1]*The University of Waikato*, *Hamilton, New Zealand*, [2]*Dexcel Limited*, *Hamilton, New Zealand*, [3]*University of Canterbury*, *Christchurch, New Zealand*.

W56 Effect of processing on the composition and structure of buttermilk and of its milk fat globule membranes. P. Morin*[1], R. Jiménez-Flores[2], and Y. Pouliot[1], [1]*Stela Research Group, INAF, Université Laval*, *Québec, Canada*, [2]*Dairy Products Technology Center, Cal Poly*, *San Luis Obispo*.

W57 Yogurt manufactured with an immune enhancer. C. Olga and K. J. Aryana*, *Louisiana State University Agricultural Center*, *Baton Rouge*.

W58 Heart healthy fat free yogurt. C. Olga and K. J. Aryana*, *Louisiana State University Agricultural Center*, *Baton Rouge*.

W59 Yogurt manufactured using a novel dietary fiber with several health benefits. B. Trammell, K. J. Aryana*, and C. Boeneke, *Louisiana State University Agricultural Center*, *Baton Rouge*.

W60 Gross composition and nutrient profiles of Chinese yak (Maiwa) milk. J. Li*[1], Q. Sheng[2], M. Alam[1], X. Fang[2], and M. Guo[1], [1]*University of Vermont*, *Burlington*, [2]*Sanlu Group Co., Ltd.*, *Shijiazhuang, Hebei Province, P.R. China*.

W61 Development of a software program for goal oriented functional food formulation. Y. Yang*, S. Gokavi, X. Wu, and M. Guo, *University of Vermont*, *Burlington*.

W62 Organic butter and cheese: preference, acceptability and consumer attitudes. M. Almena* and A. Howard, *University of Vermont*, *Burlington*.

W63 Sensory evaluation of a novel ingredient produced from buttermilk. S. Jinjarak[1], P. Morin[2], A. Olabi[1], and R. Jimenez-Flores*[1], [1]*California Polytechnic State University*, *San Luis Obispo*, [2]*Laval University*, *Quebec City, Quebec, Canada*.

Forages and Pastures

Grazing

Exhibit Hall A

Abstract #

W64 Effects of grazing management on pasture characteristics affecting sediment and nutrient loads in surface waters. M. Haan*[1], J. Russell[1], D. Morrical[1], D. Strohbehn[1], W. Powers[1], J. Lawrence[1], and J. Kovar[2], [1]*Iowa State University*, *Ames*, [2]*USDA-ARS*, *Ames, IA*.

W65 Milk yield from crossbred cows grazing hybrid sorghum during fall. M. L. P. Lima*, F. F. Simili, J. R. Nogueira, M. G. Pinheiro, L. El Faro, and V. L. Cardoso, *Agencia Paulista de Tecnologia dos Agronegocios*, *Ribeirao Preto, SP, Brazil*.

W66 *In situ* dry matter degradation kinetics of the diet selected by grazing cattle in a grassland of Northern Mexico. O. Reyes-Estrada, M. Murillo-Ortiz, E. Herrera-Torres, M. Guerrero-Cervantes, G. Nevarez-Carrasco, R. Montoya-Escalante, M. A. Cerrillo-Soto*, and A. S. Juarez-Reyes, *Universidad Juáárez del Estado de Durango*, *Durango, Dgo. Mexico*.

W67 Nutritional characteristics of native grasses used in a pasture system. A. Loyd*[1], S. Smith[2], J. D. Sampson[1], and J. N. Spain[1], [1]*Univeristy of Missouri*, *Columbia*, [2]*Windrush Farm*, *Columbia, MO*.

W68 Supplement level and stocking rate effects on stockers grazing rye-ryegrass pastures. M. Rouquette*[1] and J. Vendramini[2], [1]*Texas A&M University Agricultural Research & Extension Center*, *Overton*, [2]*Texas Cooperative Extension*, *Overton*.

W69 Feeding grazing dairy cows with soybean meal, sunflower meal or canola meal in winter. M. R. Gallardo*[1], S. E. Valtorta[2], H. C. Castro[1], M. C. Gaggiotti[1], and C. Arakaki[3], [1]*EEA Rafaela - National Institute of Agricultural Technology*, *Rafaela, Santa Fe, Argentina*, [2]*National Research Council (CONICET)*, *Rafaela, Santa Fe, Argentina*, [3]*CICV - National Institute of Agricultural Technology*, *Castelar, Buenos Aires, Argentina*.

W70 Effect of spring grazing date and subsequent stocking rate on dairy cow performance in the mid grazing season. E. Kennedy*[1,2], M. O'Donovan[1], J. P. Murphy[1], F. O'Mara[2], and L. Delaby[3], [1]*Dairy Production Research Centre, Teagasc Moorepark*, *Fermoy, Co. Cork, Ireland*, [2]*UCD*, *Dublin, Ireland*, [3]*INRA*, *St. Gilles, France*.

W71 Synchronous and asynchronous concentrate supplements to lactating dairy cows on pasture. A. Konyali[1,2], K.-H. Südekum*[1,3], W. Junge[1], M. Lukas[1], and E. Kalm[1], [1]*University of Kiel*, *Kiel, Germany*, [2]*Çanakkale Onsekiz Mart University*, *Çanakkale, Turkey*, [3]*University of Bonn*, *Bonn, Germany*.

W72 Performance and urinary alkaloid excretion of stocker cattle grazing nontoxic or toxic tall fescue over-seeded with white clover. J. Andrae*[1], N. Hill[1], and J. Bouton[2], [1]*The University of Georgia*, *Athens*, [2]*The Samuel Roberts Noble Foundation*, *Ardmore, OK*.

W73 Removing seasonal affects from pasture plate meter calibrations. E. B. Rayburn, W. L. Shockey*, B. D. Smith, D. A. Seymore, and J. D. Lozier, *West Virginia University Extension Service*, *Morgantown*.

W74 Effect of high and low residual herbage mass of a tropical pasture grazed by goats. 1. Grazing behaviour. J. S. Fernandes Jr.[1], K. T. Resende[1], J. J. R. Fernandes*[3], L. O. Tedeschi[2], R. A. Reis[1], M. H. M. R. Fernandes[1], and H. M. Silva[1], [1]*Universidade Estadual Paulista/FCAV*, *Jaboticabal, SP, Brazil*, [2]*Texas A&M University*, *College Station*, [3]*Universidade Federal de Goias*, *Goiania, GO, Brazil*.

W75 Effect of high and low residual herbage mass of a tropical pasture grazed by goats. 2. Sward structure. J. S. Fernandes Jr.*[1], K. T. Resende[1], M. H. M. R. Fernandes[1], L. O. Tedeschi[2], R. A. Reis[1], J. J. R. Fernandes[3], and F. G.. Souza[1], [1]*Universidade Estadual Paulista/FCAV*, *Jaboticabal, SP, Brazil*, [2]*Texas A&M University*, *College Station*, [3]*Universidade Federal de Goias*, *Goiania, GO, Brazil*.

W76 Defoliation effects on root and rhizome development of kura clover. B. W. Kim*[1] and K. A. Albrecht[2], [1]*Kangwon National University*, *Chunchon, Kangwon-Do, South-Korea*, [2]*University of Wisconsin*, *Madison*.

Goat Species

Product Quality and Reproductive Performance of Goats

Exhibit Hall A

Abstract #

W77 Comparison of quality characteristics of chevon and lamb. K. R. Eega*, J. H. Lee, G. Kannan, B. Kouakou, and W. R. Getz, *Fort Valley State University*, *Fort Valley, GA*.

W78 Effect of fat supplementation on the performance of meat goats fed eastern gamagrass. A. White*, J. Bartlett, and E. Rhoden, *Tuskegee University*, *Tuskegee, AL*.

W79 Effects of diet on chemical composition and quality of meat in goats. J. H. Lee*, B. Kouakou, K. R. Eega, and G. Kannan, *Fort Valley State University*, *Fort Valley, GA*.

W80 Reduction of skin and carcass *E. coli* contamination in goats by dietary brown seaweed extract supplementation and skin wash. G. Kannan*, K. R. Eega, J. H. Lee, B. Kouakou, and T. H. Terrill, *Fort Valley State University*, *Fort Valley, GA*.

W81 Effect of initial body condition of Boer x Spanish yearling wethers and level of nutrient intake on body composition. A. Ngwa[1], L. Dawson[2], R. Puchala[1], G. Detweiler[1], R. Merkel*[1], I. Tovar-Luna[1], T. Sahlu[1], C. Ferrell[3], and A. Goetsch[1], [1]*American Institute for Goat Research, Langston University*, *Langston, OK*, [2]*Oklahoma State University*, *Stillwater*, [3]*US Meat Animal Research Center*, *Clay Center, NE*.

W82 Urea space and body condition score to predict body composition of meat goats. A. Ngwa[1], L. Dawson[2], R. Puchala[1], G. Detweiler[1], R. Merkel[1], I. Tovar-Luna[1], T. Sahlu[1], C. Ferrell[3], and A. Goetsch*[1], [1]*American Institute for Goat Research, Langston University*, *Langston, OK*, [2]*Oklahoma State University*, *Stillwater*, [3]*US Meat Animal Research Center*, *Clay Center, NE*.

W83 Efficacy of melengestrol acetate feeding to advance breeding in hair sheep and meat goats managed in an accelerated mating system. S. Wildeus* and J. R. Collins, *Virginia State University*, *Petersburg*.

W84 Effect of alternative forages on reproductive performance of meat goats. Y. A. Markley*, E. G. Rhoden, and J. R. Bartlett, *Tuskegee University*, *Tuskegee, AL*.

W85 Comparison of pure and crossbred goats on multiple births in a crossbreeding program in Sri Lanka. C. M. B. Dematawewa*[1], L. P. Silva[1], and A. S. Premasundara[2], [1]*University of Peradeniya*, *Peradeniya, Sri Lanka*, [2]*Dept. of Animal Production and Health*, *Getambe, Peradeniya, Sri Lanka*.

W86 Effects of extended storage on microbiological quality, somatic cell count and composition of Grade-A goat milk. S. Zeng*[1], S. Chen[1,2], and B. Bah[1], [1]*Langston University*, *Langston, OK*, [2]*China Agricultural University*, *Beijing, China*.

W87 Effects of CLA supplementation on goat milk composition and texture profile of semi-hard goat cheese. S. Chen*[1,2], S. Zeng[1], M. Rovai[1], T. Gipson[1], D. Bauman[3], A. Lock[3], B. Bah[1], and A. Goetsch[1], [1]*E (Kika) de la Garza American Institute for Goat Research, Langston University*, *Langston, OK*, [2]*China Agricultural University*, *Beijing, China*, [3]*Cornell University*, *Ithaca, NY*.

W88 Development of a web-based goat producer education program. S. Hart*, T. Gipson, R. Merkel, and T. Sahlu, *Langston University*, *Langston, OK*.

Horse Species

Equine Sciences

Exhibit Hall A

Abstract #

W89 Equine muscle Glut-4 expression and glycogen content are altered by dietary energy source and physical conditioning. L. Stewart-Hunt, R. Geor*, and J. McCutcheon, *University of Guelph*, *Guelph, Ontario, Canada*.

W90 Temporal variables of the trot of the hunter pleasure Arabian performance horse. M. Nicodemus* and K. Slater, *Mississippi State University*, *Mississippi State*.

W91 Parameter estimates for genetic effects on conformation traits of korean jeju native horse. W. Y. Oh*[1], D. J. Choi[2], M. S. Kang[2], J. W. Lee[3], C. E. Lee[1], and D. H. Baik[4], [1]*National Jeju Agricultural Experiment Station, Rural Development Administration*, *Jeju City, Jeju Island, Republic of Korea*, [2]*Dept. of Animal Science and Biotechnology, Faculty of Bioscience and Industry, College of Applied Life Science*, *Jeju City, Jeju Island, Republic of Korea*, [3]*Animal Genomics and Bioinformatics Division, National Livestock Research Institute*, *Suwon city, Gyeoonggi, Republic of Korea*, [4]*Department of Animal Resources and Biotechnology, College of Agriculture, Chonbuk National University*, *Chonju city, Chonbuk Province, Republic of Korea*.

W92 The effect of biologically relevant concentrations of glucosamine and chondroitin on stressed equine cartilage explants. R. S. Harlan, P. S. Chan, J. P. Caron, and M. W. Orth*, *Michigan State University*, *East Lansing*.

W93 Caprylic acid: A potential antimicrobial against *Dermatophilus congolensis* infection in horses. S. Valipe*, A. Annamalai, J. Nadeau, and K. Venkitanarayan, *University of Connecticut*, *Storrs*.

W94 The effect of sedation on serum cortisol concentration in mares during weaning. B. Cassill*, S. Hayes, J. Ringler, and L. Lawrence, *University of Kentucky*, *Lexington*.

W95 Effect of yeast culture supplementation on digestibility of varying quality forage in mature horses. L. M. Morgan*[1], J. A. Coverdale[1], M. A. Froetschel[1], and I. Yoon[2], [1]*University of Georgia*, *Athens*, [2]*Diamond V Mills, Inc.*, *Cedar Rapids, IA*.

W96 Nutrient composition of stall waste produced by Florida horse operations. D. L Cotton*, L. K. Warren, R. A. Nordstedt, J. Kivipelto, and S. C. Dilling, *University of Florida*, *Gainesville*.

W97 Circadian variation of pasture NSC and insulin concentrations in horses. B. Byrd*[1], K. Treiber[1], D. Kronfeld[1], W. Staniar[1], R. Geor[1], and P. Harris[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*WALTHAM Centre for Pet Nutrition*, *Melton Mowbray, UK*.

W98 Seasonal variation in cool season grasses. L. Lawrence*[1], S. Hayes[1], R. Allman[2], and G. Rich[3], [1]*University of Kentucky*, *Lexington*, [2]*The Farm Clinic*, *Lexington, KY*, [3]*Rich Equine Nutrition Consulting*, *Memphis, TN*.

Lactation Biology

Exhibit Hall A

Abstract #

W99 Milk yield and udder capacity of cows with different milk concentration milked once or twice daily. D. Clark*[1], D. Dalley[1], and S. Davis[2], [1]*Dexcel*, *Hamilton, New Zealand*, [2]*ViaLactia Biosciences*, *Auckland, New Zealand*.

W100 Effects of milking interval on milk constituents from various fractions of ewe milk. A. Dzidic*[1], M. Kaps[1], and R. Bruckmaier[2], [1]*University of Zagreb*, *Zagreb, Croatia*, [2]*University of Bern*, *Bern, Switzerland*.

W101 Effects of omitting two milkings weekly on milk yield, milk composition and udder health in Manchega and Lacaune dairy ewes. V. Castillo, X. Such, G. Caja*, E. Albanell, and R. Casals, *Universitat Autònoma de Barcelona*, *Bellaterrra, Spain*.

W102 Short-term once-daily milking decreases expression of integrins and cell survival factors with no changes in apoptosis in the bovine mammary gland. K. Singh*[1], J. Dobson[1], C. Phyn[1], C. Prosser[2], V. Farr[1], and K. Stelwagen[1], [1]*AgResearch Ltd., Ruakura Research Centre*, *Hamilton, New Zealand*, [2]*Dairy Goat Co-operative (N.Z.) Ltd.*, *Hamilton, New Zealand*.

W103 The association among dry period length, lactation performance and some physiological measures of Holstein cows during the following lactations. M. S. Gulay*[1], M. J. Hayen[2], K. C. Bachman[2], and H. H. Head[2], [1]*Akdeniz University*, *Burdur, Turkey*, [2]*University of Florida*, *Gainesville*.

W104 Increase in stanniocalcin content in milk of cows at involution. G. Tremblay*[1], L. Delbecchi[2], G. F. Wagner[3], B. G. Talbot[2], and P. Lacasse[2], [1]*Université de Sherbrooke*, *Sherbrooke, QC, Canada*, [2]*AAFC-Dairy and Swine R&D Center*, *Lennoxville, QC, Canada*, [3]*University of Western Ontario*, *London, ON, Canada*.

W105 Effects of weaning age and ambient temperature on sow endocrine status and mammary secretions around weaning. C. Farmer*[1], D. Flint[2], and C. Knight[2], [1]*Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre*, *Lennoxville, QC, Canada*, [2]*Hannah Research Institute*, *Ayr, UK*.

W106 Effect of bST administration during induction of lactation in 15-month-old heifers on production and health. R. S. Kensinger*, A. L. Magliaro, A. C. W. Kauf, M. L. O'Connor, and L. D. Muller, *Pennsylvania State University*, *University Park*.

W107 Characterization and regulation of the bovine stearoyl-CoA desaturase (Scd) gene promoter and effects of conjugated linoleic acid (CLA) on mammary cell growth and apoptosis. A. F. Keating*[1,2], F. Q. Zhao[2], and J. J. Kennelly[1], [1]*University of Alberta*, *Edmonton, Alberta, Canada*, [2]*University of Vermont*, *Burlington*.

W108 Histologic aspects of gestational mammogenesis in heifers. S. Ellis* and N. Korn, *Clemson University*, *Clemson, SC*.

W109 Lysophosphatidic acid (LPA) stimulates mouse mammary epithelial cell growth. I. S. Yuh*[1] and L. G. Sheffield[2], [1]*Kangwon National University*, *Chunchon, Korea*, [2]*University of Wisconsin*, *Madison*.

W110 Changes in mammary gland function during prolonged lactation coincide with changes in mitochondrial biogenic processes. J. George*[1], W. Olea[1], D. Torres[1], R. J. Collier[2], and D. L. Hadsell[1], [1]*Baylor College of Medicine*, *Houston, TX*, [2]*University of Arizona*, *Tucson*.

W111 Characterization of Madin-Darby Bovine Kidney cell line for PPARs. M. Bionaz*[1], C. R. Baumrucker[1], J. P. Vanden Heuvel[1], E. Block[2], and G. A. Varga[1], [1]*Penn State University*, *University Park*, [2]*Church & Dwight Co. Inc.*, *Princeton, NJ*.

W112 Treatment of Madin-Darby Bovine Kidney cells with fatty acid PPAR agonists. M. Bionaz*[1], E. Shirk[1], J. P. Vanden Heuvel[1], C. R. Baumrucker[1], E. Block[2], and G. A. Varga[1], [1]*Penn State University*, *University Park*, [2]*Church & Dwight Co. Inc.*, *Princeton, NJ*.

W113 Unraveling the requirement of insulin for milk protein synthesis: A microarray perspective. K. K. Menzies*[1,3], C. Lefevre[1,2], K. L. Macmillan[3], and K. R. Nicholas[1], [1]*CRC for Innovative Dairy Products, University of Melbourne*, *Australia*, [2]*Victorian Bioinformatics Consortium, Monash University*, *Clayton, Australia*, [3]*School of Veterinary Science, University of Melbourne*, *Werribee, Australia*.

W114 Shortening the dry period from 60 to 40 days does not affect colostrum quality but decreases colostrum yield by Holstein cows. D. J. Grusenmeyer*, C. M. Ryan, D. M. Galton, and T. R. Overton, *Cornell University*, *Ithaca, NY*.

W115 Effect of subclinical mastitis and breed on somatic cell counts and milk constituents and the accuracy of using pooled samples. E. L. Huether*, D. W. Holcombe, and E. R. Kretschmer, *University of Nevada*, *Reno*.

W116 Regulation of haptoglobin (Hp) mRNA expression in the bovine mammary gland parenchyma during experimental mastitis. M. A. Thielen[1], M. Mielenz[1], S. Hiss[1], W. Petzl[2], H. Zerbe[2], H. J. Schuberth[3], H. M. Seyfert[4], and H. Sauerwein*[1], [1]*University of Bonn*, *Bonn, Germany*, [2]*LMU*, *Munich, Germany*, [3]*TiHo*, *Hannover, Germany*, [4]*FBN*, *Dummerstorf, Germany*.

W117 Effect of sampling day and number of lambs raised on somatic cell counts (SCC) and cell populations in ewe milk. E. R. Kretschmer*[1], D. W. Holcombe[1], D. Redelman[2], and D. L. Garner[1], [1]*University of Nevada*, *Reno*, [2]*Sierra Cytometry/UNR Cytometry Center*, *Reno, NV.*

Nonruminant Nutrition

Dietary Influences on Boars, Sows and Gilt Development

Exhibit Hall A

Abstract #

W118 True calcium and phosphorus digestibility and the endogenous calcium and phosphorus outputs associated with soybean meal for multi-parity sows measured by the simple linear regression technique. K. Kuang[1], R. He[1], J. Wang[2], Y. L. Yin[3,4], and M. Z. Fan*[4], [1]*Huazhong Agricultural University*, *Wuhan, Hubei Province, China*, [2]*The Chinese National Institute of Animal Sciences*, *Beijing, China*, [3]*The Chinese Academy of Sciences*, *Changsha, Hunan Province, China*, [4]*University of Guelph*, *Ontario, Canada*.

W119 Development of procedures to assess the potential for parturient hypocalcemia in sows. C. Darriet and T. D. Crenshaw*, *University of Wisconsin*, *Madison*.

W120 The effect of omega-3 fatty acid addition to sow diets on milk composition. S. A. Meers*, C. R. Dove, and M. J. Azain, *University of Georgia*, *Athens*.

W121 Protein and dry matter digestibility of colostrums by newborn piglets. C. Lin*[1], D. C. Mahan[2], and S. W. Kim[1], [1]*Texas Tech University*, *Lubbock*, [2]*The Ohio State University*, *Columbus*.

W122 Determination of bioequivalence ratio of D-α- to DL-α-tocopheryl acetate based on tissue α-tocopherol content of swine. H. Yang*[1], D. Mahan[2], D. Hill[3], T. Shipp[3], T. Radke[1], and M. Cecava[1], [1]*ADM Animal Nutrition*, *Quincy, IL*, [2]*The Ohio State University*, *Columbus*, [3]*ADM Animal Health and Nutrition*, *Quincy, IL*.

W123 Amino acid requirements of lactating sows: Selection of source data for factorial estimates. K. T. Soltwedel*[1], N. R. Augspurger[2], S. K. Webel[2], D. D. Hall[3], and J. E. Pettigrew[1], [1]*University of Illinois*, *Urbana*, [2]*JBS United*, *Sheridan, IN*, [3]*AusGene International*, *Gridley, IL.*

W124 Effects of feed allowance levels on nitrogen retention and blood hormone levels in gestating and dry gilts. D. Wu*[1,2], F. Yang[1], A. Zhou[1], Z. Wang[1], and K. Wang[1], [1]*Sichuan Agricultural University*, *Ya'an, Sichuan, China*, [2]*University of Guelph*, *Ontario, Canada*.

W125 Effect of feeding rye silage and feed restriction on performance and reproductive development in developing gilts. J. H. Cho*[1], Y. K. Han[2], B. J. Min[1], Y. J. Chen[1], H. J. Kim[1], J. S. Yoo[1], J. W. Kim[1], and I. H. Kim[1], [1]*Dankook University*, *Cheonan, Chungnam, Korea*, [2]*Sungkyunkwan University*, *Suwon, Gyeonggi, Korea*.

W126 Tissue concentrations of selenium in boars fed a diet supplemented with selenium from organic or inorganic sources. M. J. Estienne*, A. F. Harper, and R. J. Crawford, *Virginia Polytechnic Institute and State University*, *Blacksburg*.

W127 Comparative study of two analytic methodologies for the determination of acid–insoluble ash for evaluation of nutrients digestibility in broiler diets. E. Jiménez–Moreno, J. M. González–Alvarado, A. Coca, R. Lázaro, and G. G. Mateos*, *Universidad Politécnica de Madrid*, *Spain*.

Nonruminant Nutrition

Enzyme Supplementation

Exhibit Hall A

Abstract #

W128 Investigating possible interactions between phytase and xylanase in wheat-based diets for growing pigs. T. A. Woyengo*[1], C. M. Nyachoti[1], J. S. Sands[2], and W. Guenter[1], [1]*University of Manitoba*, *Winnipeg, Manitoba, Canada*, [2]*Dansico Animal Nutrition*, *Marlborough, United Kingdom*.

W129 Effects of supplemental dietary phytase and strontium on bone strength of weanling pigs fed a high phosphorus diet. P. K. Roy*, K. Yasuda, R. Maiorano, K. R. Roneker, and X. G. Lei, *Cornell University*, *Ithaca, NY*.

W130 Supplemental dietary phytase and strontium improves bone traits of weanling pigs fed a phosphorus-adequate diet. A. R. Pagano[1], K. R. Roneker[1], K. Yasuda*[1], T. D. Crenshaw[2], and X. G. Lei[1], [1]*Cornell University*, *Ithaca, NY*, [2]*University of Wisconsin*, *Madison*.

W131 The effect of adding high levels of phytase in the nursery/ grower diets on growth performance, carcass characteristics, and bone strength in grower-finishing pigs. T. C. Tsai*[1], C. R. Dove[1], M. J. Azain[1], and M. Bedford[2], [1]*University of Georgia*, *Athens*, [2]*Syngenta Animal Nutriton Inc.*, *RTP, NC*.

W132 Effect of enzyme supplementation and inclusion level of wheat distillers dried grains with solubles on energy and nutrient digestibilities in growing pigs. F. O. Opapeju*, C. M. Nyachoti, and B. A. Slominski, *University of Manitoba*, *Winnipeg, MB, Canada*.

Nonruminant Nutrition

Nutrition - Broilers, Layers, Guinea Pigs, Rabbits and Rats

Exhibit Hall A

Abstract #

W133 No absorption of ochratoxin A and fumonisin B1 in rat small intestine detected with Ussing diffusion chamber. V. Pizzamiglio[1], E. Grilli[1], L. Fabbri[1], A. Piva*[1], and B. Weström[2], [1]*Dipartimento di morfofisiologia veterinaria e produzioni animali*, *Ozzano Emilia (BO), Italy*, [2]*Department of cell and organism biology*, *Lund, Sweden.*

W134 Dietary high-tannin sorghum increases growth rate in rats. R. Larraín* and J. Reed, *University of Wisconsin*, *Madison*.

W135 Utilization of deglycosylated soy protein in monogastrics. B. C. Tooker and T. S. Stahly*, *Iowa State University*, *Ames*.

W136 A study of sweet (Surumi, Patacamya, Sayana, Chucapaca) and bitter (Real) Bolivian quinoa cultivars compared to corn, barley and oats on the lactation of improved guinea pigs. R. N. Pate[1], N. P. Johnston*[1], E. Rico[2], A. Bonifacio[3], R. O. Kellems[1], and D. L. Kooyman[1], [1]*Brigham Young University*, *Provo, Utah*, [2]*University of San Simon*, *Cochabamba, Bolivia*, [3]*University of San Andres*, *La Pax, Bolivia*.

W137 Level of soluble fiber and medication influence the presence of intestinal pathogen microbiota in young rabbits. M. S. Gómez-Conde[1], A. Pérez de Rozas[2], I. Badiola[2], S. Chamorro[1], G. G. Mateos*[1], J. C. De Blas[1], J. García[1], and R. Carabaño[1], [1]*Universidad Politécnica*, *Madrid, Spain*, [2]*CReSA (UAB-IRTA)*, *Bellaterra, Spain*.

W138 The effect of xylanase enzyme and fat type on growth performance of broilers fed wheat-based diets. Z. Nemati, A. Taghizadeh*, and G. A. Moghaddam, *Tabriz University*, *Tabriz, East Azarbayjan, Iran*.

W139 Effect of protease supplementation selected from mud flat microorganism on growth performance, nutrient digestibility, total protein and BUN concentration in broilers. H. J. Kim*, B. J. Min, J. H. Cho, Y. J. Chen, J. S. Yoo, Q. Wang, and I. H. Kim, *Dankook University*, *Cheonan, Chungnam, Korea*.

W140 Effect of protease supplementation selected from mud flat microorganism on egg quality, nutrient digestibility and total protein concentration in laying hens. H. J. Kim*, B. J. Min, J. H. Cho, Y. J. Chen, J. S. Yoo, Q. Wang, and I. H. Kim, *Dankook University*, *Cheonan, Chungnam, Korea*.

W141 Performance of broilers on nutrients restriction at different stages of growth. Y. H. Shim, J. D. Lohakare, J. H. Yun, Z. Jin, S. O. Lee, J. Y. Choi, and B. J. Chae*, *Kangwon National University*, *Chunchon, Republic of Korea.*

W142 Determination of endogenous amino acid flows at the terminal ileum of broiler chickens fed various protein sources using the homoarginine technique. V. Ravindran*[1], G. Ravindran[1], and W. L. Bryden[2], [1]*Massey University*, *Palmerston North, New Zealand*, [2]*University of Queensland*, *Gatton, QLD, Australia*.

W143 Evaluation of Neem(Azadirachta indica) leaf meal on performance, carcass characteristics and egg quality of laying hens. B. O. Esonu*[1], O. O. Emenalom[1], A. B. I. Udedibie[1], A. Anyanwu[1], U. Madu[1], and O. A. Inyang[2], [1]*Federal University of Technology*, *Owerri, Imo State, Nigeria*, [2]*Micheal Okpara College of Agriculture*, *Umuagwo, Imo State, Nigeria*.

W144 Effects of dietary delta-aminolevulinic acid and chitooligosaccharide on egg production, egg quality and hematological characteristics in laying hens. Y. J. Chen*[1], B. J. Min[1], J. H. Cho[1], H. J. Kim[1], J. S. Yoo[1], J. D. Kim[3], H. R. Kim[2], D. K. Kang[1], and I. H. Kim[1], [1]*Dankook University*, *Cheonan, Chungnam, Korea*, [2]*Pukyong*, *Busan, Korea*, [3]*CJ Feed Co.*, *Incheon, Korea*.

W145 Effect of phytase supplementation on the calcium and phosphorus retention in layers. L. Babinszky*[1], J. Tossenberger[1], C. S. Szabó[1], B. Méhész[1], and I. Kühn[2], [1]*University of Kaposvár*, *Hungary*, [2]*AB Enzymes GmbH*, *Darmstadt, Germany*.

Physiology and Endocrinology

Endocrinology/Metabolic Physiology

Exhibit Hall A

Abstract #

W146 Glucose-dependent insulin response in dairy cows within segregating family structure is related to milk yield. H. M. Hammon*, O. Bellmann, J. Voigt, F. Schneider, and C. Kühn, *Research Institute for the Biology of Farm Animals (FBN)*, *Dummerstorf, Germany*.

W147 Characterization of metabolic hormones and insulin sensitivity in transition dairy cows. C. C. Stanley*, C. C Williams, D. T. Gantt, J. C. Roberts, and S. R. Adams, *LSU Agricultural Center*, *Baton Rouge*.

W148 Bovine somatotropin and dietary fat enriched with omega-3 fatty acids in dairy cows: III. Postpartum ovarian activity. M. Carriquiry*, C. R. Dahlen, W. J Weber, G. C. Lamb, and B. A. Crooker, *University of Minnesota*, *St. Paul*.

W149 The ontogeny of insulin-like growth factor-I (IGF-I) modulation of GH secretion from porcine anterior pituitary cells in culture. C. R. Barb* and G. J. Hausman, *USDA, ARS, Russell Research Center*, *Athens, GA*.

W150 Effects of glutamine supplementation on lymphocyte subpopulations and proliferation in the peripheral blood supply of the transition dairy cow. J. A. Woodward*[2], R. J. Christopherson[1], C. J. Field[1], S. Goruk[1], G. Murdoch[1], M. A. G. von Keyserlingk[2], J. A. Bell[1], and J. R. Thompson[2], [1]*University of Alberta*, *Edmonton, Canada*, [2]*University of British Columbia*, *Vancouver, Canada*.

W151 Leptin genotype influences lactation performance of Holstein cows. J. E. P. Santos*[1] and R. C. Chebel[2], [1]*University of California Davis*, *Tulare*, [2]*University of Idaho*, *Caldwell*.

W152 Influence of maternal nutrition on placental vascularity and mRNA expression of angiogenic factors (AFs) and their receptors (AFRs) in adolescent sheep. D. A. Redmer*[1,2], R. P. Aitken[2], J. S. Milne[2], M. L. Johnson[1], D. Rouse[1], P. P. Borowicz[1], M. Borowicz[1], K. C. Kraft[1], L. P. Reynolds[1], J. S. Luther[1,2], and J. M. Wallace[2], [1]*North Dakota State University*, *Fargo*, [2]*Rowett Research Institute*, *Aberdeen, Scotland, UK*.

W153 Propionate infusion alters G protein-coupled receptor GPR41 mRNA expression and the leptin system in goats. M. Mielenz, C. Seybold, and H. Sauerwein*, *University of Bonn*, *Germany*.

W154 Evaluation of the adaptive capability in dairy cows during the peripartal period. S. Hachenberg, C. Weinkauf, S. Hiss, U. Müller, and H. Sauerwein*, *University of Bonn*, *Germany*.

W155 Hot season and BCS affect leptin secretion of periparturient dairy cows. U. Bernabucci*[1], N. Lacetera[1], L. Basiricò[1], B. Ronchi[1], P. Morera[1], E. Seren[2], and A. Nardone[1], [1]*DiPA, Università della Tuscia*, *Italia*, [2]*DiMorfiPA, Università di Bologna*, *Italia*.

W156 Detection of photonic emissions with varying concentrations of *Salmonella typhimurium*–lux through porcine intestinal tissue: A comparison of two photonic imaging systems. K. Moulton*[1], E. Williams[1], P. Ryan[1], D. Moore[1], S. Kim[1], D. Lay[2], and S. Willard[1], [1]*Mississippi State University*, *Mississippi State*, [2]*USDA-ARS Livestock Behavior Research Unit*, *West Lafayette, IN*.

W157 Modulation of bovine hepatic ApoB100, ApoE and MTP gene expression by fatty acids. J. A. A. Pires*[2], D. Pirazzi[1], D. G. Mashek[2], L. Basiricò[1], S. J. Bertics[2], R. R. Grummer[2], and U. Bernabucci[1], [1]*Università della Tuscia*, *Viterbo, Italy*, [2]*University of Wisconsin*, *Madison*.

W158 Characterization of bovine granulocyte chemotactic protein-2 in mammary glands with Escherichia coli mastitis. J.-W. Lee*[1] and X. Zhao[2], [1]*National Pingtung University of Science and Technology*, *Neipu, Pingtung, Taiwan*, [2]*McGill University*, *Ste-Anne-de-Bellevue, Quebec, Canada*.

W159 Somatotropic axis components in and growth rates of IGF-I divergent Angus heifers receiving exogenous bovine (b) ST. K. J. Steinman*[1], T. A. Hoagland[1], M. E. Davis[2], and S. A. Zinn[1], [1]*University of Connecticut*, *Storrs*, [2]*The Ohio State University*, *Columbus*.

W160 Relative quantification of ghrelin mRNA in Holstein calves. S. L. Greenwood*, D. R. Glimm, A. F. Keating, N. S. Beswick, and J. J. Kennelly, *University of Alberta*, *Edmonton, Canada*.

W161 Transcriptional profiling of hepatic constitutive androstane receptor and target genes in relation to boar taint compounds in backfat of pigs. D. L. Greger*[1], C. Morel[3], G. Bee[2], S. Ampuero[2], C. R. Baumrucker[1], and J. W. Blum[3], [1]*Pennsylvania State University*, *University Park*, [2]*Agroscope Liebefeld-Posieux*, *Posieux, Switzerland*, [3]*University of Bern*, *Switzerland*.

W162 Expression of beta-adrenergic receptors in adipose tissue of Holstein dairy cattle. J. Sumner* and J. McNamara, *Washington State University*, *Pullman*.

W163 Evaluation of reproduction and blood metabolites in heifers fed dried distillers grains plus solubles or soybean hulls during late gestation. C. L. Engel*, H. H. Patterson, B. L. Perry, and G. A. Perry, *South Dakota State University*, *Brookings*.

W164 Responses of tissues to epinephrine as affected by homeorhetic state in dairy cattle. K. L. Smith*, A. K. Rauf, B. C. Benefield, A. W. Bell, and T. R. Overton, *Cornell University*, *Ithaca, NY*.

W165 Responses of tissues to insulin as affected by homeorhetic state in dairy cattle. K. L. Smith*, A. K. Rauf, B. C. Benefield, A. W. Bell, and T. R. Overton, *Cornell University*, *Ithaca, NY*.

W166 Acute and chronic reduction in plasma progesterone concentrations after feed intake in dairy cows. R. M. Santos*, G. C. Perez, D. G. B. Demetrio, A. B. B. Maciel, and J. L. M. Vasconcelos, *FMVZ-UNESP*, *Botucatu, SP, Brazil*.

W167 Effects of Posilac on immune and endocrine responses of channel catfish challenged with *Edwardsiella ictaluri*. B. Peterson*, B. Small, and A. Bilodeau, *USDA-ARS Catfish Genetics Research Unit*, *Stoneville, MS*.

W168 Effects of milking frequency in early lactation on prolactin and growth hormone release and on milk production throughout lactation. E. A. Albers, C. C. Williams*, C. F. Hutchison, D. T. Gantt, C. Leonardi, L. R. Gentry, and C. C. Stanley, *LSU Agricultural Center*, *Baton Rouge, LA*.

W169 Evaluation of an early marker of failed pregnancy: Changes in expression of Mx2 mRNA in peripheral blood mononuclear cells in dairy heifers of different reproductive statuses. J. L. Stevenson*[1], R. C. Chebel[1], J. C. Dalton[2], T. L. Ott[3], C. Gifford[3], and K. Racicot[3], [1]*University of Idaho*, *Caldwell*, [2]*University of Idaho*, *Caldwell*, [3]*University of Idaho*, *Moscow*.

W170 Influence of breed type and temperament on anatomic and endocrinologic parameters of the bovine hypothalamic-pituitary-adrenal (HPA) axis. K. O. Curley, Jr.*[1], J. Lyons[1], M. S. Brown[2], T. E. Lawrence[2], J. A. Carroll[3], R. C. Vann[4], S. T. Willard[5], T. H. Welsh, Jr.[1], and R. D. Randel[6], [1]*Texas Agricultural Experiment Station*, *College Station*, [2]*West Texas A&M University*, *Canyon*, [3]*Livestock Issues Research Unit, ARS-USDA*, *Lubbock, TX*, [4]*Brown Loam Experiment Station*, *Raymond, MS*, [5]*Mississippi State University*, *Mississippi State*, [6]*Texas Agricultural Experiment Station*, *Overton*.

W171 Identification of growth hormone-regulated genes in the bovine liver by a microarray analysis. H. Jiang* and S. Eleswarapu, *Virginia Polytechnic Institute and State University*, *Blacksburg*.

Production, Management and the Environment III

Exhibit Hall A

Abstract #

W172 Effectiveness of ocular thermography for the determination of body temperature in livestock: A multi-species analysis. S. Willard*[1], P. Ryan[1], D. Sykes[1], M. Crenshaw[1], R. Vann[2], R. Randel[3], T. Welsh[3], S. Bowers[1], M. Jones[1], and A. Chromiak[1], [1]*Mississippi State University*, *Mississippi State*, [2]*Brown Loam Experiment Station*, *Raymond, MS*, [3]*Texas Agricultural Experiment Station*, *Overton and College Station, TX*.

W173 Description and summarization of reticular core-body temperatures obtained from an automatic temperature recording system. J. M. Bewley*[1], D. C. Batson[2], and M. M. Schutz[1], [1]*Purdue University*, *West Lafayette, IN*, [2]*MaGiiX Inc.*, *Post Falls, ID*.

W174 Qualitative assessment of the irrigation water from separated and aerated flushed dairy manure. M. Hollmann*[1], K. F. Knowlton[1], C. M. Parsons[1], and T. N. Rensch[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Integrity Nutrient Control Systems, Inc.*, *Chambersburg, PA*.

W175 Chemical parameters, particle and nutrient removal with separation, settling, and aeration in flushed dairy manure. M. Hollmann*[1], K. F. Knowlton[1], C. M. Parsons[1], and T. N. Rensch[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Integrity Nutrient Control Systems, Inc.*, *Chambersburg, PA*.

W176 Prediction of ammonia emission from dairy cattle manure based on milk urea N: The relationship of milk urea nitrogen to urine urea nitrogen excretion. S. A. Bugos*, E. J. DePeters, D. Ledgerwood, and J. G. Fadel, *University of California*, *Davis*.

W177 Prediction of ammonia emission form dairy cattle manure based on milk urea N: The relationship of milk urea nitrogen to ammonia emission. S. A. Burgos*, N. Marcillac, J. G. Fadel, F. M. Mitloehener, and E. J. DePeters, *University of California*, *Davis*.

W178 Effect of frequency of irrigation in growth and vermicompost chemical parameters of red earthworm (*Eisenia* spp). J. A. Hernandez[1], S. Pietrosemoli*[1], A. Faria[1], R. Canelon[2], R. Palma[2], and J. Martinez[1], [1]*Facultad de Agronomia. La Universidad del Zulia*, *Maracaibo, Zulia, Venezuela*, [2]*Proyecto FONACIT*, *Maracaibo, Zulia, Venezuela*.

W179 Distribution of phosphorus and nitrogen when dairy manure is separated into solids and liquids. Z. Wu* and D. Burns, *Pennsylvania State University*, *University Park*.

W180 Effects of essential oils on viability of *Escherichia coli* O157:H7 in treated beef cattle manure slurries and on prevalence from treated feedlot surfaces. J. E. Wells*, E. D. Berry, and V. H. Varel, *USDA, ARS, U.S. Meat Animal Research Center*, *Clay Center, NE*.

W181 Evolution of ^{15}N abundance in cattle manure in relation to cumulative ammonia losses. A. N. Hristov*[1], L. Campbell[1], and J. H. Harrison[2], [1]*University of Idaho*, *Moscow*, [2]*Washington State University*, *Puyallup*.

W182 Environmental perspective of nitrogen use efficiency in dairy farms. H. Arriaga[1], M. Pinto[1], P. Merino[1], and S. Calsamiglia*[2], [1]*NEIKER A.B. Basque Institute for Agricultural Research and Development*, *Basque Country, Spain*, [2]*Universitat Autonoma Barcelona. Faculty of Veterinary*, *Barcelona, Spain*.

W183 The effects of floor space on pig growth performance and carcass characteristics in a commercial wean-to-finish facility. B. A. Peterson*[1], M. Ellis[1], B. F. Wolter[2], R. Bowman[2], J. M. DeDecker[1], and M. J. Ritter[1], [1]*University of Illinois*, *Urbana*, [2]*The Maschhoffs, Inc.*, *Carlyle, IL*.

W184 Association of number of services and reservice intervals with reproductive performances in female pigs on commercial farms. Y. Takai* and Y. Koketsu, *Meiji University*, *Kawasaki, Kanagawa, Japan*.

W185 Variability and repeatability of gestation length across parity associated with reproductive performance in a cohort of gilts on commercial farms. Y. Sasaki* and Y. Koketsu, *Meiji University*, *Kawasaki, Kanagawa, Japan*.

W186 Lifetime assessment of sows mated 4 to 6 days after weaning in commercial breeding herds. Y. Hoshino* and Y. Koketsu, *Meiji University*, *Kawasaki, Kanagawa, Japan*.

Ruminant Nutrition

Analytical Techniques

Exhibit Hall A

Abstract #

W187 Can the chemical composition of the whole body of a goat be estimated from parts of its body? I. A. M. A. Teixeira*[1,4], K. T. Resende[1], J. M. Pereira Filho[2], M. M. Salin[1], R. A. Gomes[1], R. C. Canesin[1], and L. O. Tedeschi[3], [1]*Universidade Estadual Paulista/FCAV*, *Jaboticabal, SP, Brazil*, [2]*Universidade Federal de Campina Grande*, *Patos, PB, Brazil*, [3]*Texas A&M University*, *College Station*, [4]*FAPESP*, *São Paulo, SP, Brazil*.

W188 Calibration of a respiratory chamber for calorimetry studies. N. Rodriguez*[1], W. Campos[1], and M. Lopez[2], [1]*Universidade Federal de Minas Gerais*, *Belo Horizonte, Minas Gerais, Brazil*, [2]*Consejo Superior de Investigaciones Científicas*, *Granada, España*.

W189 Lipe, an external natural marker for digestibility studies. E. Saliba, N. Rodríguez*, and D. Pilo-Veloso, *Universidade Federal de Minas Gerais*, *Belo Horizone, Minas Gerais, Brazil*.

W190 Effect of choice of microbial marker and variation in solid- to liquid-associated bacteria proportion in duodenal contents on the estimation of duodenal bacterial nitrogen flow. B. Vlaeminck*[1], R. J. Dewhurst[2], and V. Fievez[1], [1]*Ghent University*, *Belgium*, [2]*Lincoln University*, *New Zealand*.

W191 Effect of centrifugal force on the recovery of markers in ruminal bacterial samples. A. N. Hristov* and S. Zaman, *University of Idaho*, *Moscow*.

W192 Relationship between in situ dry matter disappearance and gas production technique. A. Taghizadeh* and M. Hatami, *Tabriz University*, *Tabriz, East Azarbayjan, Iran*.

W193 Relationship between in vitro dry matter disappearance and gas production technique. A. Taghizadeh*, M. Hatami, and G. A. Moghaddam, *Tabriz University*, *Tabriz, East Azarbayjan, Iran*.

W194 Relationship between in vitro gas production of ethanol extracted residue and NDF of corn silage and unfractionated corn silage. M. Hatami and A. Taghizadeh*, *Tabriz University*, *Tabriz, East Azarbayjan, Iran*.

W195 Relationship between dry matter and crude protein disappearance using in situ technique. A. Taghizadeh* and M. Hatami, *Tabriz University*, *Tabriz, East Azarbayjan, Iran*.

W196 Comparison of using a reflux apparatus or ANKOM Fiber Analyzer with sequential or direct analysis to evaluate the fiber content in various feeds. D. H. Kleinschmit*, D. J. Schingoethe, A. R. Hippen, and K. F. Kalscheur, *South Dakota State University*, *Brookings*.

W197 A comparison of soluble true protein assays using three precipitating agents and filter pore sizes. D. A. Ross*, J. B. Robertson, and M. E. Van Amburgh, *Cornell University*, *Ithaca, NY*.

Ruminant Nutrition

Calves & Heifers - Dairy

Exhibit Hall A

Abstract #

W198 Rearing of dairy calves Sahiwal × Holstein feeded with Arachis pintoi and sugar cane. J. Avellaneda-Cevallos*[1], P. Cansing-Yépez[1], W. Vera-Benavides[1], O. Montañez-Valdez[2], S. González-Muñoz[3], J. Vargas-Burgos[1], J. Tuarez-Cobeña[1], and R. Vivas-Moreira[1], [1]*Unidad de Investigación Científica y Tecnológica, Facultad de Ciencias Pecuarias, Universidad Técnica Estatal de Quevedo*, *Quevedo, Ecuador*, [2]*Centro Universitario del Sur. Universidad de Guadalajara*, *Guadarajara, México*, [3]*Colegio de Postgraduados*, *Texcoco, México*.

W199 Effects of applying exogenous, non-starch polysaccharidases to pre-weaning starter diet on performance of Holstein calves. G. R. Ghorbani[1], A. Jafari[1], A. H. Samie[1], and A. Nikkhah*[2], [1]*Isfahan University of Technology*, *Isfahan, Iran*, [2]*University of Manitoba*, *Winnipeg, MB, Canada*.

W200 Physical form of starter concentrate for young Holstein calves. G. R. Ghorbani[1], M. Bagheri Varzaneh[1], and A. Nikkhah*[2], [1]*Isfahan University of Technology*, *Isfahan, Iran*, [2]*University of Manitoba*, *Winnipeg, MB, Canada*.

W201 The effect of milk replacer fat source on calf growth and health. T. J. Earleywine*, T. E. Johnson, H. B. Perry, and B. L. Miller, *Land O'Lakes, Inc.*, *Webster City, IA*.

W202 The effect of milk replacer composition on calf growth and health. B. L. Miller*, T. E. Johnson, H. B. Perry, and T. J. Earleywine, *Land O'Lakes, Inc.*, *Webster City, IA*.

W203 Short- and medium-term effects of an enhanced-growth feeding program in dairy calves. M. Terré*[1] and A. Bach[1,2], [1]*IRTA-Unitat de Remugants*, *Barcelona, Spain*, [2]*ICREA*, *Barcelona, Spain*.

W204 No effects of daily concentrate intake on ruminal environment in milk fed calves. N. B. Kristensen*, J. Sehested, S. K. Jensen, and M. Vestergaard, *Danish Institute of Agricultural Sciences*, *Tjele, Denmark*.

W205 Delayed introduction of a low-starch concentrate induces normal ruminal development in dairy calves at weaning. N. B. Kristensen*, J. Sehested, S. K. Jensen, and M. Vestergaard, *Danish Institute of Agricultural Sciences*, *Tjele, Denmark*.

W206 Performance of dairy heifer calves fed milk replacers with equal protein and fat levels but utilizing different fat sources. B. Braman*[1], S. Hayes[1], H. Chester-Jones[2], D. Ziegler[2], J. Linn[3], and B. Ziegler[4], [1]*Milk Products*, *Chilton, WI*, [2]*University of Minnesota*, *Waseca*, [3]*University of Minnesota*, *St. Paul*, [4]*Hubbard Feeds*, *Mankato, MN*.

W207 Pre- and post weaning performance of dairy heifer calves fed texturized or pelleted calf starters with or without intake enhancing flavors. B. Ziegler*[1], R. Larson[1], H. Chester-Jones[2], D. Ziegler[2], J. Linn[3], and S. Hayes[4], [1]*Hubbard Feeds*, *Mankato, MN*, [2]*University of Minnesota*, *Waseca*, [3]*University of Minnesota*, *St. Paul*, [4]*Milk Products*, *Chilton, WI*.

W208 Performance of Holstein dairy heifers fed concentrate diets containing dried distillers grains or urea. R. Larson*[1], B. Ziegler[1], J. Linn[2], D. Ziegler[3], and H. Chester-Jones[3], [1]*Hubbard Feeds*, *Mankato, MN*, [2]*University of Minnestota*, *St.Paul*, [3]*University of Minnesota*, *Waseca*.

W209 Performance of Holstein dairy heifers full vs. limit fed whole-shelled corn and protein pellet diets with differing fiber levels. H. Chester-Jones*[1], D. Ziegler[1], R. Larson[2], B. Ziegler[2], and J. Linn[3], [1]*University of Minnesota*, *Waseca*, [2]*Hubbard Feeds*, *Mankato, MN*, [3]*University of Minnesota*, *St. Paul*.

W210 Rumen fermentation patterns of dairy heifers fed restricted amounts of high and low forage diets. M. L. Moody*, G. I. Zanton, and A. J. Heinrichs, *Pennsylvania State University*, *University Park*.

W211 The effects of restricted feeding a high concentrate or high forage ration for similar weight gains on structural growth in Holstein heifers. G. I. Zanton* and A. J. Heinrichs, *The Pennsylvania State University*, *University Park*.

Ruminant Nutrition

Feedstuff Digestibility & Nutritive Value

Exhibit Hall A

Abstract #

W212 Prediction of the nutritive value of maize stover using near infrared reflectance spectroscopy. S. Fernandez-Rivera*, G. Gebremariam, J. Hanson, and D. Negassa, *International Livestock Research Institute*, *Addis Ababa, Ethiopia.*

W213 Estimation of the nutritive value of cereals and wheat by products with or without oregano and rosemary supplementation. A. Caputi Jambrenghi[1], F. Giannico*[1], M. A. Colonna[1], C. A. Marano[1], L. Marvulli[1], G. Cappiello[2], and G. Vonghia[1], [1]*University of Bari*, *Bari, Italy*, [2]*Breeder Association of Taranto*, *Taranto, Italy*.

W214 Nutritive evaluation of different types of frost damaged wheat for ruminants: I. Chemical characterization, II. energy values, III. protein and carbohydrate subfractions, IV. rumen degradation kinetics, and V. modeling nutrient supply. P. Yu*, V. Racz, L. White, J. J. McKinnon, and D. A. Christensen, *University of Saskatchewan*, *Saskatoon, SK, Canada*.

W215 In vitro digestibility of wet sorghum distillers grain. C. R. Richardson[1], J. H. Mikus[1], D. W. Boyles[2], A. T. Moore*[1], J. E. Vander Dussen[3], H. P. Hagaman[1], and B. S. May[1], [1]*Texas Tech University*, *Lubbock*, [2]*LDJ Nutrition*, *Lubbock, TX*, [3]*Rajen Dairy*, *Clovis, NM*.

W216 Monitoring the fate of gamma irradiated soybean meal proteins in the rumen. P. Shawrang[1], A. Nikkhah*[1], A. A. Sadeghi[2], and G. Raisali[3], [1]*Tehran University*, *Karaj, Iran*, [2]*Islamic Azad University*, *Tehran, Iran*, [3]*Nuclear Research Center for Agriculture and Medicine, Iranian Atomic Energy Organization*, *Karaj, Iran.*

W217 Monitoring the fate of gamma irradiated canola meal proteins in the rumen. P. Shawrang[1], A. Nikkhah*[1], A. A. Sadeghi[2], A. Zareh[1], and G. Raisali[3], [1]*University of Tehran*, *Karaj, Iran*, [2]*Islamic Azad University*, *Tehran, Iran*, [3]*Nuclear Research Center for Agriculture and Medicine, Iranian Atomic Energy Organization*, *Karaj, Iran*.

W218 Effect of microwave irradiation on ruminal starch and protein degradation characteristics of barley grain. A. Nikkhah*[1], A. A. Sadeghi[2], and P. Shawrang[1], [1]*Tehran University*, *Karadj, Iran*, [2]*Islamic Azad University*, *Tehran, Iran*.

W219 Effect of ethanol treatments of soybean meal on rumen escape of soybean meal protein. A. A. Sadeghi[1], A. Nikkhah*[2], and P. Shawrang[2], [1]*Islamic Azad University*, *Tehran, Iran*, [2]*Tehran University*, *Karaj, Iran*.

W220 Nutritional value of tropical fruit processing by-products. J. M. l. Sánchez*[1,2] and C. Herrera[1,3], [1]*Universidad de Costa Rica*, *San José, Costa Rica*, [2]*Centro de Investigación en Nutrición Animal*, *San José, Costa Rica*, [3]*Escuela de Zootecnia*, *San José, Costa Rica*.

W221 Intestinal digestibility of ADIN in grazed forages and agro-industrial by-products. M. J. Marichal*, A. I. Trujillo, and M. Carriquiry, *Facultad de Agronomia*, *Montevideo, Uruguay*.

W222 In situ ruminal degradation of the residue of the wine-producing industry and different agroindustrials by-products. R. H. de T. Buschinelli de Goes*, R. de C. M. Tramontini, S. T. Cardim, F. Morotti, G. D. Almeida, J. Ribeiro, L. A. Oliveira, and C. de L. Schecaira, *Universidade Estadual de Maringá-DZO*, *Umuarama, PR, Brazil*.

W223 Effect of Grain Prep® surfactant on ruminal in situ degradability of flaked corn dry matter and starch. A. N. Hristov*[1], S. Zaman[1], K. Huber[1], and D. Greer[2], [1]*University of Idaho*, *Moscow*, [2]*AgriChem, Inc.*, *Ham Lake, MN*.

W224 Influence of corn hybrid on kernel traits. F. W. Harrelson*, G. E. Erickson, T. J. Klopfenstein, L. A. Nelson, and D. S. Jackson, *University of Nebraska*, *Lincoln*.

W225 Effect of replacing barley grain with cork oak acorn (Quercus Suber L.) on digestibility, nitrogen balance and growth of goat kids. G. B. Aziza*[1], A. Hedi[2], K. Hajer[2], and M. Rabia[2], [1]*Institut National Agronomique Tunis*, *Mahrajène Tunis, Tunisia*, [2]*Ecole Supérieure d'Agriculture Mateur*, *ESA Mateur, Tunisia*.

W226 Apparent digestibility, voluntary feed intake and performance of goat kids fed olive cake ensiled with different feedstuffs. F. T. Sleiman*[1], R. E. Issa[1], S. H. Ibrahim[2], M. G. Uwayjan[1], S. K. Hamadeh[1], I. Toufeili[1], and M. T. Farran[1], [1]*American University of Beirut*, *Beirut, Lebanon*, [2]*University of Dohuk*, *Dohuk, Kurdistan, Iraq*.

W227 Effect of Pleurotus florida on digestibility of wheat stubble and date palm leaf in sheep. F. Kafilzadeh*[1], A. Kabirifard[2], and H. Fazaeli[3], [1]*Razi University*, *Kermanshah, Kermanshah, Iran*, [2]*Research Center of Agriculture and Natural Resources*, *Boushehr, Iran*, [3]*Research Center of Animal Science*, *Karaj, Iran*.

Ruminant Nutrition

Forage & Fiber

Exhibit Hall A

Abstract #

W228 Ingestive behavior of dairy goats and feedlot lambs fed sugar cane silage. C. Q. Mendes, I. Susin*, A. V. Pires, L. G. Nussio, R. C. Araujo, L. V. Gerage, and M. F. Ribeiro, *Escola Superior de Agricultura Luiz de Queiroz (ESALQ)/University of São Paulo (USP)*, *Piracicaba, São Paulo, Brazil.*

W229 Effects of dietary fiber from forage of advanced maturity on performance of lactating goats. R. H. Branco[1], M. T. Rodrigues*[2], M. M. C. da Silva[2], C. A. F. Rodrigues[3], V. Viana[2], F. D. O. Morbi[2], R. da Silva Matos[2], and M. de Souza Duarte[2], [1]*Instituto de Zootecnia*, *Sertãozinho, São Paulo, Brasil*, [2]*Universidade Federal de Viçosa*, *Viçosa, Minas Gerais, Brasil*, [3]*Sadia*, *Concórdia, Santa Catarina, Brasil*.

W230 Influence of level of dietary forage fiber on intake and nutrient utilization of dairy goats. R. H. Branco*[1], M. T. Rodrigues[2], C. A. F. Rodrigues[2], M. M. C. da Silva[2], F. L. de Araújo[2], V. Viana[2], and V. R. Paiva[2], [1]*Instituto de Zootecnia*, *Sertãozinho, São Paulo, Brasil*, [2]*Universidade Feeral de Viçosa*, *Viçosa, Minas Gerais, Brasil*.

W231 Evaluation of sorghum silage and grain with condensed tannin in the diet for ruminants. H. Carneiro*[1], S. Peregrino[2], and N. J. M. Matos[2], [1]*Empresa Brasileira de Pesquisa Agropecuária*, *Juiz de Fora, MG, Brazil*, [2]*Universidade Federal Rural do Rio de Janeiro*, *Soropédica, RJ, Brazil*.

W232 Development of an on-farm system to determine pef value of as fed forages and TMR. K. W. Cotanch*[1], R. J. Grant[1], C. S. Ballard[1], J. W. Darrah[1], H. M. Dann[1], and T. Takano[2], [1]*William H. Miner Agricultural Research Institute*, *Chazy, NY*, [2]*Zen-Noh National Federation of Agricultural Co-operative Associations*, *Tokyo, Japan*.

W233 Effect of physically effective fiber on digestion and milk production of dairy cows fed diets containing barley or corn grains. W. Z. Yang* and K. A. Beauchemin, *Research Center, Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*.

W234 Effects of feeding Roundup Ready® alfalfa on intake and milk production of dairy cows. D. K. Combs*[1] and G. F. Hartnell[2], [1]*University of Wisconsin*, *Madison*, [2]*Monsanto Company*, *St. Louis, MO*.

W235 Effects of supplying protein to primiparous beef heifers on forage intake and serum hormones and metabolites. J. L. Leupp*, G. P. Lardy, J. S. Caton, and M. L. Bauer, *North Dakota State University*, *Fargo*.

W236 Fermentation, dry matter recovery, and aerobic stability of corn silage inoculated with *L. plantarum* or *L. buchneri*. V. Sewalt[1], A. Lamptey*[1], D. Sapienza[2], and D. Westerhaus[1], [1]*Kemin Industries*, *Des Moines, IA*, [2]*Sapienza Analytica*, *Slater, IA*.

W237 Influence of a silage inoculant containing ferulate esterase producing *Lactobacillus buchneri* strain PTA6138 on aerobic stability and ruminal degradation of corn silage. V. L. Nsereko*, B. K. Smiley, G. H. Hettinger, A. J. Spielbauer, K. J. Forrester, B. R. Harman, E. K. Harman, and W. M. Rutherford, *Pioneer Hi-Bred Int.*, *Johnston, IA*.

W238 Influence of inoculating forage with ferulate esterase producing lactic acid bacteria on ensilage and ruminal degradation of fiber. V. L. Nsereko, B. K. Smiley*, W. M. Rutherford, A. J. Spielbauer, E. K. Harman, B. R. Harman, K. J. Forrester, and G. H. Hettinger, *Pioneer Hi-Bred Int.*, *Johnston, IA*.

W239 Monitoring the fate of red clover and Alfalfa proteins during wilting, drying, ensiling and ruminal fermentation. A. A. Sadeghi[1], P. Shawrang[2], and A. Nikkhah*[2], [1]*Islamic Azad University*, *Tehran, Iran*, [2]*Tehran University*, *Karaj, Iran*.

W240 Effect of regrowth interval in spring and autumn on intake and rumen fermentation in beef cattle offered zero-grazed grass. D. Owens*[1,2], M. McGee[1], and F. P. O'Mara[2], [1]*Teagasc, Grange Beef Research Centre*, *Dunsany, Co. Meath*, [2]*School of Agriculture, Food Science and Veterinary Medicine, University College Dublin*, *Belfield, Dublin 4, Ireland*.

Sheep Species

Exhibit Hall A

Abstract #

W241 Small Ruminant Nutrition System; A computer model to develop feeding programs for sheep and goats. A. Cannas*[1], L. O. Tedeschi[2], and D. G. Fox[3], [1]*University of Sassari*, *Sassari, Italy*, [2]*Texas A & M University*, *College Station*, [3]*Cornell University*, *Ithaca, NY*.

W242 The effect of chicory, burr medic and safflower forages on milk fatty acid composition, especially conjugated linoleic acid cis9, trans11. A. Cabiddu*[1], M. Addis[1], M. Decandia[1], G. Piredda[1], S. Spada[1], M. Fiori[1], M. Sitzia[1], N. Fois[1], G. Molle[1], S. Landau[2], and A. Pirisi[1], [1]*Istituto Zootecnico e Caseario per la Sardegna*, *Olmedo, Italy*, [2]*Gilat Research Center*, *Mobile Post Negev 2, Israel*.

W243 Effect of whole or ground moisture heat damaged cotton seed on apparent digestibility in Pelibuey sheep. A. Estrada-Angulo*, M. Uribe, J. F. Obregon, E. Vazquez, and J. C. Robles, *Universidad Autonoma de Sinaloa*, *Culiacan, Sinaloa, Mexico*.

W244 Effect of cottonseed and animal fat on growth performance and carcass traits in Pelibuey sheep. A. Estrada-Angulo*, E. Martinez, J. F. Obregon, F. G. Rios, and A. B. Perez, *Universidad Autonoma de Sinaloa*, *Culiacan, Sinaloa, Mexico*.

W245 Effect of whole moisture heat damaged cottonseed on growth performance and carcass characteristics in Pelibuey sheep. A. Estrada-Angulo*[1], R. Rodriguez[1], M. Mellado[2], J. F. Obregon[1], F. G. Rios[1], G. Contreras[1], and J. C. Robles[1], [1]*FMVZ-Universidad Autonoma de Sinaloa*, *Culiacan, Sinaloa, Mexico*, [2]*Universidad Autonoma Agraria Antonio Narro*, *BuenaVista, Saltillo, Coahuila Mexico*.

W246 Carcass yield and loin tissue composition of feedlot lambs fattened with diest containing fish residue silage. A. G. da Silva Sobrinho*[1], S. M. Yamamoto[1], R. M. Vidotti[2], H. B. A. de Souza[1], A. C. Homem Junior[1], and R. S. B. Pinheiro[1], [1]*Unesp-São Paulo State University*, *Jacoticabal, São Paulo, Brazil*, [2]*CAPTAPC/Fishing Institute*, *São José do Rio Preto, São Paulo, Brazil*.

W247 Effects of using raw soybean on performance and carcass characteristics of feedlot lambs. F. S. Urano, A. V. Pires*, I. Susin, C. Q. Mendes, G. H. Rodrigues, R. C. Araujo, and I. U. Packer, *Escola Superior de Agricultura Luiz de Queiroz (ESALQ)/University of São Paulo (USP)*, *Piracicaba, São Paulo, Brazil.*

W248 The effect of feeding yeast (Saccharomyces cevisiae) on growth and white blood cell count as an indicator of the immune system in suckling lambs. F. Kafilzadeh* and M. Rahmani, *Saveh Azad University*, *Saveh, Iran*.

W249 Effects of ACTH and ascorbic acid application on phagocytic activity of neutrophil leukocytes in Akkaraman sheep. F. S. Hatipoglu*[1], C. Altinsaat[2], and N. Sulu[2], [1]*Akdeniz University*, *Burdur, Turkey*, [2]*Ankara University*, *Ankara, Turkey*.

W250 Gonadal and epididymal sperm counts in growing Ossimi rams in Egypt. A. M. Osman*, *Assiut University*, *Assiut, Egypt*.

W251 The effect of two management systems on milk composition in dairy ewes. S. A. Maestá, E. R. Siqueira, M. M. Stradiotto, C. C. Boucinhas, A. Piccinin, and R. M. S. Emediato*, *São Paulo State University*, *Botucatu, São Paulo, Brazil*.

W252 Identification of quantitative trait loci affecting parasite indicator traits in a double backcross population of sheep. T. Sonstegard*[1], F. Iraqi[2], J. Mugambi[2], C. Van Tassell[1], F. Garcia[3], O. Hanotte[2], S. Nagda[2], J. Gibson[4], and L. Baker[2], [1]*USDA, ARS Bovine Functional Genomics Laboratory*, *Beltsville, MD*, [2]*International Livestock Research Institute*, *Nairobi, Kenya*, [3]*FAO/IAEA Animal Production Unit*, *Vienna, Austria*, [4]*University of New England*, *Armidale, NSW, Australia*.

W253 An ovine whole-genome radiation hybrid map. C. H. Wu*[1], K. Nomura[1], T. Hadfield[1], J. E. Womack[2], and N. E. Cockett[1], [1]*Utah State University*, *Logan*, [2]*Texas A&M University*, *College Station*.

Teaching/Undergraduate and Graduate Education

Exhibit Hall A

Abstract #

W254 Factors associated with students' self-reported amount of learning in dairy science courses. R. R. Rastani* and M. A. Wattiaux, *University of Wisconsin*, *Madison*.

W255 Leadership development through leadership action plans. D. R. Brink*, L. D. Moody, and M. M. Peterson, *University of Nebraska*, *Lincoln*.

W256 Promoting student engagement in the animal sciences: Incorporation of an academic pedigree project into an undergraduate animal breeding and genetics course. C. J. Kojima*, *University of Tennessee*, *Knoxville*.

W257 Teaching animal behavior research to animal science students. D. B. Imwalle*, S. E. Becker, and L. S. Katz, *Rutgers University*, *New Brunswick, NJ*.

W258 Development of a course in embryo transfer and related technologies for undergraduate students in agriculture. C. R. Youngs*, *Iowa State University*, *Ames*.

W259 Introduction of a laboratory component to a therapeutic horseback riding course. M. Nicodemus* and K. Slater, *Mississippi State University*, *Mississippi State*.

OTHER EVENTS

ADSA/ASAS Joint Business Meeting

101 B-C

9:30 AM

ADSA Business Meeting

101 A

10:00 AM

ASAS Business Meeting

101 D-E

10:00 AM

SYMPOSIA AND ORAL SESSIONS

SYMPOSIUM

ADSA Production Division, Dairy Reproduction Terminology Workshop

Chair: Ellen R. Jordan, Texas A&M University

Sponsor: Arm & Hammer Animal Nutrition

Symposium meets AAVSB'S RACE requirement for 2 hr CE.

101 J

Time	Abstract #	
	426	Reproductive terminology workshop. E. R. Jordan*[1], J. S. Stevenson[2], P. M. Fricke[3], and M. W. Overton[4], [1]*Texas A & M University*, *Dallas*, [2]*Kansas State University*, *Manhattan*, [3]*University of Wisconsin*, *Madison*, [4]*University of Georgia*, *Athens*.
10:30 AM		Introduction. E. Jordan, *Texas A&M University, Dallas*.
10:35 AM		General terminology. M. Overton, *University of Georgia, Athens*.
10:50 AM		Discussion.
11:10 AM		Synchronization program terminology. J. Stevenson, *Kansas State University, Manhattan*.
11:25 AM		Discussion.
11:45 AM		Reproductive outcome terminology. P. Fricke, *University of Wisconsin, Madison*.
12:00 PM		Discussion.
12:20 PM		Wrap-up.

SYMPOSIUM

ARPAS

Assessment and Management of Feedstuff Variation in Dairy Nutrition

Chair: Charles Schwab, University of New Hampshire

Sponsor: ARPAS

101 H-I

Time	Abstract #	
10:30 AM	427	How can dairy nutrition models deal with uncertainty? R. A. Kohn*, *University of Maryland*, *College Park*.
11:05 AM	428	Quantifying assay variation in nutrient analysis of feedstuffs. D. R. Mertens*, *USDA-ARS, US Dairy Forage Research Center*, *Madison, WI*.
11:40 AM	429	Impact of variation in diet nutrient inputs on model output predictions. J. G. Fadel, H. A. Johnson, and P. H. Robinson*, *University of California*, *Davis*.
12:15 PM	430	Managing feedstuff variation in nutritional practice. N. R. St-Pierre*[1] and W. P. Weiss[2], [1]*The Ohio State University*, *Columbus*, [2]*Ohio State University*, *Wooster*.

SYMPOSIUM
Bioethics
Ethical and Social Issues in Animal Biotechnology
Chair: Candace Croney, Oregon State University
101 A

Time	Abstract #	
10:30 AM		Introductions. C. Croney, *Oregon State University, Corvallis*.
10:40 AM	431	Ethics and animal biotechnology: A re-evaluation in light of the Bush Administration Science Policy. P. Thompson*, *Michigan State University*, *East Lansing*.
11:05 AM	432	Animal biotechnology: Interfacing ethics with scientific advancement. R. Anthony*, *University of Alaska*, *Anchorage*.
11:25 AM	433	Genetically engineered animals and the ethics of food labeling. R. Streiffer* and A. Rubel, *University of Wisconsin*, *Madison*.
11:45 AM		Discussion.

Dairy Foods
Products and Processing
Chair: Douglas Olson, Louisiana State University Agricultural Center
200 D-E

Time	Abstract #	
10:30 AM	434	Aggregation of casein micelles and K-carrageenan in reconstituted skim milk. S. Ji, H. D. Goff*, and M. Corredig, *University of Guelph*, *Guelph, Ontario, Canada*.
10:45 AM	435	Comparison of the fatty acid distributions among different vegetable oil blends toward infant milk formulation. C. O. Maduko*[1], C. Akoh[1], and Y. W. Park[2], [1]*University of Georgia*, *Athens*, [2]*Fort Valley State University*, *Fort Valley, GA*.
11:00 AM	436	Milk quality improvement in Iran. R. Noorbakhsh*[1] and A. Heravi Moussavi[2], [1]*Institute of Standards and Industrial Research*, *Mashhad, Iran*, [2]*Center of Excellence and Department of Animal Science, Ferdowsi University*, *Mashhad, Iran*.
11:15 AM	437	Functional behavior of liquid virgin whey protein concentrate. P. Marcelo* and S. S. H. Rizvi, *Institute of Food Science, Cornell University*, *Ithaca, NY*.
11:30 AM		Break
11:45 AM	438	Pressure-induced interactions of milk proteins: Are they different from heat-induced interactions? H. A. Patel*[1,2], H. Singh[3], and L. K. Creamer[2], [1]*Institute of Food, Nutrition and Human Health, Massey University*, *Palmerston North, New Zealand*, [2]*Fonterra Research Centre*, *Palmerston North, New Zealand*, [3]*Riddet Centre, Massey University*, *Palmerston North, New Zealand*.
12:00 PM	439	Microbial and somatic cells removal from raw skim milk by cold microfiltration: Quality and shelf life effects. J. A. Fritsch* and C. I. Moraru, *Cornell University*, *Ithaca, NY*.
12:15 PM	440	Process analysis for liquid virgin whey protein concentrate production using membrane technology. P. Marcelo* and S. S. H. Rizvi, *Institute of Food Science, Cornell University*, *Ithaca, NY*.

Forages and Pastures

Forage Finishing

Chair: John Fike, Virginia Tech

M100 B-C

Time	Abstract #	
10:30 AM	441	Effects of forage species on fatty acid composition of beef longissimus muscle from forage-finished beef. S. K. Duckett*[1], E. Pavan[2], R. N. Sonon[2], J. Neel[3], J. P. Fontenot[4], and W. Clapham[3], [1]*Clemson University*, *Clemson, SC*, [2]*University of Georgia*, *Athens*, [3]*USDA-ARS*, *Beaver, WV*, [4]*Virginia Tech*, *Blacksburg*.
10:45 AM	442	Effects of forage species on rib composition, color, and palatability in forage-finished beef. S. K. Duckett*[1], R. N. Sonon[2], E. Pavan[2], J. Neel[3], J. P. Fontenot[4], G. Scaglia[4], and W. Clapham[3], [1]*Clemson University*, *Clemson, SC*, [2]*University of Georgia*, *Athens*, [3]*USDA-ARS*, *Beaver, WV*, [4]*Virginia Tech*, *Blacksburg, VA*.
11:00 AM	443	Corn oil or corn grain supplementation to forage-finished steers. I. Effects on animal performance and carcass quality. E. Pavan*[1,2] and S. Duckett[3], [1]*University of Georgia*, *Athens*, [2]*INTA*, *Balcarce, Bs. As., Argentina*, [3]*Clemson University*, *Clemson, SC*.
11:15 AM	444	Corn oil or corn grain supplementation to forage-finished steers. II. Effects on s.c. and i.m. fatty acid composition. E. Pavan*[1,2] and S. Duckett[3], [1]*University of Georgia*, *Athens*, [2]*INTA*, *Balcarce, Bs. As., Argentina*, [3]*Clemson University*, *Clemson, SC*.
11:30 AM	445	Corn oil or corn grain supplementation to forage-finished steers. III. Effects on longissimus pH, tenderness, and flavor. E. Pavan*[1,2] and S. Duckett[3], [1]*University of Georgia*, *Athens*, [2]*INTA*, *Balcarce, Bs. As., Argentina*, [3]*Clemson University*, *Clemson, SC*.
11:45 AM	446	Dried distillers grains substitute for forage and nitrogen on pasture. M. A. Greenquist*, K. J. Vander Pol, L. Baleseng, T. J. Klopfenstein, W. H. Schacht, and G. E. Erickson, *University of Nebraska*, *Lincoln*.
12:00 PM	447	Use of cuticular wax alkanes to estimate digestibility and intake of cows at pasture with a view to estimating efficiency. S. W. Coleman*, C. C. Chase, Jr., and D. G. Riley, *USDA ARS Subtropical Agricultural Research Station*, *Brooksville, FL*.
12:15 PM	448	Effect of grazing management on cattle distribution patterns. M. Haan*, J. Russell, J. Davis, D. Strohbehn, D. Morrical, and W. Powers, *Iowa State University*, *Ames*.

SYMPOSIUM

Goat Species

Improving Meat, Milk and Parasite Control in Goats

Chair: Sandra Solaiman, Tuskegee University

L100 J

Time	Abstract #	
10:30 AM	449	Indicators of fitness in Boer, Kiko, and Spanish does managed on pasture in Tennessee (Year 2). R. Browning, Jr.*, B. Donnelly, T. Payton, M. L. Leite-Browning, P. Pandya, W. Hendrixson, and M. Byars, *Tennessee State University - IAgER*, *Nashville*.
10:45 AM	450	Concentrate protein level for finishing intact or castrated Boer-cross meat goats. M. Poore*, A. Shaeffer, S. Freeman, H. Glennon, and J.-M. Luginbuhl, *North Carolina State University*, *Raleigh*.
11:00 AM	451	Generation and annotation of expressed sequence tags (ESTs) for the goat. B. L. Sayre*[1], G. Harris[1], J Dzakuma[2], S. Samake[3], N. Whitley[4], and Z. Wang[5], [1]*Virginia State University*, *Petersburg*, [2]*Prairie View A&M University*, *Prairie View, TX*, [3]*Fort Valley State University*, *Fort Valley, GA*, [4]*University of Maryland-Eastern Shore*, *Princess Anne*, [5]*Langston University*, *Langston, OK*.
11:15 AM	452	Effects of preparturient intramuscular injection of vitamin E and selenium on milk somatic cell counts in dairy goats. I. Lin*[1,2], Y. Fan[1], and H. Chang[1,3], [1]*National Chung Hsing University*, *Taichung, Taiwan, ROC*, [2]*National Taiwan University*, *Taipei, Taiwan, ROC*, [3]*Uni-President Enterprises Corp.*, *Tainan, Taiwan, ROC*.
11:30 AM	453	Genetic parameters for milk yield in dairy goats across lactations in Germany. B. Zumbach[1,2], S. Tsuruta*[1], I. Misztal[1], and K. J. Peters[2], [1]*University of Georgia*, *Athens*, [2]*Humboldt University*, *Berlin, Germany*.

Horse Species

Equine Nutrition

Chair: Sarah Ralston, Rutgers University

M100 A

Time	Abstract #	
10:30 AM	454	Endocrine changes in peri-parturient mares and their newborn. E. L. Berg*, D. L. Meyer, and D. H. Keisler, *University of Missouri*, *Columbia*.
10:45 AM	455	Effect of parity and day on foal nursing behavior during the first month of lactation. T. N. Stamper*[2], B. D. Nielsen[1], J. Liesman[1], and N. L. Trottier[1], [1]*Michigan State University*, *East Lansing*, [2]*Grand-Valley State University*, *Grand-Rapids, MI*.
11:00 AM	456	Effect of parity and day on nutrient intake by foals and nutrient demand on mares during the first month of lactation. T. N. Stamper[2], B. D. Nielsen[1], and N. L. Trottier*[1], [1]*Michigan State University*, *East Lansing*, [2]*Grand-Valley State University*, *Grand Rapids, MI*.
11:15 AM	457	Duration of nursing and resting bouts of foals ten and twenty days after birth. B. D. Nielsen*[1], T. N. Stamper[1], N. L. Trottier[1], J. S. Liesman[1], I. Gyorkos[2], L. Tecsy[2], A. Harcsa[2], and A. Tecsy[2], [1]*Michigan State University*, *East Lansing*, [2]*College of Nyiregyhaza*, *Nyiregyhaza, Hungary*.
11:30 AM		Break
11:45 AM	458	Effect of dietary n-3 fatty acid supplementation on plasma and milk composition and immune status of mares and foals. E. L. Stelzleni*, L. K. Warren, and J. Kivipelto, *University of Florida*, *Gainesville*.
12:00 PM	459	Effects of dietary fish oil and flaxseed on plasma fatty acid composition and immune response in yearling horses. K. R. Vineyard*[1], L. K. Warren[1], K. A. Skjolaas[2], J. E. Minton[2], and J. Kivipelto[1], [1]*University of Florida*, *Gainesville*, [2]*Kansas State University*, *Manhattan*.
12:15 PM	460	Effects of fatty acid supplementation on plasma fatty acid concentrations and characteristics of the first postpartum estrous in mares. T. A. Poland*[1], J. M. Kouba[1], C. M. Hill[1], C. Armendariz[1], J. E. Minton[1], and S. K. Webel[2], [1]*Kansas State University*, *Manhattan*, [2]*JBS United, Inc.*, *Sheridan, IN*.

Nonruminant Nutrition

Sow Nutrition and Gilt Development

Chair: Brian Kerr, USDA - ARS - SOMMRU and Mike Orth, Michigan State University

L100 B-C

Time	Abstract #	
10:30 AM	461	Determining the threonine requirement of the lactating sow. J. D. Schneider*, M. D. Tokach, S. S. Dritz, R. D. Goodband, J. L. Nelssen, and J. M. DeRouchey, *Kansas State University*, *Manhattan*.
10:45 AM	462	Progenos in sows increases number of piglets born. P. Ramaekers*[1], B. Kemp[2], and T. van der Lende[2], [1]*Nutreco Netherlands BV*, *Boxmeer, The Netherlands*, [2]*Department of Animal Sciences*, *Wageningen, The Netherlands*.
11:00 AM	463	Dietary protein concentration alter amino acid extraction rate across the porcine mammary gland during lactation. J. Perez Laspiur and N. L. Trottier*, *Michigan State University*, *East Lansing*.
11:15 AM	464	Dietary protein intake and stage of lactation differentially alter amino acid transporter gene expression in porcine mammary gland. J. Perez Laspiur*, J. L. Burton, P. S. D. Weber, and N. L. Trottier, *Michigan State University*, *East Lansing*.
11:30 AM	465	An omega-3 enriched diet mitigates inflammatory mediators derived from ex vivo porcine cartilage explants. M. W. Orth*[1], J. D. Spencer[2], C. I. O'Connor[1], P. M. Wolfe[1], and J. B. Wheeler[1], [1]*Michigan State University*, *East Lansing*, [2]*JBS United, Inc.*, *Sheridan, IN*.
11:45 AM	466	Varying dietary cation-anion difference in late gestation and in lactation on sow productivity. M. L. Roux*[1], P. W. Jardon[2], S. L. Johnston[1], T. D. Bidner[1], and L. L. Southern[1], [1]*LSU Agricultural Center*, *Baton Rouge*, [2]*West Central*, *Ralston, IA*.

Production, Management and the Environment III

Chair: L. Wayne Greene, Auburn University

M100 I-J

Time	Abstract #	
10:30 AM	467	Carry-over effect of extended photoperiod during pubescence on first lactation in beef heifers. J. A. Small*[1] and A. D. Kennedy[2], [1]*Agriculture & Agri-Food Canada*, *Brandon, MB, Canada*, [2]*University of Manitoba*, *Winnipeg, MB, Canada*.
10:45 AM	468	Influence of breed type and temperament on feedlot growth and carcass characteristics of beef steers. R. C. Vann*[1], R. D. Randel[2], T. H. Welsh, Jr.[2], S. T. Willard[4], J. A. Carroll[5], M. S. Brown[3], and T. E. Lawrence[3], [1]*MAFES-Brown Loam Exp. Station*, *Raymond, MS*, [2]*TAES*, *College Station and Overton, TX*, [3]*West Texas A&M University*, *Canyon*, [4]*Mississippi State University*, *Starkville,* [5]*Livestock Issues Research Unit, Agricultural Research Service-USDA*, *Lubbock, TX*.
11:00 AM	469	The effect of supplemented light on certain production parameters of young beef bulls fed intensively. P. J . Fourie*, D. J . Maasz, and D. O. Umesiobi, *Central University of Technology, Free State*, *South Africa*.
11:15 AM	470	A nutritional supplement for beef cattle grazing endophyte-infected tall fescue. I. Response of herd-managed cows and calves. D. G. Ely*, D. K. Aaron, J. Wyles, R. A. Zinner, A. K. Lunsford, and M. L. Mallory, *University of Kentucky*, *Lexington*.
11:30 AM	471	A nutritional supplement for beef cattle grazing endophyte-infected tall fescue. II. Response of individually-pastured cow/calf pairs. D. K. Aaron*, D. G. Ely, J. Wyles, R. A. Zinner, A. K. Lunsford, and M. L. Mallory, *University of Kentucky*, *Lexington*.
11:45 AM	472	A general model for predicting the retention of electronic boluses in the forestomachs of cattle and sheep. G. Caja*[1], J. Ghirardi[1], J. Casellas[1], S. Carné[1], M. Hernández-Jover[1], and D. Garín[2], [1]*Grup de Recerca en Remugants, Universitat Autònoma de Barcelona*, *Bellaterra, Spain*, [2]*Facultad de Veterinaria, Universidad de la República*, *Montevideo, Uruguay*.
12:00 PM	473	Estimation of demand function for different types of meat in Iran: Application of cointegration. J. Azizi*, *Islamic Azad University, Rasht Branch*, *Rasht, Iran*.
12:15 PM	474	Optimising lactation length based on subsequent sow reproductive performance. M. Aparicio*, L. M. Ramirez, J. Morales, and C. Pineiro, *PigCHAMP Pro Europa, S.A.*, *Segovia, Spain*.

Production, Management and the Environment IV

Chair: Dan Waldner, Cargill Animal Nutrition

101 B-C

Time	Abstract #	
10:30 AM	475	Potential demand for dairy farm revenue insurance. C. A. Wolf*, J. C. Hadrich, and J. R. Black, *Michigan State University*, *East Lansing*.
10:45 AM	476	Effect of mastitis and postpartum metabolic diseases on milk yield persistency in Holstein and Jersey cows. J. A. D. R. N Appuhamy*[1], B. G. Cassell[1], and J. B Cole[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Animal Improvement Programs Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*.
11:00 AM	477	Effect of preparturient intramuscular injection of vitamin E and selenium on milk somatic cell counts in Holstein cows. Y. K. Fan*[1], I. T. Lin[1,2], and H. I. Chang[1,3], [1]*National Chung Hsing University*, *Taichung, Taiwan, ROC*, [2]*National Taiwan University*, *Taipei, Taiwan, ROC*, [3]*Uni-President Enterprises Corp.*, *Tainan, Taiwan, ROC*.
11:15 AM	478	Management risk factors associated with clinical lameness in free stall housed Holstein cows. L. A. Espejo and M. I. Endres*, *University of Minnesota*, *St. Paul*.
11:30 AM	479	Using heat stress audits to evaluate the level of heat stress on commercial dairies. J. Smith*[1], M. VanBaale[2], R. Rodriguez[3], C. Jamison[3], M. Brouk[1], and J. Harner III[1], [1]*Kansas State University*, *Manhattan*, [2]*University of Arizona*, *Tucson*, [3]*Monsanto*, *St. Louis, MO*.
11:45 AM	480	Evaluation of Advanced Dairy Systems shade tracker fans and Korral Kool coolers on lactating dairy cattle. R Burgos*, L. J. Odens, R. J. Collier, L. H. Baumgard, and M. J. VanBaale, *University of Arizona*, *Tucson*.
12:00 PM	481	Comparison of a 2-stage and linear controls for feedline soaking systems utilized in 2-row freestall barns. M. J. Brouk*, B. Cvetkovic, J. F. Smith, and J. P. Harner, *Kansas State University*, *Manhattan*.

12:15 PM	482	Impact of feedline soaker minimum operation temperature upon respiration rate and body temperature of lactating dairy cows. M. J. Brouk*, B. Cvetkovic, J. F. Smith, and J. P. Harner, *Kansas State University*, *Manhattan*.
12:30 PM	483	Rearing system effects on growth, puberty and serum prolactin concentrations in dairy heifers derived from beef cattle recipients of in-vivo developed or in-vitro produced embryos. J. A. Small*[1], B. Sawatzky[2], A. D. Kennedy[2], H. Engelhardt[3], J. D. Ambrose[4], and K. M. Wittenberg[2], [1]*Agriculture and Agri-Food Canada, Research Centre*, *Brandon, MB, Canada*, [2]*University of Manitoba*, *Winnipeg, MB, Canada*, [3]*Brandon University*, *Brandon, MB, Canada*, [4]*Alberta Agriculture, Food and Rural Development,*, *Edmonton, AB, Canada*.

Ruminant Nutrition

Nitrogen Metabolism - Dairy

Chair: Jeff Firkins, The Ohio State University

101 F-G

Time	Abstract #	
10:30 AM	ADSA Pioneer	Non-protein nitrogen in dairy cattle: A historical approach. J. T. Huber, *University of Arizona, Orem, UT*.
10:45 AM	484	Effects of duodenal infusion of graded amounts of threonine on lactational performances of dairy cows. H. Rulquin*[1] and P. M. Pisulewski[2], [1]*University and Research Unit on Milk Production*, *Saint Gilles, France*, [2]*Agricultural University*, *Cracow, Poland*.
11:00 AM	485	Effect of different forms of methionine on lactational performance of dairy cows. H. Rulquin*[1], B. Graulet[2], L. Delaby[1], and J. C. Robert[2], [1]*University and Research Unit on Milk Production*, *Saint Gilles, France*, [2]*Centre of Studies and Research on Nutrition*, *Commentry, France*.
11:15 AM	486	Effect of the isopropylester of the hydroxylated analogue of methionin (HMBi) on feed intake and performance of dairy cows in early lactation. V. A. Hindle[1], C. A. Kan[1], J. C. Robert[2], and A. M. van Vuuren*[1], [1]*Animal Sciences Group of Wageningen UR*, *Lelystad, The Netherlands*, [2]*Adisseo France SAS*, *Commentry, France*.
11:30 AM	487	Effect of dietary crude protein, rumen-undegraded protein and rumen-protected methionine on milk production of lactating dairy cows. G. A. Broderick*[1], M. J. Stevenson[2], and R. A. Patton[3], [1]*U.S. Dairy Forage Research Center*, *Madison, WI*, [2]*Degussa Corp.*, *Kennesaw, GA*, [3]*Nittany Dairy Nutrition, Inc.*, *Mifflinburg, PA*.
11:45 AM	488	Milk production response of dairy cows to silage mixtures fed with concentrates of varying ruminal degradation rate. A. Konyali[1,2], K.-H. Südekum*[1,3], W. Junge[1], and E. Kalm[1], [1]*University of Kiel*, *Kiel, Germany*, [2]*Çanakkale Onsekiz Mart University*, *Çanakkale, Turkey*, [3]*University of Bonn*, *Bonn, Germany*.
12:00 PM	489	Reduced rumen degradable protein (RDP) and abomasal inulin reduce diet digestibility and urinary nitrogen in lactating dairy cows. T. F. Gressley* and L. E. Armentano, *University of Wisconsin*, *Madison*.
12:15 PM	490	Evaluation of dried distillers grains versus soybean protein as a source of rumen-undegraded protein for lactating dairy cows. B. W. Pamp*, K. F. Kalscheur, A. R. Hippen, and D. J. Schingoethe, *South Dakota State University*, *Brookings*.

Ruminant Nutrition

Ruminal Fermentation

Chair: Sergio Calsamiglia, Universitat Autonoma de Barcelona, Spain

101 D-E

Time	Abstract #	
10:30 AM	ADSA Pioneer	Rumen microbes: Where are we now and how did we get here? M. Allison, *Iowa State University, Ames.*
10:45 AM	491	A meta–analysis of the effects of fumarate on ruminal methanogenesis. E. M. Ungerfeld* and R. A. Kohn, *University of Maryland*, *College Park*.
11:00 AM	492	Implications of a carbon balance study: Organic acid and protein supplies change with fermentable carbohydrate:protein ratio. M. B. Hall* and P. J. Weimer, *USDFRC, USDA-ARS*, *Madison, WI.*
11:15 AM	493	Effects of grain induced subacute ruminal acidosis on ruminal lipopolysaccharide and inflammation in Holstein cows. G. N. Gozho, J. C. Plaizier*, and D. O. Krause, *University of Manitoba*, *Winnipeg, MB, Canada*.

11:30 AM	494	The effects of rumen-degradable protein level on fermentation of corn-based diets in continuous culture. C. J. Fu*, J. A. Pugh, J. H. Porter, and M. S. Kerley, *University of Missouri*, *Columbia*.
11:45 AM	495	Effect of roughage level and calcium magnesium carbonate on ruminal metabolism and extent of digestion in steers. G. I. Crawford*[1], M. K. Luebbe[1], G. E. Erickson[1], T. J. Klopfenstein[1], C. R. Krehbiel[2], and G. A. Nunnery[3], [1]*University of Nebraska*, *Lincoln*, [2]*Oklahoma State University*, *Stillwater*, [3]*MIN-AD, Inc.*, *Amarillo, TX*.
12:00 PM	496	Effect of method of adding a fibrolytic enzyme to a dairy cow diet on ruminal fermentation and TMR degradation. D. B. Dean*[1,2], A. T. Adesogan[1], C. R. Staples[1], S. C. Kim[1], and R. Littell[1], [1]*University of Florida*, *Gainesville*, [2]*Universidad del Zulia*, *Maracaibo, ZU, Venezuela*.
12:15 PM	497	Effects of feeding oxidized fat supplemented with antioxidant AGRADO on rumen nutrient digestibility and protein synthesis. M. Vazquez-Anon*[1], J. Andrews[1], T. Webster[2], and T. Jenkins[3], [1]*Novus International*, *St. Louis, MO*, [2]*West Virginia University*, *Morgantown*, [3]*Clemson University*, *Clemson, SC*.

Teaching/Undergraduate and Graduate Education

Chair: Linda C. Martin, Oklahoma State University

M100 G-H

Time	Abstract #	
10:30 AM	498	Comparing vocational agriculture and non-vocational agriculture student success on high stakes testing. D. Ritenour* and D. Nash, *Ferrum College*, *Ferrum, Virginia*.
10:45 AM	499	Collegiate LifeKnowledge: A student-centered leadership development program. C. M. Wood*, *Virginia Polytechnic Institute and State University*, *Blacksburg*.
11:00 AM	500	Objective assessment of critically thinking ability of animal science undergraduates through use of the *Watson-Glaser Critical Thinking Appraisal*. I. P. Shann*, C. C. Carr, and E. P. Berg, *University of Missouri*, *Columbia*.
11:15 AM	501	Student perceptions and performance when animals and animal specimens are used in an introductory animal science class. M. S. Nemechek and W. L. Flowers*, *North Carolina State University*, *Raleigh*.
11:30 AM	502	Dynamics of how students earn their final course grade in an introductory course. W. L. Flowers*, *North Carolina State University*, *Raleigh*.
11:45 AM	503	Assessment standardization of hands-on skills in equine studies courses. K. I. Meek* and R. E. Marean, *Midway College*, *Midway, KY*.
12:00 PM	504	Costs, benefits, and publics: Training undergraduates to interpret a broad scope of implications from using genetic technologies in food animal production. C. W. Ernst*[1] and S. C. Ernst[2], [1]*Michigan State University*, *East Lansing*, [2]*The Ohio State University*, *Columbus*.
12:15 PM	505	Teaching societal issues facing animal agriculture: A writing intensive course for sophomores. J. N. Spain* and G. W. Jesse, *University of Missouri*, *Columbia*.

OTHER EVENTS

Feed Analysis Consortium, Inc. Meeting

M 100 D-E

12:30 pm

The Feed Analysis Consortium, Inc., (FeedAC) cordially invites everyone interested in feed analysis, ration formulation and animal production to attend the Feed Analysis Consortium meeting. Having originated as the Ruminant Feed Analysis Consortium (RFAC), the newly incorporated FeedAC, Inc. retains the original goals of RFAC, but now includes the interests, needs and expertise that exists in feed analysis and measurements of nutrient bioavailability in poultry, swine and equine. A meeting agenda is being planned and will be released prior to the meeting.

SYMPOSIUM
ADSA Production Division
Meeting the Research and Educational Needs of the Dairy Industry During the Next 25 Years
Chair: Maurice L. Eastridge, The Ohio State University
Sponsor: EAAP
Symposium meets AAVSB'S RACE requirement for 3 hr CE.
101 B-C

Time	Abstract #	
2:00 PM		Introduction. M. L. Eastridge, *The Ohio State University, Columbus*.
2:05 PM	506	Changing how we feed dairy cattle. J. R. Newbold*, *Provimi Research and Technology Centre*, *Brussels, Belgium*.
2:35 PM	507	Advancements and future challenges in understanding mammary gland function. A. V. Capuco*[1], E. E. Connor[1], M. J. Meyer[2], R. W. Li[1], C. P. Van Tassell[1], T. S. Sonstegard[1], M. E. Van Amburgh[2], and Y. R. Boisclair[2], [1]*Bovine Functional Genomics Lab, USDA-ARS*, *Beltsville, MD*, [2]*Cornell University*, *Ithaca, NY*.
3:05 PM	508	Opportunities for improvement in dairy cattle genetics. C. Sattler*, J. M. DeJarnette, C. Marshall, and R. Nebel, *Select Sires, Inc.*, *Plain City, OH*.
3:35 PM		Break
3:45 PM	509	Transferring knowledge to students and the dairy industry. R. E. James*, *Virginia Polytechnic Institute and State University*, *Blacksburg*.
4:15 PM	510	Design and analysis of pen studies in the animal sciences. N. R. St-Pierre*, *The Ohio State University*, *Columbus*.
4:45 PM		Discussion.

Animal Behavior and Well-Being
Chair: Drew Vermeire, Nouriche Nutrition Ltd.
M100 G-H

Time	Abstract #	
2:00 PM	511	Behavioral time budget of dry cows: Photoperiod alters distribution of maintenance behaviors. K. E. Karvetski*, J. M. Velasco, E. D. Reid, J. L. Salak-Johnson, and G. E. Dahl, *University of Illinois*, *Urbana*.
2:15 PM	512	A retrospective video analysis of the behavior of periparturient dairy cattle. L. Misch, H. Putnam*, T. Duffield, S. Millman, K. Lissemore, and K. Leslie, *Ontario Veterinary College, University of Guelph*, *Guelph, Ontario, Canada*.
2:30 PM	513	Hock lesion and hygiene score by stall bed type in commercial U.S. dairy cows. W. Fulwider*, T. Grandin, D. Lamm, N. Dalsted, D. Garrick, and B. Rollin, *Colorado State University*, *Fort Collins*.
2:45 PM	514	Dairy farmers' perceptions and attitudes about lameness. A. M. Edgecomb*, C. L. Wickens, A. J. Zanella, and D. K. Beede, *Michigan State University*, *East Lansing*.
3:00 PM	515	Use of pattern recognition to develop an automated animal health classification system. R. Silasi*[1,2], K. S. Schwartzkopf-Genswein[1], T. A. McAllister[1], B. Genswein[1], T. G. Crowe[2], R. Bolton[2], and B. Hill[1], [1]*Agriculture & Agri-Food Canada*, *Lethbridge, Alberta, Canada*, [2]*University of Saskatchewan, Department of Agricultural and Bioresource Engineering*, *Saskatoon, Saskatchewan, Canada*.
3:15 PM		Break
3:30 PM	516	The effect of small doses of naloxone on sexual behaviour of the anoestrous bitch. V. O. Fuentes-Hernandez*[1], P. I. Fuentes-Castro[2], and S. Nuño-Hernandez[1], [1]*Universidad de Guadalajara*, *Tepatitlan, Jalisco Mexico*, [2]*Hospital PEMEX SUR Alta Especialiad*, *Periferico Sur, Mexico DF. Mexico*.
3:45 PM	517	Alternative piglet processing procedures given singly affect cortisol, behavior and growth. J. N. Marchant Forde*[1], D. C. Lay Jr.[1], R. M. Marchant Forde[1], K. A. McMunn[1], E. A. Pajor[2], and H. W. Cheng[1], [1]*USDA-ARS, LBRU*, *West Lafayette, IN*, [2]*Purdue University*, *West Lafayette, IN*.

4:00 PM	518	Two alternative combinations of pig processing methods affect cortisol and behavior. D. C. Lay Jr.*[1], J. N. Marchant[1], K. A. McMunn[1], R. M. Marchant-Forde[1], E. A. Pajor[2], and H. W. Cheng[1], [1]*Livestock Behavior Research Unit, Agricultural Research Service -USDA*, *West Lafayette, IN*, [2]*Purdue University*, *West Lafayette, IN*.
4:15 PM	519	Validation of a color automated tracking system for activity and pen location of group housed weanling pigs. J. W. Dailey*[1], N. Krebs[2], J. A. Carroll[1], and J. J. McGlone[2], [1]*Livestock Issues Research Unit, Agricultural Research Service-USDA*, *Lubbock, TX*, [2]*Texas Tech University*, *Lubbock*.
4:30 PM	520	The effects of prenatal stress on the ano-genital distance and growth hormone immuno-positive cells in the pituitary gland of the pig. E. L. Schenck*[4], D. C. Lay Jr.[1], H. G Kattesh[2], J. E. Cunnick[3], M. J. Daniels[5], M. J. Toscano[4,6], and K. A. McMunn[1], [1]*USDA-ARS Livestock Behavior Research Unit*, *West Lafayette, IN*, [2]*University of Tennessee*, *Knoxville*, [3]*Iowa State University*, *Ames*, [4]*Purdue University*, *West Lafayette, IN*, [5]*University of Florida*, *Gainesville*, [6]*University of Bristol*, *Bristol, UK*.

Animal Health II

Chair: Heather Dann, The Miner Institute

M100 I-J

Time	Abstract #	
2:00 PM	521	Effect of maternity pen management on risk of early calfhood diseases in dairy heifer calves during the preweaning period. P. Pithua*, S. J. Wells, and S. M. Godden, *University of Minnesota*, *St. Paul*.
2:15 PM	522	Effect of feeding heat-treated colostrum on serum immunoglobulin G concentrations in dairy calves. D. Hagman, S. Godden*, J. Johnson, T. Molitor, and T. Ames, *University of Minnesota*, *St. Paul*.
2:30 PM	523	Effects of egg-derived antibody supplements on health and performance of veal calves. D. Wood*[1], J. Sowinski[1], and S. Hayes[2], [1]*Animix*, *Juneau, WI*, [2]*Milk Products*, *Chilton, WI*.
2:45 PM	524	A survey of bovine practitioners to determine factors associated with acute bloat syndrome in pre-weaned dairy heifers. D. E. Shoemaker*[1], P. J. Rajala-Schultz[2], and L. Midla[3], [1]*The Ohio State University*, *Wooster*, [2]*The Ohio State University*, *Columbus*, [3]*The Ohio State University*, *Marysville*.
3:00 PM	525	Descriptive epidemiology of adult dairy cow mortalities. J. A. Severidt*, F. B. Garry, G. H. Gould, J. R. Wenz, and J. E. Lombard, *Colorado State University*, *Fort Collins*.
3:15 PM	526	The effect of digit amputation or arthrodesis surgery on culling and milk production in Holstein dairy cows. R. C. Bicalho*, S. H. Cheong, L. D. Warnick, D. V. Nydam, and C. L. Guard, *Cornell University*, *Ithaca, NY*.
3:30 PM		Break
3:45 PM	527	Mechanical properties of the hoof horn of dairy cows during lactation. B. Winkler[1] and J. K. Margerison*[2], [1]*University of Plymouth, School of Biological Sciences*, *Plymouth, DEVON, UK*, [2]*Massey University, Institute of Food, Nutrition and Human Health*, *Palmerston North, NZ*.
4:00 PM	528	Evaluation of Excede for control of BRD when administered at initial processing or at revaccination within pasture and feedlot receiving systems. V. Bremer*[1], G. Erickson[1], T. Klopfenstein[1], D. Smith[1], K. Vander Pol[1], M. Greenquist[1], D. Griffin[1], G. Sides[2], and L. Bryant[2], [1]*University of Nebraska*, *Lincoln*, [2]*Pfizer Animal Health*, *New York, NY*.
4:15 PM	529	Neural network modeling of feeding behavior to predict morbidity in a commercial feedlot. B. Hill*, K. Schwartzkopf-Genswein, T. McAllister, B. Genswein, A. Banack, R. Silasi, L. Thompson, and F. Brown, *Agriculture & Agri-Food Canada*, *Lethbridge, AB, Canada*.
4:30 PM	530	Physiological, hematological and immunological responses of 9-month old bulls (250kg) to transport at spatial allowances of 0.85m^2 and 1.27m^2/animal on a 12-h journey by road. B. Earley*, D. J. Prendiville, and E. G. O'Riordan, *Teagasc*, *Grange, Beef Research Centre, Dunsany, Co. Meath, Ireland.*
4:45 PM	531	Gene expression changes in neutrophils of young bulls during transportation stress. K. R. Buckham*[1,2], J. L. Burton[3], B. Earley[2], and M. A. Crowe[1], [1]*University College Dublin*, *Dublin, Ireland*, [2]*Teagasc, Grange Beef Research Centre*, *Meath, Ireland*, [3]*Michigan State University*, *East Lansing*.
5:00 PM	532	Effects of lairage during transport on innate immune function of swine. J. L. Williams*[1,2], S. D. Eicher[1], J. A. Patterson[2], and J. N. Marchant-Forde[1], [1]*USDA-ARS*, *West Lafayette, IN*, [2]*Purdue University*, *West Lafayette, IN*.

Beef Species

Chair: Elaine Grings, USDA-ARS

101 A

Time	Abstract #	
2:00 PM	533	Relationship between residual feed intake and onset of puberty in Brangus heifers. P. A. Lancaster*[1], G. E. Carstens[1], D. W. Forrest[1], R. D. Randel[2], T. H. Welsh, Jr.[1], and T. D. A. Forbes[3], [1]*Texas A&M University*, *College Station*, [2]*Texas A&M University*, *Overton*, [3]*Texas A&M University*, *Uvalde*.
2:15 PM	534	Variation in number of calves sired/bull in a natural mating multiple sire breeding herd. K. J. Wells*, Q. Xiao, X. Wu, Z. Jiang, and J. J. Reeves, *Washington State University*, *Pullman*.
2:30 PM	535	Integrating the beef cattle foodchain – A case study of the first organic beef cattle enterprise in Veracruz, Mexico. P. Fajersson*[1] and P. Parada[2], [1]*Colegio de Postgraduados*, *Campus Veracruz, Veracruz, Mexico*, [2]*Carnes Orgánicas La Rumorosa*, *Poza Rica, Veracruz, Mexico*.
2:45 PM	536	Influence on weaning weights and growth rate of nursing beef calves dewormed 90 days prior to weaning. J. N. Carter*[1], M. J. Hersom[2], R. O. Myer[1], M. M. Brennan[2], M. K. Maddox[1], J. T. Matthews[1], and D. Driver[2], [1]*University of Florida, NFREC*, *Marianna*, [2]*University of Florida*, *Gainesville*.
3:00 PM	537	Effect of number of feeding places per pen on performance, blood metabolites and haptoglobin during the first month of adaptation to the feedlot. L. A. González*[1], A. Ferret[1], X. Manteca[1], J. L. Ruiz-de-la-Torre[1], S. Calsamiglia[1], M. Devant[2], and A. Bach[2,3], [1]*Universitat Autonòma de Barcelona*, *Bellaterra, Spain*, [2]*Unitat de Remugants-IRTA*, *Barcelona, Spain*, [3]*ICREA*, *Spain*.
3:15 PM	538	Effect of number of feeding places per pen on performance, blood metabolites and haptoglobin of Holstein heifers on high-concentrate diets. L. A. González*[1], A. Ferret[1], X. Manteca[1], J. L. Ruiz-de-la-Torre[1], S. Calsamiglia[1], M. Devant[2], and A. Bach[2,3], [1]*Universitat Autonòma de Barcelona*, *Bellaterra, Spain*, [2]*Unitat de Remugants-IRTA*, *Spain*, [3]*ICREA*, *Spain*.
3:30 PM		Break
3:45 PM	539	Effects of ractopamine and days on feed on performance and carcass traits of calf-fed steers. C. D. Reinhardt[1], G. L. Parsons*[1], B. J. Johnson[1], J. P. Hutcheson[2], and W. T. Nichols[2], [1]*Kansas State University*, *Manhattan*, [2]*Intervet, Inc.*, *Millsboro, DE*.
4:15 PM	541	Effect of Optaflexx and days on feed on muscle gene expression in calf-fed steers. G. L. Parsons*[1], S. J. Winterholler[1], C. D. Reinhardt[1], J. P. Hutcheson[2], D. A. Yates[2], W. T. Nichols[2], and B. J. Johnson[1], [1]*Kansas State University*, *Manhattan*, [2]*Intervet Inc.*, *Millsboro, DE*.
4:30 PM	542	Effect of optaflexx™ and days on feed on feedlot performance, carcass characteristics, and skeletal muscle gene expression in yearling steers. S. J. Winterholler*[1], G. L. Parsons[1], J. P. Hutcheson[2], D. A. Yates[2], W. T. Nichols[2], R. S. Swingle[3], and B. J. Johnson[1], [1]*Kansas State University*, *Manhattan*, [2]*Intervet, Inc.*, *Millsboro, DE*, [3]*Cactus Research, LTD*, *Amarillo, TX*.
4:00 PM	540	Effects of ractopamine and days on feed on performance and carcass traits of yearling heifers. C. D. Reinhardt[1], J. P. Hutcheson*[2], W. T. Nichols[2], R. S. Swingle[3], and K. J. Karr[3], [1]*Kansas State University*, *Manhattan*, [2]*Intervet, Inc.*, *Millsboro, DE*, [3]*Cactus Research, LTD*, *Amarillo, TX*.
4:45 PM	543	Evaluation of a single Revalor-200 compared to Revalor-IH and Finaplix-H in a reimplant program for finishing heifers. C. D. Reinhardt*[1], J. P. Hutcheson[2], and W. T. Nichols[2], [1]*Kansas State University*, *Manhattan*, [2]*Intervet, Inc.*, *Millsboro, DE*.

SYMPOSIUM
Breeding and Genetics
Phylogenetics and Genetic Diversity
Chair: Michael MacNeil, USDA-ARS
Sponsors: Newsham Genetics
L100 B-C

Time	Abstract #	
2:00 PM		Introductions. M. D. MacNeil, *USDA-ARS, Miles City, MT*.
2:05 PM	544	An overview of phylogenetics. M. Cronin*, *University of Alaska, School of Natural Resources and Agricultural Sciences*, *Fairbanks*.
2:45 PM	545	Measuring diversity among breeds and populations. P. W. Hedrick*, *Arizona State University*.
3:25 PM	546	Applications of phylogenetic inference to livestock science. A. R. Freeman*, *Smurfit Institute, Trinity College Dublin*, *Dublin, Ireland*.
4:05 PM	547	Current efforts in conservation of animal genetic diversity. H. Blackburn*[1] and D. Bixby[2], [1]*ARS-National Animal Germplasm Program*, *Ft. Collins, CO*, [2]*American Livestock Breeds Conservancy*, *Pittsboro, NC*.
4:45 PM		Discussion.

Dairy Foods
Cheese II
Chair: Diane Van Hekken, USDA
200 D-E

Time	Abstract #	
2:00 PM	ADSA Pioneer	Analytical improvements in cheese technology. R. Bradley, *University of Wisconsin, Madison*.
2:15 PM	548	Effect of mountain and sea level pasture on monoterpene composition in milk, curd and Ragusano cheese at 4 and 7 months of aging. S. Carpino*[1], T. Rapisarda[1], and G. Licitra[1,2], [1]*CoRFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*D.A.C.P.A. Catania University*, *Catania, Italy*.
2:30 PM	549	Characterization of calcium lactate crystal growth on Cheddar cheese. P. Rajbhandari* and P. S. Kindstedt, *University of Vermont*, *Burlington*.
2:45 PM	550	Influence of emulsifying salts on functionality of sliced process cheese. N. Shirashoji*, T. Abe, K. Takahashi, and K. Iwatsuki, *Food Research & Development Laboratory, Morinaga Milk Industry Co.*, *Kanagawa, Japan*.
3:00 PM	551	Quantitative analysis of cheese microstructure by scanning electron microscope images. M. Caccamo*[1], G. Impoco[2], L. Tuminello[1], and G. Licitra[1,3], [1]*CoRFiLaC, Regione Siciliana*, *Ragusa, Italy*, [2]*D.E.E.I. Trieste University*, *Trieste, Italy*, [3]*D.A.C.P.A., Catania University*, *Catania, Italy*.
3:15 PM		Break
3:30 PM	552	Predicting curd moisture content, whey fat concentration and curd yield from near infrared light backscatter. C. C. Fagan[1], M. Leedy[2], M. Castillo*[2], F. A. Payne[2], C. P. O'Donnell[1], and D. J. O'Callaghan[3], [1]*University College Dublin School of Agriculture*, *Dublin, Ireland*, [2]*University of Kentucky*, *Lexington*, [3]*Moorepark Food Research Centre, Teagasc*, *Fermoy, Cork, Ireland*.
3:45 PM	553	Development and application of an image analysis method to measure and characterize calcium lactate crystals on uncolored Cheddar cheese. P. Rajbhandari* and P. S. Kindstedt, *University of Vermont*, *Burlington*.
4:00 PM	554	Computer vision analysis to monitor syneresis of cheese curd in a cheese vat. C. D. Everard*[1], C. P. O'Donnell[2], C. C. Fagan[2], D. J. O'Callaghan[1], M. Castillo[3], and F. A. Payne[3], [1]*Teagasc, Moorepark Food Research Centre*, *Fermoy, Co. Cork, Ireland*, [2]*University College Dublin*, *Dublin , Ireland*, [3]*University of Kentucky*, *Lexington*.

SYMPOSIUM
Horse Species
What's New in the New NRC for Horses
Chair: Laurie Lawrence, University of Kentucky
Symposium meets AAVSB'S RACE requirement for 3 hr CE.
M100 A

Time	Abstract #	
2:00 PM		Introduction. L. Lawrence, *University of Kentucky, Lexington*.
2:10 PM		Unique aspects of equine nutrition. R. Geor, *Virginia Tech, Blacksburg*.
2:35 PM		Fats and fatty acids in equine nutrition. R. Geor, *Virginia Tech., Blacksburg*.
3:00 PM		Feeding behavior and feeding management. D. Freeman, *Oklahoma State University, Stillwater*.
3:25 PM		Break
3:40 PM		Forages and carbohydrates. A. Longland, *Institute of Grassland and Environmental Research, United Kingdom*.
4:05 PM		Using models to predict nutrient requirements. M. Barry, *Ag Models, LLC, Tully, NY*.
4:30 PM		Round Table Discussion.

SYMPOSIUM
International Animal Agriculture
Alternatives to Antibiotics if Feeding Ruminants for Optimal Production and Health
Chair: Christopher K. Reynolds, The Ohio State University
Sponsors: Pancosma USA Inc. and EAAP
Symposium meets AAVSB'S RACE requirement for 3 hr CE.
101 D-E

Time	Abstract #	
2:00 PM		Introduction. C. K. Reynolds, *Ohio State University, Wooster*.
2:05 PM	555	Differing objectives and key target microbes for manipulation of ruminal fermentation. R. J. Wallace*, *Rowett Research Institute*, *Bucksburn, Aberdeen, United Kingdom*.
2:45 PM	556	The use of yeast-based probiotics to meet new challenges in ruminant production. C. Newbold* and A. Olvera-Ramirez, *Institute of Rural Science, University of Wales*, *Aberystwyth, Wales, UK*.
3:25 PM	557	Use of essential oils and other plant extracts to modify rumen fermentation. S. Calsamiglia*, M. Busquet, L. Castillejos, P. W. Cardozo, and A. Ferret, *Universitat Autonoma de Barcelona*, *Bellaterra, Spain*.
4:05 PM	558	Immunisation to manage fermentative acidosis and methane production. J. B. Rowe*, *Australian Sheep Industry Cooperative Research Centre*, *Armidale, NSW, Australia*.

SYMPOSIUM
Lactation Biology
Local Control of Mammary Function
Chair: Geoffrey Dahl, University of Illinois
Sponsor: Monsanto Company
101 J

Time	Abstract #	
2:00 PM	559	Regulation of gene expression in the bovine mammary gland by ovarian steroids. E. E. Connor*[1], M. J. Meyer[2], R. W. Li[1], M. E. Van Amburgh[2], Y. R. Boisclair[2], and A. V. Capuco[1], [1]*Bovine Functional Genomics Laboratory, USDA-ARS*, *Beltsville, MD*, [2]*Cornell University*, *Ithaca, NY*.
2:30 PM	560	Dynamics of lactogenic hormone induced recuitment of transacting-factors to a milk protein gene promoter. E. Kabotyanski[1], M. Rijnkels*[2], M. Huetter[1], and J. M. Rosen[1], [1]*Baylor College of Medicine*, *Houston, TX*, [2]*ARS /USDA Children's Nutrition Research Center*, *Houston, TX*.
2:45 PM	561	Udder changes and milk production in dairy ewes induced to lactate. B. Ramírez Andrade[1,2], A. A. K. Salama[1], G. Caja*[1], V. Castillo[1], E. Albanell[1], and X. Such[1], [1]*Grup de Recerca en Remugants, Universitat Autònoma de Barcelona*, *Bellaterra, Spain*, [2]*Facultad de Agronomía, Universidad Autónoma*, *San Luis Potosí, México*.
3:00 PM	562	Comparative genomics of the Tammar Wallaby and Fur Seal; model systems to study local regulation of mammary gland function. K. Nicholas*[1,2], M. Digby[1,2], C. Lefevre[1,2], J. Sharp[1,2], S. Mailer[1,2], A. Brennan[1,2], J. Arnould[4], and K. Cane[1,2], [1]*Cooperative Research Centre for Innovative Dairy Products*, *Melbourne, Australia*, [2]*Department of Zoology, University of Melbourne*, *Melbourne, Australia*, [3]*Victorian Bioinformatics Consortium, Monash University*, *Clayton, Australia*, [4]*School of Biological and Chemical Sciences, Deakin University*, *Burwood, VIC, Australia*.
3:30 PM	563	Acute physical distension of rat mammary glands induces apoptosis and decreases B1-integrin and tight junction (TJ) protein signalling. C. V. C. Phyn*[1,2], J. M. Dobson[1], S. R. Davis[3], K. Stelwagen[1], and K. Singh[1], [1]*AgResearch Ltd.*, *Hamilton, New Zealand*, [2]*Dexcel Ltd.*, *Hamilton, New Zealand*, [3]*ViaLactia Biosciences (NZ) Ltd.*, *Auckland, New Zealand*.
3:45 PM	564	Effects of frequent milking during early lactation on milk yield in dairy cows are locally regulated. E. H. Wall* and T. B. McFadden, *Lactation and Mammary Gland Biology Group, University of Vermont*, *Burlington*.
4:00 PM	565	Expression and regulation of glucose transporters in the bovine mammary gland. F.-Q. Zhao* and A. F. Keating, *University of Vermont*, *Burlington*.
4:30 PM	566	Hormonal interactions between the mammary fat pad and mammary cells affect lactation. Y. Feuermann*[1], S. J. Mabjeesh[2], and A. Shamay[1], [1]*Agriculture Research Organisation The Volcani Center*, *Bet Dagan Israel*, [2]*Faculty of Agriculture, The Hebrew University of Jerusalem*, *Rehovot, Israel*.
4:45 PM	567	Growth hormone stimulates the expression of milk protein genes in bovine mammary epithelial cells overexpressing growth hormone receptor. Y. Zhou*, R. M. Akers, and H. Jiang, *Virginia Tech*, *Blacksburg*.

Nonruminant Nutrition
Enzyme Supplementation and By-Products in Swine Diets
Chair: Dennis Liptrap, Hubbard Feeds and Brian Richert, Purdue University
L100 J

Time	Abstract #	
2:00 PM	568	Chemical composition, phytate phosphorus release during steeping and feeding value of corn steep water for pigs. S. J. Niven*[1], O. A. Izquierdo[2], C. Zhu[1], D. Columbus[1], and C. F. M. de Lange[1], [1]*University of Guelph*, *Ontario, Canada*, [2]*Corn Products International*, *Westchester, IL*.
2:15 PM	569	Addition of phytase and xylanase to wheat-based diets fed to growing pigs using growth performance and nutrient balance as response criteria. O. A. Olukosi*[1], J. S. Sands[2], and O. Adeola[1], [1]*Purdue University*, *West Lafayette*, [2]*Danisco Animal Nutrition*, *Marlborough, UK*.
2:30 PM	570	Effects of xylanase and wheat middlings in diets for finishing pigs. C. Feoli*, J. D. Hancock, C. R. Monge, C. L. Jones, and C. W. Starkey, *Kansas State University*, *Manhattan*.

2:45 PM	571	Toxicity of Fusarium mycotoxins and detoxification by mycotoxin degrading enzymes. G. Schatzmayr*[1], U. Hofstetter[1], and C. Yeong-Hsiang[2], [1]*BIOMIN GmbH*, *Herzogenburg, Austria*, [2]*National I-Lan University*, *I-Lan, Taiwan*.
3:00 PM		Break
3:15 PM	572	Energy and phosphorus digestibility in high-protein distillers dried grain with solubles fed to growing pigs. M. R. Widmer*[1], M. L. Gibson[2], L. M. McGinnis[1], C. Pedersen[1], and H. H. Stein[1], [1]*South Dakota State University*, *Brookings*, [2]*Dakota Gold Marketing*, *Sioux Falls, SD*.
3:30 PM	573	Effects of replacing corn with triticale in diets for nursery and finishing pigs. C. R. Monge*, J. D. Hancock, T. L. Gugle, and C. Feoli, *Kansas State University*, *Manhattan*.
3:45 PM	574	Impact of a varying number of random out-of-feed events on grow-finish pig performance. M. Brumm*[1], S. Colgan[1], and K. Bruns[2], [1]*University of Nebraska*, *Concord*, [2]*South Dakota State University*, *Brookings*.
4:00 PM	575	Effects of flaxseed and carbohydrase enzyme supplementation on growth performance, plasma urea nitrogen and nutrient digestibility in piglets. E. Kiarie*, B. A. Slominiski, and C. M. Nyachoti, *University of Manitoba*, *Winnipeg, Canada*.
4:15 PM	576	Flaxseed and carbohydrase enzyme supplementation affects gut microbial populations and activities in nursery pigs. E. Kiarie*, C. M. Nyachoti, B. A. Slominiski, and G. Blank, *University of Manitoba*, *Winnipeg, Canada*.

Physiology and Endocrinology

Reproductive Physiology

Chair: Ron Butler, Cornell University

M100 B-C

Time	Abstract #	
2:00 PM	ADSA Pioneer	Reflections on past history of reproductive physiology research. R. Foote, *Cornell University, Ithaca, NY*.
2:15 PM	577	Effect of decreasing the interval from GnRH to $PGF_{2\alpha}$ and lengthening proestrus on reproductive performance in GnRH-CIDR-$PGF_{2\alpha}$ synchronization programs. L. A. Helser*[1], G. A. Bridges[1], D. E. Grum[1], M. L. Mussard[1], C. L. Gasser[2], D. M. Lantz[1], and M. L. Day[1], [1]*The Ohio State University*, *Columbus*, [2]*Southern Utah University*, *Cedar City*.
2:30 PM	578	Effects of PES during in vitro culture of bovine embryos on pregnancy rates. M. Barcelo-Fimbres*, Z. Brink, and G. E. Seidel Jr, *Colorado State University*, *Fort Collins*.
2:45 PM	579	Influence of a CIDR insert after a fixed-time AI on pregnancy rates and return to estrus of nonpregnant cows. K .N. Thielen[1], J. E. Larson*[1], B. J. Lovaas[2], D. J. Kesler[3], J. S. Stevenson[4], T. T. Marston[4], and G. C. Lamb[2], [1]*University of Minnesota*, *St. Paul*, [2]*University of Minnesota*, *Grand Rapids*, [3]*University of Illinois*, *Urbana*, [4]*Kansas State University*, *Manhattan*.
3:00 PM	580	Effects of estrous synchronization with a CIDR prior to the breeding season in bull-breeding herds on pregnancy rates. G. C. Lamb[1], C. R. Dahlen*[2], K. A. Vonnahme[3], G. R. Hansen[4], J. D. Arseneau[5], G. A. Perry[6], J. Clement[7], and J. D. Arthington[8], [1]*University of Minnesota*, *Grand Rapids*, [2]*University of Minnesota*, *Crookston*, [3]*North Dakota State University*, *Fargo*, [4]*University of Florida*, *Mariana*, [5]*Purdue University*, *West Lafayette, IN*, [6]*University of South Dakota*, *Brookings*, [7]*Clement Cow-Calf Consulting*, *Mandan, ND*, [8]*University of Florida*, *Ona*.
3:15 PM	581	Prevalence and risk factors for postpartum anestrus in dairy cows. R. B. Walsh*[1], J. S. Walton[2], K. E. Leslie[1], and S. J. LeBlanc[1], [1]*University of Guelph*, *Ontario, Canada*, [2]*University of Guelph*, *Ontario, Canada*.
3:30 PM	582	Effect of feeding flax or linseed meal on progesterone clearance rate in ovariectomized ewes. C. W. Galbreath*, M. R. O'Neil, J. D. Kirsch, J. W. Schroeder, K. G. Odde, G. P. Lardy, and K. A. Vonnahme, *North Dakota State University*, *Fargo*.
3:45 PM	583	Digital infrared thermal imaging of the eye as correlated to rectal and vaginal temperature measurements in the ewe. S. T. Willard[1], M. C. Vinson[2], and R. W. Godfrey*[2], [1]*Mississippi State University*, *Mississippi State*, [2]*University of the Virgin Islands*, *St. Croix*.
4:00 PM	584	The effects of immunization against LHRH using recombinant LHRH fusion protein OL on testicular development, ultrasonographic and histological appearance of the testis in buck kids. H. Ülker*[1], M. Küçük[1], A. Yilmaz[1], M. Yörük[1], L. Arslan[1], D. M. deAvila[2], and J. J. Reeves[2], [1]*Yüzüncü Yil University*, *Van, Turkey*, [2]*Washington State University*, *Pullman*.

4:15 PM	585	Using novel chimeric gonadotropins with single (FSH) or dual (LH and FSH) activity to induce follicle development in sheep. E. P. Lemke*[1], B. M. Adams[1], I. Boime[2], and T. E. Adams[1], [1]*University of California*, *Davis*, [2]*Washington University*, *St. Louis, MO*.
4:30 PM	586	Estrus and luteal activity of postpartum beef cows after treatment with estradiol. N. M. Long*, M. P. Davis, M. J. Prado-Cooper, I. Rubio, and R. P. Wettemann, *Oklahoma Agriculture Experiment Station*, *Stillwater*.
4:45 PM	587	Timed AI conception rates after variations of the Ovsynch protocol in dairy cattle. M. A. Portaluppi, J. S. Stevenson*, and D. E. Tenhouse, *Kansas State University*, *Manhattan*.
5:00 PM	588	Cis-9, trans-11 and trans-10, cis-12 conjugated linoleic acids reduce prostaglandin F2α production by bovine endometrial cells. N. R. Kendall[1], A. L. Lock[2], D. E. Bauman[2], B. K. Campbell[3], and G. E. Mann*[1], [1]*University of Nottingham*, *Sutton Bonington, Loughborough, UK*, [2]*Cornell University*, *Ithaca, NY*, [3]*University of Nottingham*, *Queens Medical Centre, UK*.

Ruminant Nutrition

Calves & Heifers - Dairy

Chair: Jim Wohlt, Rutgers University

101 F-G

Time	Abstract #	
2:00 PM	ADSA Pioneer	Calf nutrition management over the last 30 years. M. Fowler, *Land O Lakes, Fort Dodge, IA.*
2:15 PM	589	Effects of dietary fish oil on immunocompetence of neonatal Jersey calves. M. A. Ballou* and E. J. DePeters, *University of California*, *Davis*.
2:30 PM	590	Modifying the acute phase response of neonatal Jersey calves by supplementing milk replacer with fish oil. M. A. Ballou* and E. J. DePeters, *University of California*, *Davis*.
2:45 PM	591	Sodium zeolite A supplementation to dairy calves. K. Turner*[1], B. Nielsen[2], C. O'Connor[2], D. Rosenstein[2], H. Schott[2], C. Womack[2], F. Nielsen[3], and M. Orth[2], [1]*The University of Georgia*, *Athens*, [2]*Michigan State University*, *East Lansing*, [3]*Grand Forks Human Nutrition Research Center*, *Grand Forks, ND*.
3:00 PM	592	Ruminal development in Holstein dairy calves fed distillers grains. M. Thomas*, A. R. Hippen, K. F. Kalscheur, and D. J. Schingoethe, *South Dakota State University*, *Brookings*.
3:15 PM	593	Effect of altering theoretical rumen degraded and metabolizable protein in a calf starter. T. Hill*, J. Aldrich, H. Bateman, and R. Schlotterbeck, *Akey*, *Lewisburg, OH*.
3:30 PM	594	Effect of altering theoretical rumen undegraded soybean protein in a calf starter. T. Hill*, J. Aldrich, H. Bateman, and R. Schlotterbeck, *Akey*, *Lewisburg, OH*.
3:45 PM	595	Enhanced-growth feeding program: Starter digestibility at weaning. M. Terré*[1], A. Bach[2,1], and M. Devant[1], [1]*Institut de Recerca i Tecnologia Agroalimentàries-Unitat de Remugants*, *Barcelona, Spain*, [2]*Institució Catalana de Recerca i Estudis Avan&ccedul;ats*, *Barcelona, Spain*.
4:00 PM	596	Effects of an intensified compared to a moderate feeding program during the preweaning phase on long-term growth, age at calving, and first lactation milk production. L. Davis Rincker*, M. VandeHaar, C. Wolf, J. Liesman, L. Chapin, and M. Weber Nielsen, *Michigan State University*, *East Lansing*.
4:15 PM	597	The effects of restricted feeding high concentrate or high forage rations on rumen fermentation in dairy heifers. G. I. Zanton* and A. J. Heinrichs, *The Pennsylvania State University*, *University Park*.
4:30 PM	598	The effects of restricted feeding high concentrate or high forage rations on nutrient digestibility and nitrogen utilization in dairy heifers. G. I. Zanton*, A. J. Heinrichs, and E. F. Wheeler, *The Pennsylvania State University*, *University Park*.
4:45 PM	599	The effect of limit-feeding gravid Holstein heifers on first lactation milk production. P. Hoffman*, C. Simson, and M. Wattiaux, *University of Wisconsin*, *Madison*.

Ruminant Nutrition

Minerals & Vitamins

Chair: Katharine Knowlton, Virginia Tech

101 H-I

Time	Abstract #	
2:00 PM	600	Effect of dietary vitamin A restriction on marbling in growing cattle. M. Gorocica-Buenfil*, F. Fluharty, C. Reynolds, and S. Loerch, *The Ohio State University*, *Wooster*.
2:15 PM	601	Bioavailability of copper from copper glycinate when fed in the presence of high sulfur and molybdenum. S. L. Hansen*[1], P. Schlegel[2], K. E. Lloyd[1], L. R. Legleiter[1], and J. W. Spears[1], [1]*North Carolina State University*, *Raleigh*, [2]*Pancosma, S.A.*, *Geneva, Switzerland*.
2:30 PM	602	Plasma diamine oxidase as a biomarker of copper deficiency in the bovine. L. R. Legleiter* and J. W. Spears, *North Carolina State University*, *Raleigh*.
2:45 PM	603	Effect of dietary potassium level and source on performance of finishing cattle fed varying dietary sulfur. R. S. Fry*, K. E. Lloyd, and J. W. Spears, *North Carolina State University*, *Raleigh*.
3:00 PM	604	Effect of increasing dietary concentrations of dried distillers grains plus solubles on P balance in finishing steers. C. Benson, C. Wright*, J. McCarthick, and R. Pritchard, *South Dakota State University*, *Brookings*.
3:15 PM	605	Phosphorus digestion in lactating cows fed diets containing beet pulp. T. H. Yang*[1], K. F. Knowlton[1], C. Shang[1], J. A. Voelker Linton[2], and M. S. Allen[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Michigan State University*, *East Lansing*.
3:30 PM	606	Modeling phosphorus utilization in dairy cows in Ontario. E. Kebreab*, J. France, N. E. Odongo, and B. W. McBride, *University of Guelph*, *Guelph, Ontario, Canada*.
3:45 PM	607	Calcium and phosphorus supplementation for transition cows. V. Moreira* and C. Coxe, *Louisiana State University*, *Franklinton*.
4:00 PM	608	Development of methodologies to reduce the DCAD of hays for transition dairy cows. R. L. Horst*[1], K. T. Pecinovsky[2], K. J. Moore[2], D. R. Thoreson[2], J. R. Russell[2], E. C. Brummer[2], and J. P. Goff[1], [1]*National Animal Disease Center*, *Ames, IA*, [2]*Iowa State University*, *Ames*.
4:15 PM	609	Effect of trace mineral source on lactation and reproductive performance of dairy cattle. F. Toni[1], L. Grigoletto[1], C. J. Rapp*[2], M. T. Socha[3], and D. J. Tomlinson[3], [1]*Kriton Biological Services*, *Correggio, Italy*, [2]*Zinpro Animal Nutrition*, *Boxmeer, Netherlands*, [3]*Zinpro Corporation*, *Eden Prairie, MN*.
4:30 PM	610	Sodium zeolite A supplementation to lactating Holsteins. K. Turner*[1], B. Nielsen[2], and C. O'Connor[2], [1]*The University of Georgia*, *Athens*, [2]*Michigan State University*, *East Lansing*.
4:45 PM	611	The relationship between dry matter intake and acid-base status of lactating dairy cows as manipulated by dietary cation-anion difference. W. Hu*[1], L. Kung, Jr.[1], and M. R. Murphy[2], [1]*University of Delaware*, *Newark*, [2]*University of Illinois*, *Urbana*.
5:00 PM	612	Influence of altering dietary cation anion difference on milk yield and its composition by early lactating *Nili Ravi* buffaloes in summer. M. A. Shahzad*, M. Sarwar, M. Nisa, and A. Khan, *University of Agriculture*, *Faisalabad, Pakistan.*
5:15 PM	613	Influence of altering dietary cation anion difference on growth performance of growing buffalo calves. M. Sarwar*, M. A. Shahzad, and M. Nisa, *University of Agriculture*, *Faisalabad, Pakistan.*

Closing/International Reception

Ballroom B

4:30 PM

Thursday, July 13

SYMPOSIA AND ORAL SESSIONS

SYMPOSIUM

Animal Behavior and Well-Being

Current Issues of Animal Well-Being: Public Perception Versus Science

Chair: Janeen Salak-Johnson, University of Illinois

Sponsors: American Veal Association's Veal Quality Assurance Program, Animal Agriculture Alliance, Center for Consumer Freedom, National Pork Board

M100 B-C

Time	Abstract #	
8:30 AM		Animal well-being in the public mind - can we change perception? G. Coleman, *Monash University, Australia*.
9:15 AM		Well-being issues of veal calf management. G. Bertrand, *Institut de l'Elevage, Le Rheu, France*.
9:45 AM		Well-being issues of poultry management. J. A. Mench, *University of California, Davis*.
10:15 AM		Well-being issues of swine management. D. Butler[1] and S. Curtis [2], *[1]Murphy-Brown, LLC, [2]University of Illinois, Champaign*.
10:45 AM		Well-being issues of dairy management. M. A. Von Keyserlingk, *University of British Columbia, Vancouver, BC, Canada*.

SYMPOSIUM

Beef Species

Enterprise Integration for Sustainable Beef Production

Chair: Elaine Grings, USDA-ARS

L100 D-E

Time	Abstract #	
8:30 AM	614	Applications of grazingland simulation models. J. D. Hanson*, *USDA/ARS*, *Mandan, ND*.
9:00 AM		Integrated beef and crop production in a biofuel era: A case for interdisciplinary research approaches. J. R. Russell, J. D. Lawrence, and A. Trenkle, *Iowa State University, Ames*.
9:30 AM	615	Whole farm integration: Silvopastoral systems. J. P. S. Neel* and D. P. Belesky, *USDA-ARS Appalachian Farming Systems Research Center*, *Beaver, WV*.
10:00 AM		Break
10:15 AM	616	Sustainable beef production systems: An international perspective. G. R. Hagevoort*, *New Mexico State University Agricultural Science Center*, *Clovis*.
10:45 AM		Integrating Natural Resource Management into Range Beef Production Systems. R. Roath, *Colorado State University, Ft. Collins*.
11:15 AM		Discussion.

Breeding and Genetics

Beef, Sheep & Swine Breeding

Chair: Ron Lewis, VPI & SU

M100 G-H

Time	Abstract #	
8:30 AM	617	Connectedness in Targhee and Suffolk flocks participating in the U.S. National Sheep Improvement Program. L. A. Kuehn*, R. M. Lewis, and D. R. Notter, *Virginia Polytechnic Institute and State University*, *Blacksburg*.
8:45 AM	618	Role of sire referencing schemes in terminal sire sheep to improve carcass quality in crossbred lambs. R. M. Lewis*[1,2], A. M. van Heelsum[2], W. Haresign[3], M. H. Davies[4], R. Roehe[2], L. Bünger[2], and G. Simm[2], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg*, [2]*Scottish Agricultural College*, *Edinburgh, Scotland, UK*, [3]*University of Wales*, *Aberystwyth, Wales, UK*, [4]*ADAS Rosemaund*, *Preston Wynne, England, UK*.
9:00 AM	619	Genetic factors influencing different body weights of Thalli sheep in Pakistan. P. Akhtar*, A. Hussain, S. Ali, and M. Younas, *University of Agriculture*, *Faisalabad, Punjab, Pakistan*.
9:15 AM	620	Estimation of breeding values of different body weights of Thalli sheep in Pakistan. A. Hussain, P. Akhtar*, S. Ali, and M. Younas, *University of Agriculture*, *Faisalabad, Punjab, Pakistan*.
9:30 AM	621	Performance traits of 1980 vs. 2005 pigs when fed 1980 or 2005 feeding programs. J. S. Fix*, D. J. Hanson, E. van Heugten, J. P. Cassady, and M. T. See, *North Carolina State University*, *Raleigh*.
9:45 AM		Break
10:00 AM	622	Some hybrid beef performances (B.taurus x B. indicus) in tropical Malaysia. A. Aman*[1], O. Ahmad[2], and S. Othman[2], [1]*International Islamic University Malaysia*, *Jalan Gombak, Kuala Lumpur, Malaysia*, [2]*MARDI*, *Kuala Lumpur, Malaysia*.
10:15 AM	623	Use of a mathematical computer model to predict feed intake: Genetic parameters between observed and predicted values, and relationships with other traits. D. P. Kirschten*[1], E. J. Pollak[1], L. O. Tedeschi[2], D. G. Fox[1], B. Bourg[2], and G. E. Carstens[2], [1]*Cornell University*, *Ithaca, NY*, [2]*Texas A&M University*, *College Station*.
10:30 AM	624	Examination of feed efficiency traits with post-weaning growth and carcass traits in central test bulls. G. S. Hecht* and L. A. Kriese-Anderson, *Auburn University*, *Auburn, AL*.
10:45 AM	625	Significance of cytoplasmic origin on body composition in Limousin cattle. M. M. Rolf[1], D. W. Moser*[1], and L. R. Hyde[2], [1]*Kansas State University*, *Manhattan*, [2]*North American Limousin Foundation*, *Englewood, CO*.
11:00 AM	626	Association of microsatellite markers on bovine chromosomes 5 and 6 with carcass traits. A. M. Sanborn*[1], E. Casas[2], and A. J. M. Rosa[1], [1]*South Dakota State University*, *Brookings*, [2]*U.S. Meat Animal Research Center*, *Clay Center, NE*.
11:15 AM	627	Associations between single nucleotide polymorphism in the Dgat2 gene and several ecnomic traits in commercial feedlot steers. J. Li*[1], X. Xu[2], Q. Zhang[3], X. Wang[3], G. Deng[4], X. Fang[5], X. Gao[3], H. Ren[3], L. Zhang[3], E. J. Pollak[1], R. L. Quaas[1], and S. Xu[3], [1]*Cornell University*, *Ithaca, NY*, [2]*Northwest A&F University*, *Yangling, Shanxi, PRC*, [3]*Institute of Animal Science*, *CAAS, Beijing, PRC*, [4]*Beijing Agriculture College*, *Changping, Beijing, PRC*, [5]*Zhe Jiang University*, *Hangzhou, Zhejiang, PRC*.

SYMPOSIUM

FASS Environment, Waste Management and Ecosystems

Transforming Forages to Improve Nitrogen Use by Dairy Cows and Decrease Nitrogen Emissions

Chair: Neal Martin, USDA-ARS

Sponsor: US Dairy Forage Research Center

L100 A

Time	Abstract #	
8:30 AM		Opening remarks. N. Martin, *USDA-ARS, Madison, WI*.
8:40 AM	628	Source, amount and fate of nitrogen on US dairy farms. R. A. Kohn*[1] and M. Wattiaux[2], [1]*University of Maryland*, *College Park*, [2]*University of Wisconsin*, *Madison*.

9:00 AM	629	Importance of forages on dairy farms, beyond their use as feed. M. P. Russelle*[1], N. P. Martin[2], and D. H. Putnam[3], [1]*USDA-Agricultural Research Service*, *St. Paul, MN*, [2]*USDA-ARS-US Dairy Forage Research Center*, *Madison, WI*, [3]*University of California*, *Davis*.
9:30 AM	630	Preservation of protein during harvest and storage. L. Kung, Jr.*[1] and R. E. Muck[2], [1]*University of Delaware*, *Newark*, [2]*USDA-ARS*, *Madison, WI*.
10:00 AM		Break
10:15 AM	631	Challenges in utilization of high protein forages by lactating dairy cows. P. Huhtanen*[1], G. A. Broderick[2], and J. B. Russel[3], [1]*MTT Agrifood Finland*, *Jokioinen, Finland*, [2]*USDA-ARS*, *Madison, WI*, [3]*USDA-ARS*, *Ithaca, NY*.
10:45 AM	632	Manure nitrogen transformations in air, soil and crops on dairy farms. J. M. Powell*[1], K. F. Knowlton[2], M. P. Russelle[3], and M. D. Hanigan[2], [1]*USDA-ARS Dairy Forage Resh. Center*, *Madison, WI*, [2]*Virginia Tech University*, *Blacksburg*, [3]*USDA-ARS Dairy Forage Resh. Center*, *St. Paul, MN*.
11:15 AM	633	Transforming forage plants to increase nitrogen utilization in dairy systems: What are the possibilities? R. Hatfield*[1], J. Grabber[1], M. Sullivan[1], G. Waghorn[2], and M. McCaslin[3], [1]*USDA-ARS*, *Madison, WI*, [2]*Dexcel Limited*, *New Zealand*, [3]*Forage Genetics*, *St. Paul, MN*.
11:45 AM		Discussion.

Physiology and Endocrinology

Endocrinology

Chair: Rick Barb, USDA, ARS

M100 D-E

Time	Abstract #	
8:30 AM	634	An erythropoietin receptor (EPOR) gene polymorphism (SNP) alters EPOR mRNA in fetal liver of swine during early gestation. J. L. Vallet* and B. A. Freking, *USDA, ARS, U.S. Meat Animal Research Center*, *Clay Center, NE*.
8:45 AM	635	Serum constituents and thyroid hormones in sheep fed halophyte forages. A. Riasi*[1], M. Danesh Mesgaran[2], M. J. Zamiri[3], and M. D. Stern[4], [1]*University of Birjand*, *Birjand, Khorasan, Iran*, [2]*Ferdowsi University of Mashad*, *Mashad, Khorasan, Iran*, [3]*University of Shyraz*, *Shyraz, Fars, Iran*, [4]*University of Minnesota*, *St. Paul*.
9:00 AM	636	Food deprivation-induced decrease in blood insulin-like growth factor-I is associated with decreased liver growth hormone receptor mRNA and protein in steers. M. Wu*, R. Akers[1], R. Torres-Diaz[1], S. Frank[2], J. Hall[1], W. Beal[1], and J. Jiang[1], [1]*Virginia Tech*, *Blacksburg*, [2]*University of Alabama, Birmingham*.
9:15 AM	637	Effects of standing estrus and concentrations of estradiol on uterine pH. J. R. Nelson*, B. L. Perry, and G. A. Perry, *South Dakota State University*, *Brookings*.
9:30 AM	638	Species-specific differences in constitutive androstane receptor (CAR) coding region predicts altered constitutive activity in ruminants. D. L. Greger*[1], C. Morel[2], C. R. Baumrucker[1], and J. W. Blum[2], [1]*Pennsylvania State University*, *University Park*, [2]*University of Bern*, *Bern, Switzerland*.
9:45 AM	639	Cortisol enhances N-acetylglutamate synthase activity and arginine synthesis in enterocytes of suckling piglets. G. Y. Wu*[1,2], Y. L. Yin[1], and N. E. Flynn[2,3], [1]*The Chinese Academy of Sciences*, *Changsha, Hunan, P.R. China*, [2]*Texas A&M University*, *College Station*, [3]*Angelo State University*, *San Angelo, TX*.
10:00 AM	640	Adrenal involvement in the biostimulatory effect of bulls. S. A. Tauck*, J. R. Olsen, and J. G. Berardinelli, *Montana State University*, *Bozeman*.
10:15 AM	641	Localization of Period1 mRNA in the ruminant oocyte and investigations of its role in ovarian function. R. A. Cushman*[1], M. F. Allan[1], S. A. Jones[1], G. P. Rupp[2], and S. E. Echternkamp[1], [1]*U.S. Meat Animal Research Center*, *Clay Center, NE*, [2]*Universtity of Nebraska*, *Clay Center*.
10:30 AM	642	Trace element concentration of bovine ovarian and hepatic tissue. W. S. Swecker, Jr*[1] and D. J. Tomlinson[2], [1]*Virginia Tech*, *Blacksburg*, [2]*Zinpro Corp*, *Eden Praire, MN*.

Ruminant Nutrition

Grazing Nutrition

Chair: Stacey Gunter, University of Arkansas

L100 J

Time	Abstract #	
8:30 AM	ADSA Pioneer	Feeding dairy cattle: Oh how it has changed and yet stayed the same. J. Clark, *University of Illinois, Urbana.*
8:45 AM	643	Effects of ruminal fill on bite and grazing dynamics. P. Gregorini*[1,2], S. Gunter[1], C. Masino[2], and P. Beck[1], [1]*University of Arkansas*, *Hope*, [2]*Universidad Nacional de La Plata*, *La Plata, Buenos Aires, Argentina*.
9:00 AM	644	Strain of Holstein-Friesian and concentrate feeding level influence endogenous plasma ghrelin concentration. A. J. Sheahan[1], D. P. Berry[2], and J. R. Roche*[1], [1]*Dexcel*, *Hamilton, New Zealand*, [2]*Moorepark Dairy Production Research Center*, *Fermoy, Co. Cork, Ireland*.
9:15 AM	645	Nutrient status of young postpartum range cows fed range supplements containing increased glucogenic precursors. R. L. Endecott*, C. M. Rubio, S. H. Cox, M. R. Rubio, R. B. Lueras, I. Cowboy, R. D. Speckmann, C. A. Löest, D. E. Hawkins, and M. K. Petersen, *New Mexico State University*, *Las Cruces*.
9:30 AM	646	Effect of daily herbage allowance and concentrate level on the milk production performance of spring calving dairy cows in early lactation. E. Kennedy*[1,2], M. O'Donovan[1], M. Rath[2], F. O'Mara[2], and L. Delaby[3], [1]*Dairy Production Research Centre*, *Teagasc Moorepark, Fermoy, Co. Cork, Ireland*, [2]*School of Agriculture, Food Science and Veterinary Medicine*, *NUI Dublin, Belfield, Dublin, Ireland*, [3]*INRA*, *UMR Production du Lait, St. Gilles, France*.
9:45 AM	647	Effects of offering different types of supplementation to spring calving dairy cows at grass in autumn. M. O'Donovan*[1], E. Kennedy[1], T. Guinee[2], and J. J. Murphy[1], [1]*Teagasc*, *Dairy Production Research Centre, Teagasc Moorepark, Fermoy, Co. Cork, Ireland*, [2]*Teagasc*, *Moorepark Food Research Centre, Teagasc Moorepark, Fermoy, Co. Cork, Ireland*.
10:00 AM	648	The effect of supplementing grazing cows with barley, corn or a mixture of both on milk yield, blood metabolites and rumen pH fluctuation. F. Dohme*, A. Scharenberg, and A. Münger, *Agroscope Liebefeld-Posieux, Swiss Federal Research Station for Animal Production and Dairy Products (ALP)*, *Posieux, Switzerland*.

Ruminant Nutrition

Nitrogen Metabolism - Beef

Chair: Clint Loest, New Mexico State University

L100 F-G

Time	Abstract #	
8:30 AM	649	Balancing diets to meet the animal′s requirement for absorbable amino acids. J. W. Golden*[1], M. S. Kerley[1], and N. A. Pyatt[2], [1]*University of Missouri*, *Columbia*, [2]*ADM Animal Nutrition Research*, *Decatur, IN*.
8:45 AM	650	Effects of energy supplementation on leucine utilization by growing steers. G. F. Schroeder*, E. C. Titgemeyer, and E. S. Moore, *Kansas State University*, *Manhattan*.
9:00 AM	651	Influence of dietary protein concentration and source on ruminal metabolism, nutrient digestibility, and urinary purine derivative excretion in steers. G. I. Crawford*, M. K. Luebbe, T. J. Klopfenstein, and G. E. Erickson, *University of Nebraska*, *Lincoln*.
9:15 AM	652	The effect of degradable intake protein on urea kinetics in steers consuming low-quality forage. T. A. Wickersham*, E. C. Titgemeyer, R. C. Cochran, and E. E. Wickersham, *Kansas State University*, *Manhattan*.
9:30 AM	653	Determining the proportion of urea recycled to the gut that is incorporated into ruminal microbial protein. T. A. Wickersham*, E. C. Titgemeyer, and R. C. Cochran, *Kansas State University*, *Manhattan*.
9:45 AM	654	Net flux of α-amino N across splanchnic tissues of ewes during abomasal protein and glucose infusion. H. C. Freetly*, C. L. Ferrell, and S. L. Archibeque, *USDA, ARS, U.S. Meat Animal Research Center*, *Clay Center, NE*.
10:00 AM	655	Effects of methionine supplementation on selected serum constituents in steers following an endotoxin challenge. J. W. Waggoner*, C. A. Loest, T. M. Thelen, C. P. Mathis, D. M. Hallford, and M. K. Petersen, *New Mexico State University*, *Las Cruces*.

ADSA Centennial Posters

Chair: Jimmy Clark, University of Illinois

As part of ADSA's Centennial Celebration, Departments of Dairy Science, Animal Science and Food Science, government institutions in the US and Canada, and Dairy Clubs as well as ADSA Sustaining Members will have posters on display during the meeting. These posters will showcase the history, accomplishments and contributions from their institution/organization from the past 100 years.

The Centennial Posters will be on display in the Exhibit Hall from Monday, July 10 through Wednesday, July 12 from. A reception will be held on Monday, July 10 from 4:00 to 5:00 p.m. near the Centennial Posters in the Exhibit Hall.

Posters are listed in alphabetical order by institution/organization.

Abstract #	Title
C1	California Dairy Research Foundation: Creating Opportunities, Adding Value to Dairy. J. O'Donnell*, *California Dairy Research Foundation*, *Davis, CA*.
C2	California Polytechnic State University, San Luis Obispo "Tradition Never Graduates". N. Borges*, E. Jaster, and W. Gillis, *California Polytechnic State University*, *San Luis Obispo*.
C3	Dairy Science at Cornell University -- A Century of Excellence. T. R. Overton* and A. W. Bell, *Cornell University*, *Ithaca, NY*.
C4	Agricultural Economists—A Century of Commitment to the Dairy Industry at Cornell University. M. W. Stephenson*, *Cornell University*, *Ithaca, NY*.
C5	Over 100 Years of Milk and Dairy Foods Research by the United States Department of Agriculture–Agricultural Research Service. D. L. Van Hekken*, *Dairy Processing and Products Research Unit, USDA, ARS, ERRC*, *Wyndmoor, PA*.
C6	The products, the people and the services of Diamond V Mills make the dairy industry more productive. I. Yoon*, M. Scott, and B. Kimbro, *Diamond V Mills*, *Cedar Rapids, IA*.
C7	100 Years of Dairy Science at Kansas State University. K. A. Schmidt*, M. J. Brouk, T. G. Rozell, J. E. Shirley, J. F. Smith, and J. S. Stevenson, *Kansas State University*, *Manhattan*.
C8	The Dairy Science Club at Louisiana State University Celebrates the 100th Anniversary of ADSA. C. C. Williams, B. Lyons, M. Konzelman*, A. Greenbaum, K. McClelland, and P. McGrew, *Louisiana State University*, *Baton Rouge*.
C9	100 Years of service to the dairy industry. B. Jenny*, K. Aryana, G. Hay, and C. Williams, *Louisiana State University Agricultural Center*, *Baton Rouge*.
C10	100+ Years of Dairy Manufacturing at MAC / MSC / MSU. J. Partridge*, Z. Ustunol, and E. Ryser, *Michigan State University*, *East Lansing*.
C11	NADC: Supporting animal health for 45 years. J. Goff*, R. Horst, T. Sutton, B. Nonnecke, and M. Kehrli, *National Animal Disease Center*, *Ames, IA*.
C12	North Carolina State University Dairy Science Club History. A. Nelkie*, *North Carolina State University*, *Raleigh*.
C13	Contributions to the Dairy Industry by the Food Science Department at North Carolina State University. H. E. Swaisgood and T. R. Klaenhammer*, *North Carolina State University*, *Raleigh*.
C14	100 Years of Dairy Science at The Ohio State University. D. L. Palmquist*, J. L. Firkins, M. L. Eastridge, and H. R. Conrad, *The Ohio State University Department of Animal Sciences*, *Columbus*.
C15	100 Years of Dairy Science at Oklahoma State University. S. E. Gilliland*, *Oklahoma State University*, *Stillwater*.
C16	100 years of dairy science at Oregon State University. M. J. Gamroth* and L. Goddik, *Oregon State University*, *Corvallis*.
C17	The Penn State Dairy Science Club--celebrating decades of excellence. J. Bechtel*, D. Wilson, D. Olver, and R. Kensinger, *Pennsylvania State University*, *University Park*.
C18	Penn State: The Second Land-Grant University. R. Pruyne, L. Muller, R. Kensinger*, and M. O'Connor, *The Pennsylvania State University*, *University Park*.
C19	A Century of Dairy Science at Purdue University. J. Chambers*, *Purdue University*, *West Lafayette, IN*.
C20	Highlights of Dairy Production at Purdue University. M. M. Schutz*, B. R. Baumgardt, and J. L. Albright, *Purdue University*, *West Lafayette, IN*.
C21	A century of dairy research, teaching and extension. J. E. Wohlt*, H. D. Hafs, and M. L. Westendorf, *Rutgers, The State University of New Jersey*, *New Brunswick*.

C22 More than 100 Years of Dairy Science at South Dakota State University. Dairy Science Faculty*, *South Dakota State University*, *Brookings*.

C23 SDSU Dairy Club "Snapshots from the Past". A. Wirt*, *South Dakota State University Dairy Club*, *Brookings*.

C24 100 Years of Dairy Sceince at Texas A&M University. M. A. Tomaszewski*, E. Jordan, and H. O. Kunkel, *Texas A&M University*, *College Station*.

C25 100 years of Dairy Science at the University of Alberta. M. Oba, C. Strawson*, P. Jelen, and J. Kennelly, *University of Alberta*, *Edmonton, Alberta, Canada*.

C26 Contributions by the University of Florida toward improving the efficiency of dairy cattle production. B. C. do Amaral*, L. A. de Castro e Paula, and F. D. Jousan, *University of Florida*, *Gainesville*.

C27 100+ Years of Dairy Foods Research, Teaching and Extension at the University of Guelph. H. D. Goff* and D. W. Stanley, *University of Guelph*, *Guelph, ON, Canada*.

C28 100 Years of Dairy Science at the University of Illinois. J. Clark* and J. Baltz, *University of Illinois*, *Urbana-Champaign*.

C29 100 Years of ADSA-SAD at the University of Illinois Illini Dairy Club. G. McCoy*, *University of Illinois*, *Urbana-Champaign*.

C30 Gopher Dairy Club. B. Hemmesch*, *University of Minnesota*, *St. Paul*.

C31 100 Years of Dairy Science at the University of Minnesota. J. Linn*, *University of Minnesota*, *St. Paul*.

C32 Advances in Dairy Manufacturing and Food Science at the University of Missouri-Columbia, 1902-2006. R. T. Marshall*, *University of Missouri*, *Columbia*.

C33 100 Years of Dairy Science at the University of Missouri-Columbia. F. Martz, J. R. Campbell, R. Ricketts, and J. N. Spain*, *University of Missouri*, *Columbia*.

C34 The University of New Hampshire: 100 years of Teaching, Research, and Extension in Dairy Science. P. Erickson*, E. Shea, and T. Fairchild, *University of New Hampshire*, *Durham*.

C35 100 Years of Dairy Science at the University of Tennessee (UT). G. W. Rogers*, M. J. Montgomery, and J. B. Cooper, *University of Tennessee*, *Knoxville*.

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