PRELIMINARY PROGRAM
2007 Joint ADSA-PSA-AMPA-ASAS Meeting
Please note event & presentation times and locations are subject to change.

Sunday, July 8

SYMPOSIA AND ORAL SESSIONS

SYMPOSIUM **Triennial Growth Symposium** **Interface Between Growth and Immunology (Morning Session)** **Chairs: Don Mulvaney, Auburn University and Mark Mirando, USDA-CSREES-NRI** **Sponsors: Prince Agri, USDA-CSREES** **214 D**		
8:00 AM		Introduction. N. E. Forsberg*, *Oregon State University, Corvallis*.
8:05 AM		Welcome from the Sponsors. K. Purser[1] and M. Mirando[2], [1]*Prince-agri Products,* [2]*USDA-NRI.*
8:15 AM	1	Brain-immune-periphery cross talk: Shared signals that link pathogen sensing and growth biology. J. L. Burton*, *Michigan State University, East Lansing.*
9:05 AM		Integrating the immune system with the regulation of growth and efficiency. M. Spurlock*, *Iowa State University, Ames.*.
9:55 AM		Break
10:15 AM	2	Interleukin-15: A cytokine which modulates fat:lean body composition. L. S. Quinn*[1,2], [1]*University of Washington, Seattle,* [2]*VA Puget Sound Health Care System, Seattle, WA.*
11:05 AM	3	Regulation of muscle growth by pathogen associated molecules. R. A. Frost* and C. H. Lang, *Pennsylvania State University, Hershey*.

SYMPOSIUM **Triennial Growth Symposium** **Interface Between Growth and Immunology (Afternoon Session)** **Chair: Jamie Matthews , University of Kentucky** **Sponsors: Prince Agri, USDA-CSREES** **214 D**		
1:00 PM	4	Insulin resistance by TNF-alpha in skeletal muscle and fat. M. Lorenzo*, S. Fernandez-Veledo, R. Vila-Bedmar, L. Garcia-Guerra, and I. Nieto-Vazquez, *Biochemistry Department, Pharmacy Faculty, Complutense University, 28040-Madrid, Spain*.
1:50 PM	5	Proinflammatory changes in adipose tissue: Effects of diet-induced obesity. D. K. Brake, H. Wu, C. M. Ballantyne, and C. W. Smith*, *Baylor College of Medicine, Houston, TX*.
2:40 PM		Break
3:00 PM	6	Critical control points in the impact of proinflammatory immune response on growth and metabolism. T. H. Elsasser*[1], S. Kahl[2], and J. L. Sartin[2], [1]*USDA-ARS-Growth Bio Lab, Beltsville, MD,* [2]*Auburn University, Auburn, AL.*
3:50 PM	7	Bi-directional communication: Growth and immunity in domestic animals. J. A. Carroll*, *USDA-ARS Livestock Issues Research Unit, Lubbock, TX*.

SYMPOSIUM

Informal Nutrition Symposium The Impact of Imprinting on Biological and Economic Performance of Animals Chair: Mamduh Sifri, ADM Alliance Nutrition, Inc. 214 A	
1:00 PM	Symbolism for the advisor and the mentor - remembering Dr. David Sklan. M. Sifri, *ADM Alliance Nutrition, Inc., Quincy, IL.*
1:15 PM	Embryonic and neonatal (parinatal) imprinting: (a team presentation): 1. Introductions, definitions and overview. P. R. Ferket, *North Carolina State University, Raleigh.*
1:30 PM	Embryonic and neonatal (parinatal) imprinting: (a team presentation): 2. Molecular and biological mechanisms. C. M.Ashwel, *North Carolina State University, Raleigh.*
2:00 PM	Embryonic and neonatal (parinatal) imprinting: (a team presentation): 3. Maternal and developmental impact. Z. Uni, *Hebrew University of Jerusalem, Rehovot, Israel.*
2:30 PM	Break
2:40 PM	Awards and Recognitions.
3:00 PM	Embryonic and neonatal (parinatal) imprinting: (a team presentation): 4. Embryonic and neonatal nutritional and environmental status. P. R. Ferket, *North Carolina State University, Raleigh*.
3:30 PM	Oral immune tolerance in birds and mammals: the digestive tract development determines the strategy. A. Friedman, *Hebrew University of Jerusalem, Rehovot, Israel.*
4:00 PM	Microbial imprinting in gut development and health. J. Dibner, *Novus International, St. Charles, MO*.
4:30 PM	Discussions, conclusions, messages and recommendations. W. Guenter[1] and M. E. Cook[2], [1]*University of Manitoba, Canada*, [2]*University of Wisconsin, Madison.*
5:15 PM	Adjourn with a meaningful message.

Monday, July 9

POSTER PRESENTATIONS

Animal Behavior & Well-Being - Livestock and Poultry I Exhibit Hall C	
M1	Analysis of the association of parity, body condition and lactation feed intake with claw lesions in breeding sows. S. S. Anil*, L. Anil, and J. Deen, *University of Minnesota, St Paul*.
M2	Analysis of the association of claw lesions with lameness in breeding sows. L. Anil*, S. S. Anil, and J. Deen, *University of Minnesota, St Paul*.
M3	Analysis of the association of periparturient risk factors with sow longevity. L. Anil*, S. S Anil, and J. Deen, *University of Minnesota, St Paul*.
M4	Stress level of steers in long distance transport in Japanese four seasons. T. Ishiwata*, K. Uetake, Y. Eguchi, and T. Tanaka, *Azabu University, Sagamihara, Kanagawa, Japan.*
M5	Welfare assessment of cattle transported in Japan. K. Uetake*, T. Ishiwata, Y. Eguchi, and T. Tanaka, *Azabu University, Sagamihara, Kanagawa, Japan*.
M6	Spirit of humane. J. M. Regenstein*[1], J. Moses[2], and L. Jacoby[2], [1]*Cornell University, Ithaca, NY*, [2]*Shepherd Song Farms, Downing, WI.*
M7	Comparison of beak trimming methods on early broiler breeder performance. S. N. Henderson*[1], J. T. Barton[2], W. J. Kuenzel[1], A. D. Wolfenden[1], S. E. Higgins[1], J. P. Higgins[1], C. A. Lester[1], G. I. Tellez[1], and B. M. Hargis[1], [1]*University of Arkansas, Fayetteville*, [2]*Tyson Foods, Springdale, AR.*
M8	Analysis of the incidence of claw lesions in breeding sows. S. S. Anil*, L. Anil, and J. Deen, *University of Minnesota, St Paul.*
M9	Effect of the presence of hungy conspecifics in the stress and weight gains of recently weaned lambs. J. Rojas, R. Vázquez, F. I. Flores-

	Pérez, V. Aguirre, and A. Orihuela*, *Universidad Autónoma del Estado de Morelos, Morelos, México*.
M10	Bone quality, behavioural repertoire, and physical condition of laying hens housed in conventional, modified and furnished colony battery cages. M. J. Jendral*[1], D. R. Korver[1], J. S. Church[2], and J. R. Feddes[1], [1]*University of Alberta, Edmonton, Canada*, [2]*Alberta Agriculture, Food and Rural Development, Edmonton, Canada*.

Animal Health - Livestock and Poultry
Bovine I
Exhibit Hall C

M11	Osteopontin expression during the periparturient period in dairy cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis* infection. E. L. Karcher*[1], D. C. Beitz[1], and J. R. Stabel[2], [1]*Iowa State University, Ames,* [2]*USDA-ARS-National Animal Disease Center, Ames, IA.*
M12	Development of a novel enzyme-linked immunosorbent assay for the diagnosis of Johne's disease. S. Eda*[1], A. J. Branscum[2], Y. Kaneko[1], M. C. Scott[1], and C. A. Speer[1], [1]*University of Tennessee, Knoxville,* [2]*University of Kentucky, Lexington.*
M13	Effect of pasteurization on bacterial count and immunoglobulin G levels of bovine colostrum. J. A. Elizondo Salazar*, S. C. Donaldson, B. M. Jayarao, and A. J. Heinrichs, *The Pennsylvania State University, University Park.*
M14	Measuring bovine colostrum specific gravity using two hydrometers at various temperatures. A. J. Heinrichs*, S. A. Belegundu, C. M. Jones, and J. A. Elizondo Salazar, *The Pennsylvania State University, University Park.*
M15	Changes in protein expression in *Escherichia coli* as a consequence of growth in milk whey. J. D. Lippolis* and T. A. Reinhards, *National Animal Disease Center / ARS/ USDA, Ames, IA.*
M16	Results of milk samples submitted for *Mycoplasma* spp examination from California dairies between 1999 and 2005. D. F. Resende*, R. G. S. Bruno, P. V. Rossito, K. Glenn, and J. S. Cullor, *University of California, Davis.*
M17	Evaluation of Direct Fecal PCR and Serum ELISA for the Detection of *Mycobacterium avium* subsp. *paratuberculosis*. D. L. Clark*, J. J. Koziczkowski, R. P. Radcliff, R. A. Carlson, and J. L. E. Ellingson, *Marshfield Clinic, Marshfield, WI.*
M18	Effect of vitamin E and selenium administration on concentration of malondialdehyde in udder milk. P. Wicheanson[1], V. Harnpanichpun[2], V. Chupia[3], P. Vinitchaikul*[3], and W. Suriyasathaporn[3], [1]*Sixth year student, Faculty of Veterinary Medicine, Chiang Mai University, Muang, Chiang Mai, Thailand,* [2]*Dairy Product Research and Development Unit, Chiang Mai, Muang, Chiang Mai, Thailand,* [3]*Faculty of Veterinary Medicine, Chiang Mai University, Muang, Chiang Mai, Thailand.*
M19	Effect of feeding an immunostimulatory feed supplement (OmniGen-AF) during the dry period on somatic cell scores (SCS) in early lactation Holstein cows. H. T. Ballantine*[1], J. D. Chapman[2], Y.-Q Wang[4], and N. E. Forsberg[3,4], [1]*Ballantine Consulting, Hiram, GA,* [2]*Prince Agri Products, Quincy, IL,* [3]*Oregon State University, Corvallis,* [4]*OmniGen Research, Corvallis, OR.*
M20	Effect of intramammary treatment with Pirlimycin hydrochloride on antibiotic sensitivity of Gram-positive subclinical mastitis pathogens. M. D. Apparao, L. Oliveira, C. Hulland, and P. L. Ruegg*, *University of Wisconsin, Madison.*
M21	The effect of uterine infusion of ceftiofur in the immediate postpartum on lactation and reproduction in dairy cows. R. G. Bruno*, M. F. Sa Filho, F. S. Lima, V. J. A. Magalhaes, and J. E. P. Santos, *Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare.*
M22	Association of milk antimicrobial proteins with mastitis in dairy cattle. M. D. Person*, C. N. Person, T. D. Lester, and R. W. Rorie, *University of Arkansas, Fayetteville.*
M23	Reduction of mortality and morbidity and increase in milk production in dairy livestock by plasmid-mediated growth hormone releasing hormone treatment during a period of high temperatures and humidity. P. A. Brown*, A. S. Khan, and R. Draghia-Akli, *ADViSYS Inc, The Woodlands, TX.*
M24	Factors affecting death rate of lactating cows in Dairy Herd Improvement herds. R. H. Miller, H. D. Norman*, M. T. Kuhn, and J. R. Wright, *Agricultural Research Service, USDA, Beltsville, MD.*
M25	Identification of Monascus purpurea (red yeast) contamination of silages in the mid-West. G. Seiler[1], Y. Wang[2], and N. E. Forsberg*[2,3], [1]*Heartland Veterinary Services, Goddard, KS,* [2]*OmniGen Research, Corvallis, OR,* [3]*Oregon State University, Corvallis.*
M26	*Neotyphodium coenophialum* exposure reduces carcass mass and ribeye area, but not meat quality of growing steers grazing high versus low endophyte infected forages. K. R. Brown*[1], R. B. Cox[1], G. A. Anderson[1], G. K. Rentfrow[1], L. P. Bush[1], J. R. Strickland[2], J. A. Boling[1], and J. C. Matthews[1], [1]*University of Kentucky, Lexington,* [2]*Forage-Animal Production Research Unit, USDA-ARS, Lexington, KY.*
M27	Plasma metabolite and mineral levels of dry cows out–wintered on brassica forages. P. Gazzola*[1,2], L. Boyle[1], P. French[1], A. Hanlon[2], and F. Mulligan[2], [1]*Teagasc, Fermoy, County Cork, Ireland,* [2]*University College Dublin, Belfield, Dublin, Ireland.*
M28	Grazing high versus low endophyte-infected tall fescue reduces contractility of bovine lateral saphenous veins. J. L. Klotz*[1], K. R. Brown[2], L. P. Bush[2], J. C. Matthews[2], J. A. Boling[2], and J. R. Strickland[1], [1]*USDA-ARS, FAPRU, Lexington, KY,* [2]*University of Kentucky, Lexington.*
M29	Ergocryptine and ergonovine induced contractile responses in 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.*

M30	Defining cutoff points for subclinical endometritis at different stages of lactation. K. N. Galvão*, S. B. Brittin, M. Frajblat, and R. O. Gilbert, *Cornell University, Ithaca, NY.*

Breeding and Genetics - Livestock and Poultry I
Exhibit Hall C

M31	Effects of selection for post-weaning BW gain on carcass characteristics of *Bos indicus* and tropical adapted *Bos taurus* breeds. S. F. M. Bonilha*[1,2], L. O. Tedeschi[1], I. U. Packer[2], A. G. Razook[3], G. F. Alleoni[4], F. D. Resende[5], R. F. Nardon[4], and L. A. Figueiredo[3], [1]*Texas A&M University, College Station,* [2]*ESALQ/USP, Piracicaba, SP, Brazil,* [3]*Instituto de Zootecnia, Sertãozinho, SP, Brazil,* [4]*Insituto de Zootecnia, Nova Odessa, SP, Brazil,* [5]*APTA, Colina, SP, Brazil.*
M32	Gene expression analysis of pig muscle associated to cholesterol and fat parameters. A. Cánovas[1], J. Casellas*[1], L. Varona[1], I. Díaz[2], R. Quintanilla[1], and R. N. Pena[1], [1]*Genètica i Millora Animal. IRTA-Lleida, Lleida, Spain,* [2]*Tecnologia dels Aliments. IRTA-Monells, Monells, Spain.*
M33	Positive association between porcine PTHLH gene and teat number in a F_2 Meishan and Iberian crossbreed. M. Martinez*[1], J.L. Noguera[1], O. Ramirez[2], E. Alves[3], and R.N. Pena[1], [1]*Genètica i Millora Animal. IRTA-Lleida., Lleida. Spain,* [2]*Departament de Ciència Animal i dels Aliments. UAB., Bellaterra. Spain,* [3]*Departamento de Mejora Genética Animal. SGIT-INIA., Madrid. Spain.*
M34	Rapid characterization of radiation hybrid panel DNA by SYBR® Green I-based dissociation curve analysis and application for river buffalo gene mapping. K. J. Kochan[1], M. E. J. Amaral[2], and P. K. Riggs*[1], [1]*Texas A&M University, College Station,* [2]*IBILCE, UNESP, São José do Rio Preto, Brasil.*
M35	Comparison of ribosomal protein gene distribution between full-length enriched cDNA libraries from multiple stages of porcine early embryo. R. S. Wu*, E. -C. Lin, C. C. Hsu, and W. T. K. Cheng, *Department of Animal Science and Technology, National Taiwan University, Taipei, Taiwan.*
M36	Use of random regression model in the milk yield analysis of water buffaloes. A. A. Ramos*[1], C. V. Araújo[2], S. I. Araújo[2], and D. C. P. Pereira[2], [1]*Sao Paulo State University, Botucatu, SP, Brazil,* [2]*Federal Rural University of Amazonia, Belém, PA, Brazil.*
M37	Effects of cytoplasmic line on scrotal circumference and semen quality traits in Angus bulls. A. G. Garmyn* and D. W. Moser, *Kansas State University, Manhattan.*
M38	Effect of temperature and humidity on gestation length. H. D. Norman, J. R. Wright*, and J. B. Cole, *Agricultural Research Service, USDA, Beltsville, MD.*
M39	Relationship of gestation length to stillbirth. R. L. Powell*, H. D. Norman, and J. R. Wright, *Agricultural Research Service, USDA, Beltsville, MD.*
M40	Genomic structure and polymorphisms of the bovine c21orf66 gene. K. R. Wunderlich*, C. A. Abbey, and C. A. Gill, *Texas A&M University, College Station.*
M41	Application of the Sleeping Beauty transposon system to avian cells. B-W. Kong*[1], L. K. Foster[2], and D. N. Foster[2], [1]*University of Arkansas, Fayetteville,* [2]*University of Minnesota, St. Paul.*
M42	Evaluation of growth traits of Brazilian herefords using multivariate analysis. J. C Souza*[1,2], L. T. Campos[3], J. A. Freitas[2], R. Weaber[4], and W. R. Lamberson[4], [1]*Scholarship of CNPq, Brazil,* [2]*Parana Federal University, Palontina, Brazil,* [3]*Engenheiro Agronomo, Brazil,* [4]*Univeristy of Missouri, Columbia.*
M43	Molecular evidence that turkey varieties belong to a single breed. E. Smith*, J. Xu, X. Guan, T. Geng, and D. Kamara, *Virginia Polytechnic and State University, Blacksburg.*
M44	Evaluation of nucleolar proliferating protein 1 as a candidate gene for beef carcass characteristics. J. H. Bosques-Méndez*[1], M. Pagan[1], E. Casas[2], A. Casas[1], and D. Cianzio[1], [1]*University of Puerto Rico, Mayagüez, Puerto Rico,* [2]*Roman L. Hruska USDA MARC, Clay Center, NE.*
M45	Application of Wilmink's function to Bayesian inference of heritability for monthly test day milk yields in Iranian Holsteins. H. Farhangfar*, *Birjand University, Birjand, Iran.*
M46	Bivariate genetic analysis of monthly test day milk yield and protein percentage for Holstein heifers in Khorasan province of Iran. H. Farhangfar*, R. Lotfi, and H. Naeemipour, *Birjand University, Birjand, Iran.*
M47	Insemination of Holstein cows with sexed sperm. J. L. Schenk*[1] and R. W. Everett[2], [1]*XY, Inc., Fort Collins, CO,* [2]*Cornell University, Ithaca, NY.*
M48	Genetic trends for dairy traits in the Holstein x Other Breeds multibreed dairy cattle population in tropical central Thailand. S. Koonawootrittriron[1], M. A. Elzo*[2], and T. Tongprapi[3], [1]*Kasetsart University, Bangkok, Thailand,* [2]*University of Florida, Gainesville,* [3]*Dairy Farming Promotion Organization, Saraburi, Thailand.*

M49	Multi-trait evaluation for calving ease and stillbirth with separate genetic effects by parity. G. R. Wiggans, J. C. Cole, and L. L. M. Thornton*, *Agricultural Research Service, USDA, Beltsville, MD.*
M50	Estimation of genetic parameters for milk and fat yields in Holstein cattle of Khorasan province of Iran. H. Naeemipour*[1], H. Farhangfar[1], H. Moravej[2], M. Rokoei[3], and M. B. Sayyadnejad[4], [1]*Birjand University, Birjand, Khorasan, Iran,* [2]*Tehran University, Tehran, Tehran, Iran,* [3]*Zabol University, Zabol, Sistan va Bluchestan, Iran,* [4]*Animal Breeding Center, Karaj, Tehran, Iran.*
M51	REML heritability and repeatability estimates of net energy for lactation trait for Holstein heifers in Khorasan province of Iran. H. Farhangfar*[1], H. Naeemipour[1], R. Lotfi[1], and M. Pajaz[2], [1]*Birjand University, Birjand, Iran,* [2]*Jihade Agriculture of Razavi Khorasan, Mashhad, Iran.*
M52	Genetic evaluation of lactation persistency estimated by best prediction for Ayrshire, Brown Swiss, Guernsey, and Milking Shorthorn dairy cattle. J. B. Cole and D. J. Null*, *Animal Improvement Programs Laboratory, USDA, Beltsville, MD.*
M53	Phenotypic and genetic analysis of days open for Japanese Holstein cows. H. Abe*, M. Suzuki, and Y. Masuda, *Obihiro University of A & VM., Obihiro, Japan.*

Egg and Meat Science and Muscle Biology - Livestock and Poultry I
Exhibit Hall C

M54	Performance and egg quality of four quail genetic group. C. Móri[1], E. A. Garcia[1], A. C. Pavan[1], C. C. Pizzolante[2], R. M. S. Emediato*[1], S. A. Maestá[1], and D. A. Berto[1], [1]*São Paulo State University, Botucatu, São Paulo, Brazil,* [2]*São Paulo Agency of Agribusiness Tecnology, Brotas, São Paulo, Brazil.*
M55	Relationship between calpastatin activity and lamb carcass characteristics. J. A. Gevin*[1], H. N. Zerby[1], P. S. Kuber[1], S. J. Moeller[1], M. P. Wick[1], D. R. Notter[2], T. D. Leeds[3], and M. R. Mousel[3], [1]*The Ohio State University, Columbus,* [2]*Virgina Polytechnic Institute and State University, Blacksburg,* [3]*USDA-ARS, U.S. Sheep Experiment Station, Dubois, ID.*
M56	Effect of salt, trisodium phosphate, BHA/BHT and CLA on sensory, quality and instrumental color characteristics of beef striploins of different quality grades. C. W. Rowe*, F. W. Pohlman, A. H. Brown, Jr., and Z. B. Johnson, *University of Arkansas, Fayetteville.*
M57	Predicting beef tenderness using proteomic analysis of 36 hour postmortem muscle. M. S. Updike*, I. Zapata, H. Zerby, and M. Wick, *The Ohio State University, Columbus.*
M58	Evaluation of different fatty acid methyl ester preparation procedures for analysis of egg fat with emphasis on omega-3, omega-6 and conjugated linoleic acids. G Cherian*, A. S. Abd El-Hakim, and M. P. Goeger, *Oregon State University, Corvallis.*
M59	Effect of animal, transportation, and slaughterhouse variables on beef behavior at the slaughterhouse. N. Mach*[1], A. Bach[2,1], A. Velarde[3], and M. Devant[1], [1]*IRTA, Barcelona, Spain,* [2]*ICREA, Barcelona, Spain,* [3]*IRTA, Girona, Spain.*
M60	Effects of dietary vitamin A on growth and beef quality traits of Limousin × Chinese Luxi steers. J. Q. Wang*, F. C. Wan, D. P. Bu, H. Y. Wei, and L. Y. Zhou, *State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.*
M61	Effects of supplemental fat on growth performance and quality of beef from steers fed corn finishing diets. M. L. Nelson*, J. R. Busboom, C. F. Ross, and J. V. O'Fallon, *Washington State University, Pullman.*
M62	Influence of Î²-adrenergic agonist (Metaproterenol) and lysine on growth, carcass quality in broiler chickens. A. M. Tahmasbi*[1], E. Kasefi[2], G. Moghadam[2], A. Taghizadeh[2], and H. A. Ghasemi[2], [1]*University of Mashhad, Iran,* [2]*University of Tabriz, Iran.*
M63	Effect of deboning time and muscle type on dielectric properties of uncooked chicken breast meat at 5°C. H. Zhuang*, S. Nelson, S. Trabelsi, and E. Savage, *Agriculture Research Service, USDA, Athens, GA.*
M64	Rabbit meat quality as affected by feed containing coconut meal. D. V. Souza[1], J. F. F. Zapata*[1], E. R. Freitas[1], D. S. Garruti[2], E. M. C. Silva[1], T. F. Vidal[1], and A. L. F. Pereira[1], [1]*Universidade Federal do Ceará, Fortaleza, CE, Brasil,* [2]*Embrapa Agroindústria Tropical, Fortaleza, CE, Brasil.*
M65	Fatty acid profile of *Longissimus* by steers finishing at *Brachiaria brizantha* cv. Stapf. pasture, under tropical conditions. D. M. Lambertucci*[1], R.H. T. Buschinelli de Goes[2], A. B. Mancio[1], C. Mistura[3], and R. P Lana[1], [1]*Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brasil,* [2]*Universidade Federal da Grande Dourados, Dourados, Mato Grosso do Sul, Brasil,* [3]*Universidade do Estado da Bahia, Juazeiro, Bahia, Brasil.*
M66	Phenotypic correlation of egg weight and egg morphometric measures. O. T. F. Abanikannda[1], A. O. Leigh[1], O. Olutogun[2], L. A. Ajayi*[1], and M. Orunmuyi[3], [1]*Lagos State University, Ojo, Lagos State, Nigeria,* [2]*University of Ibadan, Oyo State, Nigeria,* [3]*Ahmadu Bello University, Zaria, Kaduna State, Nigeria.*
M67	Effect of vitamin D_3supplementation on plasma and muscle calcium levels, tenderness and sensory characteristics of crossbred grazing steers in the tropics. J. Gutierrez, L. Machado, O. E. Moron-Fuenmayor, O. E. Araujo-Febres*, and S. Pietrosemoli, *La Universidad del Zulia, Maracaibo, Estado Zulia, Venezuela.*

M68	Evaluation of freshness of egg yolks and shell eggs stored under the super chilled temperature through analyses of changes of volatiles and lipoprotein conformation. T. Yanagisawa*[1], C. Watanuki[1], M. Ariizumi[1], Y. Shigematsu[1], H. Kobayashi[1], M. Hasegawa[1], and K. Watanabe[2], [1]*Q.P. Corporation, Tokyo, Japan*, [2]*Tokyo University of Agriculture, Kanagawa, Japan*.

Extension Education - Livestock and Poultry
Exhibit Hall C

M69	StockPlan: Decision support tools for exploring management options for drought. M. J. McPhee*[1], G. Meaker[1], P. M. Graham[1], B. L. Davies[1], and M. B. Whelan[2], [1]*NSW DPI, Armidale, Australia*, [2]*Southern Cross University, Lismore, NSW, Australia*.
M70	Characterization of claw lesions associated with lameness in the University of Arkansas sow herd. C. L. Bradley*[1], J. W. Frank[1], C. V. Maxwell[1], Z. B. Johnson[1], J. G. Powell[1], S. R. Van Amstel[2], and T. L. Ward[3], [1]*University of Arkansas, Fayetteville*, [2]*University of Tennessee, Knoxville*, [3]*Zinpro, Inc., Eden Prairie, MN*.
M71	Maryland dairy producer education needs assessment study. R. R. Peters*, K. M. Wilson, M. R. Bell, R. A. Erdman, S. W. Fultz, J. E. Hall, R. A. Kohn, W. D. Lantz, J. W. Semler, and M. A. Varner, *University of Maryland, College Park*.
M72	Trends in Maryland dairying and future prospects. R. R. Peters*, K. M. Wilson, M. R. Bell, R. A. Erdman, S. W. Fultz, J. E. Hall, R. A. Kohn, W. D. Lantz, J. W. Semler, and M. A. Varner, *University of Maryland, College Park*.
M73	Field evaluation of laboratory assays to assess starch and fiber digestibility in corn grain and silage. M. D. Tassoul*[1], R. D. Shaver[1], J. A. Barmore[2], D. Taysom[3], and P. C. Hoffman[1], [1]*University of Wisconsin, Madison*, [2]*Five-Star Dairy Consulting LLC, Verona, WI*, [3]*Dairyland Laboratories, Inc., Arcadia, WI*.
M74	Job satisfaction and interest in testing more cows: A survey of DHIA supervisors. J. C. Dalton*, *University of Idaho, Caldwell*.
M75	Use of real-farm case studies to teach nutrient management planners the value of feed management as part of whole farm nutrient management. R. A. White*[1], G. E. Erickson[2], R. K. Koelsch[2], R. E. Massey[3], V. R. Bremer[2], M. Fox[4], and J. H. Harrison[1], [1]*Washington State University, Puyallup*, [2]*University of Nebraska, Lincoln*, [3]*University of Missouri, Columbia*, [4]*KLA Environmental Services, Inc., Salina, KS*.
M76	Comparison of somatic cell counts from fresh and frozen milk samples using the DeLaval DCC. W. D. Gilson*, L. O. Ely, and S. P. Nickerson, *University of Georgia, Athens*.
M77	A milk quality management survey of Minnesota DHI dairies with consistently low somatic cell counts. J. K. Reneau*, T. Bartholomay, and J. M. Lukas, *University of Minnesota, St Paul*.
M78	Poultry nutrition and disease knowledge in California exhibition poultry owners: A survey. B. A. McCrea*[1], T. Y. Morishita[2], and F. A. Bradley[1], [1]*University of California, Davis*, [2]*Western University of Health Sciences, Pomona, CA*.
M79	Cull cow and calf marketing methods employed by Idaho dairies. M. Chahine and J. B. Glaze, Jr.*, *University of Idaho, Twin Falls*.
M80	Financial performance of dairies in Florida and Georgia in 2005. L. O. Ely*[1], R. Giesy[2], B. Broaddus[2], C. Vann[2], A. Bell[2], and A. deVries[2], [1]*University of Georgia, Athens*, [2]*University of Florida, Gainesville*.

Food Safety - Livestock and Poultry
Exhibit Hall C

M81	Preventing *Salmonella* colonization in cement using Bio Deep Seal. K. S. Macklin*, J. B. Hess, and D. E. Conner, *Auburn University, Auburn, AL*.
M82	Effects of transport stress on subclinical infection in an *Escherichia coli-Listeria monocytogenes* challenge model. G. R. Huff*[1], W. E. Huff[1], V. Dutta[2], R. Nannapaneni[3], and M. G. Johnson[3], [1]*USDA/ARS/PPPSRU, Fayetteville, AR*, [2]*University of Arkansas, Fayetteville*, [3]*Center for Food Safety & Microbiology-IFSE, University of Arkansas, Fayettevile, AR*.
M83	A dual system based on the use of electronic identification and molecular markers to ensure lamb traceability. G. Caja*, J. J. Ghirardi, M. Hernández-Jover, and A. Sánchez, *Universitat Autònoma de Barcelona, Bellaterra, Spain*.
M84	Reduction of cecal *Campylobacter* spp. in broiler chickens by egg powder, mannobiose, or their combination. Y. Han, G. I. Page*, and J. J. Brennan, *Maple Leaf Foods Agresearch, Guelph, Ontario, Canada*.
M85	Development of a polymerase chain reaction-based method to identify poultry, ruminants, and equine components in fish meal. A. Heravi Moussavi*[1], M. Nassiri[1], G. Pourseifi[1], M. Soltani[1], A. Javadmanesh[1], and R. Noorbakhsh[2], [1]*Dept of Animal Science, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavy, Iran*, [2]*Standards and Industrial Research, Khorasan Razavy Head Office, Mashhad, Khorasan Razavy, Iran*.
M86	Detection of *Escherichia coli* O157:H7 using Au nanoparticles mediator on an electrochemical amperometric immunobiosensor. S.-H.

	Chen*[1], Y.-H. Lin[1,2], Y.-C. Chuang[1], Y.-R. Lin[1], C. A. Chang[1], T. Y. Shen[2], and C.-S. Lin[1], [1]*National Chiao Tung University, Hsinchu, Taiwan, R.O.C*, [2]*Apex Biotechnology Corporation, Hsinchu, Taiwan, R.O.C*.
M87	Effect of heat treatments on stability of β-lactams in milk. M. Roca[1], M. A. Zorraquino[2], C. Igualada[3], R. L. Althaus[4], and M. P. Molina*[1], [1]*Universidad Politecnica de Valencia, Valencia, Spain*, [2]*Universidad Publica de Navarra, Pamplona, Spain*, [3]*Generalitat Valenciana, Valencia, Spain*, [4]*Universidad Nacional del Litoral, Esperanza, Republica Argentina*.
M88	Effects of feed withdrawal times prior to slaughter on cecal fermentation and *Salmonella* shedding at the abattoir. S. Martín-Peláez[1], E. Creus[1], B. Peralta[2], J. F. Pérez*[1], E. Mateu[2], and S. M. Martín–Orúe[1], [1]*Animal Nutrition, Management and Welfare Research Group, Universitat Autònoma de Barcelona, Spain*, [2]*Departament de Sanitat i Anatomia Animals, Universitat Autònoma de Barcelona, Spain*.
M89	Efficacy of a micro-encapsulated or non-encapsulated blend of lactic and formic acid to reduce the prevalence of *Salmonella* in finishing pigs. J. dos Santos[1], E. Creus[1], J. F. Pérez*[1], E. Mateu[2], and S. M. Martín–Orúe[1], [1]*Animal Nutrition, Management and Welfare Research Group, Universitat Autònoma de Barcelona, Spain*, [2]*Departament de Sanitat i Anatomia Animals, Universitat Autònoma de Barcelona, Spain*.
M90	Effects of feed withdrawal and lairage time prior to slaughter on the gut environment and cecal *Enterobacteriaceae* in finishing pigs. S. Martín–Peláez[1], S. M. Martín–Orúe[1], J. F. Pérez*[1], A. Dalmau[2], E. Fàbrega[2], A. Velarde[2], J. Tibau[2], and J. Gasa[1], [1]*Animal Nutrition, Management and Welfare Research Group, Universitat Autònoma de Barcelona, Spain*, [2]*IRTA, Monells, Girona, Spain*.
M91	The relationship between *Salmonella* detection from milk filters and bulk milk and fecal shedding of *Salmonella* in a dairy herd. J. S. Van Kessel*[1], J. S. Karns[1], D. R. Wolfgang[2], E. Hovingh[2], and Y. Schukken[3], [1]*USDA-ARS-EMSL, Beltsville, MD*, [2]*Pennsylvania State University, University Park*, [3]*Cornell University, Ithaca, NY*.
M92	Validation of peracetic acid as an antimicrobial for poultry chillers. S. R. McKee*, L. J. Bauermeister, and J. W. Bowers, *Auburn University, Auburn, AL*.
M93	Evaluation of rep-PCR and denatured gradient gel electrophoresis (DGGE) in identifying *Salmonella* serotypes isolated from processed turkeys. P. N. Anderson*[1], M. E. Hume[1,2], J. A. Byrd[1,2], and D. J. Caldwell[1], [1]*Texas A & M University, College Station*, [2]*USDA-ARS, FFSRU, College Station, Texas*.
M94	Association between on-farm milk and wash water temperature variations and bulk milk coliform counts. J. C. F. Pantoja, C. Hulland, G. J. M. Rosa, D. J. Reinemann, and P. L. Ruegg*, *University of Wisconsin, Madison*.
M95	Meat quality and microbial shelf life of chicken breast fillets from air or immersion chilled processing systems and packaged under modified atmospheres. D. Monsalve*[1], H. Thippareddi[1], and S. Russell[2], [1]*University of Nebraska, Lincoln*, [2]*University of Georgia, Athens*.
M96	Characterization and potential human health risks of Shiga toxin-producing *Escherichia coli* isolated from California dairy cattle over one year. 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*.
M97	Characterization and potential human health risks of Shiga toxin-producing *Escherichia coli* isolated from feedlot cattle. H. S. Hussein*[1], L. M. Bollinger[1], M. R. Hall[1], S. F. Khaiboullina[1], and E. R Atwill[2], [1]*University of Nevada, Reno*, [2]*University of California, Davis*.
M98	Prevalence and pre-harvest control factors affecting Shiga toxin-producing *Escherichia coli* in cattle grazing rangeland forages. L. M. Bollinger*[1], H. S. Hussein[1], and E. R. Atwill[2], [1]*University of Nevada, Reno*, [2]*University of California, Davis*.

Forages and Pastures - Livestock and Poultry
Forage Quality and Nutritive Value
Exhibit Hall C

M99	Mineral concentrations of tropical forages in the regions of San Vicente de Caguan, Colombia. R. Vargas, L. R. McDowell*, R. Van Alstyne, and N. S. Wilkinson, *University of Florida, Gainesville*.
M100	Effect of selenium fertilizer on forage selenium content. S. J. Filley*, A. Peters, and C. Bouska, *Oregon State University, Corvallis*.
M101	Effect of organic and chemical nitrogen fertilization on mulberry (*Morus alba*) fodder production. J. A. Elizondo Salazar* and C. Boschini Figueroa, *Estación Experimental Alfredo Volio Mata. Facultad de Ciencias Agroalimentarias, Universidad de Costa Rica, Costa Rica.*
M102	The economics of liming coastal dairy pastures. T. W. Downing* and J. Hart, *Oregon State University, Corvallis*.
M103	Nitrogen fertilization and weather influence winter yield and nutritive value of stockpiled bermudagrass. J. A. Guretzky*, J. B. Ball, B. J. Cook, S. L. Norton, and F. J. Motal, *The Samuel Roberts Noble Foundation, Inc., Ardmore, OK*.
M104	Macro and micro mineral concentrations of annual cool season pasture forages in north Florida–a four year summary. R. O. Myer*, G. Chelliah, J. N. Carter, L. R. McDowell, N. S. Wilkinson, and A. R. Blount, *University of Florida, Gainesville*.
M105	Nutritive value of low DCAD timothy forage produced with Cl fertilization. G. F. Tremblay*[1], S. Pelletier[1], G. Bélanger[1], P. Seguin[2], R.

	Drapeau[1], and G. Allard[3], [1]*Agriculture and Agri-Food Canada, Québec, QC, Canada*, [2]*McGill University, Ste-Anne-de-Bellevue, QC, Canada*, [3]*Université Laval, Québec, QC, Canada.*
M106	Nutritive quality of a species-rich, extensively managed pasture exposed to elevated ozone in a free-air fumigation system. J. C. Lin*[1], K. Nadarajah[1], M. Volk[2], R. B. Muntifering[1], and J. Fuhrer[2], [1]*Auburn University, Auburn, AL*, [2]*Swiss Federal Research Station for Agroecology and Agriculture, Zurich, Switzerland.*
M107	Evaluation of forage quality, grazing capacity and intake of cool season grasses. C. I. Ward*[1] and H. A. Lardner[1,2], [1]*University of Saskatchewan, Saskatoon, Canada*, [2]*Western Beef Development Center, Humboldt, Saskatchewan, Canada*.
M108	Productivity and nutritive quality of dallisgrass (*Paspalum dilatatum*) as influenced by rate of fertilization with poultry litter or commercial fertilizer. E. J. Bungenstab*, J. C. Lin, J. L. Holliman, A. C. Pereira, and R. B. Muntifering, *Auburn University, Auburn, AL.*
M109	Effect of clipping on the stolon elongation rate and stolon survival of cultivars *Chloris gayana* Kunth in conditions of salinity. M. V. Cornacchione*[1], H. E. Pérez[2], and A. F. Fumagalli[1,3], [1]*Instituto Nacional de Tecnología Agropecuaria, Santiago del Estero, Argentina*, [2]*Instituto Nacional de Tecnología Agropecuaria, Leales, Tucumán, Argentina*, [3]*Universidad Nacional de Santiago del Estero, Santiago del Estero, Argentina*.
M110	The effect of wide swathing on wilting times and nutritive value of alfalfa haylage. L. Kung, Jr., E. C. Stough*, E. E. McDonell, R. J. Schmidt, M. W. Hofherr, L. J. Reich, and C. M. Klingerman, *University of Delaware, Newark.*
M111	Effects of harvest timing on estimates of rumen degradable protein from alfalfa forages. W. K. Coblentz*[1], G. E. Brink[2], N. P. Martin[2], and D. J. Undersander[3], [1]*US Dairy Forage Research Center, Marshfield, WI*, [2]*US Dairy Forage Research Center, Madison, WI*, [3]*University of Wisconsin, Madison.*
M112	Effects of planting density, cultivar and growing day on the dry matter yield and forage quality of Kenaf (*Hibiscus Cannabinus* L.) in the northern area of South Korea. B. W. Kim* and K. I. Sung, *Kangwon National University, Chuncheon, Kangwon-Do, South Korea.*
M113	The effect of cutting height on yield and quality of alfalfa/reed canarygrass in northern New York. E. D. Thomas, C. S. Ballard*, K. W. Cotanch, H. M. Wolford, and S. A. Flis, *W.H. Miner Agricultural Research Institute, Chazy, NY.*
M114	Lineweaver-Burke data transformation to evaluate interaction between nutrients in fertilization of tropical forages. H. J. Fernandes[1,4], R. P. Lana[2], C. E. S. Baroni[2], L. M. Paiva[1,4], and J. C Souza*[3,5], [1]*University of Mato Grosso do Sul, Brazil*, [2]*Federal University of Vicosa, Brazil*, [3]*Parana Federal Univeristy, Palotina, PR Brazil*, [4]*Scholarship of FUNDECT, Campo Grande, MS, Brazil*, [5]*University of Missouri, Columbia*.
M115	Lineweaver-Burke data transformation to evaluate the production of tropical forages. H. J. Fernandes[1,5], R. P. Lana[2], C. E. S. Baroni[2], L. M. Paiva[1,5], and J. C. Souza*[3,4], [1]*State University of Mato Grosso do Sul, Brazil*, [2]*Federal University of Vicosa, Brazil*, [3]*Parana Federal University, Brazil*, [4]*University of Missouri, Columbia*, [5]*FUNDECT, Campo Grande, MS, Brazil.*
M116	Effect of planting date on starch accumulation of whole crop barley. L. E. McKeown*[1], M. A. Bal[1], M. Oba[1], and V. S. Baron[2], [1]*University of Alberta, Edmonton, AB, Canada*, [2]*Agriculture and Agri-Food Canada, Lacombe, AB, Canada*.
M117	Seed quality effects on yield, stover nutritional value, and maize grain. C. Perez-Mendoza[1], M. R. Tovar-Gomez*[2], G. Garcia-Santos[1], A. Hernandez-Livera[1], and A. Carballo-Carballo[1], [1]*Colegio de Postgraduados, Texcoco, State Mexico, Mexico*, [2]*INIFAP-CEVAMEX, Texcoco, State Mexico, Mexico.*
M118	Evaluation of experimental and commercial maize hybrids for silage in the Highland Valleys Region. M. R. Tovar-Gomez*[1], J. L. Arellano-Vazquez[1], C. Perez-Mendoza[1], A. Peña-Ramos[2], and G. Nuñez-Hernandez[3], [1]*INIFAP-CEVAMEX, Texcoco, State Mexico, Mexico*, [2]*INIFAP-CAEPAB, Pabellon, Aguascalientes, Mexico*, [3]*INIFAP-CAELALA, Toreon, Coahuila, Mexico.*
M119	Green-chop maize forage production in temperate Mexico. H. Crespo-Lira[1], R. D. Améndola-Massiotti*[1], and J. A. Burgueño-Ferreira[2], [1]*Universidad Autónoma Chapingo, Chapingo, México, México*, [2]*CIMMYT, El Batán, México*.

Goat Species I
Exhibit Hall C

M120	Identification of ATP binding cassette transporter G2 (ABCG2) gene in mammary gland of Xinong Saanen Goat and its expression profile during lactation. H. J. Wu[1], J. Luo[1], N. Wu*[2], K. Matand[2], L. J. Zhang[1], B. J. Yang[1], X. F. Han[1], H. B. Wang[1], N. Zhang[1], G. Yu[1], and C. Y. Shan[1], [1]*Northwest A&F University, Yangling, Shanxi, P. R. China*, [2]*Langston University, Langston, OK*.
M121	Differentially expressed gene profile during dairy goat whole lactation period. H. J. Wu[1], J. Luo*[1], N. Wu[2], K. Matand[2], L. J. Zhang[1], B. J. Yang[1], X. F. Han[1], H. B. Wang[1], N. Zhang[1], G. Yu[1], and C. Y. Shan[1], [1]*Northwest A&F University, Yangling, Shanxi, P. R. China*, [2]*Langston University, Langston, OK*.
M122	Initial gene expression analysis of Chinese Xinong Saanen goat mammary gland. X. F. Han[1], J. Luo[1], N. Wu[2], K. Matand*[2], B. J. Yang[1], H. J. Wu[1], L. J. Zhang[1], and H. B. Wang[1], [1]*Northwest A&F University, Yangling, Shanxi, P. R. China*, [2]*Langston University, Langston, OK*.

M123	Lactation curve characteristics of the Sarda goat breed. R. Steri[1], N. Bacciu[1], P. Fresi[2], A. Cappio-Borlino[1], and N. P. P. Macciotta*[1], [1]*Dipartimento di Scienze Zootecniche, Universitá di Sassari, Sassari, Italia,* [2]*Associazione Nazionale della Pastorizia, Roma, Italia*.
M124	Milk production in goats supplemented with different levels of ruminally protected methionine. G. A. Flores, R. E. Gutierrez, D. D. Ruiz, F. X. Plata*, A. A. Ramirez, S. Vega, and G. D. Mendoza, *Universidad Autónoma Metropolitana Xochimilco, Mexico, D.F., Mexico*.
M125	*In vivo* prediction of body composition in goat dams 2) Relationship between IGF-I, body weight and body composition. C. A. Mejia*[1,2], G. Dominguez[2], E. Villagomez[1,3], M. Montaño[1,2], R. Basurto[1,2], H. Jimenez[1,2], and H. Vera[1,2], [1]*Cenid-Fisiologia INIFAP, Queretaro, Mexico,* [2]*FESC-UNAM, Queretaro, Mexico,* [3]*Cenid-Microbiologia INIFAP, D.F., Mexico*.
M126	Evaluation of the FAMACHA© system in lactating goats. M. Rovai*[1], T. A. Gipson[1], and L. J. Dawson[1,2], [1]*E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, USA,* [2]*Oklahoma State University. College of Veterinary Medicine, Stillwater*.
M127	Protein and/or energy supplementation does not change forage digestibility in growing meat goat kids. J. M. Patterson*[1,2], B. D. Lambert[1,2], and J. P. Muir[1], [1]*Texas Agricultural Experiment Station, Stephenville,* [2]*Tarleton State University, Stephenville, TX*.
M128	*In situ* dry matter degradation of cacti and fruits commonly selected by goats in the semiarid region of North México. M. Guerrero-Cervantes[1], R. G. Ramírez-Lozano[2], R. Montoya-Escalante[1], A. S. Juárez-Reyes[1], and M. A. Cerrillo-Soto*[1], [1]*Universidad juárez del Estado de Durango, Durango, Durango, Mexico,* [2]*Universidad Autónoma de Nuevo León, Monterrey, Nuevo León, Mexico*.
M129	*In vitro* gas production parameters of fruits commonly selected by grazing goats. M. Guerrero-Cervantes[1], R. G. Ramirez-Lozano[2], R. Montoya-Escalante[1], A. S. Juárez-Reyes[1], and M. A. Cerrillo-Soto*[1], [1]*Universidad Juárez del Estado de Durango, Durango, Dgo., Mexico,* [2]*Universidad Autónoma de Nuevo León, Monterrey, N.L., Mexico*.
M130	Effects of dietary concentrate level on tissue and organ mass of Alpine does at different stages of lactation. A. T. Ngwa[1], L. J. Dawson[2], R. Puchala[1], G. Detweiler[1], R. C. Merkel[1], T. Sahlu[1], C. L. Ferrell[3], and A. L. Goetsch*[1], [1]*American Institute for Goat Research, Langston University, Langston, OK,* [2]*College of Veterinary Medicine, Oklahoma State University, Stillwater,* [3]*US Meat Animal Research Center, Clay Center, NE*.
M131	Effects of dietary starch sources on intake, growth and blood variables in growing goats. S. P. Wang, W. J. Wang, B. Lin, Z. L. Tan*, S. X. Tang, Z. H. Sun, and J. Y. Zeng, *Institute of Subtropical Agriculture, The Chinese Academy of Science, Changsha, P.R.China*.
M132	Effects of dietary starch sources on meat quality and serum hormonal concentrations in growing goats. S. P. Wang, W. J. Wang, B. Lin, Z. L. Tan*, S. X. Tang, Z. H. Sun, and J. Y. Zeng, *Institute of Subtropical Agriculture, The Chinese Academy of Science, Changsha, P.R. China*.
M133	Evaluating associative effects of different proportions of mixed forage species using gas production technique. S. X. Tang, Z. L Tan*, Z. H. Cong, Y, Hu, Z. H. Sun, and M. Wang, *Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, P.R. China*.
M134	Ingestive behavior of goats fed with urea in the diet. L. S. Amorim*[1,4], C. A. A. Torres[1], E. A. M. Amorim[1,4], J. F. Fonseca[2], J. H. Bruschi[3], and M. T. Rodrigues[1], [1]*Federal University of Vicosa, MG, Brazil,* [2]*Embrapa Small Ruminant Research Center, Sobral, CE, Brazil,* [3]*Embrapa Dairy Cattle Research Center, Juiz de Fora, MG, Brazil,* [4]*Colorado State University, Fort Collins, CO*.

Growth and Development - Livestock and Poultry I
Exhibit Hall C

M135	Lysophosphatidic acid (LPA) stimulates activiation of ERK-1/2 and proliferation of C2C12 cells but does not result in a significant increase in total DNA. J. M. Scheffler*, A. K. Batie, and S. J. Jones, *University of Nebraska, Linocln*.
M136	Phospho-MAPK as a marker of myogenic satellite cell responsiveness to growth factors. D. C. McFarland* and J. E. Pesall, *South Dakota State University, Brookings*.
M137	Mapping the glucocorticoid responsive element of the growth hormone gene in chicken embryonic somatotrophs. K. A. Heuck* and T. E. Porter, *University of Maryland, College Park*.
M138	Intestinal morphology and gene expression differences between broiler chicken lines selected for divergent growth rates. E. R. Feierstein*[1], E. R. Gilbert[2], M. E. Persia[1], E. A. Wong[2], W. W. Saylor[1], and C. J. Schmidt[1], [1]*University of Delaware, Newark,* [2]*Virginia Polytechnic and State University, Blacksburg*.
M139	Cloning of chicken ras-dva: Glucocorticoid regulation in the embryonic anterior pituitary. L. E. Ellestad*[1,2], S. A. Jenkins[1], and T. E. Porter[1,2], [1]*Dept. of Animal and Avian Sciences, University of Maryland, College Park,* [2]*Molecular and Cell Biology Program, University of Maryland, College Park*.
M140	Identification of potential feed efficiency biomarkers. C. P. Ojano-Dirain*[1], N. R. Pumford[1], T. Wing[2], M. Cooper[2], J. Lay[3], R. Liyanage[3], and W. G. Bottje[1], [1]*Center of Excellence for Poultry Science, University of Arkansas, Fayetteville,* [2]*Cobb-Vantress, Inc., Siloam Springs, AR,* [3]*State Wide Mass Spectrometry Laboratory, University of Arkansas, Fayetteville.*
M141	Physiological function of butoxybutyl alcohol a novel compound in broilers. S. Inada*, A. Ohtsuka, and K. Hayashi, *Kagoshima*

	University, Kagoshima city , Korimoto, Japan.
M142	Bone mineralization in nine pedigree lines of meat-type chickens. P. Talaty*[1], M. N. Katanbaf[2], and P. Y. Hester[1], [1]*Purdue University, West Lafayette, IN,* [2]*Cobb-Vantress, Inc., Monticello, KY.*
M143	The expression of neutrual amino acid transporter B^0 and mTOR proteins along the gut mucosal crypt-villus axis in the formula-fed neonatal pig. C. Yang[1], X. Yang[1], D. Lackeyram[1], Y. L. Yin[2], K. Swanson[1], F. Verrey[3], and M. Z. Fan*[1], [1]*University of Guelph, Guelph, ON, Canada,* [2]*Institute of Subtropical Agriculture, the Chinese Academy of Sciences, Changsha, Hunan, China,* [3]*Institute of Physiology, University of Zurich, CH-8057 Zurich, Switzerland.*
M144	Modulation of protein synthesis by somatotropin and insulin in skeletal muscle of growing pigs. F. A. Wilson*, H. V. Nguyen, A. Suryawan, R. A. Orellana, J. G. Fleming, A. S. Jeyapalan, and T. A. Davis, *Childrens Nutrition Research Center, Baylor College of Medicine, Houston, TX.*
M145	Impact of different doses of ractopamine in swine carcass and meat characteristics from Large White and Duroc breeds. E. F. Leonardo[1], I. L. Stella[1], A. C. M. S. Pedreira[2], G. B. Mourão[1], and E. F. Delgado*[1], [1]*Escola Superior de Agricultura "Luiz de Queiroz", Piracicaba, SP, Brazil,* [2]*Agência Paulista de Tecnologia do Agronegócio, Piracicaba, SP, Brazil.*

Immunology - Livestock and Poultry I
Exhibit Hall C

M146	Pro-inflammatory response of chicken thrombocytes to lipopolysaccharide. T. R. Scott* and M. D. Owens, *Clemson University, Clemson, SC.*
M147	Pro-inflammatory response of broiler chick thrombocytes. F. Ferdous*, D. V. Maurice, and T. R. Scott, *Clemson University, Clemson, SC.*
M148	Identification of antimicrobial peptides in avian heterophils using whole cell MALDI-TOF. L. Kannan*[1,2], N. C. Rath[1], R. Liyanage[2], and J. O. Lay[2], [1]*USDA/Agricultural Research Service, Fayetteville, AR,* [2]*University of Arkansas, Fayetteville.*
M149	Adjuvants containing diverse peptidoglycan structures modulate hen antibody response to immunization. D. L. Trott*, E. M. Hellestad, and M. E. Cook, *University of Wisconsin, Madison.*
M150	Immunocytochemical demonstration of neuroendocrine cells in chicken Peyer's Patches. C. H. Chen* and L. R. Berghman, *Texas A&M University, College Station.*
M151	Altered monocyte/macrophage numbers in blood and organs of chickens injected i.v with LPS. O. T. Bowen*, R. F. Wideman, and G. F. Erf, *University of Arkansas, Fayetteville.*
M152	Oxidative stress and immune response in the chicken. S. Bush*[1,2], K. Gyenai[1], X. Guan[1], and T. Geng[1], [1]*Virginia Polytechnic and State University, Blacksburg,* [2]*University of North Dakota, Fargo.*
M153	Effects of immunoglobulin binding on signal transduction in bovine polymorphonuclear neutrophils. M. J. Paape* and Y. Wang, *Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD.*
M154	Evaluation of a bovine respiratory pathogen exposure model on immune response and short-term performance of finishing cattle. B. McLaughlin*[1], L. O. Burciaga-Robles[1], D. L. Step[2], C. R. Krehbiel[1], M. Montelongo[2], A. W. Confer[2], R. W. Fulton[2], C. J. Richards[1], U. DeSilva[1], and G. Zhang[1], [1]*Department of Animal Science, Oklahoma State University, Stillwater,* [2]*Center for Veterinary Health Sciences, Oklahoma State University, Stillwater.*
M155	*In vivo* characterization of the recall response to antigen in chickens vaccinated with attenuated *Salmonella* mutants expressing M2e protein. S. E. Higgins*, S. L. Layton, A. D. Wolfenden, K. Cole, B. M. Hargis, and G. F. Erf, *University of Arkansas, Fayetteville.*
M156	Immune responses of dairy calves vaccinated at 2 versus 6 weeks of age. J. J. R. Patlola* and J. M. Smith, *University of Vermont, Burlington.*
M157	Campylobacter infection in day-old chickens. K. J. Genovese*, H. He, D. J. Nisbet, and M. H. Kogut, *USDA-ARS, FFSRU, College Station, TX.*

International Animal Agriculture - Livestock and Poultry
Exhibit Hall C

M158	Genetic and phenotypic factors influencing milk, protein and fat yields of dairy cows in Tasmania, Australia. S. A. Adediran[1], P. Nish[2], D. J. Donaghy[1], J. R. Roche[1], and A. E. O. Malau-Aduli*[1], [1]*University of Tasmania, Hobart, Tasmania, Australia,* [2]*Tasherd Pty Ltd, Hadspen, Tasmania, Australia.*
M159	Impact of Warana Dairy Cooperative on the socio-economic status of farmers in Maharashtra, India. R. A. Patil*[1] and T. R. Dhiman[2], [1]*Warana Milk Cooperative, Warananagar, Maharashtra, India,* [2]*Utah State University, Logan.*

M160	Metabolizable energy content and *in vitro* gas production characteristics of subtropical grasses of Northeastern Mexico. H. Bernal-Barragán[1], E. Gutiérrez-Ornelas[1], E. M. Romero-Treviño[2], J. Colin-Negrete[1], M. A. Cerrillo-Soto*[3], and A. S. Juárez-Reyes[3], [1]*Universidad Autónoma de Nuevo León, Monterrey, Nuevo León, México,* [2]*Instituto Tecnológico, Altamira, Tamaulipas, México,* [3]*Universidad Juárez del Estado de Durango, Durango, Durango, México.*
M161	Evaluation of the center costs methodology sensibility by technologies introduction in the cow-calf production system. R. P. Oaigen, J. O. J. Barcellos*, T. E. Oliveira, E. R. Prates, and L. F. Christofari, *Federal University of Rio Grande do Sul, Porto Alegre- RS - Brasil.*
M162	Quality of vetch lines for hay and spring grazing. A. Larbi*[1], S. Rihawi[1], and S. Hassan[2], [1]*International Center for Agricultural Research in the Dry Areas, Aleppo, Syria,* [2]*General Commission for Scientific Agricultural Research, Damascus, Syria.*
M163	Utilization of pruning waste of cactus pear orchards as a forage source for sheep in Temascalapa, Mexico. C. A. Flores-Valdez, G. Aranda-Osorio*, and M. Cruz-Miranda, *Universidad Autonoma Chapingo, Chapingo, Mexico.*
M164	Effects of the addition of *Saccharomyces cerevisiae* to sheep diets on productive performance and ruminal fermentation. I. Mejia-Haro*[1], E. Ortega-Perez[1], G. Tirado-Estrada[1], J. Mejia-Haro[2], and I. Castillo-Zuñiga[1], [1]*ITEL, AGUASCALIENTES, Aguascalientes, Ags. Mexico,* [2]*Universidad de Guanajuato, Irapuato, Gto. Mexico.*
M165	Rumen fermentation parameters in sheep fed oat and bean straw-based diets. C. A. Anderson-Huerta, G. Nevarez-Carrasco, R. Montoya-Escalante, A. S. Juárez-Reyes, and M. A. Cerrillo-Soto*, *Universidad Juárez del Estado de Durango, Durango, Durango, México.*
M166	Effects of supplementation of two selenium sources in productive performance of growing sheep. I. Mejia-Haro*[1], A. R. Rodriguez-Murillo[1], G. Tirado-Estrada[1], R. Bañuelos-Valenzuela[2], J. Mejia-Haro[3], and J. A. Nungaray-Ornelas[1], [1]*ITEL, Ags., Aguascalientes, Ags., Mexico,* [2]*Unidad Academica de Medicina veterinaria y Zoot., UAZ, Calera, Zac., Mexico,* [3]*Universidad de Guanajuato, Irapuato, Gto., Mexico.*
M167	Toxicological study of gandul forage (Cajanus cajan). M. Duron-Velazquez[1], G. Tirado-Estrada*[1], I. Mejia-Haro[1], F. Jaramillo-Juarez[2], R. Larios-Gonzalez[1], H. Silos-Espino[1], and F. Nieto-Muñoz[1], [1]*ITEL, Ags., El Llano, Ags. Mexico,* [2]*Universidad Autonoma de Aguascalientes, Aguascalientes, Ags., Mexico.*
M168	Characterization of a negative halothane gene commercial multibreed swine population for growth and conformation traits in tropical western Thailand. S. Koonawootrittriron[1], M. A. Elzo*[2], and T. Suwanasopee[1], [1]*Kasetsart University, Bangkok, Thailand,* [2]*University of Florida, Gainesville.*

Lactation Biology
Mechanisms Regulating Lactation and Mammary Function
Exhibit Hall C

M169	Effects of dietary supplementation with flax during prepuberty on mammary development and circulating prolactin and estradiol concentrations. C. Farmer*[1], H. V. Petit[1], and A. V. Capuco[2], [1]*Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada,* [2]*USDA-ARS, Beltsville, MD.*
M170	Developmental changes in the milk fat globule membrane proteome during the transition from colostrum to milk. T. A. Reinhardt* and J. D. Lippolis, *National Animal Disease Center, ARS, USDA, Ames, IA.*
M171	Temporal effect of *trans*-10, *cis*-12 conjugated linoleic acid on mammary lipogenic gene expression. J. K. Kay[1,2], C. E. Moore[1], D. E. Bauman[3], R. P. Rhoads[1], S. R. Sanders[1], A. F. Keating[1], and L. H. Baumgard*[1], [1]*University of Arizona, Tucson,* [2]*Dexcel, Hamilton, New Zealand,* [3]*Cornell University, Ithaca.*
M172	Expression profiling of proteins involved in CLA metabolism in mammary tissue and mammary gland epithelial cells. Y. C. Jin[1], H. G. Lee*[1], J. A. Han[1], J. H. Li[1], K. H. Kim[1], N. K. Lee[1], Y. J. Kim[2], M. K. Song[3], and Y. J. Choi[1], [1]*School of Agricultural Biotechnology, Seoul National University, Seoul, Korea,* [2]*Department of Food Science & Biotechnology, Korea University, Chochiwon,* [3]*Department of Animal Science, Chungbuk National University, Chungbuk, Korea.*
M173	Effects of heat stress vs. underfeeding on milk fatty acid composition. M. D. O'Brien*, J. B. Wheelock, A. J. La Noce, M. L. Rhoads, R. P. Rhoads, M. J. VanBaale, R. J. Collier, and L. H. Baumgard, *University of Arizona, Tucson.*
M174	Stearoyl-CoA desaturase gene expression and fatty acid concentrations in bovine tissues. E. Mosley, B. Hatch, K. Hunt, A. Morrison, C. Roberts, D. Sevier, and M. McGuire*, *University of Idaho, Moscow.*
M175	Expression of PPAR and LXR nuclear hormone receptor families are not modified during milk fat depression induced by diet or treatment with trans-10, cis-12 conjugated linoleic acid (CLA). K. J. Harvatine* and D. E. Bauman, *Cornell University, Ithaca, NY.*
M176	Production and physiological indicators to select pasture-based dairy cows suitable for extended lactations. J. K. Kay, P. W. Aspin, C. V. C. Phyn, J. R. Roche, D. A. Clark*, and E. S. Kolver, *Dexcel, Hamilton, New Zealand.*
M177	Milk from cows at involution reduces MAC-T cell survival. G. Tremblay*[1], P. Bernier-Dodier[1], L. Delbecchi[2], G. F. Wagner[3], B. G. Talbot[1], and P. Lacasse[2], [1]*Université de Sherbrooke, Sherbrooke, QC, Canada,* [2]*AAFC-Dairy and Swine R&D Center, Sherbrooke, QC,*

	Canada, [3]*University of Western Ontario, London, ON, Canada*.
M178	Different milking frequencies alter stanniocalcin content in cow's milk. P. Bernier-Dodier*[1], P. Lacasse[2], G. F. Wagner[3], B. G. Talbot[1], and L. Delbecchi[2], [1]*Université de Sherbrooke, Sherbrooke, QC, Canada*, [2]*AAFC-Dairy and Swine R&D Center, Sherbrooke, QC, Canada*, [3]*University of Western Ontario, London, ON, Canada*.
M179	Reduced nursing frequency decreases milk output and alters SOCS and TPH1 gene expression in the mouse mammary gland. W. Olea*, D. Torres, J. George, and D. L. Hadsell, *Baylor College of Medicine, Houston,TX*.
M180	Gene expression profiling in bovine mammary gland during onset of lactation. K. A. Finucane[1], T. B. McFadden[1], J. P. Bond[1], J. J. Kennelly[2], and F.-Q. Zhao*[1], [1]*University of Vermont, Burlington*, [2]*University of Alberta, Edmonton, Alberta, Canada*.
M181	Co-localization of glucose transporter-1 and hexokinase-1 in response to lactogenic hormones and media glucose concentration in bovine mammary epithelial cells. M. Dai* and J. P. Cant, *University of Guelph, Ontario, Canada*.
M182	Presence of functional phosphodiesterases in dairy cow's mammary gland. V. Dostaler-Touchette*[1], C. Guillemette[2], F. J. Richard[2], and P. Y. Chouinard[1], [1]*Institut des nutraceutiques et des aliments fonctionnels, Université Laval, Québec, Québec, Canada*, [2]*Centre de recherche en biologie de la reproduction, Université Laval, Québec, Québec, Canada*.
M183	Modulation of cellular activity of glutathione peroxidase by L-selenomethionine in primary cultures of bovine mammary gland epithelial cells. S. G. Miranda*[1,2], Y. J. Wang[2], N. G. Purdie[2], V. Osborne[2], B. L. Coomber[2], and J. P. Cant[2], [1]*University of Zulia, Maracaibo, Zulia, Venezuela*, [2]*University of Guelph, Guelph, Ontario, Canada*.
M184	Prostaglandins A1 (PGA1) and E1 (PGE1) alter heat shock protein 70 (HSP-70) gene expression in bovine mammary epithelial cells (BMEC). J. L. Collier*[1], M. B. Abdallah[1], L. L. Hernandez[1], J. V. Norgaard[2], and R. J. Collier[1], [1]*University of Arizona, Tucson*, [2]*Danish Institute of Agricultural Sciences, Tjele, Denmark*.
M185	Suitability of foremilk somatic cell counts to estimate total quarter somatic cell count. O. Wellnitz[1], M. Woloszyn[2], and R. M. Bruckmaier*[1], [1]*University of Bern, Bern, Switzerland*, [2]*DeLaval International AB, Tumba, Sweden*.
M186	17β-hydroxysteroid dehydrogenase and β-casein transcripts detected in bovine milk somatic cells. D. A. Pape-Zambito*[1], C. A. Gifford[2], T. L. Ott[1], and R. S. Kensinger[1], [1]*Pennsylvania State University, University Park*, [2]*University of Idaho, Moscow*.
M187	Estimation of heritability, repeatability and genetic trend for milk yield of Iranian buffalo in Khuzestan province of Iran using a univariate repeatability animal model. H. Farhangfar*[1], B. Zinvand[2], and F. Amirlou Abolfathi[3], [1]*University of Birjand, Birjand, Iran*, [2]*Azad University of shooshtar, Shooshtar, Iran*, [3]*Jihade Agriculture of Khuzestan, Iran*.

National ADSA Production Division Poster Graduate Competition
Exhibit Hall C

M188	Effect of feeding two forages at two levels with and without Rumensin to high producing Holstein cows on animal performance. C. M. Martinez*, Y. H Chung, T. W. Cassidy, V. Ishler, K. S. Heyler, and G. A. Varga, *The Pennsylvania State University, University Park*.
M189	Conjugated linoleic acids attenuate lymphocyte proliferation and interleukin-4 production in bovine peripheral blood mononuclear cells challenged with concanavalin-A. C. Caldari-Torres*, W. R. Collante, and L. Badinga, *University of Florida, Gainesville*.
M190	Evaluation of *in situ* indigestible neutral detergent fiber as an internal marker to determine digestibility of nutrients. L. O. Chow*, C. Silveira, and M. Oba, *University of Alberta, Edmonton, Alberta, Canada*.
M191	Producer perceptions of feed management software. B. G. Cox*, R. E. James, K. F. Knowlton, M. L. McGilliard, and C. C. Stallings, *Virginia Polytechnic and State University, Blacksburg*.
M192	Out wintering pad design affects woodchip condition. K. O'Driscoll*[1,2], L. Boyle[1], P. French[1], B. Meaney[1], and A. Hanlon[2], [1]*Moorepark Dairy Production Research Centre, Fermoy, Co. Cork, Ireland*, [2]*University College Dublin, Dublin, Ireland*.
M193	Effect of metabolizable protein and energy intake on amino acid metabolism in growing dairy calves. A. G. Rius*[1], J. Cyriac[1], B. J. Bequette[2], and M. D. Hanigan[1], [1]*Virginia Polytechnic Institute and State University, Blacksburg*, [2]*University of Maryland, College Park*.

Nonruminant Nutrition
General Nonruminant Nutrition
Exhibit Hall C

M194	Evaluation of antimicrobial effects on monogastric gut microflora by plant waste products. S. Stella, D. Tedesco*, C. Barbieri, L. Garavaglia, and D. Cattaneo, *University of Milan, Italy*.
M195	Microlocalization of digestion-resistant aromatic lignin and cellulosic compounds in feeds at cellular and subcellular levels with the synchrotron: A novel approach. P. Yu*, *University of Saskatchewan, Saskatoon, SK, Canada*.

M196	Effects of feeding lactic acid bacteria-based direct-fed microbial complex on growth performance, diarrhea appearance and blood characteristics in pigs. J. S. Yoo*[1], Y. J. Chen[1], J. H. Cho[1], B. C. Park[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choognam, Korea,* [2]*CJ Feed Inc, Incheon, Gyeonggi, Korea.*
M197	Cupric methionate affect nutrients digestibility and fecal pH and Cu concentration. Y. Huang*[1], Q. Wang[1], Y. Wang[1], J. H. Cho[1], Y. J. Chen[1], J. S. Yoo[1], Y. K. Han[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choognam, Korea*, [2]*Sungkyunkwan University, Suwon, Korea*.
M198	Gain of weight in rabbits of initiation using two commercial diets. M. C. Rubio Robles*, J. M. Beltrán, M. Millán, B. E. Romero, and J. A. Sauceda, *Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico.*
M199	Effects of Bio-Mos® on growth and survival of channel catfish challenged with *Edwardsiella ictaluri*. B. C. Peterson*[1], S. Quiniou[1], B. B. Manning[2], and T. C. Bramble[3], [1]*USDA/ARS, Stoneville, MS,* [2]*MSU, Stoneville, MS,* [3]*Alltech Biotechnology, Nicholasville, KY*.
M200	The effect of plant tannins and yucca extracts on in vitro ruminal fermentation and methane gas production. B. R. Min*[1], W. E. Pinchak[1], R. C. Anderson[2], and R. Puchala[3], [1]*Texas Agricultural Research Center, Vernon, TX,* [2]*USDA/ARS, College Station, TX,* [3]*E (Kida) dela garza American Institute for Goat Research, Langston, OK*.
M201	Evaluation of the efficacy of a commercial purified phylosilicate to reduce the estrogenic effects of zearalenone in gilts. B. Malone[1], C. Bond[1], C. Maue[1], Z. Scheitegger[1], and D. Zaviezo*[2], [1]*Trilogy Analytical Laboratory, Washington, MO,* [2]*Special Nutrients, Miami, FL*.

Nonruminant Nutrition
Poultry Nutrition I
Exhibit Hall C

M202	Response of market turkey toms to dietary protein and threonine levels in diets containing corn distillers dried grains. S. L. Noll* and J. Brannon, *University of Minnesota, St. Paul*.
M203	Influence of feed form and fiber inclusion in the diet on performance of broilers from one to twenty one days of age. E. Jiménez-Moreno[1], J. M. González-Alvarado[1,2], A. P. Bonilla[1], R. Lázaro[1], and G. G. Mateos*[1], [1]*Universidad Politécnica de Madrid, Spain,* [2]*Universidad Autónoma de Tlaxcala, México*.
M204	Nutritional value of corn distiller dried grains with solubles (DDGs): Influence of solubles addition. S. L. Noll*[1], J. Brannon[1], and C. Parsons[2], [1]*University of Minnesota, St. Paul,* [2]*University of Illinois, Champaign*.
M205	Metabolizable energy value of crude glycerin for laying hens. K. Bregendahl*[1], P. Lammers[1], B. Kerr[2], M. Honeyman[1], K. Stalder[1], T. Weber[1], W. Dozier, III[3], K. Dion[1], M. Neal[1], and S. Mottet[1], [1]*Iowa State University, Ames,* [2]*USDA/ARS, Ames, IA,* [3]*USDA/ARS, Mississippi State, MS.*
M206	Nutrient digestibility of high protein corn distillers dried grains with solubles, dehydrated corn germ and bran. A. Batal*, *University of Georgia, Athens*.
M207	Effects of sorghum variety on growth and subsequent egg production in layers reared in West Africa. S. Issa*[1,2], J. D. Hancock[1], M. R. Tuinstra[1], I. Kapran[2], and S. Kaka[2], [1]*Kansas State University, Manhattan,* [2]*National Institute for Agricultural Research in Niger, Niamey, Niger*.
M208	Dietary inclusion of a dairy processing plant by-product on performance and processing yields of broilers. H. L. Santiago*, L. J. Pérez, J. A. Orama, and A. A. Rodríguez, *University of Puerto Rico, Mayagüez, Puerto Rico*.
M209	The researches for the functional components in fish meal for broiler chickens. K. Nakagawa*[1], T. Akazawa[2], M. Tamura[2], and H. Sato[1], [1]*Ajinomoto Co., Inc., Tokyo, Japan,* [2]*Itochu Feed Mills Co., Ltd., Tochigi, Japan.*
M210	Evaluation of NutriDense® corn compared to conventional corn fed to laying hens. P. Utterback*[1], E. Kim[1], C. Jacobs[1], C. Utterback[1], C. Parsons[1], J. Snow[2], and J. Weigel[2], [1]*University of Illinois, Urbana,* [2]*BASF Plant Science, Research Triangle Park, NC.*
M211	Comparison of broiler performance and carcass parameters when fed diets containing combined trait insect-protected and glyphosate-tolerant corn (MON 89034 × NK603), control, or conventional reference corn. M. L. Taylor*[1], G. F. Hartnell[1], D. M. Lucas[1], M. A. Nemeth[1], and S. W. Davis[2], [1]*Monsanto Company, Creve Coeur, MO,* [2]*Colorado Quality Research, Wellington, CO*.
M212	Comparison of broiler performance and carcass parameters when fed diets containing soybean meal produced from glyphosate-tolerant (MON 89788), control or conventional reference soybeans. M. L. Taylor*[1], G. F. Hartnell[1], D. M. Lucas[1], M. A. Nemeth[1], and S. W. Davis[2], [1]*Monsanto Company, Creve Coeur, MO,* [2]*Colorado Quality Research, Wellington, CO*.
M213	Broiler chicken performance as affected by diets containing cashew nut meal submitted to different storage conditions. I. R. V. Lopes[1], M. F. F. Fuentes*[1], E. R. Freitas[1], J. R. Lima[2], R. B. Silva[1], R. C. Lima[1], and R. M. Bezerra[1], [1]*Universidade Federal do Ceará, Fortaleza, CE, Brazil,* [2]*Embrapa Agroindústria Tropical, Fortaleza, CE, Brazil*.
M214	Broiler performance and carcass characteristics when fed diets containing Lysine maize (LY038 or LY038 × MON 810), control or

	conventional reference maize. D. M. Lucas*[1], M. L. Taylor[1], G. F. Hartnell[1], M. A. Nemeth[1], K. C. Glenn[1], and S. W. Davis[2], [1]*Monsanto Company, St. Louis, MO,* [2]*Colorado Quality Research, Wellington, CO*.
M215	Effects of selection for mold resistance on nutritional value of sorghum grain in broiler chicks. C. R. Monge*[1], J. D. Hancock[1], C. Feoli[1], W. L. Rooney[2], S. R. Bean[1,3], and S. Beyer[1], [1]*Kansas State University, Manhattan,* [2]*Texas A&M University, College Station,* [3]*USDA/ARS, Manhattan*.
M216	Influence of fish meal processing on performance of broilers from 1 to 28 days of age. A. P. Bonilla, A. de Coca-Sinova, E. Jiménez-Moreno, R. Lázaro, and G. G. Mateos*, *Universidad Politécnica de Madrid, Spain.*
M217	Improved phosphorus utilization in broilers fed phosphorus deficient diets early in life. R. Angel*[1] and C. M. Ashwell[2], [1]*University of Maryland, College Park,* [2]*North Carolina State University, Raleigh*.
M218	Calcium and available phosphorus levels at 2:1 ratio for growing broiler chickens. S. Bunzen, H. S. Rostagno*, L. F. T. Albino, L. R. Nery, and C. R. Silva, *Viçosa Federal University, Viçosa, MG, Brazil*.
M219	The effects of Quantum™ phytase on broiler chick live performance and tibia ash percentage. M. E. Persia* and M. R. Bedford, *Syngenta Animal Nutrition, RTP, NC.*

Nonruminant Nutrition
Weanling Pig Nutrion and Physiology
Exhibit Hall C

M220	Dietary nucleotides supplementation improves growth performance of early weaned pigs. D. Martinez-Puig*[1], J. Morales[2], E. Borda[1], C. Piñeiro[2], and C. Chetrit[1], [1]*Bioiberica S.A., Palafolls, Barcelona, Spain,* [2]*PigChamp Pro-Europa, Segovia, Spain.*
M221	The effect of soybean oil, tallow and coconut oil supplementation on growth performance, serum lipid changes and nutrient digestibility in weaned pigs. J. H. Cho*[1], H. J. Kim[1], Y. J. Chen[1], J. S. Yoo[1], B. J. Min[1], J. D. Kim[2], and I. H. Kim[1], [1]*Dankook Univ, Cheonan, Choong nam, Korea,* [2]*CJ Feed Co. Ltd, Incheon, gyeong gi, Korea.*
M222	Dietary supplementation with *atractylis macroceohala koidz* polysaccharides enhances growth performance in weaned pigs. Z. Bin*[1], L. L. Li[2], Y. L. Yin[2], H. Z. Peng[1], K. M. Yang[3], T. J. Li[2], Z. P. Hou[2], P. Zhang[2], and G. Y. Wu[1,4], [1]*Hunan Agricultural University, Changsha, Hunan, China,* [2]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China,* [3]*Hunan Zhenghong Science and Technology Co., Changsha, Hunan, China,* [4]*Texas A&M University, College Station.*
M223	Dietary supplementation with Chinese herbal formula affects serum concentrations of amino acids in weaned pigs. X. F. Kong*[1], Y. L. Yin[1], F. G. Yin[1], H. J. Liu[1], F. F. Xing[1], T. J. Li[1], R. L. Huang[1], and G. Y. Wu[1,2], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*Texas A&M University, College Station*.
M224	Effects of feeding resistant starch on glucose and hormone levels in plasma of weaned pigs. X. Wu*[1], S. Y. Bin[1], G. Y. Wu[1,2], X. F. Kong[1], Y. L. Yin[1], T. J. Li[1], and R. L. Huang[1], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*Texas A&M University, College Station.*
M225	Effect of adding a wheat dextrin on growth performance of nursery pigs. H. Yang[1], J. Less[2], D. Holzgraefe[1], M. Cecava[1], T. Radke[1], M. Franklin*[1], and C. Sparks[3], [1]*ADM Animal Nutrition Research, Decatur, IL,* [2]*ADM Specialty Feed Ingredients, Decatur, IL,* [3]*ADM Alliance Nutrition, Quincy, IL*.
M226	Effects of δ-aminolevulinic acid on growth performance, nutrients digestibility, blood characteristics and immune responses of weanling pigs challenged with lipopolysaccharide. Y. J. Chen*[1], J. H. Cho[1], Y. Wang[1], Y. Huang[1], Y. Hyun[2], T. G. Ko[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choognam, Korea,* [2]*Easy Bio System Inc, Cheonan, Choognam, Korea*.
M227	Animal performance as influenced by organic acid supplementation into the diet of post-weaning piglets. C. Lückstädt*[1], S. Nitsch[1], N. Kvietkute[2], A. Stupeliene[2], V. Sasyte[2], and R. Gruzauskas[2], [1]*Biomin GmbH, Herzogenburg, Austria,* [2]*Veterinary Academy of Lithuania, Kaunas, Lithuania*.
M228	Evaluation of an extruded wheat and milk by–product mixture in diets for early–weaned pigs. B. Vicente, M. P. Serrano, D. G. Valencia, R. Lázaro, and G. G. Mateos*, *Universidad Politécnica de Madrid, Spain*.
M229	Relationship between texture and preference of cereal based diets in piglets. D. Solà-Oriol[1], E. Roura*[2], and D. Torrallardona[1], [1]*IRTA, Mas de Bover, Constantí (Tarragona), Spain,* [2]*Lucta SA, Barcelona, Spain.*
M230	Effect of processing cereals on feed digestibility and meal retention in piglets. D. Solà-Oriol* and D. Torrallardona, *IRTA. Mas de Bover, Constantí (Tarragona), Spain*.
M231	Storage affects the palatability of protein sources in piglet diets. D. Solà-Oriol[1], E. Roura*[2], and D. Torrallardona[1], [1]*IRTA. Mas de Bover, Constantí (Tarragona), Spain,* [2]*Lucta SA, Barcelona, Spain.*
M232	Cereal nutrient composition correlates with feed oro-sensorial perception in piglets. D. Solà-Oriol[1], E. Roura*[2], and D. Torrallardona[1],

	[1]*IRTA, Mas de Bover, Constantí (Tarragona), Spain,* [2]*Lucta SA, Barcelona, Spain.*
M233	The body weight-related differences of leptin and neuropeptide Y (NPY) gene expression in pigs. T. Z. Shan*, Y. Z. Wang, J. X. Liu, and Z. R. Xu, *Institute of Feed Science, Hangzhou, Zhejiang, China*.
M234	Dose response trials of an enhanced milky flavor in a pig nursery program 2: benefits of flavoring water up to 14 d. E. Roura*[1], I. R. Ipharraguerre[1], and D. Torrallardona[2], [1]*Lucta S.A., Barcelona, Spain,* [2]*IRTA, Centre Mas de Bover, Constantí, Spain.*
M235	*In vitro* screening of plant materials as anti-adhesive agents against *E. coli* K88. S. Galletti[1,2], P. G. van Wikselaar[2], D. Tedesco[1], and P. M. Becker*[2], [1]*University of Milan, Milan, Italy,* [2]*Animal Sciences Group of Wageningen UR, Lelystad, The Netherlands*.
M236	Dose response trials of an enhanced milky flavor in a pig nursery program 1: linear and quadratic effects on piglet performance. E. Roura*[1], I. R. Ipharraguerre[1], and D. Torrallardona[2], [1]*Lucta S.A., Barcelona, Spain,* [2]*IRTA, Centre Mas de Bover, Constantí, Spain.*
M237	Response of enterotoxigenic *Escherichia coli* K88 infected piglet jejunal segments to extracts derived from degradation of soybean and canola meal polysaccharides by carbohydrase enzymes. E. Kiarie*, B. A. Slominski, and C. M. Nyachoti, *University of Manitoba, Winnipeg, MB, Canada*.
M238	Performance, immune response and intestinal microbial populations of weanling pigs fed diets containing a specially prepared potato protein. Z. Jin[1], Y. X. Yang[1], J. Y. Choi[1], P. L. Shinde[1], T. W. Hahn[1], H. T. Lim[1], Y. K. Park[2], K. S. Hahm[2], and B. J. Chae*[1], [1]*Kangwon National University, Chuncheon, Kangwon-Do, Republic of Korea,* [2]*Chosun University, Kwangju, Republic of Korea*.
M239	Decreasing postnatal skeletal muscle protein synthetic activity is associated with a reduction in the expression of S6K1 in fed young pigs. X Yang* and M. Z. Fan, *Centre for Nutrition Modelling, University of Guelph, Guelph, Ontario, Canada.*
M240	Effect of plant extracts on growth performance and immune status in weaning pigs. H. J. Jung*[1], J. C. Park[1], Y. H. Kim[1], S. Y. Jee[1], S. D. Lee[1], H. D. Jang[1], H. J. Kim[2], I. H. Kim[2], H. K. Moon[1], S. W. Kim[3], I. C. Kim[1], and S. J. Lee[1], [1]*National Livestock Research Institute, Cheoan, Chungnam, Republic of Korea,* [2]*Dankook University, Cheoan, Chungnam, Republic of Korea,* [3]*Texas Tech University, Lubbock.*
M241	Effect of probiotics in lactating sows diets on sows and litter performance. A. Castellanos A*[1], J. A. Renteria F[2,1], J. A. Cuaron I[2,1], and C. A. Mejia G[2,1], [1]*FES-C UNAM, Ajuchitlan, Qro,* [2]*CENIDFA-INIFAP, Ajuchitlan, Qro*.
M242	Evaluation of Concept PR 100 in diets for nursery pigs. J. M. DeRouchey*[1], E. J. Wiedmann[1], M. D. Tokach[1], R. D. Goodband[1], J. L. Nelssen[1], S. S. Dritz[1], and J. Whitehead[2], [1]*Kansas State University, Manhattan, KS,* [2]*Concept Nutrition, Ltd, Preston, UK*.
M243	The effect of American alligator (*Alligator mississippiensis*) serum on growth performance of weanling pigs. J. T. Compton*, M. E. Merchant, T. S. Shields, and F. M. LeMieux, *McNeese State University, Lake Charles, LA.*
M244	Post–weaning development of the microbiota composition and activity in piglets fed diets with wheat bran, wheat middlings or sugar beet pulp. F. Molist*, A. Gómez de Segura, E. G. Manzanilla, J. Gasa, R. G. Hermes, and J. F. Pérez, *Universitat Autònoma de Barcelona, Spain*.
M245	Dietary preference for methionine sources in 8 to 25-kg nursery pigs. T. Ettle[1], M. Rademacher[2], F. X. Roth[3], and R. L. Payne*[2], [1]*BOKU University, Vienna, Austria,* [2]*Degussa, Hanau, Germany,* [3]*Technical University of Munich, Munich, Germany*.

Physiology & Endocrinology - Livestock and Poultry
Endocrinology and Metabolism
Exhibit Hall C

M246	Hormonal response of bulls to glucose challenge in a segregating family structure. R. Pfuhl*, O. Bellmann, F. Schneider, C. Kühn, and K. Ender, *Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany*.
M247	Growth hormone on metabolic profile of Nellore bulls of two different ages. L. S. Amorim*[1,4], C. A. A. Torres[1], E. A. M. Amorim[1,4], J. M. Silva Filho[2], J. D. Guimaraes[1], M. M. N. F. Oliveira[3], K. Zorzi[1], and G. R. Carvalho[1], [1]*Federal University of Vicosa, MG, Brazil,* [2]*Federal University of Minas Gerais, Belo Horizonte, MG, Brazil,* [3]*University of Diamantina, MG, Brazil,* [4]*Colorado State University, Fort Collins.*
M248	Leptin expression in early- and late-maturing *Bos indicus* heifers. L. F. P. Silva*[1], A. Vaiciunas[1], and L. L. Coutinho[2], [1]*University of São Paulo, Pirassununga, SP, Brazil,* [2]*University of São Paulo, Piracicaba, SP, Brazil.*
M249	Changes in antioxidant status in beef cows during weight loss and weight maintenance. K. M. Brennan*, J. J. Michal, R. Collins, and K. A. Johnson, *Washington State University, Pullman*.
M250	Plasma ghrelin concentrations of beef cattle consuming a similar amount of dietary energy supplied by different dietary ingredients. A. E. Wertz-Lutz*[1], J. A. Clapper[1], J. S. Thurlow[1], D. C. Beitz[2], and A. Trenkle[2], [1]*South Dakota State University, Brookings,* [2]*Iowa State University, Ames.*
M251	Impact of metabolic acidosis on amino acid metabolism in lambs. S. L. Greenwood*[1], T. C. Wright[1], J. Gilmore[1], J. E. Las[1], N. E. Odongo[1], O. AlZahal[1], A. K. Shoveller[1], J. C. Matthews[2], and B. W. McBride[1], [1]*University of Guelph, Guelph, Ontario, Canada,*

	[2]*University of Kentucky, Lexington.*
M252	Palmitate and CLA isomer effects on gene expression in MDBK cells. B. J. Thering*, M. Bionaz, and J. J. Loor, *University of Illinois, Urbana*.
M253	Transcriptional regulation of mammary and adipose tissue gene expression in dairy cows fed a milk fat-depressing or milk fat-enhancing diet. B. J. Thering*, D. E. Graugnard, P. Piantoni, R. L. Wallace, R. E. Everts, S. L. Rodriguez-Zas, H. A. Lewin, and J. J. Loor, *University of Illinois, Urbana*.
M254	Effect of growth hormone on expression of metabolic genes in adipose tissue of dairy cows. M. Baik[2], J. L. Liesman[1], B. E. Etchebarne[1], J. Bong[2], and M. J. VandeHaar*[1], [1]*Michigan State University, East Lansing,* [2]*Chonnam National University, Gwangju, South Korea*.
M255	Growth hormone receptor expression in two dairy breeds during the periparturient period. C. S. Okamura, J. F. Bader, T. C. Cantley, and M. C. Lucy*, *University of Missouri, Columbia*.
M256	Effects of milk replacer composition on selected blood metabolites and hormones in pre-weaned Holstein heifers. K. M. Daniels*, S. R. Hill, K. F. Knowlton, R. E. James, R. E. Pearson, M. L. McGilliard, and R. M. Akers, *Virginia Polytechnic Institute and State University, Blacksburg*.
M257	Circulating glucose responses in early lactation dairy cows to dietary restriction and rbST treatment. A. Basson and N. H. Casey*, *University of Pretoria, Pretoria, South Africa.*
M258	Alterations in hepatic gene expression profiles in dairy cows in response to L-carnitine and feed restriction. D. B. Carlson*, J. K. Drackley, M. Bionaz, S. L. Rodriguez-Zas, N. A. Janovick Guretzky, R. E. Everts, H. A. Lewin, and J. J Loor, *University of Illinois, Urbana*.
M259	Hepatic gene expression profiling in postpubertal Holstein dairy heifers. J. Doelman*, N. G. Purdie, H. Cao, L. E. Wright, N. A. Karrow, and J. P. Cant, *University of Guelph, Guelph, Ontario, Canada.*
M260	Effects of feed restriction on lipogenic gene expression in liver of broiler chickens. H. K. Kang, E. J. Chae, I. S. Jang, S. H. Sohn, and Y. S. Moon*, *Jinju National University, Jinju, Korea*.
M261	Purification of Japanese quail prolactin and detection of multiple glycosylated isoforms. N. Kansaku*[1], G. Hiyama[1], T. Murata[2], T. Sasanami[2], and D. Zadworny[3], [1]*Azabu University, Sagamihara, Japan,* [2]*Shizuoka University, Shizuoka, Japan,* [3]*McGill University, Ste. Anne de Bellevue, Canada*.
M262	Developmental gene expression of preprocholecystokinin (CCK) in lines of chickens divergently selected for high or low juvenile body weight. J. C. Gould*, C. R. Miller, P. B. Siegel, and E. A. Wong, *Virginia Polytechnic Institute and State University, Blacksburg*.
M263	Incremental dietary conjugated linoleic acid (CLA) mixture inclusion has non-linear effects on atherosclerosis in cholesterol-sensitive Japanese quail. C. K. Reynolds*, M. S. Lilburn, S. G. Velleman, V. L. Cannon, J. A. Lynch, D. L. Hartzler, and W. L. Bacon, *The Ohio State University, OARDC, Wooster*.
M264	Effects of feeding blends of grains naturally contaminated with Fusarium mycotoxins on small intestinal morphology of turkeys. C. K. Girish* and T. K. Smith, *University of Guelph, Guelph, Ontario, Canada*.
M265	Age-specific species variation in oxidative stress in birds. X. Guan*, K. Gyenai, C. Larson, and E. Smith, *Virginia Polytechnic and State University, Blacksburg*.
M266	Effect of maternal stress on the stress hormone and growth response of pigs to a lipopolysaccharide (LPS) challenge. P. N. Williams*[1], J. A. Carroll[2], J. W. Dailey[2], and T. H. Welsh, Jr.[3], [1]*Texas A&M University-Kingsville, Kingville,* [2]*USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, USA,* [3]*Texas A&M University, College Station.*
M267	Expression of porcine intestinal alkaline phosphatase during the early postnatal development. T. Li[1,2], C. Yang[2], D. Lackeyram[2], Y. L. Yin[1], C. F. M. de Lange[2], and M. Z. Fan*[2], [1]*The Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*University of Guelph, Guelph, Ontario, Canada*.
M268	Changes of physiological and biochemical parameters in weaned pigs. X. F. Kong*[1], Y. L. Yin[1], F. G. Yin[1], H. J. Liu[1], F. F. Xing[1], Q. H. He[1], T. J. Li[1], R. L. Huang[1], P. Zhang[1], M. Z. Fan[2], S. W. Kim[3,4], and G. Y. Wu[1,4], [1]*The Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*University of Guelph, Guelph, Ontario, Canada,* [3]*Texas Tech University, Lubbock,* [4]*Texas A&M University, College Station*.
M269	Omega-3-fatty acid supplementation and the IGF system in early pregnancy in pigs. A. Brazle*, T. Rathbun, B. Johnson, and D. Davis, *Kansas State University, Manhattan.*
M270	Serum and anterior pituitary (AP) concentrations of IGF-I and relative amounts of AP IGF binding proteins throughout the estrous cycle in gilts. A. R. Taylor* and J. A. Clapper, *South Dakota State University, Brookings.*
M271	Growth performance and muscle protein, RNA and DNA content in juveniles of *Pseudoplatystoma fasciatum* (Teleostei, Pimelodidae) fed lyophilized bovine colostrum. P. Pauletti, L. Kindlein, A. R. Bagaldo, A. P. O. Rodrigues, E. F. Delgado, J. E. P. Cyrino, and R. Machado-Neto*, *Escola Superior de Agricultura "Luiz de Queiroz" – ESALQ/USP, Piracicaba, SP, Brazil*.

M272	Feeding juveniles of *Pseudoplatystoma fasciatum* (Teleostei, Pimelodidae) with lyophilized bovine colostrum: Growth and protein, RNA and DNA content in liver and intestine. P. Pauletti, L. Kindlein, A. R. Bagaldo, A. P. O. Rodrigues, E. F. Delgado, J. E. P. Cyrino, and R. Machado-Neto*, *Escola Superior de Agricultura "Luiz de Queiroz" – ESALQ/USP, Piracicaba, SP, Brazil.*

Production, Management & the Environment - Livestock and Poultry I
Exhibit Hall C

M273	Effect of ProAgri™ amendment, before and after cleanout, on broiler litter moisture, calcium, nitrogen, and total and soluble phosphorus. N. G. Zimmermann*[1], R. Angel[1], and W. Saylor[2], [1]*University of Maryland, College Park,* [2]*University of Delaware, Newark.*
M274	Genotype analysis of *Campylobacter* spp. isolated from various internal organs and unabsorbed yolks of commercial broiler and roaster chickens. K. L. Hiett, R. J. Buhr*, N. A. Cox, L. J. Richardson, P. J. Fedorka-Cray, J. S. Bailey, and J. K. Northcutt, *USDA-ARS, Russell Research Center, Athens, GA.*
M275	Recovery of naturally occurring *Campylobacter* from the circulating blood of market age commercial broilers. L. J. Richardson[1], N. A. Cox[1], R. J. Buhr*[1], and M. A. Harrison[2], [1]*USDA-ARS-PMSRU, Russell Research Center, Athens, GA,* [2]*Department of Food Science and Technology, University of Georgia, Athens.*
M276	Effect of a *Lactobacillus spp*-based probiotic culture product on broiler chick performance under commercial conditions. A. D. Wolfenden*[1], J. L. Vicente[1,2], L. Aviña[2], A. Torres-Rodriguez[3], G. Tellez[1], and B. M. Hargis[1], [1]*University of Arkansas, Fayetteville,* [2]*Sigrah Zellet de Mexico S.A. de C.V., Cuernavaca Morelos, Mexico,* [3]*Cobb-Vantress, Siloam Springs, AR.*
M277	Factors affecting the eggshell thickness on laying hens in Tepatitlan, Jalisco. R. G. Ramírez*, A. J. Zárate, M. G. Alcorta, and J. A. C. Meneses, *Universidad Autónoma Chapingo, Texcoco, Estado de México, México.*
M278	Effects of feeding blends of grains naturally contaminated with Fusarium mycotoxins on performance, hematology and blood chemistry of turkeys. C. K. Girish*, T. K. Smith, H. J. Boermans, and N. A. Karrow, *University of Guelph, Guelph, Ontario, Canada.*
M279	Impacts of raising season and phytase addition to standard and vegetable diets on broilers performance and litter physical characteristics. N. Bergeron*[1], A. Ouyed[2], and M. Lefrançois[1], [1]*Université Laval, Québec, Québec, Canada,* [2]*Centre de recherche en sciences animales de Deschambault, Deschambault, Québec, Canada.*
M280	Reduction of emissions from in vitro swine manure using monensin. T. R. Whitehead* and M. A. Cotta, *USDA-ARS-NCAUR, Peoria, IL.*
M281	The relationship of animal, production, and carcass traits to consumer acceptability of grass-fed steaks. E. L. Steinberg*, J. W. Comerford, and V. H. Baumer, *The Pennsylvania State University, University Park.*
M282	Differentiation of fecal alkane and fatty alcohol markers of diet composition of cattle and sheep grazing a complex heathland sward. J. M. Moorby*, M. D. Fraser, V. J. Theobald, and S. M. Morris, *Institute of Grassland and Environmental Research, Aberystwyth, UK.*
M283	Predicting the retention of ruminal boluses for the electronic identification of goats. S. Carné*, G. Caja, J. J. Ghirardi, and A. A. K. Salama, *Universitat Autònoma de Barcelona, Bellaterra, Spain.*
M284	Effects of age and rearing method on long-term retention of different electronic identification devices in goat. S. Carné*, G. Caja, J. J. Ghirardi, and A. A. K. Salama, *Universitat Autònoma de Barcelona, Bellaterra, Spain.*
M285	Performance of milk recording procedures based on visual or electronic identification in dairy goats. A. Ait-Saidi, G. Caja*, S. Carné, and A. A. K. Salama, *Universitat Autònoma de Barcelona, Bellaterra, Spain.*
M286	Is ethanol production sustainable? An animal science approach. H. Koknaroglu[1], T. Purevjav*[1], T. Akunal[2], and M. P. Hoffman[1], [1]*Suleyman Demirel University, Isparta, Turkey,* [2]*Iowa State University, Ames.*
M287	Impact of producing low DCAD forage on chloride farm-gate balance. O. Soucy*, D. Pellerin, E. Charbonneau, and G. Allard, *Universite Laval, Quebec, Canada.*
M288	The effect of dehorning at twenty-eight days of age on calf growth and health. B. L. Miller*, T. J. Earleywine, and T. E. Johnson, *Land O'Lakes, Inc., Webster City, IA USA.*
M289	Temperament and chute exit velocity scores of Senepol calves after weaning. R. W. Godfrey and R. C. Ketring*, *University of the Virgin Islands, Agricultural Experiment Station, St. Croix, US Virgin Islands.*
M290	The effect of calf ear infection (otitis media) on calf growth and health. B. L. Miller*, T. J. Earleywine, and T. E. Johnson, *Land O'Lakes, Inc., Webster City, IA.*
M291	Feeding behavior and weight gain of calves fed low or high quantities of milk using an automated feeding system. T. F. Borderas*[1,2], A. M. dePassillé[1], and J. Rushen[1], [1]*Agriculture and Agri-Food Canada, Agassiz, B.C., Canada,* [2]*University of British Columbia, Vancouver, B.C., Canada.*

Ruminant Nutrition I
Exhibit Hall C

M292	Effect of palm kernel meal plus urea on finishing of Brown Swiss young bulls. J. H. Avellaneda-Cevallos*[1], T. A. Cedeño-Cedeño[1], A. Suárez-Chiquito[1], O. Montañez-Valdez[2], C. D. Cepeda-Cantos[1], R. Luna-Murillo[1], I. Espinoza-Guerra[1], J. Quintana-Zamora[1], and L. Casanova-Ferrín[1], [1]*Facultad de Ciencias Pecuarias, Unidad de Investigación Científica y Tecnológica, Universidad Técnica Estatal de Quevedo, Quevedo, Los Rios, Ecuador*, [2]*División de Bienetar y Desarrollo Regional, Departamento de Desarrollo Regional, Universidad de Guadalajara, Ciudad Guzmán, Jalisco, México*.
M293	Effect of heat processing on ruminal and post-ruminal disappearance of individual amino acids of Iranian whole soybeans. M. H. Fathi Nasri*[1] and M. Danesh Mesgaran[2], [1]*University of Birjand, Birjand, Iran*, [2]*University of Mashad, Mashad, Iran*.
M294	*In situ* ruminal degradability of dry matter and crude protein of cottonseed meal containing different fat concentrations. M. Danesh Mesgaran*, A. Heravi Moussavi, and S. Danesh Mesgaran, *Dept. of Animal Science (Excellence Center for Animal Science), Ferdowsi University of Mashhad, Mashhad, Iran*.
M295	The effect of fat content on ruminal and post-ruminal protein disappearance of cottonseed meal using *in situ* mobile bag and alternative enzymatic procedures. M. danesh Mesgaran*, M. Vatandoost, H. Jahani Azizabadi, and A. Heravi Moussavi, *Dept. of Animal Science (Excellence Center for Animal Science), Ferdowsi University of Mashhad, Mashhad, Iran*.
M296	A comparison of synchrotron and globar Fourier transform infra-red microspectroscopy (FTIRM) use in predicting cereal grain rumen degradation characteristics. A. M. Walker*, C. R. Christensen, D. A. Christensen, P. Yu, H. C. Block, and J. J. McKinnon, *University of Saskatchewan, Saskatoon, SK, Canada*.
M297	In situ ruminal disappearance of acid detergent insoluble nitrogen (ADIN) of various feeds. H. Jahani-Azizabadi, M. Danesh Mesgaran*, R. Valizadeh, and H. Nasirimoghadam, *Ferdowsi University of Mashhad, Mashhad, Iran*.
M298	Feed intake and digestibility response of ram lambs fed olive cake ensiled with different feed supplements. 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*.
M299	Effects of microwave irradiation on protein degradation of safflower meal in the rumen. P. Shawrang*[1] and A. A. Sadeghi[2], [1]*Animal Science Research Section, Research Center for Agriculture and Medicine, Atomic Energy Organization of Iran, Karaj, Iran*, [2]*Department of Animal Science, Faculty of Agriculture, Science and Research Branch, Islamic Azad University, Tehran, Iran*.
M300	Optigen® is a sustained release source of non-protein nitrogen in the rumen. R. Garcia-Gonzalez*[1], J. M. Tricarico[1], G. A. Harrison[1], M. D. Meyer[1], K. R. McLeod[2], D. L. Harmon[2], and K. A. Dawson[1], [1]*Alltech Inc., Nicholasville, KY*, [2]*University of Kentucky, Lexington*.
M301	Effects of Optigen® on fermentation, digestion, and N partitioning in rumen-simulating fermenters. G. A. Harrison*, J. M. Tricarico, M. D. Meyer, and K. A. Dawson, *Alltech Biotechnology, Nicholasville, KY*.
M302	The effect of fat content of sodium hydroxide treated sunflower meal on *in situ* dry matter and crude protein degradation parameters. T. Mohammadabadi, M. Danesh Mesgaran*, A. R. Heravi Moussavi, H. Nasiri Moghadam, and M. Chaji, *Ferdowsi University, Mashhad, Iran*.
M303	Pistachio hull tannin affected digestibility of soybean meal and alfalfa during *in vitro* digestion. A. Bohluli and A. A. Naserian*, *Ferdowsi University, Mashhad, Iran*.
M304	Comparison of ruminal *in situ* crude protein degradability of selected feedstuffs in growing goats. Y. Hu*[1], Z. L. Tan[1], S. X. Tang[1], Z. H. Sun[1], M. Wang[1], and G. O. Tayo[1,2], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, P.R. China*, [2]*Babcock University, Ikeja Lagos, Nigeria*.
M305	Effect of replacing soybean meal with *Mucuna pruriens* on growth performance, carcass characteristics and meat safety. S. K. Chikagwa-Malunga*[1], A. T. Adesogan[1], M. Huisden[1], S. C. Kim[1], S. C. Phatak[2], N. J. Szabo[1], and R. C. Littell[1], [1]*University of Florida, Gainesville*, [2]*University of Georgia, Tifton*.
M306	Urea-nitrogen recycling in growing lambs fed diets differing in rumen degradable protein and carbohydrate. D. Kiran* and T. Mutsvangwa, *University of Saskatchewan, Saskatchewan, Canada*.
M307	Ruminal and intestinal protein and amino acid digestibility of feather meal and feather meal with blood products. K. W. Cotanch*[1], R. J. Grant[1], J. Darrah[1], M. E. VanAmburgh[2], D. A. Ross[2], and J. Haid[3], [1]*William H. Miner Agricultural Research Institute, Chazy, NY*, [2]*Cornell University, Ithaca, NY*, [3]*U.S. Poultry & Egg Association, Tucker, GA*.
M308	Milk production, milk composition, digestion, and feed intake of cows fed different concentrations of flaxseed meal. H. V. Petit*[1] and P. S. Mir[2], [1]*Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada*, [2]*Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*.
M309	Interactions between oilseed supplementation and barley grain processing on urea-nitrogen recycling and nitrogen metabolism in dairy cows. G. N. Gozho*, M. Hobin, and T. Mutsvangwa, *University of Saskatchewan, Saskatchewan, Canada*.

M310	Influence of carbohydrate source on nitrogen metabolism and microbial protein synthesis in dairy cows. G. N. Gozho* and T. Mutsvangwa, *University of Saskatchewan, Saskatchewan, Canada*.
M311	Supplementation of lactating cows receiving high citrus pulp diets with heated soybeans. G. S. Dias Júnior[1], A. van Vugt[2], G. Warringa[2], C. A. Mello, Jr.[3], and M. N. Pereira*[1], [1]*Universidade Federal de Lavras, Brazil*, [2]*Wageningen University, Holland*, [3]*Nutron Alimentos, Brazil*.
M312	Comparison of protein disappearance of alfalfa hay and barley grain by *in vivo*, mobile bag and 3-step methods. H. Jahani-Azizabadi, M. Danesh Mesgaran*, R. Valizadeh, and H. Nasirimoghadam, *Ferdowsi University of Mashhad, Mashhad, Iran*.
M313	Evaluation of a rumen undegradable soybean product for lactating dairy cattle. S. S. Donkin*[1], S. L. Koser[1], E. M. Barnes[1], P. H. Doane[2], J. L. Dunn[2], and M. J. Cecava[2], [1]*Purdue University, West Lafayette, IN*, [2]*ADM Animal Nutrition Research, Decatur, IN*.
M314	The effects of controlled feeding a high concentrate or high forage diet at four nitrogen intakes on digestibility in dairy heifers. G. I. Zanton* and A. J. Heinrichs, *The Pennsylvania State University, University Park*.
M315	Evaluation of the fermentation dynamics of the soluble protein fraction of three protein sources in continuous culture fermenters. M. Ruiz Moreno*[1], A. Bach[2,3], M. Thrune[1], and M. D. Stern[1], [1]*University of Minnesota, Saint Paul*, [2]*ICREA, Barcelona, Spain*, [3]*IRTA-Unitat de Remugants, Barcelona, Spain*.
M316	Supplementation of grazing dairy cows with high-fat dietary protein sources. R. Nyoka*, A. R. Hippen, and K. F. Kalscheur, *South Dakota State University, Brookings*.
M317	Effects of pure essential oil compounds on the digestion of nitrogen in dairy cows. V. Noirot[1] and C. Bayourthe*[2], [1]*Phodé, Albi, France*, [2]*Ecole Nationale Supérieure d'Agronomie de Toulouse, Castanet-Tolosan, France*.
M318	Effects of garlic and juniper berry essential oils on site and extent of digestion by dairy cows. W. Z. Yang*[1], C. Benchaar[2], A. V. Chaves[1], M. L. He[1], and T. A. McAllister[1], [1]*Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*, [2]*Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Lennoxville, QC, Canada*.
M319	Effect of vegetal extracts on rumen microbial fermentation in batch culture. M. Ruiz Moreno*[1], A. Bach[2,3], J. van Eys[4], and M. D. Stern[1], [1]*University of Minnesota, Saint Paul*, [2]*ICREA, Barcelona, Spain*, [3]*IRTA-Unitat de Remugants, Barcelona, Spain*, [4]*Global Animal Nutrition, Paris, France*.
M320	Adding rare earth elements to beef cattle diets improved in situ digestibility in the rumen and digestibility in the total tract. Q. Liu[1], W. Z. Yang*[2], C. Wang[1], Y. X. Huang[1], K. H. Dong[1], and H. Wang[1], [1]*College of Animal Sciences and Veterinary Medicines, Shanxi Agricultural University, Taigu, Shanxi, China*, [2]*Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*.
M321	Ethanolic extract of propolis in lactating cows. J. A. De Freitas*[1], J. C. De Souza[1], R. P. Lana[2], R. P. Antonangelo[1], A. A. De Freitas[2], and R. T. S. De Santana[1], [1]*Federal University of Parana, Palotina, PR, Brazil*, [2]*Federal University of Viçosa, Viçosa, MG, Brazil*.
M322	Ruminal bacterial diversity in cattle grazing wheat and supplemented with condensed tannins. B. R. Min*[1], W. E. Pinchak[1], M. E. Hume[2], and R. C. Anderson[2], [1]*Texas Agricultural Research Center, Vernon, TX*, [2]*USDA/ARS, Food and Feed Safety Research Unit, College Station, TX*.
M323	*In vitro* manipulation of rumen fermentation by propolis flavonoids and monensin. S. M. J. Yaghoubi*[1], G. R. Ghorbani[1], H. R. Rahmani[1], and A. Nikkhah[2], [1]*Isfahan University of Technology, Isfahan, Iran*, [2]*University of Manitoba, Winnipeg, MB, Canada*.
M324	Effects of zeolites and monensin on *in vitro* dry matter disappearance, pH change, and volatile fatty acid proportions. B. F. Domeniconi*[1,2], J. P. McMeniman[1], J. T. Vasconcelos[1], and M. L. Galyean[1], [1]*Texas Tech University, Lubbock*, [2]*FMVZ-UNESP, Botucatu, Brazil*.
M325	Preservation of enzymatic activities in a liquid extract obtained after *Agaricus bisporus* growth. M. Ayala–Martínez[1], S. S. González*[2], G. D. Mendoza–Martínez[3], C. Vázquez–González[1], M. Meneses–Mayo[2], O. Loera[4], and J. H. Avellaneda–Cevallos[5], [1]*UNAM, México D.F.*, [2]*Colegio de Postgraduados, Montecillo, Edo. México, México*, [3]*UAM Xochimilco, México D.F.*, [4]*UAM Iztapalapa, México D.F.*, [5]*Universidad Tecnica Estatal de Quevedo, Quevedo, Ecuador*.
M326	Activity of fibrolytic enzymes by *Trametes sp.* EUM1, *Pleurotus ostreatus* IE8 and *Aspergillus niger* AD96.4 in solid-state fermentation. A. T. Márquez-Araque[1], G. D. Mendoza-Martínez[2], S. S. González*[3], S. E. Buntinx-Dios[4], and O. Loera[5], [1]*UNAM and UCLA, México D.F. and Caracas, Venezuela*, [2]*UAM Xochimilco, México D.F.*, [3]*Colegio de Postgraduados, Montecillo, Edo. México, México*, [4]*UNAM, México D.F.*, [5]*UAM Iztapalapa, México D.F.*
M327	Feed intake, nutrient digestibility and animal growth performance in sheep and goats fed wheat straw *ad lib*. in presence of ZADO as direct feed of anaerobic enzymes and bacteria. A. Z. M. Salem*[1], M. El-Adawy[1], H. Gado[2], and M. Khalil[3], [1]*Department of Animal Production, Faculty of Agriculture (El-Shatby), Alexandria University, Alexandria, Egypt*, [2]*Department of Animal Production, Faculty of Agriculture, Ain Shams University, Cairo, Egypt*, [3]*Animal Production Research Institute, Ministry of Agriculture, Dokki, Gizza, Egypt*.
M328	Performance of Holstein cows fed diets containing either alfalfa hay or Tifton 85 bermudagrass with or without a cellulase enzyme. J. K. Bernard*[1], J. W. West[1], and A. T. Adesogan[2], [1]*The University of Georgia, Tifton*, [2]*The University of Florida, Grainesville*.
M329	Effects of enzyme formulations on roasted grains and rations that contain them. K. F. Wilson*[1], G. V. Pollard[2], and C. R. Richardson[3],

	[1]*Animal Feed Technologies, Greeley, CO,* [2]*Texas State University, San Marcos,* [3]*Texas Tech University, Lubbock.*
M330	Effects of monensin, virginiamycin and sodium bicarbonate on rumen fermentation of beef cattle fed medium concentrate. H. Y. Wei, J. Q. Wang*, C. H. Li, D. P. Bu, and L. Y. Zhou, *State Key Laboratory of Animal Nutrition,Institute of Animal Science,Chinese Academy of Agricultural Sciences, Beijing, China.*
M331	Effects of monensin and *Yucca schidigera* extract on metabolism by ruminal microbes in dual flow continuous culture fermenters. M. Ruiz Moreno* and M. D. Stern, *University of Minnesota, St. Paul.*
M332	Effects of Yea-Sacc1026 supplementation on rumen pH of loose-housed dairy cattle. A. Bach*[1] and S. Andrieu[2], [1]*Institut de Recerca i Tecnologia Agroalimentàries (IRTA), Barcelona, Spain,* [2]*Alltech Biotechnology Centre, Dunboyne, Ireland.*
M333	Rumen fermentation patterns of dairy heifers fed restricted amounts of high, medium, and low concentrate diets and the addition of *Saccharomyces cerevisiae.* G. J. Lascano* and A. J. Heinrichs, *The Pennsylvania State University, University Park.*
M334	Addition of three yeast cultures to diets for dairy cows in mid-lactation. K. E. Cowles*[1], M. R. Murphy[1], and J. W. Jones[2], [1]*University of Illinois, Urbana,* [2]*Western Yeast Co., Chillicothe, IL.*
M335	Effects of dietary yeast culture supplementation on milk production and somatic cell counts at a commercial dairy. C. R. Richardson*[1,3], D. W. Boyles[2], D. B. Wester[3], H. P. Hagaman[1,3], J. E. Vander Dussen[1,3], and G. V. Pollard[4], [1]*The Center for Feed Industry Research and Education, Lubbock,* [2]*LDJ Nutrition, Lubbock, TX,* [3]*Texas Tech University, Lubbock,* [4]*Texas State University, San Marcos.*
M336	Blood metabolites in Holstein steers fed diets with different concentrate to alfalfa hay ratios. A. R. Vakili, M. Danesh Mesgaran*, A. Heravi Moussavi, and R. Valizadeh, *Ferdowsi University, Mashhad, Khorasan, Iran.*
M337	Effects of corn and alfalfa particle size on ruminal fermentation, digestibility and chewing activity of dairy cows in midlactation. Z. J. Cao*, S. L. Li, M. Ma, and L. L. Wang, *China Agricultural University, Beijing, China.*
M338	Effect of feeding pistachio by-product on milk yield, apparent nutrient digestibility and chewing activity of early lactation Holstein cows. A. Bohluli, A. A. Naserian*, R. Valizadeh, and F. Eftekharshahroodi, *Ferdowsi University, Mashhad, Iran.*
M339	Probiotics in growing pre-ruminant calves. J. B. Cannon*[1], D. L. Harmon[1], K. R. McLeod[1], and A. J. Gallegos[2], [1]*University of Kentucky, Lexington,* [2]*synBios, SA de CV Queretaro, Mexico.*
M340	The performance of calves fed starter feeds containing distillers grains. A. B. Chestnut* and D. L. Carr, *Vigortone Ag Products, Hiawatha, IA.*
M341	Effect of feeding yeast culture on performance, health, and immunocompetence of dairy Calves. V. J. A. Magalhaes*[1], F. Susca[1], A. F. Branco[2], I. Yoon[3], and J. E. P. Santos[1], [1]*Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare,* [2]*Univesidade Estadual de Maringa, Maringa, Brazil,* [3]*Diamond V Mills, Inc., Cedar Rapids, IA.*
M342	The effect of feeding different milk replacer programs on calf growth, health and serum glucose. T. J. Earleywine*[1], T. E. Johnson[1], B. J. Nonnecke[2], and B. L. Miller[1], [1]*Land O'Lakes, Inc., Webster City, IA,* [2]*USDA, ARS, National Disease Center, Ames, IA.*
M343	First lactation milk yield and fertility of Holstein heifers reared using three milk replacer feeding regimes. P. C. Aikman*[1], M. Gould[2], and E. C. L. Bleach[3], [1]*University of Reading, UK,* [2]*Volac International Ltd, Royston, UK,* [3]*Writtle College, Chelmsford, UK.*
M344	Effects of early intensified nutrition on growth and metabolism of neonatal dairy calves. C. C. Williams*[1], D. T. Gantt[1], C. F. Hutchison[1], C. C. Stanley[1], and M. A. Froetschel[2], [1]*Louisiana State University Agricultural Center, Baton Rouge,* [2]*University of Georgia, Athens.*
M345	Partial replacement of whole milk with soymilk stimulates early calf starter intake, saves milk, and reduces weaning age and costs. G. R. Ghorbani[1], R. Kowsarzar*[1], M. Alikhani[1], and A. Nikkhah[2], [1]*Isfahan University of Technology, Isfahan, Iran,* [2]*University of Manitoba, Manitoba, Canada.*
M346	Evaluation of Jersey calves fed milk replacers and starter of varying protein and fat composition. E. H. Jaster*, J. L. Beckett, and D. G. Peterson, *California Polytechnic State University, San Luis Obispo.*
M347	Pre- and post weaning performance and health of dairy heifer calves fed milk replacers supplemented with oligosaccharides. B. Ziegler*[1], R. Larson[1], S. Hayes[2], H. Chester-Jones[3], D. Ziegler[3], J. Linn[4], M. Raeth-Knight[4], and G. Golombeski[4], [1]*Hubbard Feeds, Mankato, MN,* [2]*Milk Products, Chilton, WI,* [3]*University of Minnesota Southern Research and Outreach Center, Waseca,* [4]*University of Minnesota, St. Paul.*
M348	Pre- and post weaning performance and health of dairy heifer calves fed milk replacers with different protein sources. S. Hayes*[1], B. Ziegler[2], R. Larson[2], H. Chester-Jones[3], D. Ziegler[3], J. Linn[4], M. Raeth-Knight[4], and G. Golombeski[4], [1]*Milk Products, Chilton, WI,* [2]*Hubbard Feeds, Mankato, MN,* [3]*University of Minnesota Southern Research and Outreach Center, Waseca,* [4]*University of Minnesota, St. Paul.*
M349	Comparison of three analytical methods to assess urea nitrogen in colostrum. N. E. Lobos*[1], M. A. Wattiaux[1], and G. A. Broderick[1,2], [1]*University of Wisconsin, Madison,* [2]*US Dairy Forage Research Center, Madison, WI.*
M350	Influence of fish/soybean oil supplementation on milk conjugated linoleic acid and mammary gland SCD gene expression in dairy cows.

	D. P. Bu[1], J. Q. Wang*[1], T. R. Dhiman[2], and S. J Liu[1], [1]*State Key Laboratory of Animal Nutrition,Institute of Animal Science,Chinese Academy of Agricultural Sciences, Beijing, China,* [2]*Department of Animal, Dairy and Veterinary Sciences, Utah State University, Logan.*
M351	Flow of fatty acids to the duodenum and fatty acid profile of milk from cows fed diets differing in forage fiber level. D. P. Bu[1], J. Q. Wang*[1], T. R. Dhiman[2], S. C. Li[1], and S. J. Liu[1], [1]*State Key Laboratory of Animal Nutrition,Institute of Animal Science,Chinese Academy of Agricultural Sciences, Beijing, China,* [2]*Department of Animal, Dairy and Veterinary Sciences, Utah State University, Logan.*
M352	Fatty acids composition of milk from cows fed oilseeds. S. J. Liu[1], J. Q. Wang*[1], D. P. Bu[1], and T. R. Dhiman[2], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Science,Chinese Academy of Agricultural Sciences, Beijing, China,* [2]*Department of Animal, Dairy and Veterinary Sciences, Utah State University, Logan.*
M353	Interactions of unsaturated fat or coconut oil with Rumensin on milk fat production might be mediated through inhibition of specific protozoal genera. C. Reveneau*, S. K. R. Karnati, C. V. D. M. Ribeiro, E. R. Oelker, B. Mathew, D. R. Bae, C. M. Drow, and J. L. Firkins, *The Ohio State University, Columbus.*.
M354	Yields of fatty acids in milk of dairy cows fed a high- or low- forage diet supplemented with either flaxseed or flaxseed oil. 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, Sherbrooke, QC, Canada,* [2]*Agriculture and Agri-Food Canada, Lethbridge, AB, Canada,* [3]*Université Laval, Quebec, QC, Canada.*
M355	Abomasal infusion of butterfat increases milk fat in lactating dairy cows. A. K. G Kadegowda*, L. S. Piperova, and R. A. Erdman, *University of Maryland, College Park.*
M356	Evaluation of LYSOFORTE™ PF brand biosurfactant toward enhancing digestion of supplemental dietary fat in animal diets. D. Sapienza[1], F. R. Valdez*[2], A. S. Suleman[2], and W. Rounds[2], [1]*Sapienza Analytica LLC, Slater, IA,* [2]*Kemin Industries, Inc., Des Moines, IA.*
M357	Optimizing the levels of linseed oil in grazing cow diets to maximize conjugated linoleic acid in milk. G. D. Flowers*[1], A. A. AbuGhazaleh[1], and S. Ibrahim[2], [1]*Southern Illinois University Carbondale, Carbondale,* [2]*North Carolina Agricultural and Technical State University, Greensboro.*
M358	Effect of ruminal infusion of sunflower oil (SO) or seeds (SS) combined or not with fish oil (FO) on conjugated linoleic acid (CLA) in milk. G. A. Gagliostro*[1], M. A. Rodriguez[2], P. Pellegrini[2], G. Muset[2], P. Gatti[2], D. A. Garciarena[1], H. H. Fernández[1], M. Oporto[1], A. Ferlay[3], and Y. Chilliard[3], [1]*Instituto Nacional de Tecnología Agropecuaria (INTA), Balcarce, Argentina,* [2]*Instituto Nacional de Tecnología Industrial (INTI), Buenos Aires, Argentina,* [3]*Institut National de la Recherche Agronomique (INRA), Theix, France.*
M359	Effects of high oil corn grain supplementation on milk yield and composition and milk fatty acid profile in grazing dairy cows in early lactation. F. Luparia[1], D. A. Garciarena[1], C. A. Cangiano[1], P. Pellegrini[2], M.A. Rodriguez[2], H. H. Fernández[1], and G. A. Gagliostro*[1], [1]*Instituto Nacional de Tecnología Agropecuaria, INTA, Balcarce, Buenos Aires, Argentina,* [2]*Instituto Nacional de Tecnología Industrial, INTI, Buenos Aires, Argentina.*
M360	Evaluation of the effects of dietary fat supplement on conjugated linoleic acid (CLA) in milk fat of dairy cows: A meta-analysis approach. A. Nudda, C. Dimauro, A. Mereu, N. P. P. Macciotta*, and A. Cappio-Borlino, *Dipartimento di Scienze Zootecniche - University of Sassari, Sassari, Italy.*
M361	Milk conjugated linoleic acid response to fish oil and sunflower oil supplementation to dairy cows managed under two feeding systems. D. O. Felton* and A. A. AbuGhazaleh, *Southern Illinois University, Carbondale.*
M362	Effects of feeding increasing amounts of a lipid-encapsulated conjugated linoleic acid (CLA) supplement on periparturient cows. J. W. Wheelock*[1], L. L. Hernandez[1], S. R. Sanders[1], M. J. de Veth[2], and L. H. Baumgard[1], [1]*University of Arizona,* [2]*BASF AG, Germany.*
M363	Effect of diets enriched with oleic, trans-octadecenoic, linoleic, or linolenic acids on gene expression of liver tissue from early postpartum lactating Holstein cows. B. C. do Amaral*, C. R. Staples, L. Badinga, S. A. Sennikov, and W. W. Thatcher, *University of Florida, Gainesville.*
M364	The expression of genes regulating lipolysis in the adipose tissue of pregnant and lactating dairy cattle. J. M. Sumner* and J. P. McNamara, *Washington State University, Pullman.*
M365	Effects of abomasal infusion of water linseed oil or tallow on responses to glucose and insulin challenges in feed restricted Holstein cows. J. A. A. Pires*, J. B. Pescara, N. Silva del Rio, A. P. Cunha, and R. R. Grummer, *University of Wisconsin, Madison.*
M366	Effect of vitamin E or vitamin C on *in vitro* biohydrogenation of linolenic and linoleic acid in the presence of unesterified DHA. C. Boeckaert*[1], K. Ardvisson[2], N. Boon[1], and V. Fievez[1], [1]*Ghent University, Melle, Belgium,* [2]*Swedish University of Agricultural Sciences, Umeå, Sweden.*
M367	Effect of dietary polyunsaturated fatty acids on the expression of genes involved in prostaglandin biosynthesis in the bovine uterus. S. M. Waters[1], S. Childs[1,2], J. M. Sreenan[1], A. A. Hennessy[2], C. Stanton[2], and D. A. Kenny*[3], [1]*Teagasc, Animal Production Research Centre, Mellows Campus, Athenry, Co. Galway, Ireland,* [2]*Teagasc Dairy Products Research Centre, Fermoy, Co. Cork, Ireland,* [3]*School of Agriculture, Food Science & Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland.*
M368	Effect of electron beam irradiation on ruminal DM and NDF degradation characteristics of wheat and barley straws. A. A. Sadeghi*[1] and

	P. Shawrang[2], [1]*Department of Animal Science, Faculty of Agriculture, Science and Research Branch, Islamic Azad University, Tehran, Iran,* [2]*Animal Science Research Section, Research Center for Agriculture and Medicine, Atomic Energy Organization of Iran, Karaj, Iran*.
M369	Delta 9 desaturase gene expression in muscle, adipose tissue and liver of beef heifers following supplementation of grass with a concentrate containing sunflower seed and fish oil. S. A. McGettrick*[1], A. P. Maloney[2], F. J. Monahan[1], T. Sweeney[1], and F. J. Mulligan[1], [1]*Veterinary Sciences Centre, School of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland,* [2]*Teagasc, Grange Research Centre, Dunsany, Co. Meath, Ireland*.
M370	Effect of level and duration of dietary ω-3 polyunsaturated fatty acid supplementation on Δ-9 desaturase gene expression in muscle of beef cattle. S. M. Waters[1], J. P. Kelly[2], P. O Boyle[1], A. P. Moloney[3], and D. A. Kenny*[2], [1]*Teagasc, Animal Production Research Centre, Mellows Campus, Athenry, Co. Galway, Ireland.,* [2]*School of Agriculture, Food Science & Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland,* [3]*Teagasc, Grange Beef Research Centre, Dunsany, Co. Meath, Ireland.*
M371	Body condition score and day of lactation affect lipogenic mRNA abundance and transcription factors in adipose tissue of beef cows fed supplemental fat. C. M. Murrieta*, S. L. Lake, E. J. Scholljegerdes, B. W. Hess, and D. C. Rule, *University of Wyoming, Laramie*.
M372	Modeling fatty acid kinetics in plasma and immune cells of neonatal calves in response to increasing levels of dietary fish oil. M. A. Ballou*, J. G. Fadel, and E. J. DePeters, *University of California, Davis*.
M373	Effects of soybean oil plus additional forage and anabolic implant on performance, carcass quality, and meat CLA content in finished steers. V. Poulin*[1], A. Fournier[2], J. Jacob[3], C. Gariépy[4], C. Avezard[4], N. Durand[4], J. Fortin[4], and P. Y. Chouinard[1], [1]*Institut des nutraceutiques et des aliments fonctionnels, Université Laval, Québec, Qc, Canada,* [2]*MAPAQ, Nicolet, Qc, Canada,* [3]*MAPAQ, St-Narcisse, Qc, Canada,* [4]*CRDA, Agriculture and AgriFood Canada, St-Hyacinthe, Qc, Canada*.
M374	Effects of flunixin meglumine on pyrexia, production, and bioenergetic variables in post-parturient dairy cows. G. Shwartz*[1], S. R. Hartman[1], J. D. Earnest[1], A. L. Debold[1], K. L. Hill[2], M. J. VanBaale[1], and L. H. Baumgard[1], [1]*The University of Arizona, Tucson,* [2]*Schering Plough Animal Health, Kenilworth, NJ*.

SYMPOSIA AND ORAL SESSIONS

ADSA Southern Branch Graduate Student Competition
Chair: Cathleen C. Williams, Louisiana State University
204 B

9:30 AM	8	Effects of protein sources on growth and hormonal status of weaned dairy calves. C. A. Sissell*, C. C. Williams, C. F. Hutchison, D. T. Gantt, L. R. Gentry, A. J. Bridges, and J. E. Chandler, *Louisiana State University Agricultural Center, Baton Rouge*.
9:45 AM	9	Impact of feed management software on whole farm nutrient balance and feeding management. B. G. Cox*, R. E. James, K. F. Knowlton, M. L. McGilliard, and C. C. Stallings, *Virginia Polytechnic and State University, Blacksburg*.

SYMPOSIUM
Alpharma Beef Cattle Nutrition Symposium
Chair: Clint Krehbiel, Oklahoma State University
217 A

9:30 AM		Introduction. C.R. Krehbiel, *Oklahoma State University*.
9:40 AM	10	Nutrient synchrony: Sound in theory, elusive in practice. M. B. Hall*, *U.S. Dairy Forage Research Center, USDA-ARS, Madison, WI*.
10:15 AM	11	Nitrogen recycling and the nitrogen economy of ruminants – asynchronous symbiosis. C. K. Reynolds*[1] and N. B. Kristensen[2], [1]*The University of Reading, England,* [2]*University of Aarhus, Denmark*.
10:50 AM		Break
11:15 AM	12	Opportunities to enhance performance and efficiency through nutrient synchrony in forage-fed ruminants. M. J. Hersom*, *University of Florida, Gainesville*.
11:50 AM	13	Opportunities to enhance performance and efficiency through nutrient synchrony in concentrate-fed ruminants. N. A. Cole*, *USDA-ARS-CPRL, Bushland, TX*.

Animal Behavior & Well-Being - Livestock and Poultry I
Chair: Marcia I. Endres, University of Minnesota
205

9:30 AM	14	Does flavored sow's milk matched with the same flavored post-weaning feed improve performance, reduce post-weaning aggression, and establish an odor preference in piglets? N. Krebs* and J. J. McGlone, *Texas Tech University, Lubbock.*
9:45 AM	15	Sex differences in the septal-hypothalamo-pituitary-adrenal axis and distribution of arginine vasotocin and cortocotropin releasing neurons in the domestic fowl. F. N. Madison*, A. Jurkevic, and W. J. Kuenzel, *University of Arkansas, Fayetteville.*
10:00 AM	16	Changes in feeding and standing behavior of transition cows predict risk of sole hemorrhages and ulcers. K. L. Proudfoot*[1], D. M. Veira[2], D. M. Weary[1], and M. A. G. von Keyserlingk[1], [1]*University of British Columbia, Vancouver, BC, Canada*, [2]*Pacific Agri-Food Research Centre, Agassiz, BC, Canada.*
10:15 AM	17	The effect of light intensity on broiler behavior and welfare. R. A. Blatchford*, J. A. Mench, P. S. Wakenell, and G. S. Archer, *University of California, Davis.*
10:30 AM	18	Separating the effects of group size, stocking density and pen size in broilers. E. H. Leone* and I. Estevez, *University of Maryland, College Park.*
10:45 AM		Break
11:00 AM	19	Reducing stress at the packing plant using prior training and conditioning to odors in finishing pigs. N. Krebs*, M. A. Sutherland, and J. J. McGlone, *Texas Tech University, Lubbock.*
11:15 AM	20	The efficacy of Meloxicam at relieving the pain response to dehorning in dairy calves. A. Heinrich*[1,3], T. Duffield[1,3], K. Lissemore[2,3], E. J. Squires[1,3], and S. T. Millman[1,3], [1]*Ontario Veterinary College, Guelph, ON, Canada*, [2]*Ontario Agricultural College, Guelph, ON, Canada*, [3]*University of Guelph, Guelph, ON, Canada.*
11:30 AM	21	Removal of sub-therapeutic antibiotics from nursery pigs diets: influence on behavior, performance and physiology. C. Goldsmith*, L. Sadler, K. Stalder, L. Karriker, M. Honeyman, and A. Johnson, *Iowa State University, Ames.*
11:45 AM	22	Effects of ractopamine on transport losses in market weight pigs. J. E. Swan, M. H. Gillis, K. D. Miller, J. D. Muegge, D. H. Mowrey, T. A. Armstrong, W. C. Weldon, and M. J. Ritter*, *ELANCO Animal Health, Greenfield, IN.*
12:00 PM	23	Value of anesthesia in the dehorning of dairy calves. K. N. Patel*, A. L. Magliaro, J. R. Werner, D. A. Pape-Zambito, and R. S. Kensinger, *The Pennsylvania State University, University Park.*

Animal Health - Livestock and Poultry
Poultry and Swine I
Chair: Kim Cole, The Ohio State University
214 B

9:30 AM	24	Over-supplementation of Vitamin D as a risk factor for chronic heart failure in fast growing commercial broilers. S. Nain*, B. Laarveld, and A. A. Olkowski, *University of Saskatchewan, Saskatoon, SK, Canada.*
9:45 AM	25	Evaluation of Vitamin U on *Salmonella typhimurium* in broilers. A. L. Shaw*, K. S. Macklin, and J. P. Blake, *Auburn University, Auburn, AL.*
10:00 AM	26	Arginine and vitamin E modulate the subpopulations of T-lymphocytes in broiler chickens. S. T. Abdukalykova* and C. A. Ruiz-Feria, *McGill University, Montreal, QC, Canada.*
10:15 AM	27	Effects of arginine and vitamin E on antibody production against sheep red blood cells and immune bursal disease virus. S. T. Abdukalykova* and C. A. Ruiz-Feria, *McGill University, Montreal, QC, Canada.*
10:30 AM	28	Effect of tribasic copper chloride on performance of broiler chickens facing health challenges. J. I. Cohen*, *Micronutrients, Indianapolis, IN.*
10:45 AM	29	Detection of bacteria in the vas deferens and testes of broiler breeder roosters. C. R. James*, L. M. Stevenson, S. S. Oates, S. Martin, K. S. Macklin, R. A. Norton, and W. D. Berry, *Auburn University Poultry Science, Auburn, AL.*
11:00 AM	30	Acquisition of immunity to *Eimeria maxima* in newly hatched chickens reared on new or reused litter. S. Rayavarapu* and H. D. Chapman, *University of Arkansas, Fayetteville.*
11:15 AM	31	Evaluation of Coccivac-B® and Bio-Cox® (salinomycin) for control of 3 species of *Eimeria* in broilers. C. Brown*[1], R. G. Teeter[1], A. Beker[1], M. Singh[1], C. Broussard[2], S. Fitz-Coy[2], and J. Radu[2], [1]*Oklahoma State University, Stillwater*, [2]*Schering-Plough Animal Health, Union, NJ.*

11:30 AM	32	Benefits of the broiler feed additive Roxarsone. G. Mathis*[1] and M. LaVorgna[2], [1]*Southern Poultry Research, Inc., Athens, GA*, [2]*Alpharma Animal Health, Fort Lee, NJ*.
11:45 AM	33	A comparison of performance of coccidia vaccinated broilers fed RepaXol, AciXol, or Bacitracin Methylene Disalicylate. G. Mathis*[1] and N. Scicutella[2], [1]*Southern Poultry Research, Inc., Athens, GA*, [2]*SODA Feed Ingredients, Monaco*.
12:00 PM	34	Identification of *Eimeria* species using Denaturing Gradient Gel Electrophoresis. A. Martynova-Van Kley[1], A. Syvyk*[1], A. Nalian[1], I. Teplova[1], and M. Hume[2], [1]*Steven F. Austin State University, Nacogdoches, TX*, [2]*USDA, ARS, SPARC, Food and Feed Safety Research Unit, College Station, TX*.
12:15 PM	35	Eimeria acervulina and E. mivati: Are they one and the same? S. Fitz-Coy*, *Schering-Plough AH, Summit, NJ*.

SYMPOSIUM
Bio Ethics - Livestock and Poultry
The Ethics of Food Animal Production, Processing and Marketing
Chair: Gary Comstock, North Carolina State University
206 B

9:30 AM	36	Introduction. R. D. Reynnells*, *USDA/CSREES/PAS, Washington, DC*.
9:40 AM	37	The end of husbandry. B. E. Rollin*, *Colorado State University, Fort Collins.*
10:20 AM		Changing social dynamics and questions of ethics. W. Jamison, *Dordt College, Sioux Center, IA.*
10:50 AM		Discussion.
11:00 AM	38	Ethical aspects of regulating production. J. C. Swanson*, *Kansas State University, Manhattan*.
11:30 AM	39	Environmental aspects of ethical animal production. J. M. Siegford* and W. J. Powers, *Michigan State University, East Lansing*.
12:00 PM		Discussion.

Breeding and Genetics - Livestock and Poultry
Poultry
Chair: Janice Fulton, Hyline
217 B

9:30 AM	40	Genetic variations in chicken aggressive behavior: the role of serotonergic system. R. L. Dennis*[1,2], Z. Q. Chen[3], and H. W. Cheng[1], [1]*Livestock Behavior Research Unit, USDA-ARS, West Lafayette, IN*, [2]*Purdue University, West Lafayette, IN*, [3]*Zheijiang University, School of Animal Science, Hangzhou, Zhejiang Province, China*.
9:45 AM	41	Association between SNPs and mortality in commercial broilers: a machine learning approach. N. Long*[1], D. Gianola[1], K. A. Weigel[1], G. J. M. Rosa[1], and S. Avendaño[2], [1]*University of Wisconsin, Madison*, [2]*Aviagen Ltd., Newbridge, Scotland*.
10:00 AM	42	Non-major histocompatibility complex effects on the outcome of Rous sarcoma virus in Arkansas Progressor and Regressor chicken lines. M. Spanakos*[1], S. M. Sullivan[1], L. K. Stamps[1], R. Kopulos[2], J. Thompson[1], G. F. Erf[1], and N. B. Anthony[1], [1]*University of Arkansas, Fayetteville*, [2]*Northern Illinois University, DeKalb, IL*.
10:15 AM	43	Animal model estimation of (Co) variance components and genetic parameters for most important economic traits in Iranian native fowls. A. Ghazi Khani Shad*[1], A. Nejati Javaremi[2], and H. Mehrabani Yeganeh[2], [1]*Azad University of Science and Research, Tehran, Iran*, [2]*University of Tehran, Iran*.
10:30 AM	44	Effects of competition on expected response to selection for ADG. C. Y. Chen*[1], R. K. Johnson[1], S. D. Kachman[1], and L. D. Van Vleck[1,2], [1]*University of Nebraska, Lincoln*, [2]*ARS, USDA, U.S. Meat Animal Research Center, Clay Center, NE*.
10:45 AM	45	Effect of sex and sire on the intramuscular fatty acid profile in pigs. S. De Smet*[1], M. Ntawubizi[1], K. Raes[1,3], and N. Buys[2], [1]*Laboratory for Animal Nutrition and Animal Product Quality, Department of Animal Production, Ghent University, Melle, Belgium*, [2]*Centre for Animal Genetics and Selection, Catholic University Leuven, Heverlee, Belgium*, [3]*University College of West-Flanders, Department PIH, Kortrijk, Belgium*.
11:00 AM		Break
11:15 AM	46	Assessing hepatic gene expression in response to xenobiotic exposure. S. Boorgula*, D. J. Blodgett, M. Carlidge, S. Blevins, J. Boothe, and R. M. Lewis, *Virginia Polytechnic Institute and State University, Blacksburg*.

11:30 AM	47	Characterization of newly developed chicken 44K Agilent microarray. X. Y. Li*, H. I. Chiang, J. Zhu, and H. Zhou, *Texas A&M University, College Station*.
11:45 AM	48	Sources of variation in meat and carcass quality of pigs. E. F. Knol*, K. A. Engelsma, and J. W. M. Merks, *Institute for Pig Genetics (IPG), Beuningen, The Netherlands*.
12:00 PM	49	Using a web-based economic model to examine investment decisions in the turkey industry for both integrated and non-integrated companies. B. J. Wood* and N. Buddiger, *Hybrid Turkeys, Kitchener, Ontario, Canada*.
12:15 PM	50	Quantitative and biological issues of feed utilization efficiency. S. E. Aggrey*, *University of Georgia, Athens*.

SYMPOSIUM
Egg and Meat Science and Muscle Biology - Livestock and Poultry
Meat Packaging and Shelf Life
Chair: Mark Miller, Texas Tech University
207 B

9:30 AM	51	Overview of meat life cycle from harvest to consumer. R. D. Huffman*[1] and J. C. Brooks[2], [1]*American Meat Institute Foundation, Washington, DC,* [2]*Texas Tech University, Lubbock.*
10:15 AM	52	Defining spoilage: What is shelf life and how is it determined? T. L. Brown[1], S. L. Jaax[1], M. M. Brashears[2], and S. J. Eilert*[1], [1]*Cargill Meat Solutions, Wichita, KS,* [2]*Texas Tech University, Lubbock.*
11:00 AM		Break
11:20 AM	53	Is there a link between food safety and food spoilage? J. C. Brooks*, M. M. Brashears, and M. F. Miller, *Texas Tech University, Lubbock*.

SYMPOSIUM
Food Safety - Livestock and Poultry
Current and Future Salmonella Challenges
Chair: Hussein S. Hussein, University of Nevada-Reno
ASAS Early Career Achievement Award Sponsored by the ASAS Foundation
206 A

9:30 AM		Introduction. H. S. Hussein.
9:35 AM		ASAS Early Career Achievement Award Introduction.
9:40 AM	54	Gastrointestinal microbial ecology and the safety of our food supply as related to *Salmonella*. T. R. Callaway*, T. S. Edrington, J. A. Byrd, R. C. Anderson, R. B. Harvey, K. J. Genovese, J. L. McReynolds, and D. J. Nisbet, *Food and Feed Safety Research Unit, College Station, TX*.
10:20 AM	55	Current and future *Salmonella* challenges: Background, serotypes, pathogenicity, and drug resistance. S. L. Foley*, *Marshfield Clinic Research Foundation, Marshfield, WI.*
11:05 AM	56	Current and future *Salmonella* challenges: Prevalence of *Salmonella* in beef and dairy cattle and potential pathogenicity of their isolates. C. R. Jackson*, P. J. Fedorka-Cray, J. Haro, and B. M. McGlinchey, *USDA-ARS, Athens, GA.*
11:50 AM	57	Current and future *Salmonella* challenges: Prevalence in swine and poultry and potential pathogenicity of their isolates. S. L. Foley*, *Marshfield Clinic Research Foundation, Marshfield, WI.*

Horse Species
Chair: Sarah Ralston, Rutgers University
207 A

9:30 AM	58	Temporal variables of the Quarter Horse hunter trot and canter. M. Nicodemus*, *Mississippi State University, Mississippi State*.
9:45 AM	59	Survey of working conditions and management of donkeys in Niono and Segou. M. M. Diarra[1], A. Doumbia[1], and A. K. McLean*[2], [1]*Institut Polytechnique Rural de Formation et de Recherche Appliquèe, Katibougou, Mali,* [2]*Michigan State University, East Lansing*.

10:00 AM	60	11 β- hydroxysteroid dehydrogenase type 1 activity in equine adipose tissue. F. H. G. Farias*, P. J. Johnson, V. K. Ganjam, and D. H. Keisler, *University of Missouri, Columbia.*
10:15 AM	61	Glucose/insulin responses of weanling horses fed forage based total mixed ration cubes versus hay/concentrate rations. S. L. Ralston*[1], H. Anderson[2], and R. Johnson[3], [1]*Rutgers, New Brunswick, NJ,* [2]*IdleAcres, Cokato, MN,* [3]*Nutrena, Minnetonka, MN.*
10:30 AM	62	Metabolic and digestive profiles of horses grazing spring pasture. B. McIntosh*[1,2], D. Kronfeld[1], R. Geor[1], W. Staniar[1], and P. Harris[3], [1]*Virginia Polytechnic and State University, Blacksburg,* [2]*Blue Seal Feeds, Inc, Londonderry, NH,* [3]*WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom.*
10:45 AM	63	Fatty acid content of grass and legume hays commonly fed to horses. L. K. Warren* and J. Kivipelto, *University of Florida, Gainesville.*
11:00 AM	64	Effect of season, forage maturity and grazing on the fatty acid composition of bahiagrass pasture. L. K. Warren* and J. Kivipelto, *University of Florida, Gainesville.*

Immunology - Livestock and Poultry I
Chair: Gisela F. Erf, University of Arkansas
203

9:30 AM	65	An initial evaluation of the pathogenesis of Turkey-origin avian reovirus in poults. C. Stephens*[1], M. Pantin-Jackwood[2], E. Spackman[2], and J. M. Day[2], [1]*University of Georgia, Athens,* [2]*Southeast Poultry Research Labs, USDA, Athens, GA.*
9:45 AM	66	Characters and functions of anterior pituitary progenitor cells that are identified by a novel monoclonal antibody. Y. Nagai*, H. Aso, H. Ogasawara, S. Tanaka, K. Watanabe, S. Ohwada, and T. Yamaguchi, *Laboratory of Functional Morphology, Graduate School of Agricultural Science, Tohoku University, Sendai, Japan.*
10:00 AM	67	Effect of photoperiod on immune function in broiler chickens. S. Dalal*, K. Schwean-Lardner, B. Laarveld, H. L. Classen, and A. G. Van Kessel, *University of Saskatchewan, Saskatoon, SK, CANADA.*
10:15 AM	68	Gene expression profiling in heterophils from *Salmonella*-resistant and -susceptible chicken lines using a chicken 44K Agilent microarray. H. I. Chiang*[1], C. L. Swaggerty[2], M. H. Kogut[2], X. Y. Li[1], and H. Zhou[1], [1]*Texas A&M University, College Station,* [2]*United States Department of Agriculture, College Station, TX.*
10:30 AM	69	Relationship between growth performance and immunocompetence measurements in broiler strains under high ambient temperatures. M. M. Fathi*, A. Galal, S. A. El-Safty, and S. S. Al-Rishan, *Faculty of Agric., Ain Shams Univ., Cairo, Egypt.*
10:45 AM	70	The feather as an in vivo test tube for tissue immune responses. G. F. Erf*, B. Lockhart, K. Bateman, R. Finley, and O. T. Bowen, *University of Arkansas, Fayetteville.*
11:00 AM	71	Risk factors for avian developmental immunotoxicity (DIT): potential role of sex, hormone status, and age. R. R. Dietert*, *Cornell University, Ithaca, NY.*
11:15 AM	72	Antibody response against bovine red blood cells in major histocompatibility (*B*) complex recombinant *R13*. N. G. Wilkinson[1], L. M. Yates[2], R. T. Kopulos[2], W. E. Briles[2], and R. L. Taylor, Jr.*[1], [1]*University of New Hampshire, Durham,* [2]*Northern Illinois University, DeKalb.*

Graduate Student Paper Competition: National ADSA Dairy Foods Division
Chair: Nagendra Shah , Victoria University, Melbourne, Australia
201

9:30 AM	73	Use of HTST pasteurization combined with other nonthermal processes to improve fluid milk shelf life. Z. P. Caplan* and D. M. Barbano, *Cornell University, Ithaca, NY.*
9:45 AM	74	Manufacture of pasteurized process cheese spread from milk concentrated by microfiltration. H. Somni*, V. V. Mistry, K. Muthukumarappan, and K. R. Nauth, *Midwest Dairy Foods Research Center, South Dakota State University, Brookings.*
10:00 AM	75	Effect of different stabilizers on the textural and rheological properties of cream cheese. M. Brighenti*[1], S. Govindasamy-Lucey[2], J. J. Jaeggi[2], M. E. Johnson[2], and J. A. Lucey[1], [1]*University of Wisconsin, Madison,* [2]*Wisconsin Center for Dairy Research, Madison, WI.*
10:15 AM	76	Effect of stabilizers on fat agglomeration and melting resistance of ice cream. I. Herlambang*[1], W. J. Harper[1], and B. W. Tharp[2], [1]*The Ohio State University, Columbus,* [2]*Tharp's Food Technology, Wayne, PA.*

10:30 AM	77	Optical measurement of curd shrinkage during cheese manufacturing. C. C. Fagan*[2,1], M Castillo[1], C. P. O'Donnell[2], D. J. O'Callaghan[3], and F A Payne[1], [1]*University of Kentucky, Lexington*, [2]*University College Dublin, Ireland*, [3]*Moorepark, Teagasc, Cork, Ireland*.
10:45 AM	78	Impact of different curd-washing methods on the insoluble Ca content and rheological properties of Colby cheese. M.-R. Lee*[1], M. E. Johnson[2], S. Govindasamy-Lucey[2], J. Jaeggi[2], and J. A. Lucey[1], [1]*University of Wisconsin, Madison*, [2]*Center for Dairy Research, Madison, WI*.
11:00 AM	79	Preference mapping of commercial strawberry drinkable yogurt among African-American, Caucasian and Hispanic consumers. J. L. Thompson*, K. Lopetcharat, and M. A. Drake, *North Carolina State University, Raleigh*.
11:15 AM	80	Classification of cheddar cheese based on flavor quality using Fourier transform infrared spectroscopy. A. Subramanian*, J.W. Harper, and L.E. Rodriguez-Saona, *The Ohio State University, Columbus*.

SYMPOSIUM
Nonruminant Nutrition
Bioactive Compounds and Prebiotics in Swine Nutrition
Chair: Eric van Heughten, North Carolina State University
210

9:30 AM	81	Perfusing egg yolk antibodies in enterotoxigenic *Escherichia coli* K88 infected piglet jejunal segments reduces fluid and electrolyte losses. E. Kiarie*, B. A. Slominski, D. O. Krause, and C. M. Nyachoti, *University of Manitoba, Winnipeg, MB, Canada*.
9:45 AM	82	Dietary addition of mannobiose, beta glucan, or mannan-oligosaccharides on growth performance and immune response in early-weaned pigs raised at two locations. Y. Han*[1], J. J. Brennan[1], and M. Vignola[2], [1]*Maple Leaf Foods Agresearch, Guelph, Ontario, Canada*, [2]*Maple Leaf Foods Agresearch, St-Romuald, Quebec, Canada*.
10:00 AM	83	Evaluation of plant materials for alternative adhesion of *E. coli* K88 (ETEC) in weaning pigs. R. Maiorano*[1,2], A. W. Jongbloed[1], C. M. F. Wagenaars[1], P. G. Van Wikselaar[1], and P. M. Becker[1], [1]*Animal Sciences Group, Lelystad, The Netherlands*, [2]*University of Milan, Milan, Italy*.
10:15 AM	84	Effect of fermentable carbohydrates on the intestinal microbial ecosystem in growing pigs fed low-P diets. B. U. Metzler*[1], W. Vahjen[2], T. Baumgärtel[3], M. Rodehutscord[3], and R. Mosenthin[1], [1]*Institute of Animal Nutrition, University of Hohenheim, Stuttgart, Germany*, [2]*Institute of Animal Nutrition, Free University of Berlin, Berlin, Germany*, [3]*Institute of Agricultural and Nutritional Sciences, Martin-Luther-University Halle-Wittenberg, Halle (Saale), Germany*.
10:30 AM	85	Effect of lactoferrin on the growth performance, intestinal morphology, immune function and serum iron level of weaned piglets. Y. Z. Wang*, T. Z. Shan, J. X. Liu, and Z. R. Xu, *Zhejiang University, Hangzhou, Zhejiang, China*.
10:45 AM	86	Effects of adding saturated fat to diets with sorghum-based distillers dried grains with solubles on growth performance and carcass characteristics in finishing pigs. C. Feoli*[1], S. Issa[1], J. D. Hancock[1], T. L. Gugle[1], S. D. Carter[2], and N. A. Cole[3], [1]*Kansas State University, Manhattan*, [2]*Oklahoma State University, Stillwater*, [3]*USDA/ARS, Bushland, TX*.
11:00 AM	87	Effect of feeding fermented soybean meal on plasma concentration of cortisol in LPS-challenged nursery pigs. D. A. Monson*[1], J. A. Carroll[2], R. D. Mateo[1], and S. W. Kim[1], [1]*Texas Tech University, Lubbock*, [2]*USDA-ARS-Livestock Lissues Research Unit, Lubbock, TX, USA*.
11:15 AM	88	The effect of different levels of dietary mannan-oligosaccharide on specific cellular and humoral immune response in weaned piglets. I. Nochta*[1], T. Tuboly[2], V. Halas[3], and L. Babinszky[3], [1]*AGROKOMPLEX C.S.Z.R.T., Zichyújfalu, Hungary*, [2]*Szent István University, Budapest, Hungary*, [3]*University of Kaposvár, Kaposvár, Hungary*.
11:30 AM	89	Dietary supplementation with the Lactobacillus pentosus and/or inulin influences pH and volatile fatty acid characteristics in the colon. Z. McHugh, T. Sweeney, J. J. Callan, M. Ryan, and J. V. O'Doherty*, *University College Dublin, Ireland*.
11:45 AM	90	Response of nursery pigs to a synbiotic based on starch (prebiotic) and an anti-*Escherichia coli* K88 colicinogenic probiotic. S. K. Bhandari*, A. Setia, D. O. Krause, and C. M. Nyachoti, *University of Manitoba, Winnipeg, MB, Canada*.
12:00 PM	91	Dosage and efficacy of a novel *Saccharomyces cerevisiae* strain to enhance piglets productivity. M. Lucero P*[4,1], G. E. Lanz A[4,1], A. A. Martinez A[2], and J. A.- Cuaron I[3], [1]*PAIEPEME A.C., Querétaro, México*, [2]*CNID-Microbiología, México*, [3]*CNID-Fisiología Animal, INIFAP, Queretaro, México*, [4]*FESC UNAM, Ajuchitlan, Queretaro, Mexico*.
12:15 PM	92	Strategies for enhancing microbiological gut's barrier: BMD y BioPlus 2B. D. Munoz V*[1], G. E. Lanz A[1], M. Lucero P[1], A. Soria F[1], J. A. Renteria F[3], J. A. Cuaron I[3], S. Correa N[4], and S. Martinez[2], [1]*Paiepeme, A.C., Queretaro, Mexico*, [2]*Alpharma, Mexico*, [3]*Fisiología Animal, INIFAP, Queretaro, Mexico*, [4]*Synbios, Mexico*.

Nonruminant Nutrition
Poultry Nutrition - Protein and Amino Acids
Chair: Randy Mitchell, Perdue Farms
214 C

9:30 AM	93	Ileal amino acid digestibility of protein feed ingredients at 5 and 21 days of age by broiler chickens. J. M. Rynsburger*[1], D Hoehler[2], and H. L. Classen[1], [1]*University of Saskatchewan, Saskatoon, SK, Canada*, [2]*Degussa Corporation, Kennesaw, GA.*
9:45 AM	94	Effects of a reduction of dietary crude protein on performance and economics in commercial Ross 708 broilers. E. A. Guaiume*[1], J. D. Firman[1], D. Hoehler[2], P. B. Tillman[3], D. Burnham[4], J. Parcell[1], L. B. Linares[1], and A. Kamyab[1], [1]*University of Missouri, Columbia*, [2]*Degussa Corporation, Kennesaw, GA*, [3]*Ajinomoto Heartland LLC, Chicago, IL*, [4]*Aviagen Inc., Huntsville, AL*.
10:00 AM	95	Effects of dietary protein concentration and age on gut morphology, crude mucin, and sialic acid contents of ileal digesta of turkey poults. S. A. Adedokun*, D. M. Karcher, and T. J. Applegate, *Purdue University, West Lafayette, IN.*
10:15 AM	96	Protein and amino acid retention in growing White Pekin ducks receiving graded levels of dietary crude protein. N. L. Horn* and O. Adeola, *Purdue University, West Lafayette, IN.*
10:30 AM	97	Effect of strain and immune status on dietary lysine requirements in broilers as determined by indicator amino acid oxidation. R. D. Kirschenman* and D. R. Korver, *University of Alberta, Edmonton AB, Canada.*
10:45 AM	98	Dietary protein quality and feed restriction influence abundance of PepT1 mRNA in the small intestine of two lines of broilers. E. Gilbert*[1], H. Li[1], D. Emmerson[2], K. Webb, Jr.[1], and E. Wong[1], [1]*Virginia Polytechnic Institute and State University, Blacksburg*, [2]*Aviagen®, Huntsville, AL*.
11:00 AM	99	Cysteine toxicity in chicks. R. N. Dilger* and D. H. Baker, *University of Illinois, Urbana.*
11:15 AM	100	Digestibility and availability of the creatine source guanidino acetic acid in broilers. A. Lemme*[1], J. Tossenberger[2], and J. Ringel[1], [1]*Degussa GmbH - Feed Additives, Hanau, Germany*, [2]*University of Kaposvár, Kaposvár, Hungary*.
11:30 AM	101	Effect of amino acid formulation and synthetic amino acid supplementation on turkey tom performance. T. Applegate*[1], W. Powers[2], and R. Angel[3], [1]*Purdue University, West Lafayette, IN*, [2]*Michigan State University, East Lansing*, [3]*University of Maryland, College Park.*
11:45 AM	102	Increased dietary balanced protein levels at varying length of application during the starter period of broilers. A. Lemme*[1], M. G. T. Janssen[2], P. J. A. Wijtten[2], J. K. W. M. Sparla[2], and M. S. Redshaw[1], [1]*Degussa GmbH - Feed Additives, Hanau, Germany*, [2]*Provimi B. V., Rotterdam, The Netherlands.*
12:00 PM	103	Response of vaccinated starting broilers to the inclusion of NEAA as gelatin to high and low CP feed while maintaining EAA requirements. R. Lehman* and E. T. Moran, *Auburn University, Auburn, AL*.
12:15 PM	104	Evaluation of isoleucine and valine limitation in diets for heavy high-yield broilers. A. Corzo*[1], M. T. Kidd[1], J. Collier[1], W. A. Dozier, III[2], and D. Hoehler[3], [1]*Mississippi State University, Mississippi State*, [2]*USDA-ARS, Mississippi State, MS*, [3]*Degussa Corporation, Kennesaw, GA.*

Nonruminant Nutrition
Swine Mineral Nutrition and Metabolism
Chair: Olayiwola Adeola, Purdue University
212

9:30 AM	105	Dietary selenium regulation of the rat liver and kidney selenoproteomes. K. M. Hargrave*, J. K. Evenson, A. M. Rothert, and R. A. Sunde, *University of Wisconsin, Madison*.
9:45 AM	106	Copper can be absorbed as a Cu-peptide chelate through the PepT1 transporter in the jejunum of weanling pigs. B. E. Aldridge*, K. L. Saddoris, and J. S. Radcliffe, *Purdue University, West Lafayette, IN.*
10:00 AM	107	The feeding of low-P diets to weanling pigs stimulates Na^+-dependent phosphate transport by a post-translational mechanism in the jejunum. K. L. Saddoris* and J. S. Radcliffe, *Purdue University, West Lafayette, IN*.
10:15 AM	108	Dietary supplementation with zinc oxide decreases the expression of the stem-cell factor in the small intestine of weanling pigs. D. Y. Ou[1], D. F. Li*[1], Y. H. Cao[1], X. L. Li[1], J. D. Yin[1], S. Y. Qiao[1], and G. Y. Wu[2], [1]*China Agricultural University, Beijing, China*, [2]*Texas A&M University, College Station*.
10:30 AM	109	Net portal absorption of inorganic zinc and zinc-amino acid chelates by growing pigs. R. D. Mateo*[1], M. I. Perret-Gentil[2], M. W. Hart[1], R. A. Samford[3], and S. W. Kim[1], [1]*Texas Tech University, Lubbock*, [2]*Texas Tech Health Sciences Center, Lubbock*, [3]*Albion Advanced Nutrition, Clearfield, UT*.

10:45 AM	110	The effect of varied levels of E. Coli. phytase on phosphorus balance in weanling pigs. T. C. Tsai*[1], C. R. Dove[1], M. J. Azain[1], and M. Bedford[1], [1]*University of Georgia, Athens,* [2]*Syngenta Animal Nutrient, RTP, NC.*
11:00 AM	111	Effects of different available-phosphorus levels in diets on nitrogen and phosphorus digestibilities in growing pigs. X. Wu[1], Y. L. Yin[1], G. Y. Wu[1,3], T. J. Li[1], Y. G. Zhang[1], F. Y. Yan[1], R. L. Huang[1], and M. Z. Fan*[4], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*Huazhong Agricultural University, Wuhan, Hubei, China,* [3]*Texas A&M University, College Station,* [4]*University of Guelph, Guelph, Ontario, Canada.*
11:15 AM	112	Effect of mineral status and calcium (Ca) concentration on phosphorus (P) and Ca utilization in piglets. M. P. Letourneau Montminy*[1], C. Jondreville[2], D. Sauvant[3], M. Magnin[4], C. Pomar[5], and P. Lescoat[1], [1]*INRA UR83, Nouzilly, France,* [2]*INRA USC340, Vandoeuvre-les-Nancy, France,* [3]*INRA UMR791, Paris, France,* [4]*BASF Nutrition Animale, Château-Gontier, France,* [5]*Agriculture et Agroalimentaire Canada, Lennoxville, Canada.*
11:30 AM	113	Exogenous glutathione reduces cadmium toxicity to giant freshwater prawns *Macrobrachium rosenbergii*. W. Y. Chu*[1], Y. L. Yin[1], K. Yao[1], T. J. Li[1], R. L. Huang[1], and G. Y. Wu[1,2], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*Texas A&M University, College Station.*
11:45 AM	114	Factors affecting phytase activity: implication for assay development. M. F. Isaksen*[1,2] and S. Dalsgaard[1,2], [1]*Danisco Innovations, Brabrand, Denmark,* [2]*Danisco Animal Nutrition, Marlborough, Wiltshire, UK.*
12:00 PM	115	Influence of dietary reductions in CP, P, and trace minerals on DM, N, P, and mineral excretion in finishing pigs. M. Lachmann*, S. Carter, J. Bundy, S. Jenkin, and Z. Marable, *Oklahoma State University, Stillwater.*

Physiology & Endocrinology - Livestock and Poultry
Estrous Synchronization
Chair: Raymond Nebel, Select Sires
214 D

9:30 AM	116	Factors affecting pre-ovulatory follicular diameter and ovulation rate following GnRH administration in anestrous 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]*Michigan State University, East Lansing.*
9:45 AM	117	Comparison of protocols to synchronize estrus and ovulation I: Estrous cycling beef heifers. N. R. Leitman*, D. C. Busch, J. F. Bader, D. J. Wilson, M. R. Ellersieck, M. F. Smith, and D. J. Patterson, *University of Missouri, Columbia.*
10:00 AM	118	Comparison of protocols to synchronize estrus and ovulation II: Prepubertal beef heifers. N. R. Leitman*, D. C. Busch, J. F. Bader, D. J. Wilson, M. R. Ellersieck, M. F. Smith, and D. J. Patterson, *University of Missouri, Columbia.*
10:15 AM	119	Pregnancy rates following fixed-time AI in beef heifers after administration of CIDR-based protocols to synchronize estrus and ovulation. D. C. Busch*[1], D. J. Wilson[1], D. J. Schafer[2], N. R. Leitman[1], J. K. Hadek[2], M. R. Ellersieck[1], M. F. Smith[1], and D. J. Patterson[1], [1]*University of Missouri, Columbia,* [2]*MFA Inc., Columbia, MO.*
10:30 AM	120	Timing of fixed-time AI in beef cows following the CO-Synch + CIDR protocol. D. C. Busch*[1], D. J. Schafer[2], N. R. Leitman[1], D. J. Wilson[1], J. K. Haden[2], M. F. Smith[1], and D. J. Patterson[1], [1]*University of Missouri, Columbia,* [2]*MFA Inc., Columbia, MO.*
10:45 AM	121	Comparison of the 7-11 estrous synchronization protocol between suckled Angus (AN) and Brangus (BN) cows. R. D. Esterman*, B. R. Austin, S. A. Woodall, and J. V. Yelich, *University of Florida, Gainesville.*
11:00 AM		Break
11:15 AM	122	The use of estrus synchronization, resynchronization, and ultrasound to facilitate two timed artificial inseminations without heat detection in beef cattle. W. E. Beal*, M. D. Utt, and T. E. Wiseman, *Virginia Polytechnic Institute and State University, Blacksburg.*
11:30 AM	123	Effect of GnRH at time of insemination on initiation of LH pulses and subsequent progesterone. S. D. Fields*, B. L. Perry, and G. A. Perry, *South Dakota State University, Brookings.*
11:45 AM	124	Effect of pretreatment with prostaglandin $F_{2\alpha}$ 12 days before initiation of Resynch on fertility of lactating dairy cows. E. Silva*[1], R. A. Sterry[1], D. Kolb[2], M. C. Wiltbank[1], and P.M. Fricke[1], [1]*University of Wisconsin, Madison,* [2]*Lodi Veterinary Clinic, Lodi, WI.*
12:00 PM	125	Reducing the interval from Presynchronization to initiation of timed AI improves fertility in dairy cows. K. N. Galvao*, M. F. Sa Filho, and J. E.P. Santos, *School of Veterinary Medicine, University of California Davis, Tulare.*

Production, Management & the Environment - Livestock and Poultry
Dairy Production and Management II
Chair: Paul Fricke, University of Wisconsin
214 A

9:30 AM	126	Effects of dim light at night on milk yield, milk composition and endocrine profile of lactating dairy cows. M. A. Bal*[1], G. B. Penner[1], M. Oba[1], and A. D. Kennedy[2], [1]*University of Alberta, Edmonton, AB, Canada*, [2]*University of Manitoba, Winnipeg, MB, Canada*.
9:45 AM	127	Effects of dairy drylot corral management on air emissions. L. M. Nuckles* and F. M. Mitloehner, *University of California, Davis*.
10:00 AM	128	Characterization and quantification of emissions from dairies. N. M. Marcillac*[1], F. M. Schwander[1], R. F. Follett[1], J. L. Collett[2], and N. P. Hanan[1], [1]*Colorado State University, Fort Collins*, [2]*USDA/ARS, Fort Collins, CO*.
10:15 AM	129	Effects of waste management techniques to reduce dairy emissions from freestall housing. M. S. Calvo*, K. R. Stackhouse, and F. M. Mitloehner, *University of California, Davis*.
10:30 AM	130	Nitrogen losses from dairy manure estimated through nitrogen mass balance or using markers. A. N. Hristov*[1], S. Zaman[1], M. Vander Pol[1], P. Ndegwa[2], S. Silva[3], and C. Kendall[2], [1]*University of Idaho, Moscow*, [2]*Washington State University, Pullman*, [3]*U.S. Geological Survey, Menlo Park, CA*.
10:45 AM	131	Comparision of the Intergovernmental Panel on Climate Change (IPCC) system for estimating methane emission from dairy cows. S. K. Nes*, H. Volden, and S. J. Krizsan, *Norwegian University of Life Sciences, Ås, Norway*.
11:00 AM	132	Prediction of DHI udder health values from bulk tank information. A. J. Young*[1] and S. P. Tripp[2], [1]*Utah State University, Logan*, [2]*DHI-Provo Computing Service, Provo, UT*.
11:15 AM	133	Variance components of test-day milk, milk components, and somatic cell score useful for management advice. M. Caccamo*[1], R. F. Veerkamp[2], G. de Jong[3], M. H. Pool[2], R. Petriglieri[1], G. Azzaro[1], and G. Licitra[1,4], [1]*CoRFiLaC, Regione Siciliana, Ragusa, Italy*, [2]*Animal Breeding and Genomics Center, ASG, WageningenUR, Lelystad, The Netherlands*, [3]*NRS, Arnhem, The Netherlands*, [4]*D.A.C.P.A. University of Catania, Italy*.
11:30 AM	134	Waste milk supply and pasteurizer performance on California dairy farms and calf ranches. M. C. Scott, R. E. James*, and M. L. McGilliard, *Virginia Polytechnic Institute and State University, Blacksburg, VA.*
11:45 AM	135	Investigating relationship between protein-fat difference and milk yield of Iraninan Holstein dairy cows. B. Saremi*[1], J. Ghaseminejad[2], and J. Eslami[3], [1]*Education center of Jihad-e Agriculture, Animal Science Department, Khorasan Razavi, Mashhad, Iran*, [2]*Animal Science Department of Agricultural and Natural Resources University of Gorgan, Iran*, [3]*Animal Science Department of Zabol University, Iran*.
12:00 PM	136	Best management practices to improve milk quality and udder health in organically-managed dairy herds in Southeastern Pennsylvania. K. E. Griswold*[1], H. Karreman[2], and J. Mylin[3], [1] *Pennsylvania State Cooperative Extension, University Park*, [2]*Penn Dutch Cow Care, Gap, PA*, [3]*Lancaster DHIA, Manheim, PA*.

Production, Management & the Environment - Livestock and Poultry
Poultry Production, Management and Environment
Chair: William B. Roush, USDA ARS Poultry Research Unit
213

9:30 AM	137	Increasing lighting program effects on production characteristics of modern broilers. K. Schwean-Lardner*[1], H. L. Classen[1], and B. I. Fancher[2], [1]*University of Saskatchewan, Saskatoon, Saskatchewan Canada*, [2]*Aviagen North America, Huntsville, AL*.
9:45 AM	138	Does broiler breeder flock age influence embryonic metabolism in different genetic strains? J. A. Hamidu*[1], G. M. Fasenko[1], E. E. O'Dea[1], J. J. R. Feddes[1], C. A. Ouellette[1], V. L. Christensen[2], and M. J. Wineland[2], [1]*University of Alberta, Edmonton, Alberta, Country*, [2]*North Carolina State University, Raleigh.*
10:00 AM	139	Effects of in ovo injection of select salt solutions and metabolic compounds on chicken embryo livability and growth. B. M. McGruder*[1], E. D. Peebles[1], D. A. Braasch[1], M. A. Dekich[2], P. D. Gerard[1], and R. W. Keirs[1], [1]*Mississippi State University, Mississippi State*, [2]*AviTech, LLC, Salisbury, MD.*
10:15 AM	140	Partial coefficients of nutrient partitioning of broiler breeders using different feeding strategies during the production phase. L. F. Romero*[1], M. J. Zuidhof[2], A. Naeima[1], F. E. Robinson[1], and R. A. Renema[1], [1]*University of Alberta, Edmonton, AB, Canada*, [2]*Alberta Agriculture and Food, Edmonton, AB, Canada*.

10:30 AM	141	Broiler breeder strain and egg size affect egg characteristics, hatchability, and broiler performance in old flocks. A. M. Franco*, G. M. Fasenko, and E. E. O'Dea, *University of Alberta, Edmonton, Alberta, Canada*.
10:45 AM	142	Effect of early and late incubation temperature profiles and hatching basket ventilation on broiler embryonic development. K. E. Brannan*, N. Leksrisompong, P. W. Plumstead, J. H. Small, E. O. Oviedo-Rondon, and J. T. Brake, *North Carolina State University, Raleigh*.
11:00 AM	143	Effect of early and late incubation temperature profiles on broiler long bone development. J. H. Small*, K. E. Brannan, N. Leksrisompong, P. W. Plumstead, J. Brake, and E. O. Oviedo-Rondón, *North Carolina State University, Raleigh*.
11:15 AM	144	Feeding broiler breeder hens twice a day after photostimulation improves reproductive performance. J. M. Spradley*, M. E. Freeman, J. L. Wilson, and A. J. Davis, *University of Georgia, Athens*.
11:30 AM	145	Relationships between broiler breeder body weight, breast meat development, and reproductive tract development. N. Leksrisompong*, E. O. Oviedo-Rondon, and J. T. Brake, *North Carolina State University, Raleigh*.
11:45 AM	146	Effect of female broiler breeder BW profile and rate of lay on broiler chick traits, growth performance and meat quality. A. Naeima*[1], L. F. Romero[1], M. J. Zuidhof[2], R. A. Renema[1], and F. E. Robinson[1], [1]*University of Alberta, Edmonton, AB., Canada*, [2]*Alberta Agriculture and Food, Edmonton, AB., Canada*.
12:00 PM	147	The relationship between female feather cover, mating frequency and male–to–female aggression in Broiler Breeders. D. E. Holm*[1], R. A. Renema[1], F. E. Robinson[1], and M. J. Zuidhof[2], [1]*University of Alberta, Edmonton, Alberta, Canada*, [2]*Alberta Agriculture and Food, Edmonton, Alberta, Canada*.
12:15 PM	148	Novel isolation procedures for developing probiotic cultures against *Campylobacter* for poultry. V. F. Aguiar*[1], I. Reyes-Herrera[1], F. Solis de los Santos[1], M. L. Dirain[1], J. Metcalf[1], P. J. Blore[1], A. M. Donoghue[2], and D. J. Donoghue[1], [1]*University of Arkansas, Fayetteville*, [2]*PPPSRU, ARS, USDA, Fayetteville, AR*.

Ruminant Nutrition
Feedstuff Modification and Growing/Finishing Nutrition
Chair: Cathy Bandyk, Quality Liquid Feeds
217 C

9:30 AM	149	Effects of chemical treatment of canola meal on nutrients ruminal degradation in Zel sheep using in situ methods. A Teimouri Yansari*[1] and H. MohammadZAdeh[1], [1]*University of Agriculture and Bioresource, Sari, Mazandaran, Iran*, [2]*University of Agriculture and Bioresource, Sari, Mazandaran, Iran*.
9:45 AM	150	Effects of chemical treatments of rice straw on rumen fermentation, fibrolytic enzyme activities and populations of liquid- and solid-associated ruminal microbes in vitro. X. L. Chen, J. K. Wang, Y. M. Wu, and J. X. Liu*, *College of Animal Sciences, Ministry of Education Key Laboratory of Molecular Animal Nutrition, Zhejiang University, Hangzhou, China*.
10:00 AM	151	Effects of feeding thermochemically-treated wheat straw and corn stover on lamb performance and digestibility. N. A. Pyatt[1], P. H. Doane[1], M. J. Cecava*[1], J. L. Dunn[1], J. R. Sewell[2], and L. L. Berger[2], [1]*ADM Animal Nutrition Research, Decatur, IN*, [2]*University of Illinois, Urbana*.
10:15 AM	152	Effects of feeding thermochemically-treated crop residues on lamb intake and performance. N. A. Pyatt[1], P. H. Doane[1], M. J. Cecava*[1], J. L. Dunn[1], J. R. Sewell[2], and L. L. Berger[2], [1]*ADM Animal Nutrition Research, Decatur, IN*, [2]*University of Illinois, Urbana*.
10:30 AM	153	Digestibility of corn replacement pellets in growing lamb diets. J. R. Sewell*[1], L. L. Berger[1], M. J. Cecava[2], P. H. Doane[2], J. L. Dunn[2], and N. A. Pyatt[2], [1]*University of Illinois, Urbana*, [2]*ADM Animal Nutrition Research, Decatur, IN*.
10:45 AM	154	Effects of diet adaptation on performance and health of steers grown on a high-concentrate, program-fed diet. B. P. Holland*, C. R. Krehbiel, D. L. Step, L. O. Burciaga-Robles, and J. J. Cranston, *Oklahoma State University, Stillwater*.
11:00 AM	155	Effects of roughage level and Fibrozyme™ supplementation on site and extent of digestion by finishing beef steers. J. J. Cranston and C. R. Krehbiel*, *Oklahoma State University, Stillwater*.
11:15 AM	156	The effect of delaying initial implant on finishing performance and carcass characteristics. W. A. Griffin*, D. C. Adams, and R. N. Funston, *University of Nebraska West Central Research and Extension Center, North Platte.*
11:30 AM	157	Effect of Dakota Bran inclusion on DMI, gain, efficiency, and carcass characteristics of finishing steers. D. M. Larson*[1], M. L. Bauer[1], G. P. Lardy[1], K. K. Karges[2], and M. L. Gibson[2], [1]*North Dakota State University, Fargo*, [2]*Dakota Gold Research Association, Sioux Falls, SD*.
11:45 AM	158	Effect of corn endosperm type and processing method on site and extent of nutrient digestion and ruminal metabolism in Holstein steers fed a high-grain diet. C. A. McPeake* and S. R. Rust, *Michigan State University, East Lansing.*

12:00 PM	159	The effects of feeding ground flaxseed on morbidity, mortality, and performance in receiving heifers and subsequent feedlot performance. M. J. Quinn*, E. S. Moore, B. E. Depenbusch, M. L. May, J. J. Higgins, and J. S. Drouillard, *Kansas State University, Manhattan*.
12:15 PM	160	Effect of feeding das-59122-7 corn grain and non-transgenic corn grain to finishing feedlot steers. T. J. Huls*[1], G. E. Erickson[1], T. J. Klopfenstein[1], M. K. Luebbe[1], K. J. Vander Pol[1], D. W. Rice[2], B. L. Smith[2], M. A. Hinds[2], F. N. Owens[2], and M. K. Liebergesell[2], [1]*University of Nebraska, Lincoln,* [2]*Pioneer Hi-Bred Internation, Inc., Johnston, IA.*

Ruminant Nutrition
Ruminal Fermentation - Dairy
Chair: William Sanchez, Diamond V Mills, Inc.
217 D

9:30 AM	161	Effects of *Saccharomyces cerevisiae* on ruminal pH and microbial fermentation in lactating dairy cows. M. Thrune[1], A. Bach[2], M. Ruiz-Moreno[1], M. D. Stern*[1], and J. G. Linn[1], [1]*University of Minnesota, St. Paul,* [2]*IRTA-Unitat de Remugants, Spain*.
9:45 AM	162	Impacts of a *Yucca schidigera* extract on rumen fermentation and *in vitro* gas production and NDF digestion. M. D. Singer*[1], P. H. Robinson[1], A. Z. M Salem[2], and E. J. DePeters[1], [1]*University of California, Davis,* [2]*University of Alexandria, Alexandria, Egypt*.
10:00 AM	163	Yeast culture supplementation prevented milk fat depression from a fermentable carbohydrate challenge. R. A. Longuski*, Y. Ying, and M. S. Allen, *Michigan State University, East Lansing.*
10:15 AM	164	The effect of yeast culture and enzymatically hydrolyzed yeast supplementation on performance of dairy cattle. J. E. Nocek*[1], J. Oppy[2], and M. G. Holt[2], [1]*Spruce Haven Farm and Research Ctr, Auburn, NY,* [2]*Varied Industries Corporation, Mason City, IA*.
10:30 AM	165	Effect of pasteurized waste milk, medicated milk replacer, mannan oligiosaccharide and enzymatically hydrolyzed yeast on neonatal calf performance. J. E. Nocek*[1], J. Oppy[2], and M. G. Holt[2], [1]*Spruce Haven Farm and Research Ctr, Auburn, NY,* [2]*Varied Industries Corporation, Mason City, IA.*
10:45 AM	166	Effects of feeding rumen-protected choline (RPC) on lactation and metabolism. F. S. Lima*[1], M. F. Sa Filho[1], L. F. Greco[1], F. Susca[1], V. J. A. Magalhaes[1], J. Garrett[2], and J. E. P. Santos[1], [1]*Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare,* [2]*Balchem Corporation, Animal Nutrition & Health, New Hampton, NY*.
11:00 AM	167	Effect of feeding Fermenten® on the productivity of cows fed different concentrations of sucrose. G. B. Penner* and M. Oba, *University of Alberta, Edmonton, Alberta, Canada*.
11:15 AM	168	Effect of monensin feeding and withdrawal on ruminal populations of individual bacterial species in cows fed high-starch diets. P. J. Weimer*[1,2], D. M. Stevenson[1], D. R. Mertens[1], and E. E. Thomas[3], [1]*United States Department of Agriculture, Madison, WI,* [2]*University of Wisconsin, Madison,* [3]*Elanco Animal Health, Inc., Greenfield, IN*.
11:30 AM	169	Effects of nitroethane and monensin on ruminal CH_4 production and nitro-degrading bacterial populations in vitro. H. Gutierrez-Bañuelos*[1], R. C. Anderson[2], G. E. Carstens[1], L .O. Tedeschi[1], E. Cabrera-Diaz[1], T. R. Callaway[2], and D. J. Nisbet[2], [1]*Texas A&M University, College Station,,* [2]*USDA/ARS, Food & Feed Safety Research Unit, College Station, TX*.
11:45 AM	170	Effect of monensin concentration in starter feed on feed intake and growth of young dairy calves. E. E. Thomas*, *Elanco Animal Health, Greenfield, IN*.
12:00 PM	171	Deactivation of aflatoxin B1 in animal feed by using a selected bentonite. G. Schatzmayr*[1], S. Fruhauf[2], and E. Vekiru[2], [1]*BIOMIN Research Center, Tulln, Austria,* [2]*Christian Doppler Laboratory for Mycotoxin Research, Tulln, Austria*.
12:15 PM	172	Adding liquid feed while reducing non-fiber carbohydrates (NFC) enhances feed intake and milk fat production. J. L. Firkins*, C. Reveneau, L. E. Gilligan, and A. Sprunger, *Ohio State University, Columbus*.

SYMPOSIUM
Teaching/Undergraduate & Graduate Education
Visual Learning in Animal Science
Chair: Patricia Schoknecht, Wagner College
204 A

9:30 AM		Introductory Remarks.
9:35 AM	173	The role of the NSF/National Science Digital Library in the dissemination of science, technology, engineering and

		mathematics information and in support of innovations in teaching and learning. L. Salisbury*[1,2], [1]*University of Arkansas Libraries, Fayetteville,* [2]*National Science Digital Library*.
10:05 AM	174	The importance of images to the pork industry. D. J. Meisinger*, *US Pork Center of Excellence, Ames, IA.*
10:25 AM	175	Image coupling – simplifying and linking information for enhanced learning. S. Gerard[1], A. C. Oki[2], and P. L. Senger*[2], [1]*Oei Graphics, Bellevue, WA,* [2]*Current Conceptions, Inc., Pullman, WA.*
10:55 AM	176	Digital Image Gallery to assist learning animal science: Photos and illustrations solicited. J. W. Riesen*[1], H. D. Hafs[2], G. K. McCone[3], P. A. Schoknecht[4], and M. R. Stokes[5], [1]*University of Connecticut, Storrs,* [2]*Rutgers University, New Brunswick, NJ,* [3]*National Agricultural Library, Beltsville, MD,* [4]*Wagner College, Staten Island, NY,* [5]*University of Maine, Orono*.
11:25 AM	177	ASAS operational structure for the animal science image gallery. M. C. Wulster-Radcliffe*, *American Society of Animal Science, Savoy, IL*.
11:55 AM		Images for Animal Breeding, Archives, Extension, and Poultry. Panel Discussion - D. S. Buchanan, G. E. Dahl, J. B. Hess and G. K. McCone.
	178	The OSU Breeds of Livestock Library. D. S. Buchanan*, *Oklahoma State University, Stillwater*.
	179	Images for animal breeding, archives, extension, and poultry. D. S. Buchanan*[1], G. E. Dahl[2], J. B. Hess[3], and G. K. McCone[4], [1]*Oklahoma State University, Stillwater,* [2]*University of Florida, Gainesville,* [3]*Auburn University, Auburn, AL,* [4]*National Agricultural Library, Beltsville, MD.*

Graduate Student Competition ADSA-ASAS Northeastern Branch
Chair: Steven Zinn, University of Connecticut
204 B

10:00 AM	180	The effect of microbial inoculants on the fermentation and aerobic stability of orchard grass silage. C. M. Klingerman*, R. J. Schmidt, W. Hu, E. E. McDonell, and L. Kung, Jr., *University of Delaware, Newark.*
10:15 AM	181	Effects of feeding alfalfa silage at two levels with and without Rumensin to high producing Holstein cows on animal performance. C. M. Martinez*, Y. H. Chung, T. W. Cassidy, V. Ishler, K. S. Heyler, and G. A Varga, *The Pennsylvania State University, University Park*.
10:30 AM	182	Trans-7-octadecenoic acid decreased milk fat and altered CLA composition in milk of lactating mice. A. K. G. Kadegowda*[1], B. B. Teter[1], J. Sampugna[1], P. Delmonte[2], L. S. Piperova[1], and R. A. Erdman[1], [1]*University of Maryland, College Park,* [2]*Food and Drug Administration, College Park, MD.*
10:45 AM	183	An evaluation of two methods to cover bunker silos to maintain the nutritive value of silage. E. E. McDonell*, C. M. Klingerman, R. J. Schmidt, W. Hu, and L. Kung, Jr., *University of Delaware, Newark.*
11:00 AM	184	Effect of level of fermentable NDF on feed intake and production of lactating ewes. M. A. Schotthofer*, M. L. Thonney, and D. E. Hogue, *Cornell University, Ithaca, NY.*
11:15 AM	185	The effect of *Lactobacillus buchneri* 40788 with or without *Pediococcus pentosaceus* on the fermentation and aerobic stability of corn silage made at different locations. R. J. Schmidt*, W. Hu, C. M. Klingerman, E. E. McDonell, and L. Kung Jr., *University of Delaware, Newark.*
11:30 AM	186	Effect of weight gain and diet on insulin sensitivity in Thoroughbred geldings. R. W. Quinn*[1], A. O. Burk[1], T. G. Hartsock[1], K. H. Treiber[2], and R. C. Boston[3], [1]*University of Maryland, College Park,* [2]*Virginia Polytechnic and State University, Blacksburg,* [3]*University of Pennsylvania, Kennett Square*.
11:45 AM	187	Digestibility of limit fed high and low concentrate diets with corn silage as the sole forage for dairy heifers with *Saccharomyces cerevisiae.* G. J. Lascano* and A. J. Heinrichs, *The Pennsylvania State University, University Park.*

ADSA-SAD Undergraduate Competition - Dairy Production
Chair: Steven Kelm, University of Wisconsin - River Falls
007 C

11:00 AM	188	The potential for use of sexed semen technology in the dairy industry. S. N. Van Exel*, *California Polytechnic State University, San Luis Obispo*.
11:15 AM	189	Management considerations for automated milking systems. S. J. Miller*, *Pennsylvania State University, University Park.*
11:30 AM	190	The sale and consumption of raw milk. T. Webb* and D. Winston, *Virginia Polytechnic Institute and State University,*

		Blacksburg.
11:45 AM	191	Breeding strategies for today's commercial dairy producers. M. M. Welper*, *Iowa State University, Ames.*
12:00 PM	192	Waste milk vs. milk replacer. J. Downing* and C. C. Williams, *Louisiana State University, Baton Rouge*.

SYMPOSIUM
Dairy Foods
The Dairy Management Inc. National Dairy Foods Research Center Program: Responding to Industry Needs for New Technologies, Products and Markets.
Chair: Jeff Kondo, Dairy Management Inc
202

1:30 PM	193	The Dairy Management Inc.™ National Dairy Foods Research Center Program: responding to industry needs for new and improved technologies, products and ingredients. J. K. Kondo*, *Dairy Management, Inc., Rosemont, IL*.
1:40 PM	194	Manufacture and application of casein concentrates. L. E. Metzger*, *South Dakota State University, Brookings*.
2:05 PM	195	Creating new dairy ingredients uses – getting beyond the dairy case. P. S. Tong*, *California Polytechnic State University, San Luis Obispo*.
2:30 PM	196	Defining the flavor of dairy products. M. A. Drake*, *North Carolina State University, Raleigh*.
2:55 PM	197	Improving the quality of low fat cheese. D. J. McMahon*, *Western Dairy Center, Nutrition & Food Sciences Dept., Utah State University, Logan, UT*.
3:20 PM	198	Process techniques to enhance the utilization of whey ingredients. J. A. Lucey*[1], S. Damodaran[1], and K. Smith[2], [1]*University of Wisconsin, Madison,* [2]*Wisconsin Center for Dairy Research, Madison*.
3:45 PM	199	Breaking the 21 to 28 day shelf-life barrier on refrigerated HTST pasteurized milk. D. M. Barbano* and K. J. Boor, *Cornell University, Northeast Dairy Foods Research Center, Department of Food Science, Ithaca, NY*.
4:10 PM		Specialized Starter Cultures for Enhancing the Properties of Pasteurized Hispanic-Style Cheeses. D. Van Hekken, *USDA/ARS/ERRS, Dairy Processing and Products Research Unit, Wyndmoor, PA.*
4:35 PM		Discussion.
5:00 PM		Adjourn.

SYMPOSIUM
ADSA Southern Section Symposium
Keeping Dairy Going and Growing
Chair: William M. Graves, University of Georgia
210

2:00 PM		Introductions and Welcome. W. M. Graves, *University of Georgia, Athens.*
2:05 PM	200	Structural shifts in the dairy industry. G. A. Benson*, *North Carolina State University, Raleigh.*
2:35 PM		Attracting Dairies to Your Market. P. D. Stroup, *Hilmar Cheese Company, Hilmar, CA.*
3:05 PM	201	Problems associated with a dairy expansion effort. J. F. Keown*, *University of Nebraska, Lincoln.*
3:35 PM		Southern Section Honors Award. J. K. Bernard, *University of Georgia, Tifton.*
3:45 PM		Southern Section Graduate Student Paper Competition Awards. C. C. Williams, *Louisiana State University, Baton Rouge*.
3:50 PM		Break
4:00 PM		The Custom Dairy Heifer Rearing Industry. D. L. Gardner, *Veterinarian, Huddleston, VA.*
4:30 PM	202	Adopting a management focus. R. A. Milligan*[1,2], [1]*Dairy Strategies, LLC., St. Paul, MN,* [2]*Cornell University, Ithaca, NY*.
5:00 PM		Questions for Speakers and Discussions.
5:20 PM		Southern Section ADSA Business Meeting.

ADSA-SAD Undergraduate Competition - Dairy Foods
Chair: Steven Kelm, University of Wisconsin - River Falls
007 C

2:00 PM	203	Dairy products shown to help reduce blood pressure. L. Gaver* and D. Winston, *Virginia Polytechnic Institute and State University, Blacksburg*.
2:15 PM	204	Influence of low-fat dairy products on colorectal cancers. G. S. Christ*, *Pennsylvania State University, University Park*.
2:30 PM	205	Role of dairy products in combating childhood obesity. J. A. Tekippe*, *Iowa State University, Ames*.
2:45 PM	206	The significance of phospholipids and their emerging importance in dairy foods. R. L. Clarke*, *California Polytechnic State University, San Luis Obispo*.

SYMPOSIUM
Bio Ethics - Livestock and Poultry
The Ethics of Food
Chair: Janice Siegford, Michigan State University
206 B

2:00 PM	207	The ethics of food. J. M. Regenstein*, *Cornell University, Ithaca, NY*.
2:10 PM	208	The ethics of semantics: do we clarify or obfuscate reality to influence perceptions of food animal production? C. C. Croney*[1] and R. D. Reynnells[2], [1]*Oregon State University, Corvallis*, [2]*US Department of Agriculture, Cooperative State Research, Washington, DC*.
2:30 PM	209	What would the world be like without animals for food, fiber, and labor? Are we morally obligated to do without them? S. L. Davis*, *Oregon State University, Corvallis*.
3:00 PM	210	Ethics and the role of academics, scientists and veterinarians in the formation of public attitudes and societal decisions. W. R. Stricklin*, *University of Maryland, College Park*.
3:30 PM		Production, processing and marketing: An advocate's view of ethical issues. K. Laughlin, *Humane Farm Animal Care, Herdon, VA*.
4:00 PM	211	Production, processing and marketing: an integrated industry's view of ethical issues. C. Klippen*, *Klippen & Associates, LLC, Audubon, PA*.
4:30 PM		Discussion.

Breeding and Genetics - Livestock and Poultry
Beef Cattle
Chair: Janice Rumph, Montana State University
217 C

2:00 PM	212	Identification and characterization of microRNA from the bovine adipose tissue and mammary gland. Z. Gu*, S. Eleswarapu, and H. Jiang, *Virginia Polytechnic Institute and State University, Blacksburg*.
2:15 PM	213	Feed efficiency of tropically adapted breed and breed cross steers when fed in the southern plains. S. W. Coleman*[1], W. A. Phillips[2], C. C. Chase, Jr.[1], and D. G. Riley[1], [1]*USDA ARS Subtropical Agricultural Research Station, Brooksville, FL*, [2]*USDA ARS Grazinglands Research Laboratory, El Reno, OK*.
2:30 PM	214	Genetic evaluation of growth in a multibreed beef cattle population using random regression linear spline models. J. P. Sanchez*[1,2], I. Misztal[1], I. Aguilar[1], and J. K. Bertrand[1], [1]*University of Georgia, Athens*, [2]*University of Leon, Leon, Spain*.
2:45 PM	215	Growth and carcass characteristics of lot-fed Wagyu beef cattle and the estimation of homozygosity from band sharing patterns of random amplified polymorphic DNA markers. A. E. O. Malau-Aduli*[1], S. Inoue[2], T. Richards[2], A. Howard[2], and A. Thompson[2], [1]*University of Tasmania, Hobart, Tasmania, Australia*, [2]*Tasmania Feedlot Pty Ltd, Perth, TAS, Australia*.
3:00 PM	216	Examination of residual feed intake with post-weaning growth and carcass traits in central test bulls. G. S. Hecht* and L. A. Kriese-Anderson, *Auburn University, Auburn, AL*.
3:15 PM	217	Genotype by environment interactions estimated by using reaction norms in Brazilian Nellore cattle. E. A. Maricle*[1], J. C.

		Souza[2,3], L. O. Campos de Silva[3], A. Gondo[3], R. L. Weaber[1], and W. R. Lamberson[1], [1]*University of Missouri, Columbia*, [2]*Parana Federal Univeristy, Palotina, PR, Brazil*, [3]*Embrapa, Campo Grande, MS, Brazil*.
3:30 PM		Break
3:45 PM	218	Genetic parameter estimates for two measures of disposition. F. E. Creason* and R. L. Weaber, *University of Missouri, Columbia*.
4:00 PM	219	Segregation of polymorphisms at Calpain and Calpastatin in beef cattle grown in the tropics. J. H. Bosques-Méndez*[1], M. Pagan[1], and E. Casas[2], [1]*University of Puerto Rico, Mayagüez, Puerto Rico*, [2]*Roman L. Hruska USDA MARC, Clay Center, Nebraska*.
4:15 PM	220	Genetic analysis of rebreeding to produce a calf at three years of age in beef cows. J. M. Rumph*[1], D. D. Kress[1], K. C. Davis[1], D. C. Anderson[1,2], R. M. Enns[3], C. M. McAllister[1], and D. L. Boss[2], [1]*Montana State University, Bozeman*, [2]*Montana State University, Havre*, [3]*Colorado State University, Fort Collins.*
4:30 PM	221	Evaluation of the relationship between scrotal circumference and ultrasound intramuscular fat measurements in Angus cattle. A. M. Arnett*, J. M. Bormann, M. E. Dikeman, and D. W. Moser, *Kansas State University, Manhattan*.
4:45 PM	222	Phenotypic relationships among measures of feed utilization, ADG, and ultrasonic measures. K. A. Gray*, G. B. Huntington, M. H. Poore, C. S. Whisnant, and J. P. Cassady, *North Carolina State University, Raleigh.*

Breeding and Genetics - Livestock and Poultry
Dairy Cattle I
Chair: Curt Van Tassell, USDA - ARS
214 C

2:00 PM	223	Dry matter feed intakes for first lactation Holstein, Jersey and their reciprocal crosses in the Virginia Tech crossbreeding project. K. M. Olson*, B. G. Cassell, and M. D. Hanigan, *Virginia Polytechnic Institute and State University, Blacksburg*.
2:15 PM	224	Comparison of Holstein–Friesian, Norwegian Red and Holstein–Friesian×Norwegian Red cows on Irish dairy farms: Milk production and udder health. N. Begley*[1,2], M. Rath[2], and F. Buckley[1], [1]*Teagasc, Moorepark, Fermoy, Co. Cork, Ireland*, [2]*School of Life Sciences, UCD, Belfield, Dublin, Ireland*.
2:30 PM	225	Heritability of electronically recorded daily body weight across lactation using random regression models. 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, State College*, [2]*Virginia Polytechnic Institute and State University, Blacksburg*.
2:45 PM	226	Evaluation of factors affecting changes in the ranking of sires over time. A. D. Coburn*[1,2], K. A. Weigel[1], S. A. Schnell[2], and G. Abdel-Azim[2], [1]*Univeristy of Wisconsin, Madison*, [2]*Genex Cooperative, Inc., Shawano, WI.*
3:00 PM	227	SNP identification in genes involved in the SREBP1 pathway in dairy cattle. J. F. Medrano* and G. Rincon, *University of California, Davis.*
3:15 PM	228	First steps to model milk urea in a management perspective. C. Bastin*[1], A. Gillon[1], and N. Gengler[1,2], [1]*Gembloux Agricultural University, Gembloux, Belgium*, [2]*National Fund for Scientific Research, Brussels, Belgium.*
3:30 PM		Break
3:45 PM	229	Milk production, body condition score at breeding and reproductive efficiency of first lactation Holstein–Friesian, Jersey and Holstein–Friesian×Jersey cows under Irish grass–based production circumstances. R. Prendiville*[1,2], F. Buckley[1], N. Byrne[1], and M. Rath[2], [1]*Teagasc, Fermoy, Co. Cork., Ireland*, [2]*University College Dublin, Belfield, Dublin, Ireland.*
4:00 PM	230	Effect of service sire and cow sire on gestation length. H. D. Norman*, J. R. Wright, P. M. VanRaden, and J. B. Cole, *Agricultural Research Service, USDA, Beltsville, MD.*
4:15 PM	231	Inbreeding and relationship related to genetic estimates of calf survival in one Holstein sire family. R. D. Shanks*, *University of Illinois, Urbana*.
4:30 PM	232	Real-time PCR quantification of reproductive hormone receptor gene expression in superovulated MOET donor cows. S. Wise*[1], M. A. Okomo-Adhiambo[1], D. Joos[1], W. Rauw[1], A. Rink[2], and L. Gomez-Raya[1], [1]*University of Nevada, Reno*, [2]*Animal Disease and Food Safety Laboratory, Reno, NV.*
4:45 PM	233	Poisson versus logit models for genetic analysis of mastitis in Norwegian cattle. A. I. Vázquez*[1], K. A. Weigel[1], D. Gianola[1], D. M. Bates[1], and B. Heringstad[2], [1]*University of Wisconsin, Madison*, [2]*Norwegian University of Life Science, Ås, Norway*.

Companion Animals
Companion and Comparative Animal Nutrition
Chair: Nancy Irlbeck, Colorado State University
203

2:00 PM		Welcome. N. Irlbeck, *Colorado State University*.
2:05 PM	234	Effect of gut-loading time on nutrient content of adult feeder crickets. C. L. Dikeman*, S. D. Plesuk, D. L. Klimek, and L. G. Simmons, *Omaha's Henry Doorly Zoo, Omaha, NE*.
2:20 PM	235	Effect of supplement type on mineral content of feeder crickets and growth of leaf-tailed geckos. C. L. Dikeman*[1], S. Plesuk[1], A. Koraleski[1], A. DeVries[1], K. Bilof[2], D. Klimek[1], J. Krebs[1], and L. G. Simmons[1], [1]*Omaha's Henry Doorly Zoo, Omaha, NE*, [2]*University of Illinois, Urbana*.
2:35 PM	236	Serum nutrient concentration comparisons between free-ranging and captive giraffe (*Giraffa camelopardalis*). D. A. Schmidt*[1,2], M. R. Ellersieck[3], and M. E. Griffin[4], [1]*Lincoln Park Zoo, Chicago, IL*, [2]*Zoological Society of San Diego, San Diego, CA*, [3]*University of Missouri, Columbia*, [4]*Purina Mills, LLC, Saint Louis, MO*.
2:50 PM		Break
3:00 PM	237	Nutrient digestibility and fecal characteristics of exotic felids fed a beef-based raw diet. B. M. Vester*[1], S. L. Burke[2], C. L. Dikeman[2], L. G. Simmons[2], and K. S. Swanson[1], [1]*University of Illinois, Urbana*, [2]*Henry Doorly Zoo, Omaha, NE*.
3:15 PM	238	Influence of dietary protein content and source on digestibility patterns and fecal osmolality in dogs differing in body size. J. Nery*[1], C. Tournier[2], V. Biourge[2], H. Dumon[1], and P. Nguyen[1], [1]*École Nationale Vétérinaire de Nantes, Nantes, France*, [2]*Royal Canin, Aimargues, France*.
3:30 PM		Reception.

Dairy Foods
Cheese I
Chair: Douglas Olson, Louisiana State University Agricultural Center
201

2:00 PM	ADSA Pioneer	Sour milk and sour grapes. G. Richardson, *Utah State University, Logan*.
2:15 PM	239	Chemical changes that predispose smoked cheddar cheese to calcium lactate crystallization. P. Rajbhandari*, J. Patel, E. Valentine, and P. S. Kindstedt, *University of Vermont, Burlington*.
2:30 PM	240	Nucleation and growth rates of calcium lactate crystals on smoked cheddar cheese. 1. Effect of storage temperature. J. Patel*, P. Rajbhandari, E. Valentine, and P. S. Kindstedt, *University of Vermont, Burlington*.
2:45 PM	241	Nucleation and growth rates of calcium lactate crystals on smoked cheddar cheese. 2. Effect of packaging tightness. E. Valentine*, P. Rajbhandari, J. Patel, and P. S. Kindstedt, *University of Vermont, Burlington*.
3:00 PM	242	Nucleation and growth rates of calcium lactate crystals on smoked cheddar cheese. 3. Effect of cheese surface. J. Patel*, E. Valentine, P. Rajbhandari, and P. S. Kindstedt, *University of Vermont, Burlington*.
3:15 PM		Break
3:30 PM	243	Influence of native pasture feeding time on conjugated linoleic acid content in Ragusano cheese. S. La Terra*[1], V. M. Marino[1], S. Carpino[1], M. Manenti[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	244	Novel approach for producing process cheese with reduced fat and reduced sodium content. L. E. Metzger and R. Kapoor*, *Midwest Dairy Foods Research Center, St. Paul, MN*.
4:00 PM	245	Influence of starter bacteria and salt to moisture ratio on calcium lactate crystal formation. S. Agarwal*, J. R. Powers, S. Chen, B. G. Swanson, and S. Clark, *Washington State University, Pullman*.
4:15 PM	246	Utilization of plant proteinase from Jack fruit *(Artocarpus integrifolis)* to accelerate the ripening of RAS cheese slurry as a functional food. E. E. El Tanboly* and M. A. El Hofi, *National Research Center, Dokki, Cairo, Egypt*.

SYMPOSIUM Egg and Meat Science and Muscle Biology - Livestock and Poultry Meat Marination Chair: Christine Alvarado, Texas Tech University 207 B		
2:00 PM	247	Impact of functional ingredients on food safety. S. R. McKee*[1], C. Z. Alvarado[2], and J. W. Bowers[1], [1]*Auburn University, Auburn*, [2]*Texas Tech University, Lubbock.*
2:30 PM	738	The role of functional ingredients in marinated meat and poultry. B. S. Smith*, *John R. White Company, Inc., Birmingham, AL.*
3:00 PM	248	Impact of marination and deboning time on poultry meat tenderness. C. M. Owens*, *University of Arkansas, Fayetteville.*
3:30 PM	249	Characterizing the safety and quality of fresh beef cuts subjected to deep muscle marination. M. M. Brashears*, J. C. Brooks, and M. F. Miller, *Texas Tech University, Lubbock.*
4:00 PM		Spices and seasonings in marinades. L. Windecker, *Griffith Laboratories, Alsip, IL.*
4:30 PM		Panel Discussion.

Food Safety - Livestock and Poultry Cattle and Swine Chair: Todd R. Callaway, USDA-ARS Southern Plains Agricultural Research Center 206 A		
2:00 PM	250	Beef traceability using a dual system based on electronic identification and molecular markers from farm to retailer. J. J. Ghirardi, G. Caja*, M. Hernández-Jover, N. Jiménez, and A. Sánchez, *Universitat Autònoma de Barcelona, Bellaterra, Spain.*
2:15 PM	251	Siderophore receptor/porin protein (SRP®) vaccine used as pre-harvest control of *E. coli* O157:H7 in feedlot cattle. A. B. Thornton*[1], D. U. Thomson[1], K. F. Lechtenberg[2], G. H. Loneragan[3], and T. G. Nagaraja[1], [1]*Kansas State University, Manhattan*, [2]*Midwest Veterinary Services, Oakland, Nebraska*, [3]*West Texas A&M University, Canyon.*
2:30 PM	252	Effects of distiller's grain on fecal prevalence and in vitro growth of *E. coli* O157. M. E. Jacob*, J. T. Fox, J. S. Drouillard, and T. G. Nagaraja, *Kansas State University, Manhattan.*
2:45 PM	253	Growth response of *Salmonella enterica* Typhimurium in co-culture with ruminal bacterium *Streptococcus bovis* is affected by time of inoculation and carbohydrate substrate. P. Herrera* and S. Ricke, *Center for Food Safety and Microbiology, IFSE, University of Arkansas, Fayetteville, AR.*
3:00 PM	254	Effects of acid marinades on *Listeria monocytogenes*, shelf life, meat quality, and consumer acceptability of beef frankfurters. J. W. J. Bowers* and S. R. McKee, *Auburn University, Auburn, AL.*
3:15 PM	255	Implementation of a dual electronic identification and molecular markers system for tracing pigs. M. Hernández-Jover[1], G. Caja*[1], J. J. Ghirardi[1], J. Reixach[2], and A. Sánchez[1], [1]*Universitat Autònoma de Barcelona, Bellaterra, Spain*, [2]*Selección Batallé, Riudarenes, Girona, Spain.*
3:30 PM	256	Split marketing: A risk factor for *Salmonella* in market pigs. 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.*
3:45 PM	257	Are there high and low *Salmonella* prevalence farms? 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.*

SYMPOSIUM Forages and Pastures - Livestock and Poultry Tropical Forages: Management and Environmental Issues Affecting Use Efficiency Chair: Erasmo Gutierrez-Ornelas, Facultad de Agronomia, Carretera Zuazua-Marin 217 D		
2:00 PM	258	Programming grazing, irrigation and fertilization cycles based on physiological and environmental data for tropical grasses. J. Rodriguez-Absi*[1] and E. Gutierrez-Ornelas[2], [1]*Raesa Mexico, Queretaro, Queretaro, Mexico*, [2]*Universidad Autonova de Nuevo Leon, Marin, Nuevo Leon, Mexico.*

2:30 PM	259	Agroforestry livestock feeding systems in tropical America. T. Clavero*[1] and J. Iglesias[2], [1]*Facultad de Agronomia, Universidad del Zulia, Maracaibo, Zulia, Venezuela,* [2]*Estacion Experimental Indio Hatuey, Matanzas, Cuba.*
3:00 PM	260	Use of limpograss (*Hemarthria altissima*) in cow-calf grazing systems in southern Florida. J. D. Arthington*, *University of Florida-IFAS, Range Cattle Research and Education Center, Ona*.
3:30 PM	261	Managing tropical forages: production, environmental benefits and risks. B. C. Pengelly* and J. G. McIvor, *Agricultural Landscapes, CSIRO Sustainable Ecosystems, St Lucia, Qld, Australia*.
4:00 PM		Discussion.

SYMPOSIUM
Horse Species
Recent Advances in Understanding Metabolic Disorders in Horses
Chair: Sarah Ralston, Rutgers University
Sponsor: Blue Seal Feeds
207 A

2:00 PM	262	The impact of variability in pasture forages on horse metabolism. B. McIntosh*[1,2], D. Kronfeld[1], R. Geor[1], W. Staniar[1], P. Harris[3], and D. Ward[4], [1]*Virginia Polytechnic and State University, Blacksburg,* [2]*Blue Seal Feeds Inc., Londonderry, NH,* [3]*WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom,* [4]*Rutgers University, Bridgeton, NJ.*
2:50 PM		Break
3:00 PM	263	Advances in diagnosis and management of equine polysaccharide storage myopathy (PSSM). M. E. McCue*, S. J. Valberg, and J. R. Mickelson, *University of Minnesota, St. Paul*.
3:50 PM		Break
4:00 PM	264	Management of obesity and insulin resistance in horses. R. J. Geor*, R. A. Carter, and K. H. Treiber, *Virginia Polytechnic and State University, Middleburg*.

Lactation Biology
Metabolism and Gene Expression in Support of Lactation
Chair: Feng-Qi Zhao, University of Vermont
205

2:00 PM	265	Characterization of the utilization of trans octadecenoic acids in lactating dairy cows. C. Tyburczy*[1], A. L. Lock[1], D. A. Dwyer[1], F. Destaillants[2], Z. Mouloungui[3], L. Candy[3], and D. E. Bauman[1], [1]*Cornell University, Ithaca, NY,* [2]*Nestle Research Center, Lausanne, Switzerland,* [3]*Laboratoire de Chimie Agro-Industrielle, Toulouse, France*.
2:15 PM	266	Expression of lipogenic genes in adipose tissue increases during milk fat depression induced by treatment with trans-10, cis-12 conjugated linoleic acid (CLA). K. J. Harvatine*, D. A. Dwyer, and D. E. Bauman, *Cornell University, Ithaca, NY*.
2:30 PM	267	The relationship between trans-10 18:1 and milk fat yield in cows fed high oleic acid or high linoleic acid plant oil supplements. T. Hinrichsen[1], A. L. Lock*[2], and D. E. Bauman[2], [1]*Royal Veterinary & Agricultural University, Denmark,* [2]*Cornell University, Ithaca, NY*.
2:45 PM	268	In vivo treatment with xanthosine expands the mammary stem cell population. A. V. Capuco*[1], C. M. Evock-Clover[1], D. L. Wood[1], and A. Minuti[2], [1]*Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD,* [2]*Institute of Zootechnics, Catholic University, Piacenza, Italy*.
3:00 PM	269	Prepubertal nutrition effects on bovine mammary parenchyma and fat pad gene expression profiles. P. Piantoni*[1], D. Graugnard[1], K. M. Daniels[2], R. E. Everts[1], S. L. Rodriguez-Zas[1], H. A. Lewin[1], R. M. Akers[2], and J. J. Loor[1], [1]*University of Illinois, Urbana,* [2]*Virginia Polytechnic and State University, Blacksburg*.
3:15 PM	270	Mammary gland expression of cell cyle, apoptosis, and immune response genes accompany progression through a prolonged lactation cycle. D. L. Hadsell*, D. Torres, and M. S. Bray, *Baylor College of Medicine, Houston TX*.
3:30 PM	271	SOCS3 and STAT3 are up-regulated and STAT5 down-regulated during induced involution of the bovine mammary gland. K Singh*, M Prewitz, J Dobson, and K Stelwagen, *AgResearch Ltd, Ruakura Research Centre, Hamilton, New Zealand*.
3:45 PM	272	MammOmics™: transcript profiling of the mammary gland during the lactation cycle in Holstein cows. M. Bionaz*, S. L. Rodriguez-Zas, R. E. Everts, H. A. Lewin, and J. J. Loor, *University of Illinois, Urbana*.

4:00 PM	273	Photoperiod alters metabolic gene expression in bovine liver potentially through suppressors of cytokine signaling. E. E. Connor*[1], E. D. Thomas[2], and G. E. Dahl[3], [1]*Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD*, [2]*Department of Animal and Avian Sciences, University of Maryland, College Park*, [3]*Department of Animal Sciences, University of Florida, Gainesville.*
4:15 PM	274	Effects of intramammary infusions of serotonin (5-HT) and methysergide (METH), a 5-HT antagonist, on milk production and composition in lactating dairy cows. L. L. Hernandez*[1], J. B. Wheelock[1], G. Shwartz[1], L. H. Baumgard[1], A. M. Parkhurst[2], and R. J. Collier[1], [1]*University of Arizona, Tucson*, [2]*University of Nebraska, Lincoln.*
4:30 PM	275	Chitotriosidase activity in blood and colostrum at peripartum period in goats. N. Castro[1], J. Capote[2], A. Morales[1], C. Rodriguez[1], and A. Arguello*[1], [1]*Las Palmas de Gran Canaria University, Animal Science Unit, Arucas, Las Palmas, Spain*, [2]*Canary Agronomic Science Institute, La Laguna, Tenerife, Spain.*
4:45 PM	276	Pre-pubertal nutrition affects mammary development and first lactation performance depending on growth potential in dairy sheep. A. Zidi[1], G. Caja*[1], M. Ayadi[2], V. Castillo[1], C. Flores[1], and X. Such[1], [1]*Universitat Autònoma de Barcelona, Bellaterra, Spain*, [2]*Institut Superieur de Biologie Appliquée de Medenine, Tunisia.*

Graduate Student Paper Competition: National ADSA Production Division
Chair: Mary Beth Hall, U.S. Dairy Forage Research Center, USDA-ARS
204 B

2:00 PM	277	The relationship between negative energy balance and mastitis in dairy cattle during early lactation. K. M. Moyes*[1], T. Larsen[2], N. C. Friggens[2], J. K. Drackley[1], and K. L. Ingvartsen[2], [1]*University of Illinois, Urbana*, [2]*University of Aarhus, Tjele, Denmark.*
2:15 PM	278	The use of the Rumensin Premix in dairy cows: factors influencing its effects on milk production and milk composition. J. Dubuc*[1], D. DuTremblay[1], M. Brodeur[1], R. Bagg[2], P. Dick[2], J. Baril[2], and L. DesCoteaux[1], [1]*Universite de Montreal, Saint-Hyacinthe, Quebec, Canada*, [2]*Elanco Animal Health, Guelph, Ontario, Canada.*
2:30 PM	279	The expression of genes regulating lipolysis in the adipose tissue of pregnant and lactating dairy cattle. J. M. Sumner* and J. P. McNamara, *Washington State University, Pullman.*
2:45 PM	280	Feeding a whey protein gel to prevent rumen hydrogenation of unsaturated fatty acids and increase the n3 and n6 fatty acid content of goat milk. J. A. Weinstein*, E. J. DePeters, M. Rosenberg, S. J. Taylor, and A. Aljadeff, *University of California, Davis.*
3:00 PM	281	Effect of time of AI and supplemental estradiol on pregnancy rates of lactating dairy cows. J. Hillegass*, J. E. P. Santos, F. S. Lima, M. F. Sheley, and M. F. S. Filho, *University of California, Tulare*.
3:15 PM	282	Interactions of unsaturated fat or coconut oil with Rumensin on milk fat production might be mediated through inhibition of specific protozoal genera. C. Reveneau*, S. K. R. Karnati, C. V. D. M. Ribeiro, E. R. Oelker, B. Mathew, D. R. Bae, C. M. Drow, and J. L. Firkins, *The Ohio State University, Columbus*.
3:30 PM	283	Effect of mannan-oligosaccharides on the mucosal immune system of dairy calves. V. C. Quezada*, B. B. Babatunde, and T. L. Frankel, *La Trobe University, Bundoora, Victoria, Australia*.
3:45 PM	284	Effect of anion supplementation to low potassium prepartum diets on macromineral status and performance of periparturient dairy cows. J. M. Ramos-Nieves*[1], B. J. Thering[1], P. W. Jardon[2], and T. R. Overton[1], [1]*Cornell University, Ithaca, NY*, [2]*West Central®, Ralston, IA.*
4:00 PM	285	Effects of an injectable chelated mineral supplement on dairy calf performance. J. R. Crenwelge*[1], T. D. Nennich[2], B. D. Lambert[1,2], N. M. Cherry[2], and E. R. Jordan[3], [1]*Tarleton State University, Stephenville, TX*, [2]*Texas A&M University, Stephenville*, [3]*Texas A&M University, Dallas.*
4:15 PM	286	Calcium and phosphorus balance and bone mobilization through lactation with varying dietary calcium concentrations. M. S. Taylor*[1], K. F. Knowlton[1], M. L. McGilliard[1], W. S. Swecker, Jr.[1], J. D. Ferguson[2], and Z. Wu[2], [1]*Virginia Polytechnic Institute and State University, Blacksburg*, [2]*University of Pennsylvania, Kennett Square*.
4:30 PM	287	Ovulation and CL development in mature cows given pLH or GnRH. T. O. Ree*[1,2], M. G. Colazo[3], D. J. Ambrose[3,2], A. G. A. Lamont[2,3], J. P. Kastelic[4], M. K. Dyck[2], R. J. Mapletoft[5], and B. N. Ametaj[2], [1]*Lakeland College, Vermilion, AB, Canada*, [2]*University of Alberta, Edmonton, AB, Canada*, [3]*Alberta Agriculture and Food, Edmonton, AB, Canada*, [4]*Agriculture and Agri-food Canada, Lethbridge, AB, Canada*, [5]*University of Saskatchewan, Saskatoon, SK, Canada.*
4:45 PM	288	Early postpartum biochemical and management characteristics related to dairy cow removal. C. S. McConnel*, S. M. Hiibel, J. A. Kidd, A. E. Hill, and F. B. Garry, *Colorado State University, Fort Collins.*
5:00 PM	289	Effect of dietary energy and metabolizable protein in lactating dairy cows. A. G. Rius*, M.L. McGilliard, and M.D. Hanigan, *Virginia Polytechnic Institute and State University, Blacksburg, VA, USA.*

Nonruminant Nutrition
Poultry Nutrition - Breeder and Laying Hen Nutrition and Broiler Environment
Chair: Marc de Beer, Aviagen, Inc.
214 B

2:00 PM	302	The effect of feed restriction programs and growth curves on reproductive performance, stress and metabolism in broiler breeder hens. M. de Beer*[1], J. P. McMurtry[2], D. M. Brocht[2], and C. N. Coon[3], [1]*Aviagen, Huntsville, AL,* [2]*USDA-ARS, Beltsville, MD,* [3]*University of Arkansas, Fayetteville.*
2:15 PM	303	Effects of feeding programs during rearing on carcass fatty acid profiles and serum α_1 acid glycoprotein levels in broiler breeder hens. M. de Beer*[1] and C. N. Coon[2], [1]*Aviagen Inc, Huntsville, AL,* [2]*University of Arkansas, Fayetteville*.
2:30 PM	304	Broiler and breeder feeding programs have different effects on the inflammatory response. A. Mireles Jr.* and S. Kim, *Foster Farms, Modesto, CA.*
2:45 PM	305	Effect of the level of methionine, linoleic acid, and added fat in the diet on productive performance and egg quality of brown laying hens in late phase of production. H. M. Safaa[1,2], M. P. Serrano[1], D. G. Valencia[1], X. Arbe[3], R. Lázaro[1], and G. G. Mateos*[1], [1]*Universidad Politécnica de Madrid, Spain,* [2]*Cairo University, Egypt,* [3]*Cantos Blancos S.L., Guadalajara, Spain.*
3:00 PM	306	Performance and egg quality of laying hens fed diets containing different levels of total and digestible amino acids. D. E. Faria*, H. R. B. Souza, A. L. Santos, and P. W. Rizzoli, *University of Sao Paulo (FZEA/USP), Pirassununga, SP, Brazil*.
3:15 PM	307	An examination of broiler energy need for ambient temperature dependent homeostasis, protein and fat accretion and effective caloric value. A. Beker* and R. G. Teeter, *Oklahoma State University, Stillwater*.
3:30 PM	308	Antibiotic + electrolyte intervention minimizes damage in broiler performance during abrupt severe heat stress. A. Mireles Jr.* and S. Kim, *Foster Farms, Modesto, CA.*
3:45 PM	309	Dietary salt combinations for broiler chickens under subtropical summer conditions: Live performance, carcass, and blood responses. T. Mushtaq*[1], H. Nawaz[1], M. A. Mirza[1], M. Athar[2], M. M. H. Mushtaq[1], G. Ahmad[3,1], and U. Noreen[1], [1]*University of Agriculture, Faisalabad, Pakistan,* [2]*Hi-Tech Feeds, Lahore, Pakistan,* [3]*Shamim Feed Industries, Bahawalpur, Pakistan*.
4:00 PM	310	Response of growing broilers to digestible lysine and metabolizable energy levels in heat stress. G. Ahmad[1,2], T. Mushtaq[1], M. A. Mirza*[1], and T. Ahmad[3], [1]*University of Agriculture, Faisalabad, Pakistan,* [2]*Shamim Feed Industries, Bahawalpur, Pakistan,* [3]*University of Arid Agriculture, Rawalpindi, Pakistan.*
4:15 PM	311	The effects of dietary supplementation of L-Carnitine on egg production traits of white leghorns. W. Zhai*[1], S. L. Neuman[2], M. A. Latour[1], and P. Y. Hester[1], [1]*Purdue University, West Lafayette, IN,* [2]*Guidant Corporation, St. Paul, MN.*
4:30 PM	312	Effects of corn particle size in a corn-soybean meal diet on chick growth performance and nutrient digestibility. C. M. Jacobs*, P. L. Utterback, and C. M. Parsons, *University of Illinois, Urbana*.

Nonruminant Nutrition
Poultry Nutrition - Gut Health and Early Nutrition
Chair: Brooke Humphrey, University of California - San Luis Obispo
214 D

2:00 PM	290	Maternal dietary conjugated linoleic acid causes embryonic mortality in the absence of vitelline membrane disruption. V. A. Leone*[1], R. Aydin[2], D. Stransky[1], and M. E. Cook[1], [1]*University of Wisconsin, Madison,* [2]*Kahramanmaras Sutcu Imam University, Kahramanmaras, Turkey*.
2:15 PM	291	Gluconeogenesis and carbon utilization in day 20 chicken embryos supplemented in–ovo with glucose and amino acids. N. E. Sunny*, J. Adamany, S. L. Owens, and B. J. Bequette, *University of Maryland, College Park.*
2:30 PM	292	Changes in the late term turkey embryo metabolism due to in ovo feeding. J. E. de Oliveira*[1], P. R. Ferket[1], C. M. Ashwell[1], Z. Uni[3], and C. Heggen-Peay[2], [1]*North Carolina State University, Raleigh, NC,* [2]*PAH-Embrex, Durham, NC,* [3]*Hebrew University of Jerusalem, Rehovot, Israel.*
2:45 PM	293	*In ovo*-fed lactose augments small intestinal surface and body weight of 3 day-old turkey poults. D. V. Bohórquez*, A. A. Santos Jr., and P. R. Ferket, *North Carolina State University, Raleigh.*
3:00 PM	294	Development of an automated delivery system for *in ovo* feeding of turkey embryos. C. L. Heggen-Peay*[1], M. Garrell[1], V. W. Doelling[1], and P. R. Ferket[2], [1]*PAH-Embrex, Durham, NC,* [2]*North Carolina State University, Raleigh, NC.*

3:15 PM	295	Evaluation of microbiota populations and intestinal development of different genetic lines of chickens. B. S. Lumpkins*, A. B. Batal, and M. D. Lee, *University of Georgia, Athens*.
3:30 PM	296	Effects of diet type, enzyme addition and *Clostridium perfringens* challenge on growth performance and gut health of broiler chickens. W. Jia*[1], B. A. Slominski[1], H. L. Bruce[2], G. Blank[1], and O. Jones[3], [1]*University of Manitoba, Winnipeg, Canada*, [2]*Maple Leaf Food Agresearch, Burford, Canada*, [3]*Canadian Bio-Systems Inc., Calgary, Canada*.
3:45 PM	297	The effect of dietary sinapic acid on the gastrointestinal tract microbial fermentation, nutrient utilization and egg quality of laying hens. M. Johnson*, A. A. Olkowski, and H. L. Classen, *University of Saskatchewan, Saskatoon, SK, Canada*.
4:00 PM	298	The use of natural antibiotic alternative and growth promoter feed additives and subsequent effects on broiler performance and carcass quality. N. P. Buchanan*[1], J. M. Hott[1], S. E. Cutlip[1], A. L. Rack[1], A. Asamer[2], and J. S. Moritz[1], [1]*West Virginia University, Morgantown*, [2]*Delacon International, Steyregg, Austria*.
4:15 PM	299	Evaluation of different additives in chicks challenged with necrotic enteritis. J. L. Shelton[1], A. R. Garcia[1], S. W. Davis[2], and D. W. Giesting*[1], [1]*Cargill Animal Nutrition, Elk River, MN*, [2]*Colorado Quality Research, Wellington, CO*.
4:30 PM	300	Dietary *Bacillus subtilis* C-3102 spores influence intestinal (excreta) populations of Lactobacilli, *Clostridium perfringens*, Enterobacteriaceae (coliforms), and Salmonella, and live performance of broiler chickens. M. Kato[1], N. Otomo[1], K. Nishimura[2], Y. Tadano[3], T. Marubashi[3], H. Miyazaki[3], K. Maruta[3], and D. M. Hooge*[4], [1]*Calpis USA, Inc., Schaumberg, IL*, [2]*Quality Tech. Int'l, Inc., Elgin, IL*, [3]*Calpis Co. Ltd, Tokyo, Japan*, [4]*Hooge Consulting Service, Inc., Eagle Mountain, UT*.
4:45 PM	301	Effect of synbiotic feed additive in comparison to antibiotic growth promoter on performance and health status of broilers. M. Mohnl*[1], Y. Acosta Aragón[1], A. Acosta Ojeda[2], B. Rodríguez Sánchez[2], and S. Pasteiner[1], [1]*BIOMIN GmbH, Herzogenburg, Austria*, [2]*Instituto de Ciencia Animal, San José de las Lajas La Habana, Cuba*.

Physiology & Endocrinology - Livestock and Poultry
Poultry
Chair: Daniel J. Donoghue, University of Arkansas
212

2:00 PM	313	Changes in zebra finch (*Taeniopygia guttata*) eggshell morphology after oral estrogen exposure as chicks. S. L. Westmoreland*[1], H. Pourarsalan[1], D. H. Hawkins[3], J. R. Rochester[2], and J. R. Millam[2], [1]*The University of Texas at Arlington, Department of Biology and The Center for Electron Microscopy, Arlington*, [2]*The University of California, Department of Animal Science, Davis*, [3]*The University of Texas at Arlington, Department of Mathematics, Arlington*.
2:15 PM	314	Comparison of oral vs. injected dosing of the soy phytoestrogen genistein on the reproductive development of female broiler chicks. L. M. Stevenson*, C. R. James, S. S. Oates, J. B. Hess, and W. D. Berry, *Auburn University, Auburn, AL*.
2:30 PM	315	Analysis of plasma serotonin levels and hemodynamic responses following chronic serotonin infusion in broilers challenged with bacterial lipopolysaccharide and microparticles. M. E. Chapman*[1], R. L. Taylor[2], and R. F. Wideman[1], [1]*University of Arkansas, Fayetteville*, [2]*University of New Hampshire, Durham*.
2:45 PM	316	Chicken visfatin: The leaner side of an adipokine. S. M. Krzysik-Walker*, O. M. Ocón-Grove, S. R. Maddineni, G. L. Hendricks III, and R. Ramachandran, *The Pennsylvania State University, University Park*.
3:00 PM	317	Transpulmonary pressure gradient verifies pulmonary hypertension is initiated by increased arterial resistance in broilers. A. G. Lorenzoni*, R. F. Wideman, and N. B. Anthony, *University of Arkansas, Fayetteville*.
3:15 PM	318	Cloning and characterization of chicken nucleobindin-2 (NUCB2) cDNA: The precursor for a putative anorexigenic peptide, nesfatin-1. P. K. Selvan*, G. L. Hendricks III, S. R. Maddineni, S. M. Krzysik-Walker, O. M. Ocón-Grove, and R. Ramachandran, *The Pennsylvania State University, University Park*.
3:30 PM	319	Gene expression in the lateral septal organ, mediobasal hypothalamus and septal-pituitary-gonadal axis following activation of the photoneuroendocrine system. H. Li*[1], J. A. Proudman[2], S. Jin[1], and W. J. Kuenzel[1], [1]*University of Arkansas, Fayetteville*, [2]*USDA/ARS/BGPL, Beltsville, MD*.
3:45 PM	320	Study of the effects of blindness on sexual maturation in Smoky Joe roosters. J. Perttula* and G. Bedecarrats, *University of Guelph, Guelph, ON, Canada*.
4:00 PM	321	Dopamine-melatonin neurons in the turkey hypothalamus controlling seasonal reproduction. S. Kang*, A. Thayananuphat, T. Bakken, and M. El Halawani, *University of Minnesota, Department of Animal Science, St Paul*.
4:15 PM	322	Lipoic acid-induced changes in food intake in chickens. D. M. Denbow* and P. B. Siegel, *Virginia Polytechnic and State University, Blacksburg*.
4:30 PM	323	Clock gene expression in the premammillary nucleus (PMM) and the pineal gland of turkey hens. B. Leclerc*[1], S. Kang[1], A. Thayananuphat[1], C. Howell[1], S. Kosonsiriluk[2], Y. Chaiseha[2], and M. E. El Halawani[1], [1]*University of Minnesota, St.*

		Paul, [2]Suranaree University of Technology, Thailand.
4:45 PM	324	The expression patterns of HIF 1α, HYOU1, HO1, and cTnT during embryonic development in the chicken heart. S. Druyan*[1], A. Cahaner[2], and C. M. Ashwell[1], [1]*North Carolina State University, Raleigh,* [2]*Hebrew University, Rehovot, Israel.*

Production, Management & the Environment - Livestock and Poultry
Broiler and Broiler Breeder Production and Management
Chair: Roger Lien, Auburn University
213

2:00 PM	325	Dosing with the fatty acid, sodium caprylate in the water did not reduce enteric *Campylobacter* concentrations in broilers. J. H. Metcalf*[1], K. Venkitanarayanan[2], F. S. de los Santos[1], A. M. Donoghue[3], M. L. Dirain[1], I. Reyes-Herrera[1], V. Aguiar[1], P. Blore[1], and D. J. Donoghue[1], [1]*University of Arkansas, Fayetteville,* [2]*University of Connecticut, Storrs,* [3]*PPPSRU, ARS, USDA, Fayetteville, AR.*
2:15 PM	326	Performance comparison between the use and non-use of an enteric health antibiotic program in commercial broiler flocks. J. Bray*[1,2], T. Cherry[1], J. Carey[2], and C. Smith[1,2], [1]*Stephen F. Austin State University, Nacogdoches, TX,* [2]*Texas A&M University, College Station.*
2:30 PM	327	Saponin rich extracts from quillaja, yucca, soybean, and guar differ in antimicrobial and hemolytic activities. S. M. Hassan*[1], J. A. Byrd[2], A. M. Berhow[3], C. A. Bailey[1], and A. L. Cartwright[1], [1]*Texas A&M University, College Station,* [2]*USDA, Agricultural Research Service, College Station, TX,* [3]*USDA, Agricultural Research Service, Peoria, IL.*
2:45 PM	328	Factors influencing distribution of pellets and fines in a commercial broiler pan feeding system. C. Hancock*, S. Beyer, C. Rude, S. Daly, K. Dobbeleare, and J. Burden, *Kansas State University, Manhattan.*
3:00 PM	329	Characterization of atmospheric ammonia/ammonium forms in broiler production facilities. C. S. Smith*[2,1], J. L. Bray[2,1], T. E. Cherry[2], R. E. Lacey[1], and J. B. Carey[1], [1]*Texas A&M University, College Station,* [2]*Stephen F. Austin State University, Nacogdoches, TX.*
3:15 PM	330	Effect of different feeding strategies on productivity of broiler breeders. L. F. Romero*[1], M. J. Zuidhof[2], F. E. Robinson[1], A. Naeima[1], and R. A. Renema[1], [1]*University of Alberta, Edmonton, AB, Canada,* [2]*Alberta Agriculture and Food, Edmonton, AB, Canada.*
3:30 PM	331	Effect of reducing body weight variability on the sexual maturation of broiler breeder females. R. A. Renema*[1], L. F. Romero[1], A. Naeima[1], M. J. Zuidhof[2], and F. E. Robinson[1], [1]*University of Alberta, Edmonton, AB., Canada,* [2]*Alberta Agriculture and Food, Edmonton, AB., Canada.*
3:45 PM	332	The energetics of female broiler breeders are affected by genotype and environment. M. J. Zuidhof*[1], R. A. Renema[2], F. E. Robinson[2], and L. F. Romero[2], [1]*Alberta Agriculture and Food, Edmonton, AB, Canada,* [2]*University of Alberta, Edmonton, AB, Canada.*
4:00 PM	333	Spread of a marker *Salmonella* in the presence of background *Salmonella* as detected from broiler litter. R. J. Buhr*[1], L. J. Richardson[1], N. A. Cox[1], and B. D. Fairchild[2], [1]*USDA, ARS, Athens, GA,* [2]*University of Georgia, Athens.*
4:15 PM	334	Effect of starter period duration on live oocyst vaccination efficacy and broiler performance following subsequent *Eimeria* challenge. J. T. Lee*[1], N. H. Eckert[1], S. M. Stevens[1], S. Anderson[1], P. Anderson[1], H. D. Danforth[2], A. P. McElroy[3], and D. J. Caldwell[1], [1]*Texas A&M University, College Station,* [2]*USDA-ARS, Beltsville, MD,* [3]*Virginia Polytechnic and State University, Blacksburg.*
4:30 PM	335	*Campylobacter* contamination of broilers fed cottonseed or cottonseed products. J. A. Byrd*[1], R. D. Stipanovic[2], J. L. McReynolds[1], L. F. Kubena[1], and D. J. Nisbet[1], [1]*USDA/ARS/SPARC, Food and Feedsafety Research Unit, College Station, TX,* [2]*USDA/ARS/SPARC, Cotton Pathology Research Unit, College Station, TX.*

Production, Management & the Environment - Livestock and Poultry
Dairy Production and Management I
214 A

2:00 PM	336	Reasons for culling in Iranian Holstein cows. A. A. Naserian[1], M. Sargolzaee[1], M. Sekhavati[1], and B. Saremi*[2], [1]*Ferdowsi University Of Mashad, Agric college, Animal Science Department, Mashhad, Khorasan Razavi, Iran,* [2]*Education Center of Jihad-e Agriculture, Animal Science Departemnt, Mashhad, Khorasan Razavi, Iran.*
2:15 PM	337	Commercial application of sex-sorted semen in Holstein heifers. J. M. DeJarnette*[1], R. L. Nebel[1], B. Meek[2], J. Wells[3], and C. E. Marshall[1], [1]*Select Sires, Inc., Plain City, OH,* [2]*Cache Valley Select Sires, Logan, UT,* [3]*All West Select Sires, Turlock, CA.*

2:30 PM	338	Effect of out-wintering pad design on cow hoof health. K. O'Driscoll*[1,2], L. Boyle[1], P. French[1], and A. Hanlon[2], [1]*Moorepark Dairy Production Research Centre, Fermoy, Co. Cork, Ireland,* [2]*University College Dublin, Dublin, Ireland*.
2:45 PM	339	Correlation between tarsal lesions on dairy cows housed in free-stalls and culling rate, somatic cell count, percent mature cows, and milk production by stall base. W. K. Fulwider*, T. Grandin, D. J. Garrick, T. E. Engle, W. D. Lamm, N. L. Dalsted, and B. E. Rollin, *Colorado State University, Fort Collins*.
3:00 PM	340	Effect of body condition score at calving on production and reproduction performance in dairy herds of Argentina. J. Grigera*[1], F. Busso[2], F. Bargo[1], and C. Corbellini[2], [1]*Elanco Animal Health, ACBSCR,* [2]*INTA Pergamino*.
3:15 PM	341	Ration sorting in freestall dairy herds. M. I. Endres* and L. A. Espejo, *University of Minnesota, St. Paul*.
3:30 PM	342	The effect of breed and feeding a split ration to lactating hair sheep on ewe body temperature in the tropics. R. W. Godfrey*, M. C. Vinson, and R. C. Ketring, *University of the Virgin Islands, Agricultural Experiment Station, St. Croix, US Virgin Islands.*
3:45 PM	343	Effects of heat stress on production, lipid metabolism and somatotropin variables in lactating cows. M. L Rhoads*[1], R. P. Rhoads[1], S. R. Sanders[1], S. H. Carroll[1], W. J. Weber[2], B. A. Crooker[2], R. J. Collier[1], M. J. VanBaale[1], and L. H. Baumgard[1], [1]*University of Arizona*, [2]*University of Minnesota, St. Paul*.
4:00 PM	344	Effect of encapsulated niacin on resistance to acute thermal stress in lactating Holstein cows. R. B. Zimbelman*, J Muumba, L. H. Hernandez, J. B. Wheelock, G. Shwartz, M. D. O'Brien, L. H. Baumgard, and R. J. Collier, *University of Arizona*.
4:15 PM	345	Effect of level of production and intensive cooling in summer on productive and reproductive performance of high yielding dairy cows. I. Flamenbaum*[1] and E. Ezra[2], [1]*Ministry of Agriculture, Extension Service, Beit-Dagan, Israel,* [2]*Israel Cattle Breeders Association, Caesarea, Israel*.
4:30 PM	346	Reducing freestall availability without limiting feed access during dry period does not affect subsequent milk yield. J. M. Velasco*, K. K. Fried, T. F. Gressley, E. D. Reid, T. C. Hausman, and G. E. Dahl, *University of Illinois, Urbana*.
4:45 PM	347	Using ear canal temperature to predict vaginal temperature. B. H. Carter*, T. H. Friend, M. A. Tomaszewski, J. R. Fisher, and G. M. Bingham, *Texas A&M University, College Station.*

Ruminant Nutrition
Nitrogen Metabolism/Immunology
Chair: Chad Mueller, Oregon State University
217 B

2:00 PM	ADSA Pioneer	Future of pasture-based systems in the U.S. L. D. Muller, *Pennsylvania State University, University Park.*
2:15 PM	348	Effects of N solubility on metabolisable protein value of grass silage. P. Huhtanen*[1], M. Rinne[2], and J. Nousiainen[3], [1]*Cornell University, Ithaca, NY,* [2]*MTT-Agrifood Research, Finland,* [3]*Valio Ltd., Finland.*
2:30 PM	349	Ruminal metabolism of ^{15}N labelled ammonium-N and grass silage soluble non-ammonia-N. S. Ahvenjarvi*[1], A. Vanhatalo[1], P. Huhtanen[1], and A. N. Hristov[2], [1]*MTT Agrifood Research Finland, Jokioinen, Finland,* [2]*University of Idaho, Moscow*.
2:45 PM	350	The aerobic stability of forage maize silage preserved with microbial inoculant with and without preservatives. J. K. Margerison*[1], S. A. Hall[2], and D. Wilde[3], [1]*Massey University, Palmerston North, New Zealand,* [2]*University of Plymouth, Plymouth, UK,* [3]*Alltech Ltd, Stamford, Lincs, UK.*
3:00 PM	351	Effect of corn hybrid and processing on ruminal and intestinal digestion using the mobile bag technique. F. W. Harrelson*[1], N. F. Meyer[1], G. E. Erickson[1], T. J. Klopfenstein[1], and W. A. Fithian[2], [1]*University of Nebraska, Lincoln,* [2]*Golden Harvest Seeds, Inc., Waterloo, NE*.
3:15 PM	352	Ruminal L-dopa degradability and *in vitro* fermentation kinetics of *Mucuna pruriens* and soybean meal treated with or without L-dopa. S. K. Chikagwa-Malunga*, A. T. Adesogan, S. C. Kim, N. J. Szabo, R. C. Littell, and N. Krueger, *University of Florida, Gainesville.*
3:30 PM	353	Study internal molecular-structural changes of flaxseeds affected by dry roasting at various conditions in relation to rumen degradation kinetics of dairy cattle. K. Doiron* and P. Yu, *University of Saskatchewan, Saskatoon, SK, Canada*.
3:45 PM	354	Microbial characteristics, microbial nitrogen flow, and urinary purine derivative excretion in steers fed at two levels of intake. G. I. Crawford*, M. K. Luebbe, J. R. Benton, T. J. Klopfenstein, and G. E. Erickson, *University of Nebraska, Lincoln.*

4:00 PM	355	The incidence of liver abscessation in pasture based bull beef systems of New Zealand. J. Gibbs*, J. Laporte-Uribe, C. Trotter, and J. Noel, *Dairy Science Group, Agriculture and Life Sciences, Lincoln University, Canterbury, New Zealand*.
4:15 PM	356	Metaphylaxis therapy interacts with temperament to influence performance of growing beef steers. Z. D. Paddock*[1], J. E. Sawyer[1], G. E. Carstens[1], R. R. Gomez[1], B. M. Bourg[1], D. K. Lunt[2], S. A. Moore[3], and D. S. DeLaney[3], [1]*Texas A&M University, College Station*, [2]*Texas A&M University, McGregor*, [3]*King Ranch, Kingsville, TX*.
4:30 PM	357	Effects of *Mannheimia haemolytica* challenge on blood flow and net splanchnic flux of amino acids in fed or fasted steers. L. O. Burciaga-Robles*[1], C. R. Krehbiel[1], D. L. Step[2], C. A. Loest[4], L. Chen[4], M. Montelongo[2], A. W. Confer[2], J. N. Gilliam[2], B. P. Holland[1], and C. L. Goad[3], [1]*Department of Animal Science*, [2]*Department of Health and Veterinary Sciences*, [3]*Department of Statistics, Oklahoma State University, Stillwater, OK*, [4]*Department of Animal and Range Sciences, New Mexico State University, Las Cruces, NM*.
4:45 PM	358	Effects of endotoxin and dietary protein on N metabolism, and serum cortisol and haptoglobin in growing beef steers. J. W. Waggoner*, C. A. Loest, J. L. Turner, C. P. Mathis, K. K. Kane, D. M. Hallford, and M. K. Petersen, *New Mexico State University, Las Cruces*.
5:00 PM	359	Effect of dietary boron on the immune function of growing steers. R. S. Fry*, K. E. Lloyd, S. K. Jacobi, and J. W. Spears, *North Carolina State University, Raleigh*.

SYMPOSIUM
Ruminant Nutrition
Opportunities to Improve Forage Utilization and Rumen Function
Chair: David Bohnert, Oregon State University
217 A

2:00 PM		Introduction to Symposium. D. Bohnert, *Oregon State University*.
2:05 PM	360	Utilizing fats and carbohydrates in forage-based diets for lactating cows. M. S. Allen*, *Michigan State University, East Lansing*.
2:50 PM	361	The role of ionophores in improving utilization of forage and forage-based diets. V. Fellner*, *North Carolina State University, Raleigh*.
3:35 PM	362	Lactating dairy cow responses to yeast products. P. H. Robinson*[1] and L. J. Erasmus[2], [1]*University of California, Davis*, [2]*University of Pretoria, Pretoria, South Africa*.
4:20 PM	363	Enzymes to improve forage utilization by ruminants: What's on the horizon. K. A. Beauchemin* and J. -S. Eun, *Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*.

SYMPOSIUM
Teaching/Undergraduate & Graduate Education
Enhancing the Undergraduate Learning Experience in Animal Agriculture, Through the Integration of Teaching and Research
Chair: Frank Robinson, University of Alberta
Sponsor: Jones-Hamilton
204 A

2:00 PM	364	Enhancing learning through inquiry. B. Wuetherick*, *University of Alberta, Edmonton, Alberta, Canada*.
2:15 PM	365	Why should we integrate our teaching and research? C. Colbeck*, *Pennsylvania State University, University Park*.
2:55 PM	366	Integrating research and teaching in an introductory course setting: There's a heifer in your tank. F. E. Robinson*, N. J. Wolanski, B. Wuetherick, and S. Varnhagen, *University of Alberta, Edmonton, AB, Canada*.
3:25 PM	367	Integrating research and teaching in a senior course setting. W. L. Hurley*, *University of Illinois, Urbana*.
3:55 PM	368	Teaching opportunities for graduate students: Who benefits. N. J. Wolanski* and F. E. Robinson, *University of Alberta, Edmonton, Alberta, Canada*.
4:15 PM	369	Researching teaching. C. K. Varnhagen*, *University of Alberta, Edmonton, Alberta, Canada*.
4:45 PM		Wrap-up Discussion.

ADSA-SAD Undergraduate Competition - Original Research Chair: Steven Kelm, University of Wisconsin - River Falls 007 C		
3:15 PM	370	Probiotic ice cream manufactured with honey, a natural sweetener with several health benefits. A. Greenbaum*[1] and K. J. Aryana[2], [1]*Louisiana State University, Baton Rouge,* [2]*Louisiana State University Agricultural Center, Baton Rouge*.
3:30 PM	371	Determining the efficacy of infra-red technology as part of a mastitis preventitive routine. D. M. Tearney*[1], T. R. Lane[2], D. R. Bray[1], and R. P. Natzke[1], [1]*University of Florida, Gainesville,* [2]*Spirit Solutions, Dayton, OH*.
3:45 PM	372	Genetic analysis of the relationship between ketosis and milk fat in Holsteins. E. E. Yeiser*[1], C. D. Dechow[1], J. Vallimont[1], C. G. Sattler[2], and J. S. Clay[3], [1]*Pennsylvania State University, University Park,* [2]*Select Sires, Inc., Plain City, OH,* [3]*Dairy Records Management System, Raleigh, NC*.
4:00 PM	373	Short-interval unilateral frequent milking during early lactation of dairy cows results in acute and persistent increases in milk yield. A. C. Kissell*, E. H. Wall, and T. B. McFadden, *Lactation and Mammary Gland Biology Group, Department of Animal Science, University of Vermont, Burlington, VT*.
4:15 PM	374	Planting date may affect yield and nutrient composition of whole-plant small-grain forages. L. W. Manson*[1], M. A. Bal[1], M. Oba[1], and V. S. Baron[2], [1]*University of Alberta, Edmonton, AB, Canada,* [2]*Agriculture and Agri-Food Canada, Lacombe, AB, Canada*.
4:30 PM	375	Using percent of mature body weight to manage dairy heifer growth. N. Keene* and D. Winston, *Virginia Polytechnic Institute and State University, Blacksburg*.
4:45 PM	376	Effects of Black Seed Oil (Niagra Sativa) on the life cycle and reproductive behavior of C. elegans. C. G. Gerald*, M. W. Worku, P. M. Matterson, and Z. L. Liu, *North Carolina A&T State University, Greensboro*.

Tuesday, July 10

POSTER PRESENTATIONS

Animal Behavior & Well-Being - Livestock and Poultry II Exhibit Hall C	
T1	Impact of elevated embryonic corticosterone on development, stress, and fear in broilers. S. M. Brougher and S. J. Snow*, *Delaware State University, Dover*.
T2	The effects of rearing broiler chickens under different light intensities on fear responses. G. Fagerberg, J. A. Mench*, and G. S. Archer, *University of California, Davis*.
T3	Effect of feeding space availability on aggressive behavior of Holstein heifers on high-concentrate diets. L. A. González*[1], A. Ferret[1], X. Manteca[1], J. L. Ruíz-de-la-Torre[1], S. Calsamiglia[1], M. Devant[2], and A. Bach[2], [1]*Universitat Autonòma de Barcelona, Bellaterra, Spain,* [2]*Unitat de Remugants-IRTA, Barcelona, Spain*.
T4	Relationship between calves' social rank and performance after arrival at the feedlot with different feeding place availability. L. A. González*[1], A. Ferret[1], X. Manteca[1], J. L. Ruíz-de-la-Torre[1], S. Calsamiglia[1], M. Devant[2], and A. Bach[2], [1]*Universitat Autonòma de Barcelona, Bellaterra, Spain,* [2]*Unitat de Remugants-IRTA, Barcelona, Spain*.
T5	Behavior and welfare of laying hens in single-tier aviaries with and without outdoor area. T. Tanaka*[1], T. Shinmura[1], T. Suzuki[1], S. Hirahara[2], Y. Eguchi[1], and K. Uetake[1], [1]*Azabu University, Sagamihara, Japan,* [2]*Kanagawa Prefectual Livestock Industry Technical Center, Ebina, Japan*.
T6	Relation between social order and use of resources in small and large furnished cages for laying hens. T. Shimmura*[1], T. Azuma[1], S. Hirahara[2], Y. Eguchi[1], K. Uetake[1], and T. Tanaka[1], [1]*Azabu University, Sagamihara, Japan,* [2]*Kanagawa Prefectual Livestock Industry Technical Center, Ebina, Japan*.
T7	Effects of dust bath and nest box arrangement on behavior of high-, medium- and low-ranked hens in furnished cages. T. Shinmura*, Y. Eguchi, K. Uetake, and T. Tanaka, *Azabu University, Sagamihara, Japan*.
T8	Effect of stocking density on the short-term behavior of dairy cows. C. T. Hill[1,2], P. D. Krawczel*[1,2], H. M. Dann[1], C. S. Ballard[1], R. C. Hovey[2], and R. J. Grant[1], [1]*W.H. Miner Agricultural Research Institute, Chazy, NY,* [2]*The University of Vermont, Burlington*.

T9	Survey of calf and heifer husbandry practices on dairies in the mid-western and eastern U.S. W. K. Fulwider*, T. Grandin, D. J. Garrick, T. E. Engle, W. D. Lamm, N. L. Dalsted, and B. E. Rollin, *Colorado State University, Fort Collins*.

Animal Health - Livestock and Poultry
Poultry/Swine/Goat/Sheep
Exhibit Hall C

T10	Colicin E1 prevents *Escherichia coli* F18 caused post-weaning diarrhea in pigs. S. A. Cutler*, N. Cornick, S. M. Lonergan, and C. H. Stahl, *Iowa State University, Ames*.
T11	Evaluation of photonic imaging in the gastrointestinal tract of swine following oral inoculation with lux-modified *Salmonella typhimurium*. K. Moulton*[1], P. Ryan[1], R. Youngblood[1], M. McGee[1], S. Laird[1], A. Harris[1], D. Moore[1], I. Kim[1], D. Lay[2], and S. Willard[1], [1]*Mississippi State University, Mississippi State,* [2]*USDA-ARS, West Lafayette, IN*.
T12	Development and optimization of species-specific PCR for rapid detection of Dermatophilus congolensis. S. Valipe, M. Amalaradjou, J. Nadeau*, A. Thirunavukkarasu, and K. Venkitanarayan, *University of Connecticut, Storrs*.
T13	Necrotic Enteritis control in broilers chickens fed the feed additives RepaXol, AciXol, or Virginiamycin. G. Mathis*[1] and N. Scicutella[2], [1]*Southern Poultry Research, Inc., Athens, GA,* [2]*SODA Feed Ingredients, Monaco.*
T14	Molecular ecology effects of essential oil blends on identified broiler cecal digestive bacteria. Y. Leontieva*[1], A. Syvyk[1], A. Nalian[1], M. Hume[2], E. Oviedo-Rondon[3], S. Clemente-Hernández[4], and A. Martynova-Van Kley[1], [1]*Stephen F. Austin State University, Nacogdoches, TX,* [2]*USDA, ARS, SPARC, Food and Feed Safety Research Unit, College Station, TX,* [3]*North Carolina State University, Raleigh,* [4]*Universidad Autónoma de Chihuahua, Chihuahua, México*.
T15	Electrospray-ionization mass spectrometric analysis of lipid restructuring in the chick liver: Effect of maternal dietary conjugated linoleic acid. G. Cherian*, *Oregon State University, Corvallis*.
T16	Maternal dietary n-3 fatty acids alter proinflammatory eicosanoid production in broiler birds. J. Bautista-Ortega*, D. E. Goeger, and G. Cherian, *Oregon State University, Corvallis*.
T17	Immunomodulatory potential of feed borne *Fusarium* mycotoxins in broiler breeders Iinfected with coccidia. G. N. Girgis*, T. K. Smith, S. Sharif, J. R. Barta, and H. J. Boermans, *University of Guelph, Ontario, Canada,*.
T18	Broiler performance on a Maxiban® anticoccidial program with exposure to a mixed *Eimeria* population. A. Barri[1], C. L. Novak[1], H. D. Danforth[2], S. J. Steinlage[3], and A. P. McElroy*[1], [1]*Virginia Polytechnic Institute and State University, Blacksburg,* [2]*USDA/ARS, Beltsville, MD,* [3]*Elanco Animal Health, Greenfield, IN*.
T19	Rapid detection of avian reoviruses in cloacal swabs using real-time RT-PCR. K. Guo*, T. Dormitorio, and J. Giambrone, *Auburn University, Auburn, AL*.
T20	Development of a polymerase chain reaction assay for rapid identification of the causative agent of ulcerative enteritis. L. Bano*[1], K. S. Macklin[2], S. W. Martin[2], R. S. Miller[2], R. A. Norton[2], O. A. Oyarzabal[2], and S. F. Bilgili[2], [1]*Istituto Zooprofilattico Sperimentale delle Venezie, Treviso, Italy,* [2]*Auburn University, Auburn, AL*.
T21	Effect of oral administration of *Lactobacillus brevis* on turkey poult performance and immune development. K. Novak*, E. Davis, K. Bos, T. Rehberger, and C. Kromm, *Agtech Products, Inc., Waukesha, WI*.
T22	Evaluation of the efficacy of a bio-hygienic additive in ammonia level control in broiler houses. G. Tacconi[1], A. Zanierato*[2], and A. Covarelli[1], [1]*University of Perugia, Perugia, PG, Italy,* [2]*SOP Srl, Busto Arsizio, VA, Italy*.
T23	Characterization and expression of the ryanodine receptor 2 gene in furazolidone induced cardiomyopathic turkeys. E. Ndegwa* and M. M. Corley, *Tuskegee University, Tuskegee, AL*.
T24	The effect of anti-coccidiosis antibody on growth performance in broiler chicks. E. Hellestad*, J. Susko-Parrish, and M. E. Cook, *University of Wisconsin, Madison*.
T25	Oxidative stress and toxin-induced dilated cardiomyopathy in the turkey (Meleagris gallopavo). K. Gyenai*, J. Xu, T. Geng, L. Pyle, and C. Larson, *Virginia Polytechnic and State University, Blacksburg*.
T26	Effect of a *Bacillus*-based direct-fed microbial on turkey poult performance and changes within the gastrointestinal microflora. S. Gebert*, C. Kromm, and T. Rehberger, *Agtech Products, Inc., Waukesha, WI*.
T27	Campylobacter jejuni Colonization Alters Mucin Dynamics And Gut Architecture In Broilers. F. Solis de los Santos*[1], M. L. Dirain[1], P. J. Blore[1], I. Reyes-Herrera[1], A. M. Donoghue[2], and D. J. Donoghue[1], [1]*University of Arkansas, Fayetteville,* [2]*Poultry Production and Product Research Unit, Agricultural Research Unit, Fayetteville, AR.*
T28	Dietary soybean oil adjust protein and mineral metabolism and antioxidant enzyme activity in male broiler chicks during inflammatory response. T. S. Koh*, C. R. Choi, M. J. Chang, K. C. Lee, and S. Y. Kim, *Konkuk University, Seoul, South Korea*.

T29	Prevalence of gastrointestinal parasites in sheep of the Brisas Town, Culiacán, Sinaloa. M. C. Rubio Robles*, S. M. Gaxiola, C. N. Castro, D. J. Zazueta, G. A. Felix, and E. Sanchez, *Universidad Autonama de Sinaloa, Culiacan, Sinaloa, Mexico*.
T30	Presence of *Mycoplasma sp.* in lambs with lung lesions. J. A. Daniel*[1], J. E. Held[2], and L. Holler[2], [1]*Berry College, Mount Berry, GA,* [2]*South Dakota State University, Brookings.*
T31	Effects of herbal and chemical deworming agents on internal parasite control comparing fecal egg counts, hematocrits and FAMACHA(R) on sheep and goats. H. Swartz*[1], A. Stewart[1], F. Wulff[1], D. Sommerer[1], and M. Ellersieck[1,2], [1]*Lincoln University, Jefferson City, MO,* [2]*University of Missouri, Columbia*.
T32	Indirect contact: A possible dissemination route of Caprine arthritis encephalitis among goat kids. A. Asmare*[1,2], K. E. Washburn[3], J. T. Saliki[4], A. L. Goetsch[1], L. J. Dawson[5], R. C. Merkel[1], and T. Sahlu[1], [1]*E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK,* [2]*Alemaya University, Dire Dawa, Ethiopia,* [3]*Texas A&M University, College Station,* [4]*Oklahoma Animal Disease and Diagnostic Laboratory, Stillwater, OK,* [5]*Oklahoma State University, Stillwater.*
T33	Identification of Cydectin targets in C. elegans. M. Worku*, O. Alexander, and P. Matterson, *North Carolina Agricultural and Technical State University, Greensboro*.
T34	Composition of amino acids in typical Chinese herbs is not unique among feeds of plant origin. X. Wu*[1], X. F. Kong[1], Y. L. Yin[1], F. G. Yin[1], P. Zhang[1], H. J. Liu[1], F. F. Xing[1], Q. H. He[1], T. J. Li[1], R. L. Huang[1], and G. Y. Wu[1,2], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*Texas A&M University, College Station.*

Beef Species
Exhibit Hall C

T35	Effects of season and bull breed of semen on pregnancy rate in beef cattle. K. Kreausukon[1], S. Teepatimakorn[2], P. Vinitchaikul*[1], P. Yamsakul[1], and W. Suriyasathaporn[1], [1]*Chiang Mai University, Muang, Chiang Mai, Thailand,* [2]*Chiangmai Artificial Insemination Research and Biotechnology Center, Muang, Chiang Mai, Thailand.*
T36	TG-repeat microsatellites of growth hormone receptor and their associations with growth performances in Angus Plus calves raised on subtropical pasture. J. Yang*[1], J. Lee[1], R. Ferreira[2], M. DuPonte[1], and G. Fukumoto[1], [1]*University of Hawaii, Honolulu,* [2]*Olumau Angus Plus LLC, Lihue, HI.*
T37	Influence of dietary roughage source on growth performance and carcass characteristics of Korean native cattle(Hanwoo). S. O. Lee[1], K. K. Jung[1], C. B. Choi[1], and I. S. Jang*[2], [1]*Yeungnam University, Daegu, Korea,* [2]*Jinju National University, Jinju, Korea*.
T38	Predicting beef carcass retail products of Mediterranean buffaloes by real-time ultrasound measures. A. M. Jorge*, C. Andrighetto, C. L. Francisco, A. P. Neto, and R. C. Mourão, *Sao Paulo State University, Botucatu, SP, Brazil.*
T39	Correlations among carcass traits taken by ultrasound and after slaughter in Mediterranean (Bubalus bubalis) buffaloes. A. M. Jorge*, C. Andrighetto, R. S. B. Pinheiro, C. L. Francisco, and A. P. Neto, *Sao Paulo State University, Botucatu, SP, Brazil*.
T40	Influence of shade in pen on performance of feedlot calves received during the autumn in the Northwest of Mexico. R. Barajas*[1], B. J. Cervantes[2,1], E. A. Velazquez[1], F. Juarez[1], and J. A. Romo[1], [1]*FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico,* [2]*Ganadera Los Migueles SA de CV, Culiacan, Sinaloa, Mexico.*
T41	Effect of weaning and post-weaning management of beef steers on carcass characteristics and tenderness. A. E. Radunz*, H. N. Zerby, J. F. Grimes, G. D. Lowe, and F. L. Fluharty, *The Ohio State Univeristy, Columbus, OH.*
T42	Effect of Wagyu- versus Angus-sired calves on feedlot performance, carcass characteristics, and tenderness. A. E. Radunz*, H. N. Zerby, S. C. Loerch, G. D. Lowe, and F. L. Fluharty, *The Ohio State Univeristy, Columbus*.
T43	Impact of using proven genetics in an AI program. D. J. Schafer*[1], J. K. Haden[1], S. R. Bartholomew[1], M. T. Griffin[1], M. E. John[1], J. L. Parcell[2], and D. J. Patterson[2], [1]*MFA Inc., Columbia, MO,* [2]*University of Missouri, Columbia*.
T44	Performance and carcass characteristics of straightbred and crossbred Bonsmara and Tabapua steers at the same carcass weight. E. L. A. Ribeiro*, I. Y. Mizubuti, L. D. F. Silva, M. A. Rocha, and S. M. Climaco, *Universidade Estadual de Londrina, Londrina, Brazil.*
T45	Efficacy of rumen temperature boluses for health monitoring. T. K. Dye*, C. J. Richards, L. O. Burciaga-Robles, C. R. Krehbiel, and D. L. Step, *Oklahoma State University, Stillwater*.
T46	Relationships between MUFA ratio of marbling flecks and image analysis traits in *M.longissimus* muscle for Japanese Black cattle. Y. Nakahashi*[1], M. Oishi[1], Y. Hamasaki[1], S. Hidaka[1], S. Maruyama[2], and K. Kuchida[1], [1]*Obihiro University of Agricalture and Veterinary Medicine, Obihiro, Japan,* [2]*Gifu Prefectual Livestock Reseach Institute, Gifu, Japan.*
T47	Effect of Zilpaterol or Ractopamine on productive performance of finishing bullocks. G. Aranda-Osorio*, R. Aguayo-Garcia, A. Carreño-Aviles, and J. C. Garcia-Ortiz, *Universidad Autonoma Chapingo, Chapingo, Mexico*.
T48	Comparison of color value measured by colorimeter and image analysis method for beef muscle. Y. Hamasaki*[1], T. Saito[2], Y. Sato[2], S.

	Hidaka[1], and K. Kuchida[1], [1]*Obihiro University of A&VM, Obihiro, Hokkaido, Japan*, [2]*Hokkaido Animal Research Center, Sintoku, Hokkaido, Japan*.
T49	Alternative supplementation strategies for replacement beef heifers grazing dry California foothills annual range during summer. R. B. Monteiro*[1,2], G. D. Cruz[1], D. M. Myers[1], J. W. Oltjen[1], and R. D. Sainz[1], [1]*University of California, Davis*, [2]*University of Sao Paulo, Piracicaba, SP, Brazil*.
T50	Effects of deworming nursing calves 90 days prior to weaning on calf weaning weight. J. E. Rossi*[1], D. T. Ensley[2], and B. G. Mullinix, Jr.[1], [1]*University of Georgia, Tifton*, [2]*University of Georgia, Athens*.

Breeding and Genetics - Livestock and Poultry II
Exhibit Hall C

T51	Joint analysis of egg and production traits in broilers. R. L. Sapp[1], T. Wing[2], and R. Rekaya*[3], [1]*USDA-ARS, Miles City, MT*, [2]*Cobb-Vantress, Inc., Siloam Springs, AR*, [3]*University of Georgia, Athens*.
T52	Cow/calf pre-weaning efficiency of Nellore, British × Nellore and Continental x Nellore crosses[1]. Liana Calegare*[1], Maurício Mello de Alencar[2], Irineu Umberto Packer[1], and Dante Pazzanese Duarte Lanna[1], [1]*ESALQ, Piracicaba, SP, Brazil*, [2]*Embrapa, Sao Carlos, SP, Brazil*.
T53	Morphologic evaluation of Murrah water buffalo through regression and principal component analysis. J. R. B. Sereno*[1], M. V. Snel-Oliveira[2], S. M. Vasconcelos[2], A. A. Egito[3], M. S. M. Albuquerque[3], C. McManus[4], and J. C. Souza[5,6], [1]*Embrapa Cerrados, Planaltina, DF Brazil*, [2]*UPIS-Faculdades Integradas, Brasilia, DF Brazil*, [3]*Embrapa Recursos Geneticos e Biotecnologia, Brasilia, DF Brazil*, [4]*Universidade de Brasilia, Brasilia, DF Brazil*, [5]*Universidade Federal do Parana, Campus Palotina, PR Brazil*, [6]*University of Missouri-Columbia Scholarship of CNPq, Brazil, Columbia, Mo USA*.
T54	Genetic parameters for weaning weight by age of dam for Brazilian Nellore. L. O. Campos da Silva*[1], J. C. Souza[2,3], A. Gondo[3], C. H. M. Malhado[4], J. A. Freitas[2], I. W. Santos[2], J. R. B. Sereno[6], R. Weaber[8], L. D. Van Vleck[7], and W. R. Lamberson[8], [1]*Embrapa-GNPGC, Brazil*, [2]*Scholarship of CNPq, Brazil*, [3]*Parana Federal Univeristy, Palotina, PR Brazil*, [4]*Bahia State University, Brazil*, [5]*Mato Grosso do Sul Federal University, Brazil*, [6]*Embrapa-CPAC, Brazil*, [7]*University of Nebraska, Lincoln*, [8]*Univeristy of Missouri, Columbia*.
T55	Dairy cattle mortality trends in southeastern states. G. W. Rogers*[1], J. B. Cooper[1], and J. S. Clay[2], [1]*University of Tennessee, Knoxville*, [2]*Dairy Records Management Systems, Raleigh, NC*.
T56	Weaning weight and wool traits in a grade-up program of Rambouillet sheep with Australian Merino genetics. W. M. Rauw*[1], H. A. Glimp[1], T. Wuliji[1], M. Teglas[1], W. Jesko[2], and L. Gomez-Raya[1], [1]*University of Nevada, Reno*, [2]*Rafter 7 Ranch, Yerington, NV*.
T57	An evaluation of SNP associations with calpastatin enzyme activity and shear force measures in Brahman steers. D. E. Franke*[1], M. G. Thomas[2], A. J. Garrett[2], and T. D. Bidner[1], [1]*Louisiana State University Agricultural Center, Baton Rouge*, [2]*New Mexico State University, Las Cruces*.
T58	Gene polymorphisms associated with mastitis and reproduction traits in Holstein cows. G. M. Pighetti*, C. J. Kojima, and A. M. Saxton, *University of Tennessee, Knoxville*.
T59	The genomic architecture of a major QTL region on chicken chromosome 4: CpG islands, gene density and repetitive elements. G. A. Ankra-Badu and S. E. Aggrey*, *University of Georgia, Athens*.
T60	Modeling social competition assuming a single dominant animal per pen. J. M. Achi*, I. Misztal, and R. Rekaya, *University of Georgia, Athens*.
T61	Obtaining multiple QTL solutions without inverting the IBD matrix. M. Jafarikia*, J. A. B. Robinson, and L.R. Schaeffer, *University of Guelph, Guelph, Ontario, Canada*.
T62	A Microsatellite Repeat Search (MRS) tool for eukaryotic genomes. L. Klein*[1,2], S. Puri[1,2], G. Blachut[3], and E. Smith[1], [1]*Virginia Polytechnic and State University, Blacksburg*, [2]*Blacksburg High School, Blacksburg, VA*, [3]*Hinsdale South High School, Hinsdale, IL*.
T63	Analysis of protein in pig blood serum at growing stages. H. Y. Chung*, S. H. Yoon, B. H. Choi, K. T. Lee, and G. W. Jang, *National Livestock Research Institute, Suwon, KY, Korea*.
T64	Construction of SNP maps in the region of the swine SLA class I for miniature pig. H. Y. Chung*, S. H. Yoon, B. H. Choi, K. T. Lee, and G. W. Jang, *National Livestock Research Institute, Suwon, KY, Korea*.
T65	Impact of inbreeding on IBD probabilities and estimates of QTL variance. G. Freyer[2] and N. Vukasinovic*[1], [1]*Monsanto Animal Genomics and Breeding, Saint Louis, MO*, [2]*Research Institute for the Biology of Farm Animals (FBN), Dummerstorf, Germany*.
T66	Relationship of herd-heritability with sire misidentification and entry into a proven sire lineup. C. D. Dechow[1], H. D. Norman*[2], and N. R. Zwald[3], [1]*Pennsylvania State University, University Park*, [2]*Animal Improvement Programs Laboratory, Beltsville, MD*, [3]*Alta Genetics, Inc., Watertown, WI*.

T67	Heritability estimates for producer recorded clinical mastitis events. C. D. Dechow[1], J. Vallimont*[1], C. G. Sattler[2], and J. S. Clay[3], [1]*Pennsylvania State University, University Park,* [2]*Select Sires, Inc., Plain City, OH,* [3]*Dairy Records Management System, Raleigh, NC.*
T68	Different UBX domain D Gene from subtraction cDNA isolated from Korean native chicken. S. S. Sun*, K. Kuk, and K. H. Myung, *Chonnam National University, Gwangju, Korea.*
T69	Efficiency of Brown Swiss, Holstein and their crosses estimated with data envelopment analysis. C. D. Dechow[1], M. I. Phelps*[1], S. Roth[1], G. W. Rogers[2], and J. B. Cooper[2], [1]*Pennsylvania State University, University Park,* [2]*The University of Tennessee, Knoxville.*
T70	Estimation of genetic and phenotypic parameters for days open and test day milk yields in Japanese Holsteins. Y. Masuda*, H. Abe, and M. Suzuki, *Obihiro University of Agriculture & Veterinary Medicine, Obihiro, Japan.*
T71	Residual feed intake and temperament breed differences among Florida heifers. D. G. Riley*[1], G. R. Hansen[2], S. W. Coleman[1], and C. C. Chase[1], [1]*USDA, ARS, Brooksville, FL,* [2]*University of Florida, Marianna.*
T72	Organ weights and ulcer severity of 1980 vs. 2005 pigs when fed 1980 or 2005 feeding programs. J. S. Fix, E. van Heugten, D. J. Hanson, J. P. Cassady, and M. T. See*, *North Carolina State University, Raleigh.*
T73	Genetic and environmental factors that affect gestation length. H. D. Norman, J. R. Wright, M. T. Kuhn, S. M. Hubbard*, and J. B. Cole, *Agricultural Research Service, USDA, Beltsville, MD.*
T74	Construction of a cDNA library of the guinea fowl adipose tissue and evaluation for expressed sequence tags. S. N. Nahashon*, G. Kelley, J. Johnson, J. Tyus II, and A. Amenyenu, *Institute of Agricultural and Environmental Research, Tennessee State University, Nashville.*
T75	Optimising turkey parent stock selection for an integrated processing company and a non-integrated poult supply company. B. J. Wood* and N. Buddiger, *Hybrid Turkeys, Kitchener, Ontario, Canada.*
T76	Defining the haplotype blocks in outbred livestock populations. M. Jafarikia*, J. A. B. Robinson, and D. Ashlock, *University of Guelph, Guelph, Ontario, Canada.*

Companion Animals
Nutrition and Health
Exhibit Hall C

T77	Nutritive value of corn protein co-products from the ethanol industry. M. R. C. de Godoy*, L. L. Bauer, C. M. Parsons, and G. C. Fahey, Jr, *University of Illinois, Urbana.*
T78	Chemical composition of fiber rich corn co-products from the ethanol industry. M. A. Guevara*[1], L. L. Bauer[1], C. A. Abbas[2], K. E. Beery[2], M. A. Franklin[2], M. J. Cecava[2], and G. C. Fahey, Jr.[1], [1]*University of Illinois, Urbana,* [2]*Archer Daniels Midland Company, Decatur, IL.*
T79	Using ultrasound as an alternative method for determining body fat content in beagles. R. M. Yamka*, K. G. Friesen, C. A. Stiers, and B. A. Stone, *Hill's Pet Nutrition, Inc., Topeka, KS.*
T80	Effects of feeding increasing levels of base excess on stool quality and output in dogs. R. M. Yamka*, K. G. Friesen, L. J. Kats, and T. G. Forster, *Hill's Pet Nutrition, Inc., Topeka, KS.*
T81	Estimating intestinal protein digestion in the canine animal using a ruminant *in vitro* model. M. Thrune[1], M. D. Stern*[1], M. Ruiz-Moreno[1], and G. C. Fahey, Jr[2], [1]*University of Minnesota, St. Paul,* [2]*University of Illinois, Urbana-Champaign.*
T82	The ameliorating effect of ascorbic acid on subacute sperm toxicity in male New Zealand White Rabbits treated with endosulfan. A. Ata, F. S. Hatipoglu, O. Y. Gulay*, and M. S. Gulay, *Mehmet Akif Ersoy University, Burdur, Turkey.*
T83	Subacute oral endosulfan toxicity in male New Zealand white rabbits. F. S. Hatipoglu*[1], M. S. Gulay[1], O. Y. Gulay[1], A. Balic[2], and S. Volkan[3], [1]*Mehmet Akif Ersoy University, Burdur, Turkey,* [2]*Sakarya State Hospital, Adapazari, Turkey,* [3]*Dunya Tip Center, Burdur, Turkey.*
T84	Effects of feedborne Fusarium mycotoxins with and without a polymeric glucomannan mycotoxin adsorbent on body weight, feed intake, serum chemistry, and nutrient digestibility of mature beagles. M. C. K. Leung, T. K. Smith*, N. A. Karrow, and H. J. Boermans, *University of Guelph, Guelph, ON, Canada.*
T85	Prevalence of gastrointestinal parasites in dogs housed at the Animal Protection Association of Culiacan, Sinoloa. M. C. Rubio Robles*, S. M. Gaxiola, N. Castro, I. Padilla, J. Raygoza, E. D. Vega, F. Valdez, and B. A. Zazueta, *Universidad Autonama de Sinaloa, Culiacan, Sinaloa, Mexico.*

Contemporary & Emerging Issues - Livestock and Poultry
Exhibit Hall C

T86	Survey of *Clostridium septicum* isolated from market-age turkeys with cellulitis. T. Neumann*, D. Karanakarun, and T. Rehberger, *Agtech Products, Inc., Waukesha, WI.*
T87	Assessment of clostridial challenges present in asymptomatic birds raised in a commercial broiler facility. S. Dunham*[1], J. A. Smith[2], and T. Rehberger[1], [1]*Agtech Products, Inc., Waukesha, WI,* [2]*Fieldale Farms Corporation, Baldwin, GA.*
T88	Prevalence of unusual viral RNA, enteropathogens, Cryptosporidia in poultry litter, pig wastes and waterways of Ireland and their impact on environmental health. J. R. Rao*[1,2], D. W. A Nelson[2], L. Xiao[3], M. Matsuda[4], T. Sekizuka[4], C. J. Lowery[6], J. S. G. Dooley[6], B. C. Millar[5], P. J. Rooney[5], and J. E. Moore[5], [1]*Environmental and Public Health Microbiology Unit, Agri-Food & Biosciences Institute, Belfast, Northern Ireland, UK,* [2]*The Queen's University of Belfast, Belfast, Northern Ireland, UK,* [3]*Division of Parasitic Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia,* [4]*Laboratory of Molecular Biology, School of Environmental Health Sciences, Asabi University, Fuchinobe, Sagamihara, Japan,* [5]*Northern Ireland Public Health Laboratory, Department of Bacteriology, Belfast City Hospital, Belfast, Northern Ireland, UK,* [6]*School of Health and Life Sciences, University of Ulster, Coleraine, County Londonderry, Northern Ireland.*

Dairy Foods
Cheese, Dairy Products and Chemistry
Exhibit Hall C

T89	The impact of fat reduction on flavor and flavor chemistry of Mozzarella cheeses. A. J. Krause*, R. E. Miracle, J. P. Evans, and M. A. Drake, *North Carolina State University, Raleigh.*
T90	Fate of lysostaphin in milk through the cheesemaking process. D. L. Van Hekken*[1], R. J. Wall[2], G. A. Somkuti[1], and P. M. Tomasula[1], [1]*USDA-ARS, Wyndmoor, PA,* [2]*USDA-ARS, Beltsville, MD.*
T91	Effects of High Pressure Processing on the reduction of *Listeria monocytogenes* in the manufacture of soft cheeses. C. P. Rodriguez*[1], E. Patazca[1], and J. E. Schlesser[2], [1]*National Center for Food Safety and Technology-Illinois Institute of Technology, Summit-Argo, IL,* [2]*National Center for Food Safety and Technology-FDA, Summit-Argo, IL.*
T92	Sensory and instrumental classification among Ragusano P.D.O cheeses of different quality. S. Carpino*[1], I. Caminiti[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.*
T93	Changes in acidification during cheesemaking in relation to the aroma development of a farmstead cheddar cheese: A preliminary study. M. Almena*[1], P. Kindstedt[1], S. Carpino[2], T. Rapisarda[2], and G. Licitra[2,3], [1]*University of Vermont, Burlington,* [2]*CoRFiLaC, Regione Siciliana, Ragusa, Italy,* [3]*D.A.C.P.A. Catania University, Catania, Italy.*
T94	Texture profile analysis and melting in relation to proteolysis as influenced by aging temperature and cultures in Cheddar cheese. T. C. Rasmussen*[1], D. J. McMahon[1], J. R. Broadbent[1], and C. J. Oberg[2], [1]*Western Dairy Center, Logan, UT,* [2]*Weber State University, Ogden, UT.*
T95	Strategies for the manufacture of low fat Cheddar cheese. S. P. Adams*[1], D. J. McMahon[1], J. R. Broadbent[1], S. L. Larsen[1], and M. Drake[2], [1]*Western Dairy Center, Logan, UT,* [2]*SouthEast Dairy Foods Research Center, Raleigh, NC.*
T96	Prato and Roquefort cheeses from dairy ewes fed with protected fat. R. M. S. Emediato*, E. R. Siqueira, M. M. Stradiotto, M. I. F. B. Gomes, S. A. Maestá, A. Piccinin, E. O. Queiroz, and C. Móri, *São Paulo State University, Botucatu, São Paulo, Brazil.*
T97	Optical measurement of kinetic changes in curd moisture content and whey fat concentration during syneresis in cheese manufacturing. M. Castillo*[1], C. C. Fagan[2,1], F. A. Payne[1], C. P. O'Donnell[2], and D. J. O'Callaghan[3], [1]*University of Kentucky, Lexington,* [2]*University College Dublin, Ireland,* [3]*Moorepark, Teagasc, Cook, Ireland.*
T98	Effect of High Fat Supplements for grazing dairy cows on Textural Properties of Cheddar Cheese. R. Nyoka*, A. R. Hippen, A. N. Hassan, and K. F. Kalscheur, *South Dakota State University, Brookings.*
T99	Evaluation of chemical composition of traditional Chinese goat's milk cake. H. Zhang*[2], S. Gokavi[1], C. Maduko[3], Y. Park[3], and M. R. Guo[1], [1]*University of Vermont, Burlington,* [2]*Inner Mongolia University, Huhott, China,* [3]*Fort Valley State University, Fort Valley, GA.*
T100	Development of cholesterol-reduced Camembert cheese made by crossliked β-CD cyclodextrin. K. H. Seon, E. K. Hong, and H. S. Kwak*, *Sejong University, Seoul, Korea.*
T101	The effect of salt on chemical and sensory attributes in cholesterol-reduced Cheddar cheese made by crosslinked β-cyclodextrin. K. H. Seon, E. K. Hong, and H. S. Kwak*, *Sejong University, Seoul, Korea.*
T102	The effect of high pressure and low temperature on chemical properties and nutrients in milk. H. Y. Kim, S. A. Maeng, S. H. Kim, and H. S. Kwak*, *Sejong University, Seoul, Korea.*

T103	Microencapsulation of Korean mistletoe extract with polyacylglycerol monostearate. N. C. Kim[1], J. B. Kim[2], J. Ahn[1], and H. S. Kwak*[1], [1]*Sejong University, Seoul, Korea,* [2]*Handong Global University, Pohang, Korea.*
T104	Microencapsulated Korean mistletoe extract for milk fortification. N. C. Kim[1], J. B. Kim[2], J. Ahn[1], and H. S. Kwak*[1], [1]*Sejong University, Seoul, Korea,* [2]*Handong Global University, Pohang, Korea.*
T105	Occurrence of aflatoxin M1 in Manchego cheese. G. Battacone*[1], M. I. Berruga[2], M. Palomba[1], M. P. Molina[3], M. Roman[4], and A. Molina[2], [1]*Università degli Studi di Sassari, Sassari, Italy,* [2]*Universidad de Castilla-La Mancha, Albacete, Spain,* [3]*Universidad Politécnica de Valencia, Valencia, Spain,* [4]*Qualiam, Madrid, Spain.*
T106	Prediction of fatty acid contents by mid-infrared spectrometry. P. Dardenne[1], F. Dehareng[1], H. Soyeurt*[2,3], and N. Gengler[2,4], [1]*Agricultural Walloon Research Centre, Quality Department, Gembloux, Belgium,* [2]*Gembloux Agricultural University, Animal Science Unit, Gembloux, Belgium,* [3]*FRIA, Brussels, Belgium,* [4]*FNRS, Brussels, Belgium.*
T107	Isolation and characterization of growth factor in goat milk. F. Y. Wu*, M. W. Chien, P. H. Tsao, Y. J. Tsai, Y. C. Lee, and T. Y. Kuo, *National Ilan University, I-Lan, Taiwan, ROC.*
T108	Production of conjugated linoleic acid by a mixed commercial culture of L acidophilus, L bulgaricus and S. thermophillus in whole milk. P. Ramírez-Baca*[1,2], E. Escárcega-Padilla[1], S. Torres-Ceniceros[1], J. Meza-Velásquez[1], S. Esparza-González[1], J. Vázquez-Arroyo[1], R. Rodríguez-Martínez[2], and G. V. Nevárez-Moorillon[3], [1]*Universidad Juárez Edo. de Durango, Gómez Palacio, Durango, México,* [2]*Universidad Autónoma Agraria Antonio Narro, Unidad Laguna, Torreón, Coahuila, México,* [3]*Universidad Autónoma de Chihuahua, Chihuahua, Cihuahua, México.*
T109	Poly(L-lactic acid) production from whey permeate. Y. Gao*, F. Zhao, A. Richardson, J. Mendes, D. Savin, and M. Guo, *University of Vermont, Burlington.*
T110	Digestion of CLA-enriched milk fatty acids studied in a dynamic *in vitro* gastrointestinal model. R. Gervais*[1], I. Fliss[1], E. E. Kheadr[1], E. R. Farnworth[2], M. R. Van Calsteren[2], C. Champagne[2], and P. Y. Chouinard[1], [1]*Nutraceuticals and Functional Foods Institute (INAF), Université Laval, Québec, QC, Canada,* [2]*Agriculture and Agri-food Canada, St-Hyacinthe, QC, Canada.*
T111	Sensory profiles and volatile components of milk protein concentrates and isolates. R. E. Miracle*, J. Childs, and M. A. Drake, *North Carolina State University, Raleigh.*
T112	Characterization of cucumber off-flavor in whey protein concentrate and isolate. J. M. Wright*, R. E. Miracle, and M. A. Drake, *North Carolina State University, Raleigh.*
T113	Impact of storage temperature on flavor stability of low heat skim milk powder. R. E. Miracle*, A. E. Croissant, M. A. Lloyd, and M. A. Drake, *North Carolina State University, Raleigh.*
T114	Fatty acid profile and sn-2 fatty acid distribution of infant milk fat fortified with EPA and DHA. C. O. Maduko[1], Y. W. Park*[2,1], and C. C. Akoh[1], [1]*University of Georgia, Athens,* [2]*Fort Valley State University, Fort Valley, GA.*
T115	Impact of agglomeration on the storage stability of whole milk powder. B. J. Wright* and M. A. Drake, *North Carolina State University, Raleigh.*
T116	Cloning, expression and antibody production of caprine platelet-activating factor acetylhydrolase. P. H. Tsao*[1,2], T. Y. Kuo[1], J. T. Hsu[2], L. P. Chow[2], and F. Y. Wu[1], [1]*National Ilan University, Ilan, Taiwan,* [2]*National Taiwan University, Taipei, Taiwan.*

Egg and Meat Science and Muscle Biology - Livestock and Poultry II
Exhibit Hall C

T117	Wet distillers grains plus solubles do not alter the relationship between fat content and marbling score in calf-fed steers. A. S. de Mello Junior*, C. R. Calkins, J. M. Hodgen, B. E. Jenschke, and G. E. Erickson, *University of Nebraska, Lincoln.*
T118	Effects of distillers grains finishing diets on fatty acid profiles in beef cattle. A. S. de Mello Junior*, B. E. Jenschke, J.M. Hodgen, G. E. Erickson, T. P. Carr, and C. R. Calkins, *University of Nebraska, Lincoln.*
T119	Influence of complexed trace mineral supplementation on carcass grade and meat quality of broilers processed at 42 and 56 d of age. B. Saenmahayak*, S. F. Bilgili, and J. B. Hess, *Auburn University, Auburn, AL.*
T120	Analysis of veal shoulder muscles for chemical attributes. G. A. Sullivan*[1], C. R. Calkins[1], D. D. Johnson[2], and B. G. Sapp[2], [1]*University of Nebraska, Lincoln,* [2]*University of Florida, Gainesville.*
T121	Influence of gender and slaughter weight on growth, carcass characteristics, and meat quality of Duroc and Landrace crossbred pigs. L. L. Lo*[1], C. C. Tsai[1], Y. C. Yang[1], R. S. Lin[2], T. H. Huang[3], and J. Chen[1], [1]*Chinese Culture University, Taipei, Taiwan, ROC,* [2]*National ILan University, ILan, Taiwan, ROC,* [3]*Taiwan Farm Industry Co., Ltd., Pingtung, Taiwan, ROC.*
T122	Effect of seaweeds on the physical quality and the sensorial characteristics of eggs enriched with omega-3 fatty acids and stored for long time under different conditions. V. H. Ríos[1], S. Carrillo*[1], M. M. Casas[2], M. E. Carranco[1], E. Avila[3], and F. Pérez-Gil[1], [1]*Instituto*

	Nacional de Ciencias Mérdicas y Nutrición Salvador Zubirán, México D.F., [2]Centro Interdisciplinario de Ciencias Marinas, La Paz, Baja California Sur, Mexico, [3]Facultad de Medicina Veterinaria y Zootecnia, UNAM, México D.F.
T123	A direct method for fatty acid methyl ester (FAME) synthesis. J. V. O'Fallon, J. R. Busboom, M. L. Nelson*, and C. T. Gaskins, *Washington State University, Pullman.*
T124	Intramuscular tenderness, sensory, and color attributes of two muscles from the *M. Quadriceps femoris* when fabricated using a modified hot boning technique. B. E. Jenschke*, B. J. Swedberg, and C. R. Calkins, *University of Nebraska, Lincoln.*
T125	Effect of juvenile clenbuterol exposure on growth in mice. A. C. Dilger*, R. N. Dilger, L. W. Kutzler, and J. Killefer, *University of Illinois, Urbana.*
T126	Hematocrit and carcass parameters in broiler chickens submitted to acute heat stress in climatic chamber. E. F. Delgado*[1], C. C. Santos[1], A. C. M. S. Pedreira[2], I. J. Silva[1], and J. F. M. Menten[1], [1]*Escola Superior de Agricultura, Piracicaba, São Paulo, Brasil,* [2]*Agência Paulista de Tecnologia do Agronegócio, Piracicaba, São Paulo, Brasil.*
T127	Effect of DEX Treatment on Ca^{2+} Content in the satellite cell from broiler muscle. S. G. Wu, Y. Miao, H. J. Zhang, and G. H. Qi*, *Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China.*
T128	Effect of low refrigeration temperature storage on physicochemical properties of packaged shell eggs during retail display. D. K. Shin*[1], C. Narciso-Gaytan[1], M. A. Sartor[1], J. Regenstein[2], and M. X. Sánchez-Plata[1], [1]*Texas A&M University, College Station,* [2]*Cornell University, Ithaca, NY.*
T129	Isolation and characterization ofμ-calpain, m-calpain, and calpastatin from postmortem bovine muscle. I Initial steps. J. P. Camou*, S. W. Mares, J. A. Marchello, R. Vazquez, M. D. Taylor, V. F. Thompson, and D. E Goll, *University of Arizona, Tucson.*
T130	Sarcomere length dynamics of postmortem ovine *Psoas major* and *Longissimus dorsi* muscles. I. Zapata*[1], T. D. Leeds[2], M. R. Mousel[2], and M. Wick[1], [1]*The Ohio State University, Columbus,* [2]*USDA-ARS U.S. Sheep Experiment Station, Dubois, ID.*
T131	Effect of pig age at slaughter on postmortem muscle protein degradation and fresh pork quality. C. E. Wagner*[1], E. Huff-Lonergan[1], A. A. Sosnicki[2,1], S. B. Jungst[2], and S. M. Lonergan[1], [1]*Iowa State University, Ames,* [2]*PIC North America, Hendersonville, TN.*

Forages and Pastures - Livestock and Poultry
Harvested Forages: Fermentation and Nutritive Quality
Exhibit Hall C

T132	Effects of concentrate on forage digestion *in vitro*, pH and volatile fatty acids. K. Reed*, D. J. R. Cherney, and J. H. Cherney, *Cornell University, Ithaca, NY.*
T133	Fermentation profile and dry matter recovery of *Panicum maximum* cv. Mombaça silages treated with microbial inoculant at different regrowth ages. E. M. Santos, O. G. Pereira*, and C. L. L. F. Ferreira, *Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brasil.*
T134	Microbial populations and fermentation profile of signalgrass (*Brachiaria decumbens* Stapf) silages harvested at different regrowth ages. E. M. Santos, O. G. Pereira*, C. L. L. F. Ferreira, and R. Garcia, *Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brasil.*
T135	Silage inoculant effects on in vitro rumen fermentation. R. E. Muck[1], F. E. Contreras*[2], and D. R. Mertens[1], [1]*USDA-ARS, Dairy Forage Research Center, Madison, WI,* [2]*University of Wisconsin-Madison, Madison.*
T136	Enzyme and bacterial inoculant effects on hybrid corn (Zea mays) silage composition. O. Ruiz-Barrera*[1], Y. Castillo[1], C. Rodriguez[1], O. La O[2], R. Beltran[1], and C. Arzola[1], [1]*Facultad de Zootecnia, Chihuahua, Chih., Mexico,* [2]*Instituto de Ciencia Animal, La Habana, Cuba.*
T137	Use of solid state fermentation to increase nutritious value of apple byproducts. C. Rodríguez-Muela*[1], A. Becerra[2], O. Ruiz[1], A. Ramírez[1], A. Flores[1], and A. Elías[3], [1]*Universidad Autónoma de Chihuahua, Chihuahua, México,* [2]*Universidad Autónoma de Nayarit, Tepic, México,* [3]*Instituto de Ciencia Animal, La Habana, Cuba.*
T138	Protein production by solid state fermentation of apple waste and pomace. H. E. Rodríguez-Ramírez*, C. Hernández-Gómez, C. Rodríguez-Muela, O. Ruíz-Barrera, and F. Salvador-Torres, *Universidad Autónoma de Chihuahua, Chihuahua, Chihuahua, México.*
T139	Temperature, dry matter, pH, yeast count and protein behavior on the solid state fermentation of apple pomace. C. Hernández-Gómez*, H. E. Rodríguez-Ramírez, C. Rodr\iacute;guez-Muela, A. Flores-Mariñelarena, and C. Arzola-Alvarez, *Universidad Autónoma de Chihuahua, Chihuahua, México.*
T140	Effect of fibrolytic enzymes and an inoculant on in vitro digestibility and gas production of low-dry matter alfalfa silage. L. K. Kozelov[1], F. Iliev[1], A. N. Hristov*[2], S. Zaman[2], and T. A. McAllister[3], [1]*Institute of Animal Sciences, Kostinbrod, Bulgaria,* [2]*University of Idaho, Moscow,* [3]*Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.*
T141	The use of bacterial silage inoculants to ensile crushed corn grains and its effects on ensilability and aerobic stability. G. Böck[1], K. Schöndorfer[2], Y. Acosta Aragón*[1], A. Klimitsch[1], and G. Schatzmayr[1], [1]*BIOMIN Research Center, Tulln, Austria,* [2]*University of Applied Sciences, Krems, Austria.*

T142	Liquid urea by product as an additive to improve intake and digestibility of grass hay. J. L. Rodríguez-Rivera*, E. Valencia, and A. A. Rodríguez, *University of Puerto Rico, Mayaguez Campus, Mayaguez, Puerto Rico.*
T143	Effects of irrigation system and level of water on corn silage hybrid NDF digestibility in northern Italy. E. Raffrenato[1], A. Formigoni[2], I. Fusaro*[3], A. Palmonari[2], N. Brogna[2], M. E. Van Amburgh[1], and C. J. Sniffen[4], [1]*Cornell University, Ithaca, NY,* [2]*DIMORFIPA, Università di Bologna, Ozzano dell'Emilia, BO, Italy,* [3]*Dipartimento di Scienze degli Alimenti, Università di Teramo, Teramo, Italy,* [4]*Fencrest, LLC., Holderness, NH.*
T144	Utilization of silage of *Albizia lebbeck* as supplement of sheep. F. Fernández, T. Clavero*, R. Razz, and O. Araujo-Febres, *Facultad de Agronomia, Universidad del Zulia, Maracaibo, Zulia, Venezuela.*
T145	*In sacco* rumen disappearance of condensed tannins, fiber, and nitrogen from herbaceous native Texas legumes in goats. D. L. Pawelek*[1,2], J. P. Muir[1], B. D. Lambert[1,2], and R. D. Wittie[2], [1]*Texas Agricultural Experiment Station, Stephenville,* [2]*Tarleton State University, Stephenville, TX.*
T146	Season and drying method effects on condensed tannin levels in perennial herbaceous legumes. R. M. Wolfe*[1], T. H. Terrill[2], and J. P. Muir[1], [1]*Texas Agricultural Experiment Station, Stephenville,* [2]*Agricultural Experiment Station, Fort Valley State University, Fort Valley, GA.*
T147	Effects of individual terpenes and terpene mixtures on intake by lambs. R. E. Estell*[1], E. L. Fredrickson[1], D. M. Anderson[1], and M. D. Remmenga[2], [1]*USDA/ARS Jornada Experimental Range, Las Cruces, NM,* [2]*New Mexico State University, Las Cruces.*
T148	Evaluation of hay treated with acid based preservatives at two cuttings and three moisture levels on their effect on feeding value. D. Sapienza[1], F. R. Valdez*[2], D. Westerhaus[2], and W. Rounds[2], [1]*Sapienza Analytica LLC, Slater, IA,* [2]*Kemin Industries, Inc., Des Moines, IA.*
T149	Loss of dry matter of pure and inoculated sugarcane (*Saccharum spp*) silage. G. S. Dias Júnior, D. C. L. Miranda, M. N. Pereira*, G. Santos, F. Lopes, and R. Spuri, *Universidade Federal de Lavras, Brazil.*
T150	Determinants of degradability among sugarcane (*Saccharum spp*) clones in the bovine rumen. C. B. Teixeira, M. N. Pereira*, M. A. P. Ramalho, M. H. Ramos, J. F. Santos, and M. L. Chaves, *Universidade Federal de Lavras, Brazil.*
T151	Change in dry matter content of sugarcane silage treated with chemical and microbiological additives. D. C. L. Miranda, G. S. Dias Júnior, M. N. Pereira*, R. Spuri, F. Lopes, and G. Santos, *Universidade Federal de Lavras, Brazil.*
T152	The effect of feeding sugar cane (*saccharum officinarum*) or corn silage to Holstein heifers on development and reproductive performance. J. A. Reyes-Gutierrez[1,2], J. M Palma-García[2], J. M. Tapia-Gonzalez*[1], I. E. Morales-Zambrano[1,2], and G. Rocha-Chavez[1], [1]*CUSUR Univ de Guadalajara, Guzman Jalisco Mexico,* [2]*Univ de Colima, Mexico.*
T153	Evaluation of the nutritive value of traditional forages collected during the growing season for improving livestock production in Mali. B. Dembele*[1], S. Fernandez-Rivera[2], B. Simpson[3], and M. Yokoyama[3], [1]*Institut Polytechnique Rural de Formation et de Recherche Appliquee, Katibougou, Mali,* [2]*International Livestock Research Institute, Addis Ababa, Ethiopia,* [3]*Michigan State University, East Lansing.*

Goat Species II
Exhibit Hall C

T154	*In vitro* volatile fatty acid profile of shrub and cacti species selected by grazing goats. M. Guerrero-Cervantes[1,2], R. G. Ramírez-Lozano[2], R. Montoya-Escalante[1], A. S. Juárez-Reyes[1], and M. A. Cerrillo-Soto*[1], [1]*Universidad Juárez del Estado de Durango, Durango, Dgo., Mexico,* [2]*Universidad Autónoma de Nuevo León, Monterrey, N.L., Mexico.*
T155	Methane emission by goats consuming a condensed tannin-containing lespedeza, alfalfa and sorghum-sudangrass. G. Animut*[1], R. Puchala[1], A. L. Goetsch[1], A. K. Patra[1], T. Sahlu[1], V. H. Varel[2], and J. Wells[2], [1]*E (Kika) de la Garza American Institute for Goat Research, Langston, OK,* [2]*US Meat Animal Research Center, Clay Center, NE.*
T156	Evaluation of level of crude protein and undegradable intake protein level in diets of growing Boer goats fed a complete pelleted ration. G. V. Pollard*[1], K. F. Wilson[2], and M. L. Bolfing[1], [1]*Texas State Univ., San Marcos,* [2]*Animal Feed Technologies, Greeley, CO.*
T157	Effects of dietary methionine and lysine sources on particular blood parameters in growing goats. Z. H. Sun[1], Z. L. Tan*[1], G. O. Tayo[1,2], B. Lin[1], and S. X. Tang[1], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, P.R. China,* [2]*Babcock University, Ikeja Lagos, Nigeria.*
T158	Effects of dietary NDF level on the duodenal and ileal flows of endogenous nitrogen and amino acids in growing goats. C. S. Zhou, Z. L. Tan*, H. L. Jiang, Z. H. Sun, and S. X. Tang, *Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, P.R. China.*
T159	Effects of dietary NDF levels on digestion, serum biochemical parameters and hormonal concentrations in growing goats. X. G. Zhao[1], H. L. Jiang[1], Z. H. Cong[1], S. X. Tang[1], Z. H. Sun[1], Z. L. Tan*[1], and G. O. Tayo[1,2], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, China,* [2]*Babcock University, Ikeja Lagos, Nigeria.*

T160	Selenium concentrations in forages and in blood of meat goats. T. K. Hutchens*[1], A. H. Cantor[1], H. D. Gillespie[1], P. B. Scharko[1], M. Neary[2], and J. E. Tower[2], [1]*University of Kentucky, Lexington,* [2]*Purdue University, West Lafayette, IN.*
T161	Supplementation with selenium boluses and its effect on milk and blood serum concentration of dairy goats. J. G. Librado Cruz*[1], M. Huerta Bravo[1], M. González Alcorta[1], J. G. García Muñíz[1], P. A. Martínez Hernández[1], and R. López Arellano[2], [1]*Universidad Autónoma Chapingo, Chapingo, México,* [2]*Facultad de Estudios Superiores Cuautitlán, UNAM, Cuautitlán Izcalli, México.*
T162	Effects of fibrolytic enzymes and seaweed extract on performance and carcass characteristics of meat goats fed a non-pelleted diet. G. V. Pollard*[1], K. F. Wilson[2], H. Anderson[3], and R. V. Machen[4], [1]*Texas State University, San Marcos,* [2]*Animal Feed Technologies, Greeley, CO,* [3]*Anderson Consulting and Training, Garden City, KS,* [4]*Texas Agricultural Experiment Station, Uvalde*.
T163	Effect of fibrolytic enzyme supplementation on fermentation characteristics of ensiled maize stover morphological fractions. Z. H. Sun, Z. L. Tan, and S. X. Tang*, *Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, P.R. China*.
T164	Kidding performance of Myotonic and Spanish goats mated to Boer and Kiko sires in an accelerated mating system. S. Wildeus* and J. R. Collins, *Virginia State University, Petersburg*.
T165	Effects of alfalfa hay and/or concentrate diets on growth, organ mass, blood and muscle metabolites, and volatile fatty acids in Boer × Spanish male kids. B. Kouakou*, G. Kannan, J. H. Lee, and T. H. Terrill, *Agricultural Research Station, Fort Valley State University, Fort Valley, GA.*
T166	The effect of mixed species grazing management on forage yield and quality. Y. Ghebreiyessus*, V. Bachireddy, S. Gebrelul, R. Payne, and M. Berhane, *Southern University*.

Growth and Development - Livestock and Poultry II
Exhibit Hall C

T167	Abundance of mRNA expression and nutritional regulation of somatotropic axis genes in the small intestine of prepubertal dairy heifers fed high-protein high-fat milk replacers. B. T. Velayudhan*, K. M. Daniels, M. L. McGilliard, B. A. Corl, K. F. Knowlton, and R. M. Akers, *Virginia Polytechnic Institute and State University, Blacksburg*.
T168	Effect of zilpaterol on cultured bovine satellite cells. E. K. Sissom*[1], D. A. Yates[2], J. L. Montgomery[2], W. T. Nichols[2], M. N. Streeter[2], J. P. Hutcheson[2], and B. J. Johnson[1], [1]*Kansas State University, Manhattan,* [2]*Intervet Inc., Millsboro, DE*.
T169	Cloning and expression pattern of bovine adipogenin isoform. S. G. Roh*, T. Satoh, and S. Shinichi, *Shinshu University, Minamiminowamura, Nagano-ken, Japan*.
T170	Δ^9 Desaturase gene expression in adipose tissues of calf-fed and yearling-fed Steers. M. A. Brooks*[1], C. W. Choi[2], D. K. Lunt[1], H. Kawachi[3], and S. B. Smith[1], [1]*Texas A&M University, College Station,* [2]*National Livestock Research Institute, Suwon, South Korea,* [3]*Kyoto University, Kyoto, Japan.*
T171	Impact of irradiation and IgG concentration on absorption of protein and IgG in calves fed colostrum replacer. J. M. Campbell*[1], L. E. Russell[1], J. D. Crenshaw[1], E. M. Weaver[1], S. Godden[2], J. D. Quigley[3], J. Coverdale[4], and H. Tyler[5], [1]*APC, Inc., Ankeny, IA,* [2]*University of Minnesota, St. Paul,* [3]*Diamond V Mills, Cedar Rapids, IA,* [4]*Texas A&M University, College Station,* [5]*Iowa State University, Ames.*
T172	Relationship between blood serum IGF-1 and GH concentrations and growth of Holstein steers. N. Torrentera*[1], R. Cerda[1], M. Cervantes[1], P. Garcez[2], and W. Sauer[1], [1]*Universidad Autonoma de Baja Cali, Mexicali, Baja, California, Mexico,* [2]*Universidad Autonoma de Mexico, Mexico*.
T173	Serial slaughter evaluation of growth-promoting implants on growth and carcass characteristics in calf-fed Holstein steers. J. L. Beckett*[1], L. D. Luqué[1], P. D. Bass[3], W. T. Nichols[2], and R. J. Delmore[1], [1]*California Polytechnic State University, San Luis Obispo,* [2]*Intervet Inc., Millsboro, DE,* [3]*Colorado State University, Fort Collins.*
T174	The effect of milk replacer composition on growth and body composition of Holstein heifer calves. S. R. Hill, K. M. Daniels*, K. F. Knowlton, R. E. James, R. E. Pearson, M. L. McGilliard, and R. M. Akers, *Virginia Polytechnic Institute and State University, Blacksburg*.

Immunology - Livestock and Poultry II
Exhibit Hall C

T175	Long-term consumption of resistant starch reduces T cell population and apoptosis in pig colon. M. Nofrarías*[1,2], D. Martínez–Puig[2], J.F. Pérez[2], and N. Majó[1,2], [1]*Centre de Recerca en Sanitat Animal (CReSA), Bellaterra, Spain,* [2]*Universitat Autònoma de Barcelona, Bellaterra, Spain.*
T176	Utilization of alfalfa and its effects on the immune system during molt. J. L. McReynolds*, K. J. Genovese, H. He, C. L. Swaggerty, J. A. Byrd, D. J. Nisbet, and M. H. Kogut, *USDA-ARS-SPACR-FFSRU, College Sation, TX*.

T177	Effect of a direct fed microbial (PrimaLac®) on systemic immunity in developing broilers. C. C. Chiang[1], R. Qiu[2], J. Croom[2], L. Daniel[2], R. Ali[2], and M. Koci*[2], [1]*National Chung Hsing University, Taiwan,* [2]*North Carolina State University, Raleigh.*
T178	Effects of yeast culture in broiler diets on performance and immunomodulatory functions. J. Gao[1], H.-J. Zhang[1], S.-H. Yu[1], S.-G. Wu[1], I. Yoon[2], J. Quigley[2], and G.-H. Qi*[1], [1]*Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China,* [2]*Diamond V Mills, Inc., Cedar Rapids, IA.*
T179	Dietary polyunsaturated fatty acids modulate immune responses in dairy cows characterized by an elevated plasma trans-10, cis-12 CLA and n-3 fatty acids but not cis-9, trans-11 CLA. M. Bharathan*, D. J. Schingoethe, R. S. Kaushik, K. F. Kalscheur, G. Moorkanat, and A. Hippen, *South Dakota State University, Brookings*.
T180	Plasma prostaglandin and cytokine concentrations in periparturient Holstein cows fed diets enriched in saturated or trans fatty acids. C. Rodriguez-Sallaberry*, C. Caldari-Torres, W. R. Collante, C. R. Staples, and L. Badinga, *University of Florida, Gainesville*.
T181	Natural antibody (anti-gal) is a sensitive means for evaluating the effects of diets on turkey humoral immunity. P. Cotter*[1], M. Hulet[2], and A. E. Sefton[3], [1]*Cotter Laboratory, Arlington, MA,* [2] *Pennsylvania State University, University Park,* [3]*Alltech Inc., Guelph, ON, Canada.*
T182	Effects of feeding blends of grains naturally contaminated with Fusarium mycotoxins on immunocompetence of turkeys. C. K. Girish*, T. K. Smith, H. J. Boermans, and N. A. Karrow, *University of Guelph, Guelph, Ontario, Canada*.
T183	Phage display selection and characterization of single-chain recombinant antibodies against *Eimeria tenella* sporozoites. D. Abi-Ghanem*[1], S. D. Waghela[1], D. J. Caldwell[1], H. D. Danforth[2], and L. R. Berghman[1], [1]*Texas A&M University, College Station,* [2]*USDA/ARS, Beltsville, MD.*
T184	Immune stimulatory CpG oligodeoxynucleotides reduces Salmonella enterica subsp. Arizonae organ colonization and mortality in young turkeys. H. He*, K. J. Genovese, C. L. Swaggerty, and M. H. Kogut, *Food and Feed Safety Research Unit, Southern Plain Agricultural Research Center, USDA-ARS, College Station, TX*.
T185	Responese of bovine lymphocytes to different CpG motifs. 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.*

Nonruminant Nutrition
Feeder Pig and Sow Nutrition I
Exhibit Hall C

T186	Effect of dietary P level and pectin infusion on bacterial P incorporation, activity and composition in pigs. B. U. Metzler*[1], W. Vahjen[2], T. Baumgärtel[3], M. Rodehutscord[3], and R. Mosenthin[1], [1]*Institute of Animal Nutrition, University of Hohenheim, Stuttgart, Germany,* [2]*Institute of Animal Nutrition, Free University of Berlin, Berlin, Germany,* [3]*Institute of Agricultural and Nutritional Sciences Halle-Wittenberg, Halle (Saale), Germany*.
T187	Effects of adding water into the mixer on pellet quality of expander processed barley–oats–soy–based diets for finishing pigs. K. K. Lundblad*[1,2], J. D. Hancock[2], M. Sørensen[3,4], K. C. Behnke[2], E. Prestløkken[1], and L. J. McKinney[2], [1]*Felleskjøpet Fôrutvikling, Trondheim, Norway,* [2]*Kansas State University, Manhattan,* [3]*University of Life Sciences, Aas, Norway,* [4]*AKVAFORSK, Aas, Norway*.
T188	Optimal true digestible Ca:P ratio in corn-rough rice-soybean meal-based diets for growing pigs. S. X. Wang*[1], Y. L. Yin[1], R. L. Huang[1], T. J. Li[1], X. F. Kong[1], M. Z. Fan[2], and G. Y. Wu[1,3], [1]*Institute of Subtropical Agriculture, the Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*University of Guelph, Guelph, Ontario, Canada,* [3]*Texas A&M University, College Station*.
T189	Effects of adding water into the mixer on pellet quality of expander-processed corn-soy-based diets for finishing pigs. K. K. Lundblad*[1,2], J. D. Hancock[2], M. Sørensen[3,4], K. C. Behnke[2], E. Prestløkken[1], and L. J. McKinney[2], [1]*Felleskjøpet Fôrutvikling, Trondheim, Norway,* [2]*Kansas State University, Manhattan,* [3]*University of Life Sciences, Aas, Norway,* [4]*AKVAFORSK, Aas, Norway*.
T190	Effects of fermented wild-ginseng culture by-products on growth performance, blood characteristics, meat quality and ginsenoside concentration of meat in finishing pigs. H. D. Jang*[1], J. H. Cho[1], Y. J. Chen[1], J. S. Yoo[1], J. J. Lee[2], M. H. Han[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choognam, Korea,* [2]*Chungnam Regional Innovation Agency, Cheonan, Korea.*
T191	Effect of dietary *Bacillus subtilis* on growth performance, immunological cells change, fecal NH3-N concentration and carcass meat quality characteristics in finishing pigs. J. H. Cho*[1], Y. J. Chen[1], B. J. Min[1], H. J. Kim[1], K. S. Shon[1], O. S. Kwon[1], J. D. Kim[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Chungnam, Korea,* [2]*CJ Feed Co. Ltd., Incheon, Korea.*
T192	Evaluation of dietary L-carnitine or garlic powder on growth performance, dry matter and nitrogen digestibilities, blood profiles and meat quality in finishing pigs. Y. J. Chen*[1], J. H. Cho[1], I. H. Hwang[2], Y. Hyun[2], T. G. Go[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choognam, Korea,* [2]*Easy Bio System Inc, Cheonan, Choognam, Korea*.
T193	Effects of dietary *Lactobacillus brevis* supplementation on growth performance, dry matter and nitrogen digestibilities, blood cell counts and fecal odor emission compounds in growing pigs. Y. J. Chen*[1], B. J. Min[1], J. H. Cho[1], Q. Wang[1], J. S. Yoo[1], J. D. Kim[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choognam, Korea,* [2]*CJ Feed Inc, Incheon, Gyeonggi, Korea*.

T194	Effects of feeding rye silage with different periods on growth performance, blood characteristics and carcass quality in finishing pigs. S. O. Shin*[1], J. H. Cho[1], Y. J. Chen[1], J. S. Yoo[1], J. W. Kim[1], Y. G. Han[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choongnam, Korea,* [2]*Sungkyunkwan University, Suwon, Gyeonggi, Korea.*
T195	Effects of phytogenic substances on growth performance, nutrients digestibility, fecal noxious gas content, blood characteristics, milk characteristics and reproduction in sows and litters performance. Q. Wang*, H. J. Kim, J. H. Cho, Y. J. Chen, J. S. Yoo, and I. H. Kim, *Dankook University, Cheonan, Choognam, Korea.*
T196	Effects of supplemental humic substances on quality and fatty acid profile of meat in finishing pigs. Q. Wang*, J. H. Cho, Y. J. Chen, J. S. Yoo, and I. H. Kim, *Dankook University, Cheonan, Choognam, Korea.*
T197	Effects of dietary herbs and coral mineral complex on growth performance, nutrients digestibility, blood characteristics and meat quality in finishing pigs. Y. Wang*, J. H. Cho, Y. J. Chen, J. S. Yoo, Q. Wang, and I. H. Kim, *Dankook University, Cheonan, Choognam, Korea.*
T198	Effects of dietary supplemental Megazone® on growth performance, nutrients digestibility, blood characteristics, meat quality and carcass traits in weaning-to-finishing pigs. Y. H. Kim[1], Y. Wang*[2], J. C. Park[1], H. J. Jung[1], J. H. Cho[2], Y. J. Chen[2], J. S Yoo[2], I. C. Kim[1], S. J. Kim[1], and I. H. Kim[2], [1]*National Livestock Research Institute, RDA, Cheonan, Choognam, Korea,* [2]*Dankook University, Cheonan, Choognam, Korea.*
T199	Interaction of dietary nutrient density and crowd density on growth performance, nutrients digestibility, blood characteristics and hormone concentration in growing pigs. Y. Wang*, J. H. Cho, Y. J. Chen, H. J. Kim, J. S. Yoo, Q. Wang, Y. Huang, and I.H. Kim, *Dankook University, Cheonan, Choognam, Korea.*
T200	The effects of environment-friendly diets on the growth performance, nutrient digestibility, fecal excretion, nitrogen excretion and emission gas in swine manure of growing pigs. J. S. Yoo*[1], J. H. Cho[1], Y. G. Chen[1], H. J. Kim[1], Q. Wang[1], Y. Hyun[2], T. G. Ko[2], C. S. Park[3], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choognam, Korea,* [2]*Dodram B&F Inc., Eumseong, Gyeonggi, Korea,* [3]*EASY BIO System, Inc, Seoul, Korea.*
T201	Growth performance in boars fed diets supplemented with organic selenium. S. M. Speight*, M. J. Estienne, and A. F. Harper, *Virginia Polytechnic Institute and State University, Blacksburg.*
T202	A polymorphism in the calcitonin receptor alters metabolic response to dietary phosphorus deficiency. L. S. Alexander*, S. A. Cutler, M. F. Rothschild, and C. H. Stahl, *Iowa State University, Ames.*
T203	Evaluation of different additives in weaned pigs. K. J. Touchette*, M. D. Newcomb, and D. W. Giesting, *Cargill Animal Nutrition, Elk River, MN.*
T204	Effect of an *Escherichia coli*-derived phytase on bone mineralization, and total and soluble phosphorus in growing pigs fed corn-soybean meal based diets. C. T. Kadzere*[1,4], E. van Heugten[1], J. S. Sands[2], R. Maguire[1,3], and M. Morrow[1], [1]*North Carolina State University, Raleigh,* [2]*Danisco Animal Nutrition, Marlborough, UK,* [3]*Virginia Polytechnic and State University, Blacksburg,* [4]*PDT Global Institute, Inc., Greensboro, NC.*
T205	Synthetic lysine inclusion rates in pigs from 1.5 to 5.5 kg fed liquid diets. A. E. Ikard*[1], R. J. Harrell[2], J. Odle[1], L. R. Gast[1], and J. H. Eisemann[1], [1]*North Carolina State University, Raleigh,* [2]*Novus International Inc., St. Louis, MO.*
T206	Effect of an *Escherichia coli*-derived phytase on nutrient digestibility in corn-soybean meal based diets for growing pigs. C. T. Kadzere*[1,4], E. van Heugten[1], J. S. Sands[2], R. Maguire[1,3], and M. Morrow[1], [1]*North Carolina State University, Raleigh,* [2]*Danisco Animal Nutrition, Marlborough, UK,* [3]*Virginia Polytechnic and State University, Blacksburg,* [4]*PDT Global Institute, Inc., Greensboro, NC.*
T207	Improving fat utilization by the weanling pig: effects of emulsification, diet physical form and fatty-acid-chain-length on growth performance. K. Price*[1], L. Xi[1], E. van Heugten[1], G. Willis[2], and J. Odle[1], [1]*North Carolina State University, Raleigh,* [2]*Milk Specialties Co., Dundee, IL.*
T208	Reproductive response of replacement gilts to dietary beta-carotene supplementation. C. A. Mejia-Guadarrama*[1,2], I. Ordoñez-Reyes[2], E. Villagómez-Amezcua[3,2], J. A. Rentería-Flores[1,2], and J. A. Cuarón-Ibargüengoytia[1,2], [1]*CENID-Fisiología Animal INIFAP, Queretaro, Mexico,* [2]*FESC-Universidad Nacional Autónoma de México, Queretaro, Mexico,* [3]*CENID-Microbiología INIFAP, D.F., México.*
T209	The effects of Quantum™ phytase on pig bone ash percentage and performance. A. L. Wagner*[1], A. F. Harper[1], M. J. Estienne[1], M. E. Persia[2], M. R. Bedford[2], and J. Escobar[1], [1]*Virginia Polytechnic Institute and State University, Blacksburg,* [2]*Syngenta Animal Nutrition, Research Triangle Park, NC.*
T210	Effect of substitution of sorghum by corn on performance of growing/finishing barrows and gilts. H. Bernal-Barragán*[1], E. Castellanos-Martínez[2], E. M. Romero-Treviño[2], E. Gutiérrez-Ornelas[1], M. A. Cerrillo-Soto[3], A. S. Juárez-Reyes[3], H. Morales-Treviño[1], and J. Colín-Negrete[1], [1]*Fac. de Agronomía UANL, Marín N.L., México,* [2]*Instituto Tecnológico de Altamira, Altamira, Tamaulipas,* [3]*Fac. de Medicina Veterinaria y Zootecnia UJED, Durango, Dgo, México.*
T211	The effects of feeding diets naturally-contaminated with *Fusarium* mycotoxins on protein metabolism in late gestation and lactation of sows and the efficacy of a polymeric glucomannan adsorbent in preventing these effects. G. Diaz-Llano*, C. Caballero-Cortes, R. M. Friendship, and T. K. Smith, *University of Guelph, Guelph, ON, Canada.*

T212	Effects of heat processing of corn and rice on serum ghrelin concentrations in young pigs. D. Menoyo[1], D. G. Valencia[1], V. Barrios[2], M. P. Serrano[1], B. Vicente[1], R. Lázaro[1], J. Argente[2], and G. G. Mateos*[1], [1]*Universidad Politécnica de Madrid, Spain,* [2]*Servicio de Endocrinología, Hospital Infantil Universitario Niño Jesús, Spain.*
T213	Citric acid and thymol influence gastrointestinal microflora in pigs at weaning. A. Piva[1], E. Grilli*[1], M. R. Messina[1], S. Albonetti[2], V. Pizzamiglio[1], I. Cipollini[1], P. P. Gatta[1], and G. Zaghini[1], [1]*DIMORFIPA, Ozzano Emilia, Bologna, Italy,* [2]*DSPVPA, Ozzano Emilia, Bologna, Italy*.
T214	Use of different soybean and fish meal protein sources in diets for young pigs. M. T. Sánchez[1], D. G. Valencia[1], M. P. Serrano[1], J. Sánchez[2], R. Lázaro[1], and G. G. Mateos*[1], [1]*Universidad Politécnica de Madrid, Spain,* [2]*Imasde Agropecuaria, Spain*.
T215	Segregated early-weaning down regulates the expression of the small intestinal alkaline phosphatase. D. Lackeyram*, C. Yang, T. Archbold, and M. Z. Fan, *University of Guelph, Guelph, Ontario, Canada*.
T216	The phosphorus-releasing efficacy of an *E. coli*-derived phytase in young pigs is dose-dependent and is not affected by the addition of a lipid-based coating added for pelleting stability. N. R. Augspurger*[1], A. M. Gaines[1], J. R. Danielson[2], and L. L. Southern[3], [1]*JBS United, Inc., Sheridan, IN,* [2]*University of Wisconsin, Madison,* [3]*LSU Agricultural Center, Baton Rouge, LA.*
T217	Evidence of a preference in piglets for an animal protein hydrolysate. D. Martínez-Puig*[1], M. Anguita[2], F. Baucells[2], E. Borda[1], J. F. Pérez[2], and C. Chetrit[1], [1]*Bioiberica S.A., Barcelona, Spain,* [2]*Dpt. Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain.*
T218	Effect of coarse ground corn, sugar beet pulp and wheat bran on the colonic morphology in growing pigs. M. Nofrarías*[1,2], M. Anguita[2], M. Roca[1,2], J. F. Pérez[2], and N. Majó[1,2], [1]*Centre de Recerca en Sanitat Animal (CReSA), Bellaterra, Spain,* [2]*Universitat Autònoma de Barcelona, Bellaterra, Spain*.
T219	Duodenal infusion of pancreatin to growing pigs fed phytase-supplemented, sorghum-soybean meal diets: Apparent ileal amino acid digestibility. S. Fierro, M. Cervantes*, W. Sauer, A. Morales, N. Torrentera, and A.B. Araiza, *ICA - Universidad Autonoma De Baja California, Mexicali, BC. Mexico*.
T220	Effect of dietary antibiotics and mannan oligosaccharides on growth performance, carcass characteristics and health of growing/finishing pigs. H. Bernal-Barragán*[1], E. A. Ruiz-Chávez[1], E. Gutiérrez-Ornelas[1], R. Ávalos-Ramírez[2], M. Cervantes-Ramírez[3], and F. Sánchez-Dávila[1], [1]*Facultad de Agronomía, Universidad Autónoma de Nuevo León, Marín, Nuevo León, México,* [2]*Fac. de Medicina Veterinaria y Zootecnia UANL, Unidad Mederos, Monterrey N.L. México,* [3]*Instituto de Ciencias Agrícolas UABC, Ejido Nuevo León, Valle de Mexicali, B.C. México*.
T221	Effect of a dry organic acid blend on lactating sow feed intake and performance. J Zhao*[1], R. J Harrell[1], L.L Greiner[2], X Wang[3], G.L Allee[3], F Navarro[1], and C. D Knight[1], [1]*Novus International Inc, St. Louis, MO,* [2]*Innovative Sow Solutions, Carthage, IL,* [3]*University of Missouri, Columbia*.

Nonruminant Nutrition
Poultry Nutrition II
Exhibit Hall C

T222	Broiler performance and yield observed with enzyme supplementation and a corn matrix adjustment for energy. X. Sun*[1], C. Troche[1], A. McElroy[1], J. Remus[2], E. Wong[1], and C. Novak[1], [1]*Virginia Polytechnic and State University, Blacksburg,* [2]*Danisco Animal Nutrition, Carol Stream, IL*.
T223	The effect of chitosan and natural mineral complex supplementation on egg production and egg characteristic in laying hens. J. S. Yoo*[1], Y. J. Chen[1], J. H. Cho[1], J. H. Lee[2], B. C. Park[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choognam, Korea,* [2]*CJ Feed Inc, Incheon, Gyeonggi, Korea.*
T224	Effects of dietary delta-aminolevulinic acid supplementation on egg production, egg quality and blood parameters in laying hens. Y. J. Chen*[1], J. H. Cho[1], H. J. Kim[1], J. S. Yoo[1], Q. Wang[1], Y. Hyun[2], and I. H. Kim[1], [1]*Dankook University, Cheonan, Choognam, Korea,* [2]*Easy Bio System, Inc, Cheonan, Choognam, Korea.*
T225	Effect of dietary lipids and time of feeding on immune tissue n-6 and n-3 fatty acid distribution during lipopolysaccharide challenge in broiler chickens. D. Gonzalez*, A. S. Abd El-Hakim, M. P. Goeger, and G. Cherian, *Oregon State University, Corvallis.*
T226	Fiber component type and level affect DDGS nutrient digestibility. M. K. Manangi*[1], C. N. Coon[1], E. E. M. Pierson[2], and M. Hruby[2], [1]*University of Arkansas, Fayetteville,* [2]*Danisco, St. Louis, MO*.
T227	Extraction of saponins from guar meal. R. Kakani*, O. Gutierrez, A. Haq, and C. A. Bailey, *Texas A&M University, College Station.*
T228	Effects of corn-, wheat-, and flax-based broiler diets with or without enzyme supplementation on proliferation of *Clostridium perfringens*: In vitro study. X. Wang*, G. Blank, and B. A. Slominski, *University of Manitoba, Winnipeg, Canada*.
T229	Influence of processing conditions of fish meal on digestibility of dietary components in broilers at 21 days of age. A. de Coca-Sinova, A.

	P. Bonilla, E. Jiménez-Moreno, R. Lázaro, and G. G. Mateos*, *Universidad Politécnica de Madrid, Spain*.
T230	Use of activity staining for monitoring site of β-glucanase activity in the gastrointestinal tract of broiler chickens. A. A. Sadeghi*[1] and P. Shawrang[2], [1]*Islamic Azad University, Tehran, Iran,* [2]*Research Center for Agriculture and Medicine, Atomic Energy Organization of Iran, Karaj, Iran*.
T231	Differential developmental gene expression of nutrient transporters in the small intestine of male and female chickens from lines selected for high or low juvenile bodyweight. C. R. Miller*, P. B. Siegel, K. E. Webb, Jr., and E. A. Wong, *Virginia Polytechnic Institute and State University, Blacksburg*.
T232	Effect of main cereal of the diet and particle size of the cereal on productive performance and egg quality of brown laying hens in early phase of production. H. M. Safaa[1,2], E. Jiménez-Moreno[1], B. Vicente[1], R. Lázaro[1], X. Arbe[3], and G. G. Mateos*[1], [1]*Universidad Politécnica de Madrid, Spain,* [2]*Animal Production Department, Faculty of Agriculture, Cairo University, Egypt,* [3]*Cantos Blancos, S.L, Guadalajara, Spain*.
T233	Evaluation of additives in chicks challenged with necrotic enteritis. J. L. Shelton*, A. R. Garcia, and D. W. Giesting, *Cargill Animal Nutrition, Elk River, MN*.
T234	Effects of dietary genistin on performances, organ weight and bone development in young male chicks. G. D. Kim*, J. H. Han, and K. M. Chee, *Korea University, Seoul, Korea*.
T235	Dietary persimmon peel powder and its tannin extract reduce the content of hepatic lipids in laying hens. C. W. Kang*[1], Y. K. Shin[2], S. J. You[1], and B. K. An[1], [1]*KonKuk University, Seoul, Korea,* [2]*MK Bioscience Co. INC, Suwon, Korea.*
T236	Efficacy of a bacillary probiotic in broilers. M. I. Gracia[1], E. Esteve-García[2], P. Cachaldora[3], T. Marubashi[4], E. McCartney[5], and P. Medel*[1], [1]*Imasde Agropecuaria, S.L., Pozuelo de Alarcón, Spain,* [2]*IRTA, Constantí, Spain,* [3]*COREN, Ourense, Spain,* [4]*Calpis Co Ltd., Tokyo, Japan,* [5]*Pen&Tec Consulting, Sant Cugat del Vallès, Spain*.
T237	Expression profiling of the solute carrier gene family in chicken intestine. H. Li*[1], E. R. Gilbert[1], Y. Zhang[2], O. Crasta[2], D. Emmerson[3], K. E. Webb Jr[1], and E. A. Wong[1], [1]*Virginia Polytechnic and State University, Blacksburg,* [2]*Virginia Bioinformatics Institute, Blacksburg, VA,* [3]*Aviagen, Huntsville, AL*.
T238	Effects of Versazyme™ on ileal micro-architecture in young broilers as measured by histomorphometrics and scanning electronic microscopy. C. C. Chiang[1], M. Chichlowski[2], R. Qiu*[2], J. Croom[2], L. Daniel[2], and J. Shih[2], [1]*National Chung Hsing University, Taiwan,* [2]*North Carolina State University, Raleigh*.
T239	Effect of a direct fed microbial on oxidative stress in the ileal and cecal epithelia of broilers. R. Qiu*[1], C. Ojano-Dirain[2], W. G. Bottje[2], C. Chiang[3], M. Chichlowski[1], J. Croom[1], L. Daniel[1], and M. Koci[1], [1]*North Carolina State University, Raleigh,* [2]*University of Arkansas, Fayetteville,* [3]*National Chung Hsing University, Taiwan*.
T240	Influence of in ovo feeding on turkey poult quality. J. E. de Oliveira*, P. R. Ferket, M. J. Wineland, and E. O. Oviedo-Rondon, *North Carolina State University, Raleigh*.
T241	Bioavailability of zinc-amino acid chelates to zinc nitrate in broiler chickens. S. O. Rao*[1], S. J. Park[1], R. A. Samford[2], and S. W. Kim[1], [1]*Texas Tech University, Lubbock,* [2]*Albion Advanced Nutrition, Clearfield, TX*.
T242	The interactive effects of wheat middlings, citric acid, and phytase in a corn soybean meal diet on broiler growth performance. T. O'Connor-Dennie* and J. L. Emmert, *University of Arkansas, Fayetteville*.
T243	Performance of modern vs 1970's heritage broilers fed drug free recommended and low protein diets. T. A. Woyengo*[1], A. Golian[2], W. Guenter[1], C. Bennett[3], and H. Muc[1], [1]*University of Manitoba, Winnipeg, Manitoba, Canada,* [2]*University of Ferdowsi, Mashhad, Iran,* [3]*Manitoba Agriculture, Food and Rural Initiative, Winnipeg, Manitoba, Canada.*

Physiology & Endocrinology - Livestock and Poultry
Estrus Synchronization
Exhibit Hall C

T244	Evaluation of 5-day versus 7- day CIDR treatment on reproductive performance of beef cows using a timed AI protocol. D. Gunn*[1], J. B. Glaze, Jr.[2], R. Findlay[3], D. Falk[4], and A. Ahmadzadeh[4], [1]*University of Idaho Extension, Fort Hall,* [2]*University of Idaho, Twin Falls,* [3]*University of Idaho Extension, Pocatello,* [4]*University of Idaho, Moscow*.
T245	Effect of reusing CIDRs on the pregnancy rate of beef cattle. M. L. Borger* and W. A. Greene, *The Ohio State University, Wooster*.
T246	Evaluation of human chorionic gonadotropin (hCG) as a replacement for GnRH in an ovulation-synchronization protocol before fixed timed AI. M. G. Burns*[1], B. S. Buttrey[1], D. R. Eborn[1], J. E. Larson[2], B. J. Lovaas[2], G. C. Lamb[2], K. C. Olson[1], and J. S. Stevenson[1], [1]*Kansas State University, Manhattan,* [2]*University of Minnesota, Grand Rapids*.
T247	Synchronization of estrous with melengestrol acetate and estradiol cypionate in Nellore heifers and Angus dry cows. R. F. G. Peres*[1], O.

	G. Sa Filho[1], R. L. Valarelli[2], and J. L. M. Vasconcelos[1], [1]*FMVZ - UNESP, Botucatu, Brazil,* [2]*Pfizer Animal Health, Brazil.*
T248	Effect of treatment with melengestrol acetate combined with estradiol cypionate on pregnancy rates along a 70 days breeding season in postpartum Nellore cows. R. F. G. Peres*[1], O. G. Sa Filho[1], R. L. Valarelli[2], and J. L. M. Vasconcelos[1], [1]*FMVZ - UNESP, Botucatu, Brazil,* [2]*Pfizer Animal Health, Brazil.*
T249	Effect of estradiol cypionate dosage (1 vs. 2 mg) on estrus detection and pregnancy rates of postpartum Nellore cows synchronized with melengestrol acetate. R. L. Valarelli*[1], O. G. Sa Filho[2], and J. L. M. Vasconcelos[2], [1]*Pfizer Animal Health, Brazil,* [2]*FMVZ - UNESP, Botucatu, Brazil.*
T250	Pregnancy rates in a 10 days breeding season in postpartum Nellore cows treated with melengestrol acetate associated or not with estradiol cypionate. R. L. Valarelli*[1], O. G. Sa Filho[2], M. Meneghetti[2], and J. L. M. Vasconcelos[2], [1]*Pfizer Animal Health, Brazil,* [2]*FMVZ - UNESP, Botucatu, Brazil.*
T251	Fixed-time artificial insemination in replacement beef heifers after treatment with human chorionic gonadotropin (hCG), progesterone, and prostaglandin $F_{2\alpha}$. G. C. Lamb[1], J. E. Larson*[1], C. R. Dahlen[2], and G. Marquezini[1], [1]*North Central Research and Outreach Center, University of Minnesota, Grand Rapids,* [2]*Northwest Research and Outreach Center, Crookston, MN.*
T252	Artificial insemination of superovulated Angus cows using sexed or conventionally frozen semen. G. C. Lamb*[1], B. J. Lovaas[1], S. L. Bird[1], A. Martins[1], J. E. Larson[1], J. C. Rodgers[1], D. J. Frank[2], and D. M. Williams[2], [1]*North Central Research and Outreach Center, University of Minnesota, Grand Rapids,* [2]*ABS Global, Inc., DeForest, WI.*
T253	Effect of length of treatment with melengestrol acetate (7 vs. 13 days) prior to induction of ovulation on occurrence of short cycle in anestrous Nellore cows. O. G. Sa Filho*[1], R. L. Valarelli[2], and J. L. M. Vasconcelos[1], [1]*FMVZ - UNESP, Botucatu, Brazil,* [2]*Pfizer Animal Health, Brazil.*
T254	Effect of length of exposure to exogenous progesterone (3 vs. 6 days) prior to induction of ovulation on premature luteolysis in anestrous Nellore cows. O. G. Sá Filho*, C. R. Zilioti, and J. L. M. Vasconcelos, *FMVZ - UNESP, Botucatu, Brazil.*
T255	Ovarian and hormonal responses to a progesterone releasing intravaginal device (PRID) treatment in the presence or absence of estradiol from the early luteal phase in heifers. T. Kuroiwa*, T. Tanaka, and H. Kamomae, *Tokyo University of Agriculture and Technology, Fuchu, Tokyo, Japan.*
T256	A stochastic model to compare breeding system costs for synchronization of estrus and AI to natural service. S.K. Johnson* and R.D. Jones, *Kansas State University, Manhattan.*
T257	Different estrus syncryonization protocols in sheep. B. R. Avila[1], M. T. Sánchez[1], E. O. García*[2], O. D. Montañez-Valdez[3], P. M Molina[1], J. G. Peralta[1], M. E. Ortega[1], and J. L. Cordero[1], [1]*Colegio de Postgraduados, Montecillo, Estado de México, México,* [2]*Centro Universitario de la Costa Sur de la Universidad de Guadalajara, Aútlan, Jalisco, México,* [3]*Centro Universitario del Sur de la Universidad de Guadalajara, Ciudad Guzmán, Jalisco, México.*
T258	Treatment with bST during progestin synchronization increases the blastocyst rate in ewes. A. Montero, J. Hernández, J. Valencia, C. G. Gutiérrez, S. Rojas, and J. Hernández-Cerón*, *Facultad de Medicina Veterinaria y Zootecnia. Universidad Nacional Autónoma de México., Mexico.*
T259	Effect of estradiol–17β supplementation at the last GnRH of the Ovsynch protocol in lactating dairy cows. A. P. Cunha*, J. N. Guenther, E. P. B. Silva, J. B. C. Heijink, and M. C. Wiltbank, *University of Wisconsin, Madison.*
T260	Effect of GnRH after TAI on subsequent Resynch fertility. A. P. Cunha*, J. A. Powell, J. N. Guenther, E. P. B. Silva, and M. C. Wiltbank, *University of Wisconsin, Madison.*
T261	Human chorionic gonadotropin (hCG) and GnRH influences pregnancy survival and resynchronized ovulation before timed AI in Holstein cattle. B. S. Buttrey*, M. G. Burns, and J. S. Stevenson, *Kansas State University, Manhattan.*
T262	Logistic regression analysis for relationship between the timing of the resumption of normal ovarian cycles and metabolic status in postpartum dairy cows. C. Kawashima*, M. Matsui, E. Kaneko, C. Amaya Montoya, T. Shimizu, N. Matsunaga, K. Kida, Y-I. Miyake, and A. Miyamoto, *Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Hokkaido, Japan.*
T263	Does synchronization protocol affect conception in lactating dairy cows? J. L. M. Vasconcelos*[1], R. M. Santos[2], B. L. Cardoso[1], F. M. Abreu[1], L. H. Cruppe[1], and S. Soriano[3], [1]*FMVZ- UNESP, Botucatu, SP, Brazil,* [2]*UFU, Uberlandia, MG, Brazil,* [3]*Faz Colorado, Araras, SP, Brazil.*
T264	Effect of physiological status on the concentrations of progesterone maintained by CIDRs in Holstein cattle. K. T. Wolf*, A. K. Sanders, D. L. Ray, and W. J. Silvia, *University of Kentucky, Lexington.*
T265	Effect of flunixin meglumine at days 15 and 16 after TAI on pregnancy rates in lactating Holstein cows. L. F. M. Pfeifer[1], J. L. M. Vasconcelos*[2], A. Schneider[1], J. Wilson Neto[1], N. J. L. Dionello[1], P. Duarte[1], L. Meneghelo[1], M. N. Correa[1], A. Guzeloglu[3], and W. W. Thatcher[4], [1]*UF Pelotas, Pelotas, Brazil,* [2]*FMVZ, Botucatu, Brazil,* [3]*Selcuk University, Konya, Turkey,* [4]*University of Florida, Gainesville.*
T266	Effect of GnRH administered four days after synchronization of ovulation and timed AI on fertility of anovular lactating dairy cows. R. A.

	Sterry*[1], E. Silva[1], D. Kolb[2], and P. M. Fricke[1], [1]*University of Wiscosin-Madison*, [2]*Lodi Veterinary Clinic, Lodi, WI*.
T267	Effect of human chorionic gonadotropin or gonadotropin releasing hormone injected 5 or 7 days after 72 h Co-Synch on first service pregnancy rates in lactating dairy cows. R. L. Nebel*[1], J. M. DeJarnette[1], D. A. Whitlock[1], C. E. Marshall[1], M. R. Mink[2], and R. Kasimanickam[2], [1]*Select Sires Inc.*, *Plain City, OH*, [2]*Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg*.
T268	Effect of time of AI and supplemental estradiol on reproductive performance of dairy cows. J. Hillegass*, F. S. Lima, M. F. Sa Filho, and J. E. P. Santos, *Veterinary Medicine Teaching and Research Center, Univesity of California Davis, Tulare*.
T269	Strategies to maximize ovulation to first GnRH of Ovsynch in lactating dairy cows. N. M. Bello* and J. R. Pursley, *Michigan State University, East Lansing*.
T270	Pregnancy rates to timed-AI of dairy cows treated with pLH or GnRH. M. G. Colazo*[1], D. J. Ambrose[1], and R. J. Mapletoft[2], [1]*Alberta Agriculture and Food, Edmonton, AB, Canada*, [2]*WCVM, University of Saskatchewan, Saskatoon, SK, Canada*.
T271	Prepartum feed restriction and fatty acid supplementation influence reproductive performance of dairy cows. M. G. Colazo*[1], D. J. Ambrose[1,2], A. Hayirli[2], and L. Doepel[2], [1]*Alberta Agriculture and Food, Edmonton, AB, Canada*, [2]*University of Alberta, Edmonton, AB, Canada*.
T272	Evaluation of feed restriction and pre-synchronization in a program for estrous synchronization. P. Molina[1], T. Sánchez[1], O. Mejía[2], J. Nuñez[2], E. García*[3], O. D. Montañez-Valdez[4], J. Cordero[1], J. Peralta[1], M. E. Ortega[1], R. Nieto[5], E. Mendoza[1], and R. Avila[1], [1]*Colegio de Postgraduados, Montecillo, Estado de México, México*, [2]*Facultad de Medicina Veterinaria y Zootecnia, UNAM, Tres Marías, Municipio de Huitzilac, México*, [3]*Centro Universitario de la Costa Sur de la Universidad de Guadalajara, Autlán, Jalisco, México*, [4]*Centro Universitario del Sur de la Universidaad de Guadalajara, Ciudad Guzmán, Jalisco, México*, [5]*Instituto Tecnológico Agropecuario No.6, Huejutla, Hidalgo, México*.
T273	Effect of time of AI and supplemental estradiol on pregnancy rates of lactating dairy cows. J. Hillegass*, J. E. P. Santos, F. S. Lima, M. F. Sheley, and M. F. S. Filho, *University of California, Tulare*.
T274	Ovulation and CL development in mature cows given pLH or GnRH. T. O. Ree*[1,2], M. G. Colazo[3], D. J. Ambrose[3,2], A. G. A. Lamont[2,3], J. P. Kastelic[4], M. K. Dyck[2], R. J. Mapletoft[5], and B. N. Ametaj[2], [1]*Lakeland College, Vermilion, AB, Canada*, [2]*University of Alberta, Edmonton, AB, Canada*, [3]*Alberta Agriculture and Food, Edmonton, AB, Canada*, [4]*Agriculture and Agri-food Canada, Lethbridge, AB, Canada*, [5]*University of Saskatchewan, Saskatoon, SK, Canada*..

Production, Management & the Environment - Livestock and Poultry II
Exhibit Hall C

T275	Human resource management and dairy employee organizational commitment. R. E. Stup*, *The Pennsylvania State University, University Park*.
T276	The amount of concentrate offered in automated milking systems does not influence the frequency of visits of dairy cattle consuming high levels of corn silage. A. Bach*[1,2], C. Iglesias[3], M. Devant[2], and A. Ferrer[2], [1]*ICREA, Barcelona, Spain*, [2]*IRTA-Unitat de Remugants, Barcelona, Spain*, [3]*SEMEGA, Girona, Spain*.
T277	Effects of dam's dry period length on calf. M. T. Kuhn*, J. L. Hutchison, and H. D. Norman, *Animal Improvement Programs Laboratory, Beltsville, MD*.
T278	An analysis of the relationship between wash water quality and bulk tank milk quality on Ontario dairy farms. N. R. Perkins*[1], D. F. Kelton[1], K. E. Leslie[1], K. J. Hand[2], G. MacNaughton[3], and O. Berke[1], [1]*University of Guelph, Ontario, Canada*, [2]*CanWest DHI, Guelph, Ontario, Canada*, [3]*Dairy Farmers of Ontario, Mississauga, Ontario, Canada*.
T279	Body weight of Holstein heifers as measured by heart girth tape and electronic scale: A comparison. J. E. Wohlt*[1], C. E. Reich[1], and J. Ferguson[2], [1]*Rutgers University, New Brunswick, NJ*, [2]*University of Pennsylvania, Kennett Square*.
T280	Dairy farm sustainability: The economic component indicators. D. L. Larochelle*, D. P. Parent, G. A. Allard, and D. P. Pellerin, *Laval University, Quebec, Quebec, Canada*.
T281	A comparison of body temperature measures between Holstein and Gir × Holstein cows in relation to environment and stage of the estrous cycle. S. Dray*, A. Harris, R. Farrar, G. Grissett, S. Laird, and S. Willard, *Mississippi State University, Mississippi State*.
T282	Evaluation of the pedometer system efficiency. R. M. Santos*[1], J. L. M. Vasconcelos[2], and S. Soriano[3], [1]*UFU, Uberlândia, MG*, [2]*FMVZ-UNESP, Botucatu, SP*, [3]*Fazenda Colorado, Araras, SP, Brazil*.
T283	Effect of nitrogen intake, straw and days of storage on pH, temperature and ammonia emission from dairy cow manure. M. J. Aguerre*[1], M. A. Wattiaux[1], and T. Hunt[2], [1]*University of Wisconsin, Madison*, [2]*University of Wisconsin, Platteville*.
T284	Dairy manure estrogens with advanced treatments. Z. Zhao*, K. F. Knowlton, N. G. Love, and Y. Fang, *Virginia Polytechnic Institute and State University, Blacksburg*.

T285	The impact of intake water temperatures on reticular temperatures of lactating dairy cows. J. M. Bewley*[1], D. C. Batson[2], M. W. Grott[1], and M. M. Schutz[1], [1]*Purdue University, West Lafayette, IN*, [2]*MaGiiX Inc., Post Falls, ID.*
T286	Predicting cow health and estrus status by measuring change in water intake in dairy cows. J. M. Lukas* and J. K. Reneau, *University of Minnesota, St Paul*.
T287	Factors affecting group sizes within herd and group milk volume compared to total herd volume of milk. R. C. Goodling*, K. E. Griswold, and T. J. Beck, *Pennsylvania State Cooperative Extension, University Park.*
T288	Milking parlor employee management on Wisconsin dairy farms. K. J. Hohmann and P. L. Ruegg*, *University of Wisconsin, Madison.*
T289	Bluegrass straw as a partial replacement for alfalfa hay in dairy rations. E. M. O'Rourke*, J. J. Michal, and R. L. Kincaid, *Washington State University, Pullman.*
T290	Scrotal circumference in performance tested bulls: prediction of measures at 365 days of age from measures at 240 days of age. J. E. Decker*, P. Luna, A. M. Encinias, and M. G. Thomas, *New Mexico State University, Las Cruces*.
T291	Estimation of no-return costs for different cattle identification systems in California. G. Caja*[1,2], F. Haque[2], J. W. Oltjen[2], L. J. Butler[2], J. L. Evans[3], and V. J. Velez[3], [1]*Universitat Autònoma de Barcelona, Bellaterra, Spain*, [2]*University of California, Davis, CA*, [3]*California Department of Food and Agriculture, Sacramento, CA.*
T292	Analysis of birth weight, weaning weight, and pre-weaning gain in Simmental, Zebu and Simmental × Zebu calves on tropical pastures. J. C. Martinez-Gonzalez*[1], A. Azuara-Martinez[2], F. A. Lucero-Magana[1], E. G. Cienfuegos-Rivas[1], and S. P. Castillo-Rodriguez[1], [1]*Agronomia y Ciencias, Universidad Autonoma de Tamaulipas, Ciudad Victoria, Tamaulipas, Mexico*, [2]*Direccion General de Educacion Tecnologica Agropecuaria, Ciudad Victoria, Tamaulipas, Mexico.*
T293	Economic strategies for stocking rate and supplementation of stockers grazing rye-ryegrass pastures. F. M. Rouquette, Jr.*[1] and L. Ortega[2], [1]*Texas A&M University System Agricultural Research & Extension Center, Overton*, [2]*Agronomy Department, University of Zulia, Venezuela, Zulia, Venezuela*.
T294	Development of a model for noninvasive evaluation of energy profiles in beef cows. J. F. Odhiambo*, E. E. Felton, R. Helmondollar, J. Y. Pritchard, P. I. Osborne, and R. A. Dailey, *West Virginia University, Morgantown.*

Ruminant Nutrition II
Exhibit Hall C

T295	Effects of waste products from plant materials on *in vitro* rumen fermentation. D. Tedesco*, S. Stella, L. Garavaglia, C. Barbieri, and S. Galletti, *University of Milan, Italy*.
T296	Rumen degradation ratios: comparison of frost-damaged wheat with normal wheat. P. Yu* and V. Racz, *University of Saskatchewan, Saskatoon, SK, Canada*.
T297	Available protein, structural and non-structural carbohydrates: comparison of frost-damaged wheat with normal wheat. P. Yu* and V. Racz, *University of Saskatchewan, Saskatoon, SK, Canada*.
T298	Modelling nutrient supply to dairy cattle from normal and frozen sheat: Comparison of the National Research Council-2001 model with the DVE/OEB system. P. Yu*, R. Racz, and J. McKinnon, *University of Saskatchewan, Saskatoon, SK, Canada*.
T299	Feed values of barley varieties could be determined using in vitro gas production technique. M. Rinne[1], S. Ahvenjärvi[1], M. Holma[2], and P. Huhtanen*[1,3], [1]*MTT Agrifood Reserach Finland, Jokioinen, Finland*, [2]*RehuRaisio Ltd., Raisio, Finland*, [3]*Cornell University, Cornell, NY.*
T300	Effect of an exogenous fibrolytic enzyme on in vivo digestibility of King grass hay. J. H. Avellaneda-Cevallos*[1], G. Quintana-Zamora[1], F. Espinoza-Torrico[1], O. Montañez-Valdez[2], I. Espinoza-Guerra[1], R. Luna-Murillo[1], S. González-Muñoz[3], and J. Tuárez-Cobeña[1], [1]*Facultad de Ciencias Pecuarias, Unidad de Investigación Cientifica y Tecnológica, Universidad Técnica Estatal de Quevedo, Quevedo, Los Rios, Ecuador*, [2]*Divisíon de Bienestar y Desarrollo Regional, Departamento de Desarrollo Regional, Universidad de Guadalajara, Ciudad Guzmán, Municipio de Zapotlán, Jalisco, México*, [3]*Colegio de Postgraduados, Texcoco, Estado de México, México*.
T301	Effects of Bovazyme WP™ on microbial efficiency and metabolism in continuous culture of rumen contents. B. P. House*, L. Holden, and G. A. Varga, *Pennsylvania State University, University Park.*
T302	Effects of yeast and type of starch on pH fluctuation, nutrient digestion and microbial fermentation in a dual flow continuous culture system. D. Moya*, S. Calsamiglia, A. Ferret, and M. C. Fuentes, *Universitat Autonoma de Barcelona, Barcelona, Spain*.
T303	Screening for the effects of commercial additives at two pH levels on in vitro rumen microbial fermentation of a high-concentrate beef cattle diet. D. Moya*, S. Calsamiglia, A. Ferret, and J. I. Fandiño, *Universitat Autonoma de Barcelona, Barcelona, Spain.*
T304	Effect of fibrolytic enzyme application to diets differing in concentrate proportion on the performance of lactating dairy cattle. K. G. Arriola*, A. T. Adesogan, S. C. Kim, T. W. Kang, C. M. Huisden, and C. R. Staples, *University of Florida, Gainesville*.

T305	Effect of a ruminal buffer and an amilolytic enzymes mixture added to a sorghum grain diet on finishing Criollo lambs. H. A. Lee–Rangel[1], G. D. Mendoza–Martínez[2], S. S. González*[1], G. Ramírez–Valverde[1], and J. H. Avellaneda–Cevallos[3], [1]*Colegio de Postgraduados, Montecillo, Edo. México, México,* [2]*UAM Xochimilco, México D.F.,* [3]*Universidad Técnica Estatal de Quevedo, Quevedo, Ecuador*.
T306	Effects of exogenous amylase from Bacillus licheniformis on sheep performance and starch digestion. M. M. Crosby[1], G. D. Mendoza*[2], L. M. Melgoza[2], J. R. Barcena[1], and F. X. Plata[2], [1]*Colegio de Postgraduados, Montecillo, Mexico, Mexico,* [2]*Universidad Autonoma Metropolitana Xochimilco, Mexico, D.F., Mexico.*
T307	Effect of feeding Fermenten® on rumen fermentation in cows fed different concentrations of sucrose. G. B. Penner*[1], L. L. Guan[1], K. A. Beauchemin[2], and M. Oba[1], [1]*University of Alberta, Edmonton, Alberta, Canada,* [2]*Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada.*
T308	Influence of encapsulation of ascorbic acid to fermentation by rumen bacteria, in vitro. J. E. Garrett*[1], G. Oenga[1], A. Tayal[1], and T. M. Webster[2], [1]*Balchem Corporation, New Hampton, NY,* [2]*West Virginia University, Morgantown.*
T309	Quantification of Streptococcus bovis and Megasphaera elsdenii in ruminal fluid of dairy cows and beef heifers by real time PCR technique. M. Blanch*, S. Calsamiglia, and A. Castello, *Universitat Autonoma de Barcelona, Spain*.
T310	The effect of heat stress on rumen microbial composition analyzed by sequence-specific rRNA cleavage method. Y. Uyeno*[1,3], Y. Sekiguchi[1], K. Tajima[2], A. Takenaka[2], M. Kurihara[2], and Y. Kamagata[1], [1]*National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan,* [2]*National Institute of Livestock and Grassland Science, Tsukuba, Japan,* [3]*National Federation of Dairy Co-operative Associations, Tokyo, Japan*.
T311	Application of carbohydrase inhibitors to moderate rumen fermentation: II. Continuous culture evaluation. S. M. Speight*[1], D. L. Harmon[1], and J. M. Tricarico[2], [1]*University of Kentucky, Lexington,* [2]*Alltech Biotechnology, Nicholasville, KY.*
T312	Efficacy of *Prevotella bryantii* 25A and a mixture of *Enterococcus faecium* and *Saccharomyces cerevisiae* to control sub-clinical acidosis in dairy cows. J. Chiquette*[1], M. J. Allison[2], and M. A. Rasmussen[3], [1]*Dairy and Swine Research and Development Centre, Lennoxville, Quebec, Canada,* [2]*Iowa State University, Ames,* [3]*SarTec Corporation, Anoka, MN.*
T313	Differential effects of supplying reductant as hydrogen, formate or a combination of these on the methane-inhibiting activity of select nitrocompounds in vitro. N. A. Kruegar*, R. C. Anderson, T. R. Callaway, T. S. Edrington, R. B. Harvey, and D. J. Nisbet, *USDA/ARS, Food & feed Safety Research Unit, College Station, TX*.
T314	Effect of level of dietary malic acid supplementation on rumen methanogenesis and fermentation in beef cattle. P. Foley, J. Callan, D. Kenny*, T. Boland, and F. O'Mara, *University College Dublin, Dublin Ireland.*
T315	Usefulness of infrared imaging as a predictor of heat loss and methane production in dairy cows. Y.R. Montanholi*, N.E. Odongo, K.C. Swanson, F.S. Schenkel, B.W. McBride, and S.P. Miller, *University of Guelph, Guelph, Ontario, Canada*.
T316	Profiling energy substrate metabolism in isolated rumen epithelial and duodenal mucosal cells from beef cattle. S. W. El-Kadi*[1], R. L. Baldwin[2], K. R. McLeod[3], N. E. Sunny[1], S. L. Owens[1], and B. J. Bequette[1], [1]*University of Maryland, College Park,* [2]*USDA-ARS, Beltsville, MD,* [3]*University of Kentucky, Lexington.*
T317	Rumen wall morphology and the change in bovine rumen absorptive capacity induced by varying digesta volume and pH. L. Q. Melo, F. Lopes, M. N. Pereira*, M. C. Guerreiro, S. F. Costa, and J. C. Resende Júnior, *Universidade Federal de Lavras.*
T318	Morphophysiologic evaluation of absorption and metabolism of volatile fatty acids by bovine forestomach. J. L. P. Daniel and J. C. Resende Júnior*, *Universidade Federal de Lavras, Lavras, MG, Brazil.*
T319	Evaluation of procedures for isolation of ruminant enterocytes. P. R. Regmi*, W. T. Dixon, and M. Oba, *University of Alberta, Edmonton, AB, Canada*.
T320	Ruminal, but not abomasal, infusion of starch differentially increases expression of concentrative nucleoside transporter (CNT) mRNA by small intestinal (SI) epithelia of forage-fed beef steers. S. F. Liao*, M. J. Alman, E. S. Vanzant, E. D. Miles, D. L. Harmon, K. R. McLeod, J. A. Boling, and J. C. Matthews, *University of Kentucky, Lexington, KY, USA.*
T321	Effect of hybrid (high starch content vs. high NDF digestibility) and maturity of corn silage on dairy cow performance. R.L.G. Zom*[1], H.A. van Schooten[1], and H. van Laar[2], [1]*ASG Wageningen University & Research Centre, Lelystad, Netherlands,* [2]*Nutreco Ruminant Research Centre, Boxmeer, Netherlands.*
T322	Effects of a bacterial inoculant on fermentation, nutritive quality and degradability of corn, soybean and combined corn-soybean silages. L. O. Abdelhadi*[1] and J. M. Tricarico[2], [1]*Est. El Encuentro, Research & Extension in Ruminant Nutrition, Cnel. Brandsen, Argentina,* [2]*Alltech Inc., Nicholasville, KY.*
T323	Effects of a bacterial inoculant on fermentation, nutritive quality and degradability of combined corn-soybean silages in different geographical regions across Argentina. L. O. Abdelhadi*[1] and J. M. Tricarico[2], [1]*Est. El Encuentro, Research and Extension in Ruminant Nutrition, Cnel. Brandsen, Argentina,* [2]*Alltech Inc., Nicholasville, KY.*
T324	Effects of a bacterial inoculant on fermentation, nutritive quality and degradability of different sorghum silage hybrids. L. O. Abdelhadi*[1]

	and J. M. Tricarico[2], [1]*Est. El Encuentro, Research and Extension in Ruminant Nutrition, Cnel. Brandsen, Argentina,* [2]*Alltech Inc., Nicholasville, KY.*
T325	Effect of alfalfa silage storage structure and roasting corn on production and ruminal metabolism of lactating dairy cows. S. J. Krizsan*[1], G. A. Broderick[2], R. E. Muck[2], C. Promkot[3], S. Colombini[4], and Å. T. Randby[1], [1]*Norwegian University of Life Sciences, Ås, Norway,* [2]*US Dairy Forage Research Center, Madison, WI,* [3]*Khon Kaen University, Khon Kaen, Thailand,* [4]*University of Milano, Milano, Italy.*
T326	Changes in fermentation end products and the use of real-time quantitative PCR to monitor the dynamics of *Lactobacillus buchneri* in alfalfa silage. R. J. Schmidt*, J. A. Mills, W. Hu, C. M. Klingerman, E. E. McDonell, and L. Kung Jr., *University of Delaware, Newark.*
T327	Effect of feeding corn silage based diets deficient in either predicted ruminal nitrogen or metabolizable protein on nitrogen utilization and efficiency. E. B. Recktenwald*, D. A. Ross, and M. E. Van Amburgh, *Cornell University, Ithaca, NY.*
T328	Effects of cutting height and bacterial inoculation on fermentation, nutritive quality and degradability of two corn hybrids. L. O. Abdelhadi*[1] and J. M. Tricarico[2], [1]*Est. El Encuentro, Research & Extension in Ruminant Nutrition, Cnel. Brandsen, Argentina,* [2]*Alltech Inc., Nicholasville, KY.*
T329	Continuous culture fermentation of a corn silage-based total mixed ration with additional forage from pasture. R. E. Vibart*, V. Fellner, and S. J. McLeod, *North Carolina State University, Raleigh.*
T330	Partial mixed rations (PMR) as alternative feeding systems for lactating dairy cows in southeastern U.S. R. E. Vibart*, V. Fellner, J. C. Burns, G. B. Huntington, and J. T. Green, *North Carolina State University, Raleigh.*
T331	Variability in total mixed ration neutral-detergent fiber analysis among commercial laboratories. A. N. Hristov*[1], S. Zaman[1], M. Vander Pol[1], W. J. Price[1], and D. Mertens[2], [1]*University of Idaho, Moscow,* [2]*U.S. Dairy Forage Research Center, Madison, WI.*
T332	Nutritional quality of sugar cane treated with calcium oxide. A. W. P. Freitas*[1], F. C. Rocha[2], J. L. Fagundes[1], and R. Fonseca[2], [1]*APTA Regional, Adamantina, São Paulo, Brazil,* [2]*Unesp - Dracena, Dracena, São Paulo, Brazil.*
T333	Effects of increasing level of corn distiller's dried grains plus solubles on in situ disappearance in steers offered medium-quality grass hay. J. L. Leupp*, G. P. Lardy, and J. S. Caton, *North Dakota State University, Fargo.*
T334	Evaluation of corn and soybean co-products in beef cattle finishing diets. P. M. Walker*[1], D. Adams[1], and L. A. Forster[2], [1]*Illinois State University, Normal,* [2]*Archer Daniels Midland, Co., Decatur, IL.*
T335	Effects of dietary fat concentration and wet sorghum distiller′s grains plus solubles on feedlot performance and carcass characteristics of finishing heifers. J. C. Silva*[1], N. A. Cole[2], M. S. Brown[1], D. L. Mitchell[1], C. H. Ponce[1], and D. R. Smith[1], [1]*West Texas A&M, Canyon,* [2]*USDA ARS CPRL, Bushland, TX.*
T336	Using high-lysine proteins to supplement diets based on dried distillers grains with solubles did not improve lactation performance. E. A. French*, M. He, and L. E. Armentano, *University of Wisconsin, Madison.*
T337	Effect of feeding dry glycerin to early postpartum Holstein dairy cows on milk production and metabolic profiles. Y.-H. Chung*[1], D. E. Rico[1], A. Martinez[1], K. S. Heyler[1], C. M. Martinez[1], T. W. Cassidy[1], V. Noirot[2], A. Ames[3], and G. A. Varga[1], [1]*Dairy and Animal Science, Pennsylvania State University, University Park,* [2]*Phodé, Albi, France,* [3]*NutriLinx, LLC, Montpelier, VT.*
T338	Variation over one year of nutrient content of wet brewers grains from a commercial brewery. J. E. Wohlt* and M. L. Westendorf, *Rutgers University, New Brunswick, NJ.*
T339	The effect of feeding dried distillers grains plus solubles to lactating dairy cows on milk production and excretion of urinary purine derivatives. B. N. Janicek*[1], P. J. Kononoff[1], A. M. Gehman[1], and P. H. Doane[2], [1]*University of Nebraska, Lincoln,* [2]*ADM Animal Nutrition Research, Decatur, IN.*
T340	Effects of Optigen® on fermentation, digestion, and N partitioning in rumen-simulating fermenters fed diets with distillers dried grains. G. A. Harrison*, J. M. Tricarico, M. D. Meyer, and K. A. Dawson, *Alltech Biotechnology, Nicholasville, KY.*
T341	Performance of dairy cows fed glycerol as a primary feed ingredient. S. S. Donkin*[1], M. R. Pallatin[1], P. H. Doane[2], M. J. Cecava[2], H. M. White[1], E. Barnes[1], and S. L. Koser[1], [1]*Purdue University, West Lafayette, IN,* [2]*ADM Animal Nutrition Research, Decatur, IN.*
T342	Evaluation of protein fractionation and ruminal and intestinal digestibility of corn milling co-products. J. M. Kelzer*[1], P. J. Kononoff[1], K. Karges[2], and M. L. Gibson[2], [1]*University of Nebraska, Lincoln,* [2]*Dakota Gold Research Association, Sioux Falls, SD.*
T343	Evaluation of ruminal fermentability of corn milling co-products using in vitro gas production. P. J. Kononoff*[1], L. O. Tedeschi[2], M. L. Chizzotti[2], J. M. Kelzer[1], K. Karges[3], and M. L. Gibson[3], [1]*University of Nebraska, Lincoln,* [2]*Texas A & M University, College Station,* [3]*Dakota Gold Research Association, Sioux Falls, SD.*
T344	Blood metabolites profiles of dairy cows fed wet corn distillers grains during early lactation. G. S. Mpapho*, A. R. Hippen, K. F. Kalscheur, and D. J. Schingoethe, *South Dakota State University, Brookings.*
T345	Rumen fermentation with dried distillers grains versus soybean protein as a source of rumen undegraded protein for lactating dairy cows. B. W. Pamp*, K. K. Kalscheur, A. R. Hippen, and D. J. Schingoethe, *South Dakota State University, Brookings.*

T346	Effects of Alcohol-Fermented Feedstuff Supplemented with Chitooligosaccharide on Growth Performance, Blood Metabolites and Meat Composition of Korean Steers. B. K. Park[1], I. S. Yuh*[2], S. K. Hwang[2], B. J. Hong[2], and J. S. Shin[2], [1]*National Livestock Research Institute, Rural Development Administration, Pyeongchang, Korea*, [2]*College of Animal Life Sciences, Kangwon National University, Chuncheon, Korea*.
T347	Effects of added yeast culture on lactating dairy cows with subacute ruminal acidosis. M. S. Douglas*, O. AlZalhal, S. L. Greenwood, M. Or-Rashid, and B. W. McBride, *University of Guelph, Guelph, Ontario, Canada*.
T348	Effect of feeding system on lactation characteristics and milk components in dairy cattle. M.-C. Ferland*[1], D. Lefebvre[2], and K. M. Wade[1], [1]*McGill University, Montreal, QC, Canada*, [2]*Valacta, Ste. Anne de Bellevue, QC, Canada*.
T349	Effect of rumen protected choline (Reashure®) and rumen protected methionine on milk yield, and composition in lactating dairy cows. S. Emanuele*[1], T. Hickley[1], and R. Carvalho Bicalho[2], [1]*Balchem, New Hampton, NY*, [2]*Cornell University, Ithaca, NY*.
T350	Effects of choline and rumen protected choline (Reashure®) on milk production, milk composition and blood metabolites of lactating dairy cows. A. Toghdory[1], S. Emanuele*[2], T. Ghoorchi[3], and A. Naserian[4], [1]*Islamic Azad University, Gorgan, Iran*, [2]*Balchem Corporation, New Hampton, NY*, [3]*Gorgan University of Agricultural Sciences, Gorgan, Iran*, [4]*Ferdowsy University, Mashhad, Iran*.
T351	Effect of rumen protected choline (Reashure®) supplemented to high-producing cows on milk production, milk components, and intake. M. B. de Ondarza*[1], S. Emanuele[2], and D. Putnam[2], [1]*Paradox Nutrition, West Chazy, NY*, [2]*Balchem Corporation, New Hampton, NY*.
T352	Effects of rumen protected choline during transition phase on metabolic profile and ovarian activity in Italian Friesian dairy cows. F. Abeni[1], M. G. Terzano[2], M. Speroni[1], L. Migliorati[1], P. Cavassini[3], and G. Pirlo*[1], [1]*CRA Istituto Sperimentale per la Zootecnia, Cremona, Italy*, [2]*CRA Istituto Sperimentale per la Zootecnia, Roma Monterotondo , Italy*, [3]*Ascor Chimici s.r.l, Bertinoro, Italy*.
T353	Effects of rumen protected choline during transition phase on production responses in Italian Friesian dairy cows. F. Abeni[1], M. Speroni[1], M. G. Terzano[2], L. Migliorati[1], P. Cavassini[3], and G. Pirlo*[1], [1]*CRA Istituto Sperimentale per la Zootecnia, Cremona, Italy*, [2]*CRA Istituto Sperimentale per la Zootecnia, Roma Monterotondo , Italy*, [3]*Ascor Chimici s.r.l, Bertinoro, Italy*.
T354	Effects of feeding rumen-protected choline (RPC) on health and reproduction of dairy cows. F. S. Lima*[1], M. F. Sa Filho[1], J. E. Garrett[2], and J. E. P. Santos[1], [1]*Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare*, [2]*Balchem Corporation, Animal Health & Nutrition, New Hampton, NY*.
T355	Interrelationships of dietary supplies of choline and methionine on productive performance of Holstein dairy cows. B. J. Thering*[1], J. M. Ramos-Nieves[1], J. L. Lukas[1], D. E. Putnam[2], and T. R. Overton[1], [1]*Cornell University, Ithaca, NY*, [2]*Balchem Encapsulates, New Hampton, NY*.
T356	Effects of feeding protected choline on arrival or during Optaflexx feeding on performance or carcass characteristics of feedlot cattle. R. K. Gill*[1], C. R. Dahlen[2], N. DiLorenzo[1], and A. DiCostanzo[1], [1]*University of Minnesota, St. Paul*, [2]*University of Minnesota Northwest Research & Outreach Center, Crookston*.
T357	Field studies adding dl-methionine hydroxy analogue calcium to lactation cow rations. D. Nuzback*[1], G. Bowen[1], R. Anderson[1], M. Vazquez-Anon[1], and M. Hutjens[2], [1]*Novus International, St.Louis, MO*, [2]*University of Illinois, Urbana*.
T358	Influence of dietary protein on growth, fluoride kinetics and radiology of long bones of crossbred calves exposed to high fluoride diets. J. D. Lohakare*[2,1], A. K. Pattanaik[2], and S. A. Khan[2], [1]*University of Bonn, Bonn, Germany*, [2]*Indian Veterinary Research Institute, Izatnagar, India*.
T359	Organic selenium (Sel-Plex®) improves selenium content in milk and cheese of dairy goats. G. Caja*[1], C. Flores[1], A. A. K. Salama[1], J. Saldo[1], and G. Bertin[2], [1]*Universitat Autònoma de Barcelona, Bellaterra, Spain*, [2]*Alltech France, Levallois-Perret, France*.
T360	Utilization of TRC Nutritional Laboratories trace mineral compost for growing and finishing beef cattle. D.R. ZoBell*, J. O. Hall, R.D. Wiedmeier, and C. K. Chapman, *Utah State University, Logan*.
T361	Influence of chromium supplementation during growing period on performance of Brahman cross bull calves. R. Barajas*[1], E. A. Velazquez[1], B. J. Cervantes[2,1], F. Juarez[1], and J. A. Romo[1], [1]*FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico*, [2]*Ganadera Los Migueles SA de CV, Culiacan, Sinaloa, Mexico.*
T362	Effects of Potassium, Alcoholic diet and Vitamin E to Minimize Transport Stress in Korean Steers. J. S. Shin*[1], B. Y. Choi[1], H. Kim[1], C. S. Ra[1], B. J. Hong[1], J. S. Oh[1], and B. K. Park[2], [1]*College of Animal Life Sciences, Kangwon National University, Chuncheon, Korea*, [2]*National Livestock Research Institute, Rural Development Administration, Pyeongchang, Korea*.
T363	The Effects of Maternal Natural Source Vitamin E Supplementation on Suckling Calf Immune Function. M. Richardson*[1], S. Lake[1], P. Gunn[1], S. Eicher[2], R. Lemenager[1], and N. Pyatt[3], [1]*Purdue University, West Lafayette, IN*, [2]*USDA-ARS, West Lafayette, IN*, [3]*ADM-Animal Nutrition Research, Decatur, IN*.
T364	Effects of a humate product on growth performance, carcass merit, and tissue and serum mineral composition of individually-fed steers. M. S. Brown[1], T. E. Lawrence[1], C. H. Ponce*[1], R. Pulikanti[1], C. S. Smith, Sr.[1], D. L. Mitchell[1], B. Sumerford[2], and J. D. Davenport[2], [1]*West Texas A&M University, Canyon*, [2]*Entex Energy, Amarillo, TX*.
T365	Impact of dietary K:Na:Mg ratios on the mineral utilization and rumen activity in fistulated non-lactating cows fed diets containing

	untreated corn silage and Silo-King®treated alfalfa haylage. G. A. Ayangbile*, D. Jones, and J. Horst, *Agri-King, Inc., Fulton, IL.*
T366	Effect of growth-rate on fat-soluble vitamin, copper and zinc concentrations in the circulation of neonatal calves. B. J. Nonnecke*[1], M. R. Foote[2], R. L. Horst[1], W. R. Waters[1], B. L. Miller[3], T. E. Johnson[3], and M. Fowler[3], [1]*National Animal Disease Center, Ames, IA,* [2]*Iowa State University, Ames,* [3]*Land O'Lakes Research Farm, Webster City, IA.*
T367	Effects of an injectable chelated mineral supplement on dairy calf performance. J. R. Crenwelge*[1], T. D. Nennich[2], B. D. Lambert[1,2], N. M. Cherry[2], and E. R. Jordan[3], [1]*Tarleton State University, Stephenville, TX,* [2]*Texas A&M University, Stephenville,* [3]*Texas A&M University, Dallas.*
T368	Short term response of lactating cows to the supplementation of high citrus pulp content diets with corn and organic trace minerals. S. C. Salvador, M. N. Pereira*, J. F. Santos, L. Q. Melo, and M. L. Chaves, *Universidade Federal de Lavras, Brazil*.
T369	Effects of trace mineral sources on bioavailability and function in dairy cattle. B. J. Thering*[1], R. M. Ehrhardt[1], M. Vazquez-Anon[2], J. D. Richards[2], and T. R. Overton[1], [1]*Cornell University, Ithaca, NY,* [2]*Novus International, St. Louis, MO.*
T370	Milk yield and reproductive performance in Holstein cows supplemented with Chromium in early lactation. B. Lavín-Garza[1], A. Garza[2], M. Daccarett[3], F. R. Valdez[4], C. A. Meza-Herrera[5], and R. Rodríguez-Martínez*[6], [1]*Beta Santa Mónica, San Pedro, Coahuila, México,* [2]*Beta San Gabriel, Francisco I. Madero, Coahuila, México,* [3]*Private Consultor, Madera, CA,* [4]*Kemin Agri. Food Norteamerica Inc., Des Moins, IA,* [5]*Unidad Regional Universitaria de Zonas Áridas-Universidad Autónoma Chapingo, Bermejillo, Dgo., México,* [6]*Universidad Autónoma Agraria Antonio Narro Unidad Laguna, Torreón, Coah., México.*
T371	Blood mineral, hormone, and osteocalcin responses of multiparous Jersey cows to an oral dose of 25-hydroxyvitamin D_3 prior to parturition. M. S. Taylor*, K. F. Knowlton, M. L. McGilliard, and J. H. Herbein, *Virginia Polytechnic Institute and State University, Blacksburg*.
T372	Changes in phosphorus metabolism of ruminants fed with different cation anion balances and proportions of roughage and concentrate. M. S. V. Salles[1], M. A. Zanetti[2], T. M. Ribeiro[2], and S. F. M. Bonilha*[1], [1]*Agência Paulista de Tecnologia dos Agronegócios, Assis, São Paulo, Brazil,* [2]*Faculdade de Zootecnia e Engenharia de Alimentos - USP, Pirassununga, São Paulo, Brazil.*
T373	Effect of anion supplementation to low potassium prepartum diets on macromineral status and performance of periparturient dairy cows. J. M. Ramos-Nieves*[1], B. J. Thering[1], P. W. Jardon[2], and T. R. Overton[1], [1]*Cornell University, Ithaca, NY,* [2]*West Central®, Ralston, IA.*
T374	Cobalt/vitamin B_{12} status of embryo donor ewes, but not recipients, affects neonatal lamb behavior. C. M. Dwyer*, C. J. Ashworth, J. J. Robinson, J. A. Rooke, T. G. McEvoy, and L. M. Mitchell, *SAC, Edinburgh, UK*.
T375	Effects of maternal nutrition and selenium supply on visceral organ mass of pregnant ewe lambs. J. J. Reed*[1], T. L. Neville[1], K. A. Vonnahme[1], P. P. Borowicz[1], J. B. Taylor[2], D. A. Redmer[1], J. S. Luther[1], C. J. Hammer[1], L. P. Reynolds[1], and J. S. Caton[1], [1]*Center for Nutrition and Pregnancy, Animal and Range Science Dept., North Dakota State University, Fargo,* [2]*USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID*.

SYMPOSIA AND ORAL SESSIONS

Animal Behavior & Well-Being - Livestock and Poultry II
Chair: Inma Estevez, University of Maryland
205

9:30 AM	377	Cross ventilation in commercial livestock trailers shows promise for improving comfort, reducing weight loss and reducing environmental contaminants. T. H. Friend*, N. M. Giguere, and P. D. Krawczel, *Texas A&M University, College Station.*
9:45 AM	378	Genetic basis of different effects of chronic intermittent social stress on immune function and survivability in laying hens. A. G. Fahey*[1,2], R. M. Marchant-Forde[2], and H. W. Cheng[2], [1]*Purdue University, West Lafayette, IN,* [2]*USDA-ARS, West Lafayette, IN*.
10:00 AM	379	Different effects of individual identification systems on chicken well-being. R. L. Dennis*[1,2], A. G. Fahey[1,2], and H. W. Cheng[1], [1]*Livestock Behavior Research Unit, USDA-ARS, West Lafayette, IN,* [2]*Purdue University, West Lafayette*.
10:15 AM	380	The relationship between residual feed intake and feeding behavior in growing heifers. G. M. Bingham*, T. H. Friend, G. E. Carstens, and P. A. Lancaster, *Texas A&M University, College Station*.
10:30 AM	381	The effect of the autosort system on swine behavior. A. E. DeDecker*, J. M. Suchomel, and J. L. Salak-Johnson, *University of Illinois, Urbana*.
10:45 AM		Break
11:00 AM	382	Movements of translocated desert mule deer in Sierra del Carmen, Coahuila, Mexico. J. L. Martinez* and L. A. Harveson, *Sul Ross State University, Alpine, TX*.

11:15 AM	383	Exercise increases bone density in the joints and limbs of gestating stall-housed gilts. E. L. Schenck*[1], K. A. McMunn[2], D. Rosenstein[3], B. D. Nielsen[3], B. T. Richert[1], J. N. Marchant Forde[2], and D. C. Lay Jr.[2], [1]*Purdue University, West Lafayette, IN*, [2]*USDA-ARS-MWA, West Lafayette, IN*, [3]*Michigan State University, East Lansing*.
11:30 AM	384	Effects of pre-weaning strategies on blood metabolites, behavior, and performance of beef calves. H. T. Boland*[1], G. Scaglia[1], W. S. Swecker, Jr.[2], and N. C. Burke[2], [1]*Virginia Polytechnic Institute and State University, Blacksburg*, [2]*Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg*.
11:45 AM	385	Effect of stocking density on cow comfort indices. P. D. Krawczel*[1,2], H. M. Dann[1], C. S. Ballard[1], and R. J. Grant[1], [1]*W.H. Miner Agricultural Research Institute, Chazy, NY*, [2]*The University of Vermont, Burlington*.
12:00 PM	386	Space requirements of weaned pigs during transportation. M. A. Sutherland*, N. Krebs, L. E. Hulbert, J. S. Smith, and J. J. McGlone, *Texas Tech University, Lubbock*.
12:15 PM	387	Behavior of beef calves weaned by traditional, fenceline and two-step methods. J. M. Siegford*, D. D. Buskirk, and M. K. Sharra, *Michigan State University, East Lansing*.

Animal Health - Livestock and Poultry
Bovine I
Chair: Heather Dann, William H. Miner Agriculture Research Institute
217 C

9:30 AM	388	Prediction of degree of mastitis from repeated measurements of lactate dehydrogenase (LDH) in milk. N. C. Friggens*[1], M. G. G. Chagunda[1], M. Bjerring[1], C. Ridder[2], S. Højsgaard[1], and T. Larsen[1], [1]*University of Aarhus, Faculty of Agricultural Sciences, Denmark*, [2]*Lattec I/S, Hillerød, Denmark*.
9:45 AM	389	Effects of energy balance and *Streptococcus uberis* intrammamary infection challenge on gene expression profiles in bovine mammary tissue. K. M. Moyes*, J. K. Drackley, D. E. Morin, S. L. Rodriguez-Zas, R. E. Everts, H. A. Lewin, and J. J. Loor, *University of Illinois, Urbana*.
10:00 AM	390	The effect of negative energy balance on immune response to *Streptococcus uberis* mastitis challenge in dairy cattle during mid-lactation. K. M. Moyes*, J. L. Salak-Johnson, D. E. Morin, J. K. Drackley, and J. J. Loor, *University of Illinois, Urbana*.
10:15 AM	391	Multiplex PCR system for the detection of mastitis-causing pathogens. J. M. St-Pierre*, C. Thibault, and N. Bissonnette, *Agriculture and Agri-Food Canada, Sherbrooke, Quebec, Canada*.
10:30 AM	392	Efficacy of treatment protocols for Gram negative and no growth clinical mastitis in dairy cattle. J. R. Wenz*, *Washington State University, Pullman*.
10:45 AM	393	The effect of uterine infusion of ceftiofur in the immediate postpartum on uterine health in dairy cows. R. G. Bruno*, M. F. Sa Filho, D. F. Resende, F. S. Lima, and J. E. P. Santos, *Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare*.
11:00 AM	394	Metabolic profiles of dairy cows that develop metritis. J. M. Huzzey*[1], T. F. Duffield[2], S. J. LeBlanc[2], D. M. Veira[3], D. M. Weary[1], and M. A. G. von Keyserlingk[1], [1]*University of British Columbia, Vancouver, Canada*, [2]*University of Guelph, Ontario, Canada*, [3]*Pacific Agri-Food Research Centre, Agassiz, BC, Canada*.
11:15 AM	395	JDIP – Direction for Johne's research. K. E. Olson*[1], S. J. Wells[2], and V. Kapur[2], [1]*KEO Consulting, Schaumburg, IL*, [2]*University of Minnesota, St. Paul*.
11:30 AM	396	Serum non-esterified fatty acid (NEFA) and beta-hydroxybutyrate (BHB) through the transition period of Holstein cows in different regions of North America. M. E. Carson*[1], T. F. Duffield[1], S. J. LeBlanc[1], K. E. Leslie[1], S. M. Godden[2], M. B. Capel[3], M. W. Overton[4], and D. Vallejo[5], [1]*University of Guelph, Ontario, Canada*, [2]*University of Minnesota, St Paul*, [3]*Perry Veterinary Clinic, Perry, NY*, [4]*University of Georgia, Athens*, [5]*University of California, Davis, Tulare*.
11:45 AM	397	An evaluation of meloxicam (Metacam®) as an adjunctive therapy for calves with neonatal calf diarrhea complex. C. G. Todd*[1], D. R. McKnight[2], S. T. Millman[1], T. F. Duffield[1], and K. E. Leslie[1], [1]*University of Guelph, Guelph, ON, Canada*, [2]*University of Guelph, Kemptville, ON, Canada*.
12:00 PM	398	A Diagnostic Algorithm, in a dashboard environment for common dairy cow health concerns. D. T. Galligan*[1], D. Remsburg[1], J. Ferguson[1], R. Munson[1], and G. Licitra[2,3], [1]*University of Pennsylvania, Kennett Square*, [2]*CoRFiLaC, Regione Siciliana, Ragusa, Italy*, [3]*DACP University of Catania, Catania, Italy*.
12:15 PM	399	Effects of reduced freestall access during the dry period upon cellular immune function and transition health of dairy cows. T. F. Gressley*, K. K. Fried, J. M. Velasco, E. D. Reid, T. C. Hausman, K. M. Moyes, J. L. Salak-Johnson, and G. E. Dahl, *University of Illinois, Urbana*.

Beef Species I
Chair: Don Franke, Louisiana State University
212

9:30 AM	400	Post-weaning growth performance of heifers grazing Tasmanian native pastures and the estimation of inbreeding levels using random amplified polymorphic DNA markers. A. E. O. Malau-Aduli*[1] and M. Dunbabin[2], [1]*University of Tasmania, Hobart, Tasmania, Australia,* [2]*'Bangor', Dunalley, Tasmania, Australia.*
9:45 AM	401	Influence of breed on postpartum interval and estrous cycle length in beef cattle. R. A. Cushman*, M. F. Allan, R. M. Thallman, and L. V. Cundiff, *USDA, ARS, Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, NE.*
10:00 AM	402	Effect of an artificial sweetener and yeast product combination on immune function measurements, growth performance, and carcass characteristics of beef heifers. R. R. Reuter*[1,2], J. A. Carroll[2], M. S. Brown[3], N. E. Forsberg[4], Y.-Q. Wang[4], R. Mock[5], J. D. Chapman[6], and M. L. Galyean[1], [1]*Texas Tech University, Lubbock,* [2]*USDA-ARS Livestock Issues Research Unit, Lubbock, TX,* [3]*West Texas A&M University, Canyon,* [4]*Oregon State University, Corvallis,* [5]*Texas Veterinary Medical Diagnostic Laboratories, Amarillo, TX,* [6]*Prince Agri-Products, Quincy, IL.*
10:15 AM	403	Evaluation of the effects of two commercially available modified live vaccines for bovine respiratory disease complex on naïve beef steers. W. J. Horne*[1], K. S. Barling[2], A. D. Herring[1], D. K. Lunt[1,3], A. Thomas[2], and J. E. Sawyer[1], [1]*Texas A&M University Department of Animal Science, College Station, TX,* [2]*Novartis Animal Health US, Inc, Larchwood, IA,* [3]*McGregor Agricultural Research Center, McGregor, TX.*
10:30 AM		BREAK
10:45 AM	404	Management factors affecting selling prices of Arkansas beef calves: 2000 vs. 2005. B. L. Barham and T. R. Troxel*, *University of Arkansas Cooperative Extension Service, Little Rock, AR.*
11:00 AM	405	Impact of the phenotypic expression of calf genetics on the selling price of calves sold in Arkansas livestock markets: 2000 vs. 2005. B. L. Barham* and T. R. Troxel, *University of Arkansas Cooperative Extension Service, Little Rock, AR.*
11:15 AM	406	Carcass trait characterization of retained and purchased Alabama feeder calves. S. V. Free*, W. C. Rutherford, J. B. Elmore, G. S. Hecht, and L. A. Kriese-Anderson, *Auburn University, Auburn, AL.*
11:30 AM	407	Carcass trait characterization of Alabama feeder calves fed in two regions of the United States. W. C. Rutherford*, S. V. Free, J. B. Elmore, G. S. Hecht, and L. A. Kriese-Anderson, *Auburn University, Auburn, AL.*
11:45 AM	408	Comparison of carcass trends of Alabama cattle with national quality audit reports. J. B. Elmore*, L. A. Kriese-Anderson, W. C. Rutherford, S. V. Free, G. S. Hecht, and W. F. Owsley, *Auburn University, Auburn, AL.*

Breeding and Genetics - Livestock and Poultry
Analyses and Methods I
Chair: Eugenia Cienfuegos-Rivas, Universidad Autonoma de Tamaulipas
210

9:30 AM	409	Using epidemiological models and genetic selection to identify theoretical opportunities to reduce disease impact. G. D. Snowder*, *USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.*
9:45 AM	410	Assessment of different selective phenotyping design strategies for genetical genomics studies with outbred F2 populations. F. F. Cardoso*[1,2], J. P. Steibel[1], G. J. M. Rosa[3], C. W. Ernst[1], R. O. Bates[1], and R. J. Tempelman[1], [1]*Michigan State University, East Lansing,* [2]*Embrapa Pecuária Sul, Bagé, RS, Brazil,* [3]*University of Wisconsin, Madison.*
10:00 AM	411	Different methods of selecting animals for genotyping to maximize the amount of genetic information known in the population. M. L. Spangler*[1], R. L. Sapp[2], J. K. Bertrand[1], M. D. MacNeil[2], and R. Rekaya[1], [1]*University of Georgia, Athens,* [2]*USDA-ARS Fort Keogh Livestock and Range Research Laboratory, Miles City, MT.*
10:15 AM	412	Effect of raw data normalisation on detection of differentially expressed genes in cDNA microarray experiments. C. Dimauro, N. P. P. Macciotta*, and A. Cappio-Borlino, *Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari, Italia.*
10:30 AM	413	Methods to explain genomic estimates of breeding value. P. M. VanRaden and M. E. Tooker*, *Animal Improvement Programs Laboratory, USDA, Beltsville, MD.*
10:45 AM	414	Efficient estimation of breeding values from dense genomic data. P. M. VanRaden*, *Animal Improvement Programs Laboratory, USDA, Beltsville, MD.*
11:00 AM		Break
11:15 AM	415	Recursive algorithm to compute inbreeding coefficients assuming non-zero inbreeding of unknown parents. I. Aguilar* and

		I. Misztal, *University of Georgia, Athens*.
11:30 AM	416	A social competitive model with the categorical expression. I. Misztal and R. Rekaya*, *University of Georgia, Athens*.
11:45 AM	417	Comparison of two methods for computing approximated accuracies for growth traits in random regression models. J. P. Sanchez*[1,2], I. Misztal[1], and J. K. Bertrand[1], [1]*University of Georgia, Athens*, [2]*University of Leon, Leon, Spain*.
12:00 PM	418	Equivalent mixed model equations for genomic selection. D. J. Garrick*, *Colorado State University, Fort Collins*.
12:15 PM	419	Detection and use of single gene effects in large animal populations. N. Gengler*[1,2], S. Abras[1], M. Szydlowski[1], and R. Renaville[1], [1]*Gembloux Agricultural University, Gembloux, Belgium*, [2]*National Fund for Scientific Research, Brussels, Belgium*.

SYMPOSIUM
Breeding and Genetics - Livestock and Poultry
New Challenges and Opportunities From Automation of Animal Data Recording
Chairs: Filippo Miglior, Agriculture and Agri-Food Canada, and Marj Faust, ABS Global
214 B

9:30 AM	Introduction	Automation and Animal Data Recording. M. Faust[1] and F. Miglior[2], [1]*ABS Global*, [2]*Agriculture and Agri-Food Canada*.
9:35 AM	420	Current and near term technologies for automated recording of animal data for precision dairy farming. G. Katz*[1], A. Arazi[1], N. Pinsky[1], I. Halachmi[2], Z. Schmilovitz[2], E. Aizinbud[1,2], and E. Maltz[2], [1]*SAE Afimilk, Kibbutz Afikim, Israel*, [2]*Institute of Agricultural Engineering, Agricultural Research Organization - The Volcani Center, Bet Dagan, Israel*.
10:15 AM	421	Thriving in a declining market – the new service paradigm for DHI's. N. Petreny*, *CanWest Dairy Herd Improvement, Guelph, Ontario, Canada*.
10:55 AM	422	Harnessing automatic data collection to enhance genetic improvement programs. G. R. Wiggans*[1], M. A. Faust[2], and F. Miglior[3,4], [1]*Agricultural Research Service, USDA, Beltsville, MD*, [2]*ABS Global, Inc., Deforest, WI*, [3]*Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada*, [4]*Canadian Dairy Network, Guelph, ON, Canada*.
11:35 AM		Using tomorrow's data for dairy management. C. Holtz, *Holtz-Nelson Dairy Consultants, LLC, Dryden, NY*.
12:15 PM		Panel Discussion.

Egg and Meat Science and Muscle Biology - Livestock and Poultry I
Chair: Chance Brooks, Texas Tech University
207 B

9:30 AM	423	Optimal number of replications for the Meullenet-Owens-Razor-Shear (MORS) and tenderness variations between right and left broiler breast fillets. Y. S. Lee*, A Saha, C. M. Owens, and J. F. Meullenet, *University of Arkansas.*
9:45 AM	424	Carbon monoxide in MAP chicken breast fillets and drums as a food safety intervention to reduce pathogen loads and extend shelf-life. A. M. Lopez*[1], G. Poullier[2], A. M. Luna[1], C. Z. Alvarado[1], L. D. Thompson[1], M. M. Brashears[1], and J. C. Brooks[1], [1]*Texas Tech University, Lubbock*, [2]*Toulouse University, Toulouse, France*.
10:00 AM	425	Quality of shell eggs stored under modified atmosphere packaging using gas mixtures containing CO and CO_2. D. Aggarwal*, C. Alvarado, C. Brooks, D. Wester, A. Tittor, A. M. Luna, and L. Thompson, *Texas Tech University, Lubbock.*
10:15 AM	426	Optimizing NaCl marinade concentrations to improve meat tenderness, flavor, and juiciness of early deboned broiler breast fillets. C. M. Owens, S. C. Purcell*, A. Saha, and J. F. Meullenet, *University of Arkansas, Fayetteville.*
10:30 AM	427	Alpha, gamma, and acetate tocopherol determination in chicken muscle by HPLC. C. Narciso-Gaytán*, D. K. Shin, C. A Bailey, A. V. Haq, A. R. Sams, and M. X. Sánchez-Plata, *Texas A&M University, College Station.*
10:45 AM	428	Fatty acid composition of the gestation and lactation diet affects the fatty acid composition of the backfat of the progeny. G. Bee*, *Agroscope Liebefeld-Posieux, Research Station (ALP), Posieux, Switzerland*.
11:00 AM	429	Comparison of vitelline membrane strength amongst breeds of commercial layers. D. R. Jones[1] and K. E. Anderson*[2], [1]*USDA, Agricultural Research Service, Egg Safety and Quality Research Unit, Athens, GA*, [2]*Department of Poultry Science, North Carolina State University, Raleigh*.
11:15 AM	430	Postmortem sarcomere length characterization between *Psoas major* and *Longissimus dorsi* muscles in cattle. I. Zapata*[1], M. Yamaguchi[1], J. Wakamatsu[2], A. Hattori[2], and M. Wick[1], [1]*The Ohio State University, Columbus*, [2]*Hokkaido University, Sapporo, Japan.*

11:30 AM	431	Cholesterol quantification in meat and meat products. T. T. N. Dinh*[1], L. D. Thompson[1], J. C. Brooks[1], M. F. Miller[1], and J. R. Blanton, Jr.[2], [1]*Texas Tech University, Lubbock*, [2]*Intervet Inc., Millsboro, DE*.
11:45 AM	432	Round muscle profiling of tenderness and postmortem proteolysis. M. J. Anderson*, S. M. Lonergan, and E. Huff-Lonergan, *Iowa State University, Ames*.
12:00 PM	433	MSTN regulates IGF-2 but not IGF-1 expression during myogenesis of cattle. M. Miyake*, S. Hayashi, Y. Imai, K. Watanabe, S. Ohwada, H. Aso, and T. Yamaguchi, *Tohoku University, Sendai, Japan*.
12:15 PM	434	Predicting lamb tenderness using proteomic analysis of 36 hour postmortem muscle. M. S. Updike*, A. Nichols, J. M. Reddish, H. Zerby, and M. Wick, *The Ohio State University, Columbus*.

Food Safety - Livestock and Poultry
Poultry
Chair: Brian W. Sheldon , North Carolina State University
206 A

9:30 AM	435	Efficacy of the adsorbent AflaDetox in reducing the toxicity of dietary aflatoxin B1 in broilers. M. Denli*[1], J. C. Blandon[1], M. E. Guynot[2], S. Salado[2], and J. F. Perez[1], [1]*Animal Nutrition, Management and Welfare Research Group, Universitat Autònoma de Barcelona., Barcelona, Spain*, [2]*Adiveter S.L. Agro-Reus, Tarragona, Spain*.
9:45 AM	436	Effect of OcraTox on the performance and egg quality of laying hens exposed to Ochratoxin A. M. Denli*[1], J. C. Blandon[1], M. E. Guynot[2], S. Salado[2], and J. F. Perez[1], [1]*Universitat Autonoma de Barcelona, Barcelona, Spain*, [2]*Adiveter, Agro-Reus, Tarragona, Spain*.
10:00 AM	437	Partitioning of external and internal bacteria carried by broiler chickens before processing. J. A. Cason*, A. Hinton, Jr., J. K. Northcutt, R. J. Buhr, K. D. Ingram, D. P. Smith, and N. A. Cox, *Russell Research Center, Athens, GA*.
10:15 AM	438	*Campylobacter* colonization is reduced and gastrointestinal architecture is altered in turkey poults fed bacteriocins. I. Reyes-Herrera*[1], K. Cole[1], F. Solis de los Santos[1], A. M. Donoghue[2], N. J. Stern[3], E. A. Svetoch[4], B. N. Eruslanov[4], V. V. Perelygin[4], E. V. Mitsevich[4], I. P. Mitsevich[4], V. P. Levchuk[4], M. B. Farnell[2], P. J. Blore[1], and D. J. Donoghue[1], [1]*University of Arkansas, Fayetteville*, [2]*PPPSRU, ARS, USDA, Fayetteville, AR*, [3]*PMSRU, ARS, USDA, Russell Research Center, Athens, GA*, [4]*State Research Center for Applied Microbiology, Obolensk, Russian Federation*.
10:30 AM	439	Litter treatment with aluminum sulfate produced a modest reduction in cecal *Campylobacter* colonization in chickens. M. L. Dirain, F. Solis de los Santos, I. Reyes-Herrera, P. J. Blore, and D. J. Donoghue*, *University of Arkansas, Fayetteville*.
10:45 AM	440	Effect of various concentrations of potassium hydroxide and lauric acid on native bacterial flora of broiler carcasses. A. Hinton Jr*, J. K. Northcutt, J. Cason, D. P. Smith, and K. D. Ingram, *Russell Research Center, Athens, GA.*
11:00 AM	441	Numbers of bacteria recovered from broiler carcasses and chiller water treated with hypochlorous and carbonic acids. J. K. Northcutt*[1], R. I. Huezo[2], K. D. Ingram[1], D. P. Smith[1], A. Hinton, Jr.[1], and J. A. Cason[1], [1]*USDA-Agriculture Research Service, Athens, GA*, [2]*The University of Georgia, Athens*.
11:15 AM	442	Effect of time and sand abrasion on recovery of aerobic bacteria, *Escherichia coli*, and coliforms from broiler carcasses. J. F. Hannah*[1], N. A. Cox[2], D. P. Smith[2], J. A. Cason[2], D. L. Fletcher[3], J. K. Northcutt[2], R. J. Buhr[2], and L. J. Richardson[2], [1]*University of Georgia, Athens*, [2]*USDA-ARS, Russell Research Center, Athens, GA*, [3]*University of Connecticut, Storrs*.
11:30 AM	443	Bactericide and bacteriostatic activity of Chrysactinia Mexicana Gray in hens challenged with E. coli and S. thypi. J. C. Garcia-Lopez*, L. O. Hernandez-Artega, J. M. Pinos-Rodriguez, and B. I. Juárez-Flores, *Universidad Autónoma de San Luis Potosi, San Luis Potosi, S.L.P. México*.
11:45 AM	444	Reduction of *Salmonella* in whole and ground turkey meat at refrigerated and elevated temperatures using lactic acid bacteria. J. Johnson*, C. Z. Alvarado, and M. M. Brashears, *Texas Tech University, Lubbock, TX*.
12:00 PM	445	Evaluation of serum as an indicator of antibiotic residues in edible poultry tissues. I. Reyes-Herrera*, V. Aguiar, M. L. Dirain, F. Solis de los Santos, J. H. Metcalf, P. J. Blore, and D. J. Donoghue, *University of Arkansas, Fayetteville*.
12:15 PM	446	Effects of blood in egg albumen on *Salmonella* survival and growth. D. P . Smith* and M. T. Musgrove, *USDA, Agricultural Research Service, Athens, GA*.

SYMPOSIUM
Forages and Pastures - Livestock and Poultry
Understanding Diet Selection in Temperate Biodiverse Pasture Systems
Chairs: Kathy Soder, USDA-ARS, Pasture Systems and Watershed Management Research Unit and Guillermo Scaglia, Virginia Polytechnic and State University
214 C

9:30 AM		Introduction. K. Soder.
9:35 AM	447	Dietary selection: The current state of knowledge. A. J. Rook*, *Private Consultant, Okehampton, UK*.
10:15 AM	448	Genetic control of dietary choice in farm animals: A combination of nature and nurture. R. M. Lewis*[1] and G. C. Emmans[2], [1]*Virginia Polytechnic Institute and State University, Blacksburg,* [2]*Scottish Agricultural College, Edinburgh, Scotland, UK.*
10:45 AM	449	Learning and dietary choice. J. J. Villalba*, *Utah State University, Logan*.
11:15 AM	450	Forage factors and dietary choice. D. F. Chapman*[1], A. J. Parsons[2], J. Hill[1], and K. Venning[1], [1]*University of Melbourne, Melbourne, Victoria, Australia,* [2]*AgResearch, Palmerston North, New Zealand.*
11:45 AM	451	New approaches to grazing effects on pasture composition and productivity. E. A. Laca*, *Plant Sciences, University of California, Davis*.
12:15 PM		Discussion.

Goat Species
Nutrient Requirement of Goats
Chair: Sandra Solaiman, Tuskegee University
207 A

9:30 AM	452	Goat species: Nutrient requirements of goats - Introduction. J. E. Huston*, *Texas A&M University, San Angelo*.
10:00 AM	453	Energy and protein requirements of goats. M. Huerta Bravo*, *Universidad Autónoma Chapingo, Chapingo, México.*
10:45 AM	454	Vitamin requirements of goats. B. W. Hess*, *University of Wyoming, Laramie*.
11:15 AM	455	Revised guidelines for mineral requirements of goats. S. G. Solaiman*, *Tuskegee University, Tuskegee, AL*.

Growth and Development - Livestock and Poultry I
Chair: Jesse Grimes, North Carolina State
202

9:30 AM	456	Specie and age effects on IGF mRNA expression in the amniotic and allantoic membranes and jejunum of developing avian species. D. M. Karcher* and T. J. Applegate, *Purdue University, West Lafayette, IN*.
9:45 AM	457	The role of glypican-1 glycosaminoglycan chains in myogenic satellite cell proliferation, differentiation, and fibroblast growth factor 2 responsiveness. X. Zhang*[1], C. Liu[1], K. E. Nestor[1], D. C. McFarland[2], and S. G. Velleman[1], [1]*Ohio Agricultural Research and Development Center, The Ohio State University, Wooster,* [2]*South Dakota State University, Brooking*.
10:00 AM	458	Reduction in cell responsiveness to transforming growth factor-beta by decorin overexpression increases satellite cell proliferation and differentiation. X. Li*[1], D. C. McFarland[2], and S. G. Velleman[1], [1]*Ohio Agricultural Research and Development Center, The Ohio State University, Wooster,* [2]*South Dakota State University, Brookings*.
10:15 AM	459	Bone mineralization in four Cobb pedigree lines of meat-type chickens. P. Talaty*[1], M. N. Katanbaf[2], and P. Y. Hester[1], [1]*Purdue University, West Lafayette, IN,* [2]*Cobb-Vantress, Inc., Monticello, KY.*
10:30 AM	460	Identification of two novel chicken growth hormone-releasing hormone receptor (GHRHR) splice variants: Implications for the role of Asparagine residue (Asp^{56}) in receptor activation and direct ligand-receptor interaction. C. Y. Wang*, Y. Wang, A. H. Y. Kwok, and F. C. Leung, *The University of Hong Kong, Hong Kong, HK-SAR, China*.
10:45 AM	461	Feed restriction alters the temporal expression of skeletal fast myosin isoforms in the breast muscle of diverse lines of turkeys. K. M. Huffman*, J. M. Reddish, M. S. Lilburn, and M. Wick, *The Ohio State University, Columbus*.

11:00 AM	462	Expression of the carbohydrate response element binding protein gene and related genes involved in hepatic lipogenesis during post-hatch development of broiler chickens. M. Proszkowiec-Weglarz*[1], B. D. Humphrey[2], M. P. Richards[1], R. W. Rosebrough[1], J. P. McMurtry[1], and R. Angel[3], [1]*USDA-ARS, Beltsville, MD*, [2]*California Polytechnic State University, San Luis Obispo*, [3]*University of Maryland, College Park*.
11:15 AM	463	The activation of insulin and nutrient signaling components leading to translation initiation in skeletal muscle of neonatal pigs is developmentally regulated. A. Suryawan*, R. A. Orellana, A. S. Jeyapalan, H. V. Nguyen, J. R. Fleming, and T. A. Davis, *USDA/ARS Children's Nutr. Res. Ctr., Dept. Pediatrics, Baylor Coll. of Med., Houston, TX*.

Immunology - Livestock and Poultry II
Chair: Kimberly N. Novak, Agtech Products, Inc.
203

9:30 AM	464	Effects of maternal nutrition and selenium supplementation on absorption of IgG and survival of lambs. C. J. Hammer*[1], K. A. Vonnahme[1], J. B. Taylor[2], D. A. Redmer[1], J. S. Luther[1], T. L. Neville[1], J. J. Reed[1], J. S. Caton[1], and L. P. Reynolds[1], [1]*North Dakota State University, Fargo*, [2]*USDA-ARS, U.S. Sheep Experiement Station, Dubois, ID.*
9:45 AM	465	Effect of supplementation with a *Bacillus*-based direct-fed microbial on immune development of dairy calves. K. Novak*[1], E. Davis[1], C. Wehnes[1], T. Rehberger[1], D. Shields[2], and J. Coalson[2], [1]*Agtech Products, Inc., Waukesha, WI*, [2]*Merrick's, Inc., Union Center, WI*.
10:00 AM	466	Effects of an immunostimulatory feed additive on neutrophil function and development of titer in ruminant livestock. N. E. Forsberg*[1,3], Y. Wang[3], S. Puntenney[3], and J. Burton[2], [1]*Oregon State University, Corvallis*, [2]*Michigan State University, East Lansing*, [3]*OmniGen Research, Corvallis, OR*.
10:15 AM	467	Induction Of proinflammatory cytokines and constitutive expression Of Nramp1 in bovine blood neutrophils after exposure To E.Coli endotoxin (LPS). A. Morris*, Z. Liu, and M. Worku, *North Carolina Agricultural and Technical State University, Greensboro*.
10:30 AM	468	Growth performance and immunocompetence of heat stressed broilers fed different sources of dietary fatty acids. M. O. Smith*[1] and J. R. Bartlett[2], [1]*University of Tennessee, Knoxville*, [2]*Tuskegee University, Tuskegee, AL*.
10:45 AM	469	Immunopathology and cytokine responses in broiler chickens coinfected with eimeria maxima and clostridium perfringens using an animal model of necrotic enteritis. H. S. Lillehoj*[1], S. S. Park[1], P. C. Allen[1], S. FitzCoy[2], and D. A. Bautista[3], [1]*U.S. Department of Agriculture-ARS, Beltsville, MD*, [2]*Schering-Plough Animal Health, Millsboro, DE*, [3]*University of Delaware, Georgetown*.
11:00 AM	470	Intestinal cytokine responses to Salmonella enterica serovar typhimurium infection in young chicks. Y. O. Fasina*[1], P. S. Holt[2], E. T. Moran[1], R. W. Moore[2], D. E. Conner[1], and S. R. Mckee[1], [1]*Auburn University, Auburn, AL*, [2]*USDA-ARS Egg Safety & Quality Research Unit, Athens, GA*.
11:15 AM	471	Comparative expression of activin receptor type IIB in bovine peripheral blood mononuclear cells. S. Tanaka*, S. Hayashi, Y. Taketa, M. Miyake, K. Watanabe, S. Ohwada, H. Aso, and T. Yamaguchi, *Laboratory of Functional Morphology, Graduate School of Agricultural Science, Tohoku University, Sendai, Japan*.

SYMPOSIUM
Joint National Extension Workshop
Accountability Issues in Extension: Identifying, Measuring and Reporting Impacts
Chair: Tennille Knezacek, University of Saskatchewan
206 B

9:30 AM	472	Introduction and Washington update. R. D. Reynnells*, *USDA/CSREES/PAS, Washington, DC*.
9:45 AM	473	Accountability for administrators—impacts with impact. B. D. Moser*, *The Ohio State University, Columbus, OH*.
10:15 AM		How to lessen the pain of reporting: multiple uses for the same information. J. Carey, *Texas A&M University, College Station*.
10:45 AM	474	What information do I need to keep Extension funded? J. C. Wade*, *National Association of State Colleges and Land Grant Universities, Washington, DC*.
11:15 AM	475	How plans of work and annual reports are used at the federal level. S. K. Stout*, *Cooperative State Research Education Extension Service*.
11:45 AM		Background and future of the Risk Management Education Center. J. Newkirk.

12:15 PM		Discussion.

SYMPOSIUM
Nonruminant Nutrition
Lessons and Logistics of Application of Digestible Amino Acids in Diet Formulation
Chair: Todd Applegate, Purdue University
214 A

9:30 AM	476	Amino acid digestibility measurements of feedstuffs – Lessons from poultry studies. V. Ravindran*[1] and W. L. Bryden[2], [1]*Massey University, Palmerston North, New Zealand,* [2]*University of Queensland, Gatton, Australia*.
10:15 AM	477	Methodology for endogenous flow estimates for standardization of digestible amino acids. S. A. Adedokun*[1], O. Adeola[1], C. M. Parsons[2], M. S. Lilburn[3], and T. J. Applegate[1], [1]*Purdue University, West Lafayette, IN,* [2]*University of Illinois, Urbana/Champaign,* [3]*The Ohio State University, OARDC Wooster*.
11:00 AM	478	Ileal digestibility of amino acids: Lessons from pig studies. O. Adeola*, *Purdue University, West Lafayette, IN*.
11:45 AM	479	Digestible amino acid formulation of poultry feeds; practical considerations. D. J. Burnham*, *Aviagen, Inc, Huntsville, AL*.

Nonruminant Nutrition
Poultry Nutrition - Enzymes, Feeds, Feed Ingredients, and Manufacturing
Chair: Amy Batal, University of Georgia
217 D

9:30 AM	480	Influence of prepress solvent extracted cottonseed meal supplemented with exogenous enzyme and digestible lysine on performance, digestibility, carcass and immunity responses of broilers chickens. T. Mushtaq*[1], M. Sarwar[1], G. Ahmad[1,2], M. A. Mirza[1], and U. Noreen[1], [1]*University of Agriculture, Faisalabad, Pakistan,* [2]*Shamim Feed Industries, Bahawalpur, Pakistan*.
9:45 AM	481	Growth, carcass nutrients accretion and nutrient retention of broiler chicks receiving phytate- or polysaccharides-degrading enzymes. O. A. Olukosi*[1], A. Cowieson[2], and O. Adeola[1], [1]*Purdue University, West Lafayette,* [2]*Danisco Animal Nutrition, Marlborough, Wiltshire, UK*.
10:00 AM	482	Nutritional evaluation of new corn distillers dried grains with solubles (DDGS) produced by the enzymatic milling (E-Mill) and elusieve processes. E. Kim*, C. Parsons, V. Singh, and R. Srinivasan, *University of Illinois, Urbana*.
10:15 AM	483	Phytase in ethanol production process improves nutritive value of DDGS. M. Hruby*[1], J. K. Shetty[2], G. Chotani[2], T. Dodge[2], and C. N. Coon[3], [1]*Danisco, St. Louis, MO,* [2]*Genencor, Palo Alto, CA,* [3]*University of Arkansas, Fayetteville*.
10:30 AM	484	Effects of mega doses of phytase on broiler chick body composition. J. Puttress*[1], W. W. Saylor[1], R. Angel[2], A. D. Mitchell[3], and M. E. Persia[1], [1]*University of Delaware, Newark,* [2]*Unviersity of Maryland, College Park,* [3]*USDA, Beltsville, MD*.
10:45 AM	485	The effect of genotype and choice-feeding on organically-reared broilers fed diets devoid of synthetic methionine. A. L. Rack*, N. P. Buchanan, J. M. Hott, S. E. Cutlip, and J. S. Moritz, *West Virginia University, Morgantown*.
11:00 AM	486	Meat meal extract as a risk factor for the development of heart failure in fast growing commercial broilers. S. Nain*, B. Laarveld, and A. A. Olkowski, *University of Saskatchewan, Saskatoon, SK, Canada*.
11:15 AM	487	Muscle proteins recovered from trout frames: Potential pellet binding agent and source of essential amino acids. C. K. Gehring*, J. Jaczynski, and J. S. Moritz, *West Virginia University, Morgantown*.
11:30 AM	488	Effects of diet preconditioning on the true metabolizable energy of guar meal. O. Gutierrez*, A. L. Cartwright, and C. A. Bailey, *Texas A&M University, College Station*.
11:45 AM	489	Energy, protein, and starch digestibility of pea as affected by grind size and cold pelleting in broiler chickens. S. M. Ebsim*, T. D. Warkentin, and H. L. Classen, *University of Saskatchewan, Saskatoon, SK, Canada*.
12:00 PM	490	Nutritional value of corn versus sorghum when ground through different screen sizes and used in diets for broiler chicks. C. Feoli*[1], J. D. Hancock[1], M. C. Herrera[2], G. M. Herrera[2], M. J. Rios[2], F. Vargas[3], and S. C. Mason[4], [1]*Kansas State University, Manhattan,* [2]*Universidad Nacional Agraria, Managua, Nicaragua,* [3]*Asociacion Nacional de Productores de Sorgo, Managua, Nicaragua,* [4]*University of Nebraska, Lincoln*.
12:15 PM	491	Live performance evaluation of broilers fed all vegetable corn-soy diets supplemented with an Alpha Amylase - Beta Glucanase blend. S. L. Vieira*, D. M. Freitas, J. L. Coneglian, J. E. M. Peña, and J. Berres, *Universidade Federal do Rio*

		Grande do Sul, Porto Alegre, RS, Brazil.

SYMPOSIUM
Physiology & Endocrinology - Livestock and Poultry
Role of Lipids and Fatty Acids in Regulation of Reproductive Function
Chair: Arnold R. Hippen, South Dakota State University
214 D

9:30 AM	492	The role of omega-3 and -6 fatty acids in regulation of reproductive function in horses. E. L. Squires*, *Colorado State University, Fort Collins.*
10:10 AM	493	Addition of protected fat in ewes with different corporal condition on superovulation and conception rate. P. Molina[1], T. Sánchez[1], O. Mejía[2], J. Nuñez[2], E. García*[3], O. D. Montañez-Valdez[4], J. Cordero[1], J. Peralta[1], M. E. Ortega[1], R. Nieto[5], E. Mendoza[1], and R. Avila[1], [1]*Colegio de Postgraduados, Montecillo, Estado de México, México,* [2]*Facultad de Medicina Veterinaria y Zootecnia, UNAM, Tres Marías, Municipio de Huitzilac, México,* [3]*Centro Universitario de la Costa Sur de la Universidad de Guadalajara, Autlán, Jalisco, México,* [4]*Centro Universitario del Sur de la Universidad de Guadalajara, Ciudad Guzmán, Jalisco, México,* [5]*Instituto Tecnológico Agropecuario No.6, Huejutla, Hidalgo, México.*
10:25 AM	494	Dietary omega-3 and omega-6 fatty acids and reproduction in dairy cattle. L. Badinga* and C. Caldari-Torres, *University of Florida, Gainesville.*
11:05 AM	495	Reproductive function in dairy cows fed a lipid encapsulated conjugated linoleic acid supplement. G. E. Mann*[1], A. L. Lock[2], D. E. Bauman[3], and N. R. Kendall[1], [1]*University of Nottingham, Sutton Bonington, Loughborough, UK,* [2]*University of Vermont, Burlington,* [3]*Cornell University, Ithaca, NY.*
11:20 AM	496	Dietary lipids and reproduction in beef cattle. R. N. Funston*, *University of Nebraska, West Central Research and Extension Center, North Platte.*
12:00 PM	497	The role of dietary omega-3 and omega-6 fatty acids in swine reproduction. S. K. Webel*, J. D. Spencer, and A. M. Gaines, *JBS United, Inc., Sheridan, IN.*

Production, Management & the Environment - Livestock and Poultry
Poultry Production and Reproduction
Chair: William Roush, USDA ARS Poultry Research Unit
213

9:30 AM	498	Influence of hatching egg weight and Japanese quail breeder flock age on embryonic mortality stages, hatchability and chick quality measurments. T. M. El-Sheikh*, *Sohag University, Sohag, Egypt.*
9:45 AM	499	Can dietary molting replace feed withdrawal molting? R. M. Marchant-Forde* and H. W. Cheng, *USDA, Livestock Behavior Research Unit, West Lafayette, IN.*
10:00 AM	500	Effects of supplemental dietary phytase and 25-hydroxycholecalciferol on the digestive and reproductive organ characteristics of commercial layers inoculated Before or at the Onset of Lay with the F-Strain of *Mycoplasma gallisepticum*. E. D. Peebles*[1], S. L. Branton[2], M. R. Burnham[1], S. K. Whitmarsh[1], and P. D. Gerard[1], [1]*Mississippi State University, Mississippi State,* [2]*Poultry Research Unit, Agricultural Research Service, United States Department of Agriculture, Mississippi State, MS.*
10:15 AM	501	Validity of fertilization assessment of broiler hatching eggs. R. W. Keirs*, P. D. Gerard, and E. D. Peebles, *Mississippi State University, Mississippi State.*
10:30 AM	502	Effectiveness of immersion of hatching eggs into disinfectant solutions in a commercial hatchery. J. M. Mauldin*[1], A. L. O'Shaughnessy[2], and M. T. Musgrove[3], [1]*The University of Georgia, Athens,* [2]*United Promotions, Inc, Atlanta, GA,* [3]*ARS-USDA, Athens, GA.*
10:45 AM	503	Effects of multistage or single-stage incubation on broiler chick quality and performance. B. D. Fairchild*[1], J. M. Mauldin[1], and R. J. Buhr[2], [1]*University of Georgia Poultry Science Department, Athens,* [2]*USDA, ARS, Athens, GA.*
11:00 AM	504	Comparisons of hatchability measures in Jamesway Platinum single stage incubators with Jamesway Multistage incubators in broiler hatchery in Georgia. J. M. Mauldin*, S. A. Kuzniak, and T. L. Gardino, *The University of Georgia, Athens.*
11:15 AM	505	A comparison of effects of single stage vs. multistage incubation on hatching egg moisture weight loss and chick weights in a broiler hatchery in Georgia. J. M. Mauldin*, S. A. Kuzniak, and T. L. Gardino, *The University of Georgia, Athens.*
11:30 AM	506	Effect of single-stage incubation temperature profile and delayed placement on broiler performance to 40 days of age. J. T.

		Brake*, E. O. Oviedo-Rondon, P. W. Plumstead, K. E. Brannan, N. Leksrisompong, and J. H. Small, *North Carolina State University, Department of Poultry Science, Raleigh.*
11:45 AM	507	The effect of flock age and egg storage period on organ development and broiler performance. A. Afsar[1], O. Elibol[1], and J. T. Brake*[2], [1]*Faculty of Agriculture, Department of Animal Science,Ankara University, Ankara, Turkey,* [2]*North Carolina State University, Department of Poultry Science, Raleigh.*
12:00 PM	508	Optimizing brooding temperatures for large high yield broilers. E. O. Oviedo-Rondón*, M. J. Wineland, S. Funderburk, H. Cutchin, and J. H. Small, *Department of Poultry Science, North Carolina State University, Raleigh.*
12:15 PM	509	Influence of photoperiods and light intensities meeting American and European guidelines on broiler performance. R. J. Lien*, J. B. Hess, and L. M. Stevenson, *Auburn University, Auburn, AL.*

Ruminant Nutrition
Acid:Base Balance/Metabolism - Dairy
Chair: William Sanchez, Diamond V Mills, Inc.
217 B

9:30 AM	ADSA Pioneer	Struggles for scientists: Communication, integrity, and societal responsibilities. B. R. Baumgardt, West Lafayette, IN.
9:45 AM	510	Calcium homeostasis, acid-base balance, and health status in periparturient Holstein cows fed diets with low cation-anion difference. W. X. Wu[1,2], J. X. Liu*[1], G. Z. Xu[1], and J. A. Ye[1], [1]*Institute of Dairy Sciences, Ministry of Education Key Laboratory of Molecular Animal Nutrition, Zhejiang University, Hangzhou, China,* [2]*College of Animal Science, Guizhou University, Guiyang, China.*
10:00 AM	511	Dietary Na:K ratio effect on milk performance and mineral metabolisms in mid-lactation cows during summer. W. Hu* and L. Kung, Jr., *University of Delaware, Newark.*
10:15 AM	512	Fertilization using potassium chloride decreased the DCAD of timothy hay. M. Oba*[1], R. Hohm[2], R. McKenzie[2], and T. Dow[2], [1]*University of Alberta, Edmonton, AB, Canada,* [2]*Alberta Agriculture and Food, Lethbridge, AB, Canada.*
10:30 AM	513	Timothy hay differing in DCAD value affected Ca homeostasis in periparturient dairy cows. M. Oba*[1], G. B. Penner[1], G. F. Tremblay[2], and T. Dow[3], [1]*University of Alberta, Edmonton, AB, Canada,* [2]*Agriculture and Agri-Food Canada, Québec, QC, Canada,* [3]*Alberta Agriculture and Food, Lethbridge, AB, Canada.*
10:45 AM	514	Effects of hypocalcemia at calving on intake, behavior and 305 milk production. J. M. Huzzey[1], T. F. Duffield[2], S. J. LeBlanc[2], D. M. Veira[3], D. M. Weary[1], and M. A. G. von Keyserlingk*[1], [1]*University of British Columbia, Vancouver, Canada,* [2]*University of Guelph, Ontario, Canada,* [3]*Pacific Agri-Food Research Centre, Agassiz, BC, Canada.*
11:00 AM	515	Strong ion concentrations in ruminal fluid of lactating dairy cows fed diets varying in fermentibility. C. S. Mooney* and M. S. Allen, *Michigan State University, East Lansing.*
11:15 AM	516	Feed efficiency of lactating dairy cows is related to dietary energy density. D. P. Casper*[1] and D. R. Mertens[2], [1]*Agri-King, Inc., Fulton, IL,* [2]*USDA-ARS Dairy Forage Research Center, Madison, WI.*
11:30 AM	517	Factors affecting milk urea nitrogen in dairy cattle. J. RamÍrez*[1], D. Lefebvre[2], and K. M. Wade[1], [1]*McGill University, Montreal, QC, Canada,* [2]*Valacta, Ste. Anne de Bellevue, QC, Canada.*
11:45 AM	518	The relevance of milk components for the assessment of the energy, protein and structure balance of Holstein Friesian cows. M. Kaske*[1,2], S. Seggewiss[2], K. Horstmann[2], M. Spolders[3], and U. Meyer[3], [1]*Physiology Weihenstephan, Technical University Munich,* [2]*Clinic for Cattle, University of Veterinary Medicine Hannover,* [3]*Institute of Animal Nutrition, Federal Agricultural Research Centre Braunschweig.*
12:00 PM	519	Evaluation of acute phase reactants and indices of liver function in serum from dairy cows fed different levels of energy prepartum. N. A. Janovick Guretzky*[1], H. M. Dann[1], M. Bionaz[1], E. Trevisi[2], G. Bertoni[2], and J. K. Drackley[1], [1]*University of Illinois, Urbana,* [2]*Universita Cattolicà del Sacro Cuore, Zootecnica, Piacenza, Italy.*
12:15 PM	520	Gene expression in adipose tissue of the dairy cow during late pregnancy and lactation fed control diets or diets with supplemental chromium: integration of gene expression into metabolic models. J. P. McNamara*[1], J. M. Sumner[1], J. L. Vierck[1], and A. Jourdan[2], [1]*Washington State University, Pullman,* [2]*Kemin Industries, Inc., Des Moines, IA.*

Ruminant Nutrition
Corn Milling Co-Products - Beef
Chair: Stacey Gunter, University of Arkansas
217 A

9:30 AM		Introduction to Corn Milling Co-Products (Beef). Stacey Gunter, University of Arkansas.
9:35 AM	521	Environmental concerns with feeding corn milling co-products in feedlot diets. T. J. Klopfenstein* and G. E. Erickson, *University of Nebraska, Lincoln*.
10:05 AM	522	Effect of modified wet distillers grains level on feedlot cattle performance and nitrogen mass balance. M. K. Luebbe*, G. E. Erickson, T. J. Klopfenstein, and M. A. Greenquist, *University of Nebraksa, Lincoln*.
10:20 AM	523	Effect of wet distillers grains level on phosphorus balance in beef feedlots. M. K. Luebbe*, G. E. Erickson, T. J. Klopfenstein, and M. A. Greenquist, *University of Nebraska, Lincoln*.
10:35 AM	524	Evaluation of dried distillers grains or soybean hulls with and without Optigen II® to background beef calves. J. L. Wahrmund* and M. J. Hersom, *University of Florida, Gainesville*.
10:50 AM	525	Carcass and meat quality characteristics of distiller's co-product-supplemented pasture- and feedlot-finished beef steers. R. C. Knock*[1], A. H. Trenkle[1], E. J. Huff-Lonergan[1], S. M. Lonergan[1], J. R. Russell[1], P. M. Dixon[1], K. M. Carnagey[2], and D. C. Beitz[1], [1]*Iowa State University, Ames*, [2]*Wake Forest University School of Medicine, Winston-Salem, NC*.
11:05 AM	526	Evaluation of dried distillers grains or soybean hulls to background beef calves. J. L. Wahrmund* and M. J. Hersom, *University of Florida, Gainesville*.
11:20 AM	527	Effect of wheat base distillers grains in a barley ration on the performance and carcass quality characteristics of feedlot steers. R. M. Beliveau*, J. J. McKinnon, and V. J. Racz, *University of Saskatchewan, Saskatoon, Saskatchewan, Canada*.
11:35 AM	528	Dry Distiller's Grains with Solubles in Steam-flaked or Dry-rolled Corn Diets with Reduced Roughage Levels. M. L. May*, M. L. Hands, M. J. Quinn, B. E. Depenbusch, J. O. Wallace, C. D. Reinhardt, and J. S. Drouillard, *Kansas State University, Manhattan*.
11:50 AM	529	Use of distiller's dry grains in steam-flaked corn finishing diets with reduced roughage levels. M. L. May*, M. J. Quinn, B. E. Depenbush, and J. S. Drouillard, *Kansas State University, Manhattan*.
12:05 PM	530	Effect of crude glycerin in finishing cattle diets. N. A. Pyatt, P. H. Doane, and M. J. Cecava*, *ADM Animal Nutrition Research, Decatur, IN*.
12:20 PM	531	The effect of forage allowance and stage of growth on average daily gain, frothy bloat, and rate of ruminal in vitro gas production in steers grazing wheat pasture. W. E. Pinchak*[1], B. R. Min[1], D. P. Malinowski[1], J. W. Sij[1], J. D. Fulford[1], and R. Puchala[2], [1]*Texas Agricultural Research Center, Vernon, TX85*, [2]*E (Kika) dela garza American Institute for Goat Research Center, Langston, OK*.

Teaching/Undergraduate & Graduate Education
Shaping Animal Sciences Curricula for 2020
Chair: Linda C. Martin, Oklahoma State University
204 A

9:30 AM		Introduction - Shaping Animal Sciences Curricula for 2020.
9:45 AM	532	Animal sciences curricula: A historical perspective. J. A. Sterle*, *Texas A&M University, College Station*.
10:10 AM	533	Changing demographics and enrollment trends. K. L. Esbenshade*, *North Carolina State University, Raleigh*.
10:35 AM	534	Curricular trends: Shifts in traditional animal sciences courses and degree programs. J. C. Swanson* and D. A. Nichols, *Kansas State University, Manhattan*.
11:00 AM		Break
11:15 AM	535	Thinking outside of the box: Incorporating innovative experiential & inquiry-based learning opportunities. J. N. Spain*, *University of Missouri, Columbia*.
11:40 AM	536	Thinking oOutside the box: Linkages with agencies and educational opportunities for undergraduates and graduate students. M. A. Ottinger*, *University of Maryland, College Park*.

12:05 PM	537	Animal sciences curricula: Future directions. T. Field*, *Colorado State University, Fort Collins.*

ADSA Foundation Scholar Lecture – Dairy Foods
Chair: Scott Rankin, University of Wisconsin-Madison
201

9:30 AM		Beyond our borders: The impact of international service on the dairy industry. S. Clark*, *Washington State University, Pullman.*

Danisco International Dairy Science Award Lecture
Chair: Zeynep Ustunol, Michigan State University
201

10:30 AM		TITLE TO COME. F. X. Malcata*, *Escola Superior de Biotecnologia, Porto, Portugal.*

Growth and Development - Livestock and Poultry
Livestock and Poultry II
Chair: Jud Heinrichs, The Pennsylvania State University
204 B

11:15 AM	538	Ontogenic expression of microRNA in bovine mammary gland. A. V. Capuco*[1], L. L. Coutinho[2], C. M. Evock-Clover[1], A. Minuti[3], T. S. Sonstegard[1], Y. R. Boisclair[4], M. E. Van Amburgh[4], G. Bertoni[3], and L. K. L.K. Matukumalli[1], [1]*Bovine Functional Genomics Laboratory, USDA-ARS, Beltsville, MD,* [2]*University of Sao Paulo-ESALQ, Piracicaba, SP, Brazil,* [3]*Institute of Zootechnics, Catholic University, Piacenza, Italy,* [4]*Cornell University, Ithaca, NY.*
11:30 AM	539	Growth hormone stimulates growth hormone receptor expression through STAT5-activation of growth hormone receptor 1A promoter in the bovine liver. H. Jiang*, Y. Wang, M. Wu, and R. Torres-Diaz, *Virginia Polytechnic Institute and State University, Blacksburg.*
11:45 AM	540	Temporal longissimus muscle gene expression profiles due to plane of dietary energy in early-weaned Angus steers. D. E. Graugnard*, S. L. Rodriguez-Zas, D. B. Faulkner, L. L. Berger, R. E. Everts, H. A. Lewin, and J. J. Loor, *University of llinois, Urbana.*
12:00 PM	541	Creation of a gene atlas in cattle using sequence-based transcriptional profiling. T. S. Sonstegard*[1], J. W. Keele[2], G. P. Harhay[2], T. P. L. Smith[2], L. K. Matukumalli[1,3], G. Liu[1], C. P. Van Tassell[1], and L. J. Alexander[4], [1]*USDA, ARS, Beltsville Agricultural Research Center, Beltsville, MD,* [2]*USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE,* [3]*George Mason University, Fairfax, VA,* [4]*USDA, ARS, Livestock and Range Research Laboratory, Miles City, MT.*
12:15 PM	542	Effect of an enhanced-growth feeding program on gastrointestinal tract and spleen development. M. Terré*[1], M. Devant[1], A. Aris[1], and A. Bach[1,2], [1]*IRTA-Unitat de Remugants, Barcelona, Spain,* [2]*ICREA, Barcelona, Spain.*

OTHER EVENTS

PSA Business Meeting
217 D
3:00 PM - 5:00 PM

SYMPOSIA AND ORAL SESSIONS

World's Poultry Science Association Lecture
Chair: Nick Dale, President, University of Georgia
217 D

2:00 PM		Impact on the world poultry industry of the global shift to biofuels. P. Aho, *Poultry Perspective, Storrs, CT.*

SYMPOSIUM
Animal Behavior & Well-Being - Livestock and Poultry
New Methodologies Symposium
Chair: Julie Smith, University of Vermont
205

2:00 PM	543	Utilizing neural network analysis in animal behavior studies. W. B. Roush*, *USDA-ARS Poultry Research Unit, Mississippi State, MS.*
2:45 PM	544	Identification of QTL affecting disposition in *Bos indicus* influenced cattle. C. A. Gill*, C. R. Boldt, C. A. Abbey, M. A. Wegenhoft, D. K. Lunt, J. E. Sawyer, A. D. Herring, and J. O. Sanders, *Texas A&M University, College Station.*
3:30 PM	545	Mathematical modeling and analysis of use of space. M. C. Christman*[1], C. P. Miller[1], and I. Estevez[2], [1]*University of Florida, Gainesville,* [2]*University of Maryland, College Park.*
4:15 PM	546	Major pitfalls in animal welfare research. J. J. McGlone*[1], L. E. Hulbert[1], N. Krebs[1], M. A. Sutherland[1], and J. W. Dailey[2], [1]*Texas Tech University, Lubbock,* [2]*USDA Livestock Issues Research Unit, Lubbock, TX*.

Animal Health - Livestock and Poultry
Bovine II
Chair: Heather Dann, William H. Miner Agriculture Research Institute
217 C

2:00 PM	547	New frontier in monitoring, early diagnostics and prevention of ketosis in dairy cows. K. L. Ingvartsen*, N. C. Friggens, and T. Larsen, *University of Aarhus, Faculty of Agricultural Sciences, Tjele, Denmark.*
2:15 PM	548	*Neotyphodium coenophialum* alters blood metabolites involved in nitrogen, energy, and mineral metabolism in growing steers. K. R. Brown*[1], L. R. Harrison[2], J. L. Klotz[3], J. R. Strickland[3], J. A. Boling[1], and J. C. Matthews[1], [1]*Department of Animal and Food Sciences, Lexington, KY,* [2]*Livestock Disease Diagnostic Center, Lexington, KY,* [3]*Forage-Animal Production Research Unit, USDA-ARS, University of Kentucky, Lexington, KY*.
2:30 PM	549	Changes in lying behavior of lactating dairy cows associated with body condition score and milk yield. J. M. Bewley*[1], R. E. Boyce[2], L. Munksgaard[3], C. Drummond[4], J. Hockin[4], B. Scott[4], and M. M. Schutz[1], [1]*Purdue University, West Lafayette, IN,* [2]*IceRobotics, Ltd., Roslin, Scotland, UK,* [3]*Danish Institute of Agricultural Sciences, Research Centre Foulum, Denmark,* [4]*Barony College, Dumfries, Scotland, UK.*
2:45 PM	550	Rectal versus peripheral temperature measurement using radio-frequency implants in steers challenged with lipopolysaccharide during periods of heat stress. E. D. Reid*[1], J. M. Velasco[1], and G. E. Dahl[2], [1]*University of Illinois, Urbana,* [2]*University of Florida, Gainesville*.
3:00 PM	551	Hemodynamics in the caudal artery of yearling steers following removal from toxic tall fescue and placement on non-toxic diets. G. E. Aiken*[1] and L. K. McClanahan[2], [1]*USDA-ARS-FAPRU, Lexington, KY,* [2]*University of Kentucky, Lexington.*
3:15 PM	552	Response of digital dermatitis to treatment with topical lincomycin or oxytetracycline: comparison of gross visual and histopathological observations one month after treatment. B. Nuccitelli[1], S. L. Berry*[1], D. H. Read[2], R. L. Walker[2], and T. R. Famula[1], [1]*University of California, Davis,* [2]*California Animal Health and Food Safety Laboratory, Davis, CA.*
3:30 PM	553	Mechanical properties of the solear hoof horn of heifers before and during the first lactation as a prediction of lameness susceptibility. B. Winkler[1], J. K. Margerison*[2], and C. S. Brennan[2], [1]*University of Plymouth, Plymouth, UK,* [2]*Massey University, Palmerston North, New Zealand.*
3:45 PM	554	Effect of sample thickness, tissue moisture content and storage methods on the punch resistance and elastic modulus of the bovine hoof horn. B. Winkler[1] and J. K. Margerison*[2], [1]*University of Plymouth, Plymouth, UK,* [2]*Massey University, Palmerston North, New Zealand.*

Breeding and Genetics - Livestock and Poultry
Dairy Cattle II
Chair: Filippo Miglior, Agriculture and Agri-Food Canada
214 B

2:00 PM	555	Performance and physical conformation of first parity backcross Holstein x Jersey cattle and their Holstein contemporaries. K. A. Weigel*, T. J. Halbach, C. Maltecca, and P. C. Hoffman, *University of Wisconsin, Madison.*

2:15 PM	556	Crossbreds of Jersey/Holstein compared to pure Holsteins for production, fertility, and udder traits during first lactation. B. J. Heins, L. B. Hansen, A. J. Seykora, A. R. Hazel*, J. G. Linn, and D. G. Johnson, *University of Minnesota, St. Paul*.
2:30 PM	557	SNPs in the 3'UTR of Stearoyl-CoA desaturase gene in Canadian Holsteins and Jerseys. P. M. Kgwatalala, E. M. Ibeagha-Awemu*, J. F. Hayes, and X. Xhao, *McGill University, Ste Anne De Bellevue, Quebec, Canada.*
2:45 PM	558	Estimation of yields for long lactations using best prediction. J. B. Cole*[1], P. M. VanRaden[1], and C. M. B. Dematawewa[2], [1]*Animal Improvement Programs Laboratory, USDA, Beltsville, MD,* [2]*Virginia Polytechnic Institution and State University, Blacksburg*.
3:00 PM	559	Genetic parameter estimates for days open by using a random regression model to analyze data from a long-term designed selection experiment. G. A. Gutierrez*, M. H. Healey, and P. J. Berger, *Iowa State University, Ames.*
3:15 PM	560	Construction and application of a bovine high-density SNP assay. C. P. Van Tassell*[1], L. K. Matukumalli[1,4], C. Taylor[5], T. P. L. Smith[3], T. S. Sonstegard[1], R. D. Schnabel[2], M. V. B. De Silva[1], G. R. Wiggans[1], G. Liu[1], S. Moore[6], and J. F. Taylor[2], [1]*USDA, ARS Beltsville Agricultural Research Center, Beltsville, MD,* [2]*University of Missouri, Columbia,* [3]*USDA, ARS, US Meat Animal Research Center, Clay Center, NE,* [4]*George Mason University, Fairfax, VA,* [5]*Illumina, Inc., San Diego, CA,* [6]*University of Alberta, Edmonton, AB, Canada*.
3:30 PM		Break
3:45 PM	561	Estimation of genetic parameters with random regression models using test-day records beyond 305 days in milk. J. Bohmanova[1], F. Miglior*[2,3], and J. Jamrozik[1], [1]*University of Guelph, Guelph, ON, Canada,* [2]*Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada,* [3]*Canadian Dairy Network, Guelph, ON, Canada.*
4:00 PM	562	Selection of dairy cow families for superior pregnancy rate. C. N. Vierhout*, S. P. Washburn, R. L. McCraw, E. J. Eisen, and J. P. Cassady, *North Carolina State University, Raleigh.*
4:15 PM	563	Mapping of quantitative trait loci economic important traits in Canadian holstein bulls. D. Kolbehdari*, S. Moore, and Z. Wang, *University of Alberta, Edmonton, Alberta, Canada*.
4:30 PM	564	Economic value of a marginal increase in pregnancy rate in dairy cattle. A. De Vries*, *University of Florida, Gainesville*.
4:45 PM	565	Relationships between locomotion and lesion score, punch resistance and Holstein (HUKI) conformation scores. B. Winkler[1] and J. K. Margerison*[2], [1]*University of Plymouth, Plymouth, UK,* [2]*Massey University, Palmerston North, New Zealand*.

SYMPOSIUM
Companion Animals
Pet Food Ingredients - Mining, Dredging, and Extrapolating Effective Nutrient Delivery
Chair: Greg Aldrich, Pet Food & Ingredient Technology, Inc.
214 A

2:00 PM		Introduction and Opening Comments. Greg Aldrich, Pet Food & Ingredient Technology, Inc..
2:05 PM	566	Advances in evaluating pet food ingredients: Methodologies. G. C. Fahey, Jr.*, *University of Illinois, Urbana*.
2:45 PM	567	AntiNutrients: Factors limiting utilization of nutrients in pet food ingredients. C. M. Grieshop* and G. Kuhlman, *The Iams Company, Lewisburg, OH*.
3:25 PM	568	Proteins: Advances in rendering animal and marine products. C. R. Hamilton* and D. Kirstein, *Darling International Inc., Irving, TX*.
4:05 PM		Break
4:15 PM	569	Fatty acids: Approaches to prevent or modify nutrient damage from oxidation. R. G. Brannan*, *Ohio University, Athens*.
4:55 PM	570	Minerals: Effect of form on requirements and bioavailability. L. L. Southern*, *LSU Agricultural Center, Baton Rouge, LA.*
5:35 PM		Wrap-up.

Dairy Foods
Chemistry and Microbiology
Chair: Joe Schlesser, FDA
201

2:00 PM	571	Protein interactions in heat-treated milk and effect on Rennet Coagulation. P. Kethireddipalli* and D. G. Dalgleish, *University of Guelph, Guelph, ON, Canada*.
2:15 PM	572	Flavor variability and stability of US-produced whole milk powder. M. A. Lloyd* and M. A. Drake, *North Carolina State University, Raleigh*.
2:30 PM	573	The effect of pH and ionic calcium on the heat stability of sterilized and UHT milk. M. J. Lewis* and A. S. Grandison, *School of Chemistry, Food and Pharmacy, The University of Reading, Reading, Berkshire, UK*.
2:45 PM	574	Isolation, composition and rennet-gelling functionality of milk fat globule membrane fractions from regular buttermilk, whey buttermilk, and washed cream buttermilk. B. Manion* and M. Corredig, *University of Guelph, Guelph, Ontario, Canada*.
3:00 PM	575	Fat globule interfacial composition affects the texture and microstructure of rennet-induced casein gels. Z. Gaygadzhiev*, M. Alexander, A. Hill, and M. Corredig, *University of Guelph, Guelph, ON, Canada*.
3:15 PM		Break
3:30 PM	576	Acoustical emissions generated by *E. coli* bacteria. C. L. Hicks*[1], J. M. Stencel[2], H. Song[2], and F. A. Payne[1], [1]*University of Kentucky, Lexington*, [2]*Tribo Flow Separations, Lexington, KY*.
3:45 PM	577	An assay system for probiotic lactic acid bacteria recognizing human blood type A-antigen that competitively excludes harmful intestinal bacteria. T. Saito*[1], N. Wakahara[1], H. Uchida[1], H. Kinoshita[1], Y. Kawai[1], H. Kitazawa[1], K. Miura[2], A. Horii[2], K. Kimura[3], and N. Taketomo[3], [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*.
4:00 PM	578	Glyceraldehyde 3-phosphate dehydrogenase (GAPDH) expressed on the cell surface of *Lactobacillus plantarum* LA 318 mediates adhesion to human colonic mucin. H. Kinoshita*[1], H. Uchida[1], T. Kawasaki[1], N. Wakahara[1], H. Matuo[1], Y. Kawai[1], H. Kitazawa[1], S. Ohmura[2], K. Miura[2], K. Shiiba[2], A. Horii[3], and T. Saito[1], [1]*Graduate School of Agricultural Science, Tohoku University, Sendai, Miyagi, Japan*, [2]*Department of Surgery, Tohoku University Graduate School of Medicine, Sendai, Miyagi, Japan*, [3]*Department of Molecular Pathology, Tohoku University School of Medicine, Sendai, Miyagi, Japan*.
4:15 PM	579	Development and optimization of food-grade antimicrobial lactic acid bacteria isolated from raw milk. A. Ichinomiya*, K. R. Nauth, and V. V. Mistry, *South Dakota State University, Brookings*.
4:30 PM	580	Challenge testing the lactoperoxidase system against against a range of bacteria using different activation agents. L. W. T. Fweja, A. S. Grandison*, and M. J. Lewis, *The University of Reading, Reading, Berkshire, UK*.
4:45 PM	581	Characterization of immuno active peptides present in cell free preparations obtained from Milk fermented by L. Helveticus. A. M. Tellez*[2,1], M. Corredig[3,1], L. Brovko[2,1], and M. Griffiths[2,1], [1]*University of Guelph, Guelph, Ontario, Canada*, [2]*Canadian Research Institue for Food Safety, Guelph, Ontario, Canada*, [3]*Food Science Department, Guelph, Ontario, Canada*.

SYMPOSIUM
Dairy Foods
On the Road From Analysis and Discovery of Functional Milk Bioactives to New Products and Health Outcomes
Chair: Samara Freeman, University of California, Davis
Sponsor: Agilent Technologies
202

2:00 PM	582	An approach to capturing and translating the biological activities and health outcomes of milk components. S. L. Freeman*, *University of California, Davis*.
2:30 PM	583	The glycome and the glycoproteome of milk. C. Lebrilla*, B. German, D. Mills, and S. Freeman, *University of California, Davis*.
3:00 PM	584	Production and use of high CLA foods in human health. D. E. Bauman*[1], C. Tyburczy[1], A. M. O'Donnell[1], and A. L.

		Lock[2], [1]*Cornell University, Ithaca, NY,* [2]*University of Vermont, Burlington*.
3:30 PM	585	Sources and characteristics of milk fat globule membranes. R. E. Ward*, *Utah State University, Logan*.
4:00 PM		Whey protein changes glucose and lipid metabolism and its implications for weight management in the clinics. S. Karakas, *University of California, Davis.*
4:30 PM		Discussion.
5:00 PM		Adjourn.

Forages and Pastures - Livestock and Poultry
Harvesting, Ensiling, and Forage Quality
Chair: Charles Staples, University of Florida
213

2:00 PM	586	Fall growth potential of cereal-grain forages. J. L. Gunsaulis[1], W. K. Coblentz*[2], R. K. Bacon[3], R. K. Ogden[3], K. P. Coffey[3], D. S. Hubbell, III[4], J. V. Skinner, Jr.[3], and J. D. Caldwell[3], [1]*Arkansas Cooperative Extension Service, Fayetteville,* [2]*US Dairy Forage Research Center, Marshfield, WI,* [3]*University of Arkansas, Fayetteville,* [4]*Livestock and Forestry Branch Station, Batesville, AR.*
2:15 PM	587	Increasing non structural carbohydrates in alfalfa improves in vitro microbial N synthesis. R. Berthiaume*[1], C. Benchaar[1], A. V. Chaves[3], G. F. Tremblay[2], Y. Castonguay[2], A. Bertrand[2], G. Bélanger[2], R. Michaud[2], C. Lafreniére[1], and A.F. Brito[1], [1]*Agriculture & Agri-Food Canada, Sherbrooke, QC,* [2]*Agriculture & Agri-Food Canada, Quebec, QC,* [3]*Agriculture & Agri-Food Canada, Lethbridge, AB.*
2:30 PM	588	Effect of a biological silage inoculant on the quality parameters under laboratory and field conditions. Y. Acosta Aragón*, G. Boeck, A. Klimitsch, and G. Schatzmayr, *Biomin GmbH, Austria, Herzogenburg, Lower Austria, Austria*.
2:45 PM	589	Molasses effects on Kochia scoparia characteristics as an Iranian native forage in the form of silage. B. Saremi*, A. R. Shahdadi, and H. Zaher Farimani, *Education center of Jihad-e Agriculture, Khorasan razavi,, Mashhad, Iran*.
3:00 PM	590	Feeding value of silage made from Panicum maximum with or without Leuceana leucocephala or Gliricidia sepium as supplementary feeds for weaned rabbits. A. M. Raji*[1,2], A. T. Adesogan[1], J. A. A. Sansi[2], and R. A. Salako[2], [1]*Dept. Animal Sciences, University of Florida, Gainesville,* [2]*Federal College of Animal Health and Production Technology, IART, Ibadan, Oyo, Nigeria*.
3:15 PM		Break
3:30 PM	591	Water soluble carbohydrates relative to protein in fresh forages: Impact on efficiency of nitrogen utilization in lactating dairy cows. D. Pacheco*[1], G. A. Lane[1], J. L. Burke[2], and G. P. Cosgrove[1], [1]*AgResearch Grasslands, Palmerston North, New Zealand,* [2]*Massey University, Palmerston North, New Zealand*.
3:45 PM	592	Contribution of plant mediated proteolysis to total protein degradation of fresh forages in the rumen of dairy cows. D. Pacheco*, W. C. McNabb, H. S. Easton, and B. Barrett, *AgResearch Grasslands, Palmerston North, New Zealand*.
4:00 PM	593	Relationships between silage fermentation characteristics and feed intake by dairy cows. I. Eisner[1], K.-H. Suedekum*[2], and S. Kirchhof[1], [1]*University of Kiel, Kiel, Germany,* [2]*University of Bonn, Bonn, Germany*.
4:15 PM	594	Alfalfa harvested in the afternoon increases performance of lactating dairy cows. A. F. Brito*[1], G. Tremblay[2], D. R. Ouellet[1], A. Bertrand[2], Y. Cantonguay[2], G. Belanger[2], R. Michaud[2], H. Lapierre[1], and R. Berthiaume[1], [1]*Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada,* [2]*Soils and Crops R&D Centre, Agriculture and Agri-Food Canada, Ste-Foy-Normandin, QC, Canada.*

Goat Species
Chair: Maximino Huerta Bravo, Universidad Autónoma Chapingo
207 A

2:00 PM	595	In vitro larval activity and in vivo gastro-intestinal parasites infestation in goats grazing tropical legumes. K. A. H. Valentin*[1], B. R. Min[2], E. Valencia[1], A. Rodriguez[1], W. E. Pinchak[2], J. E. Miller[3], and J. P. Muir[4], [1]*University of Puerto Rico, Mayaguez, Puerto Rico,* [2]*Texas Agricultural Research Center, Vernon,* [3]*Louisiana State University, Baton Rouge,* [4]*Texas Agricultural Research Center, Stephenville*.
2:15 PM	596	Effects of hay inclusion on intake, total tract nutrient utilization and ruminal fermentation of goats fed spineless cactus (Opuntia fícus-indica Mill) based diets. E. L. Vieira[1], A. M. Batista[1], A. Guim[1], F. F. Carvalho[1], A. C. Nascimento[1], R. F. Araújo[1], and A. F. Mustafa*[2], [1]*Universidade Federal Rural de Pernambuco, Pernambuco, Brazil,* [2]*McGill University, QC,*

		Canada.
2:30 PM	597	Evaluation of Chevon on risk factors for coronary heart disease. D. D. Burnett*, S. B. White, M. M. Corley, and R. N. Corley, III, *Tuskegee University, Tuskegee, AL*.
2:45 PM	598	Effects of stabilized rice bran on growth, feed efficiency, carcass characteristics, and occurrence of urinary calculi in wether Boer goats fed a complete pelleted diet. G. V. Pollard*[1] and R. V. Machen[2], [1]*Texas State University, San Marcos*, [2]*Texas Agricultural Experiment Station, Uvalde*.
3:00 PM	599	The performance of Spanish kids born under mixed-species grazing system. S. Gebrelul, T. Walsh*, Y. Ghebreiyessus, V. Bachireddy, and R. Payne, *Southern University, Baton Rouge, LA*.
3:15 PM	600	The performance of Spanish does under mixed-species grazing system. S. Gebrelul, T. Walsh*, Y. Ghebreiyessus, V. Bachireddy, and M. Berhane, *Southern University, Baton Rouge, LA*.
3:30 PM	601	The effect of mixed species grazing systems on soil compaction and permeability. Y. Ghebreiyessus*, V. Bachireddy, S. Gebrelul, R. Payne, M. Berhane, and Z. Augustine, *Southern University, Baton Rouge, LA*.

SYMPOSIUM
Joint National Extension Workshop
Changing the Future of Food Animal Production
Chair: Craig Coufel, Mississippi State University
206 B

2:00 PM	602	Introduction to the symposium: the lengthening chain of change. R. E. Stup*, *The Pennsylvania State University, University Park*.
2:15 PM		Change management---how to get organizations to change. M. Hemenover, *Avenues For Change, St. Louis, MO*.
3:00 PM	603	Adapting extension to rapidly changing industries: A pork industry experience. M. T. See*, *North Carolina State University, Raleigh*.
3:30 PM	604	Adapting extension to the rapidly changing dairy industry. E. R. Jordan*, *The Texas A&M University System, Dallas*.
4:00 PM	605	Extension's responsibility in responding to emergency and controversial issues. J. F. Ort*, *North Carolina State University, Raleigh*.
4:30 PM		Discussion.

Nonruminant Nutrition
Feeder Pig and Sow Nutrition
Chair: Sun Woo Kim, Texas Tech University
210

2:00 PM	606	The effect of dietary omega-3 fatty acids on adipose tissue cellularity in grower/finisher pigs. S. A. Meers*, C. R. Dove, and M. J. Azain, *University of Georgia, Athens*.
2:15 PM	607	Effect of amino acid program (Low vs. High) and dried distiller's grains with solubles (DDGS) on finishing pig performance and carcass characteristics. R. Hinson*[1], G. Allee[1], G. Grinstead[2], B. Corrigan[2], and J Less[3], [1]*University of Missouri, Columbia*, [2]*Vita Plus Corp., Madison, WI*, [3]*ADM Specialty Feed Ingredients, Decatur, IL*.
2:30 PM	608	Effects of co-products from the ethanol industry on pig performance and carcass composition. M. R. Widmer*[1], L. M. McGinnis[1], D. M. Wulf[1], and H. H. Stein[2], [1]*South Dakota State University, Brookings*, [2]*University of Illinois, Urbana*.
2:45 PM	609	Effect of corn distiller's dried grains with solubles (DDGS) withdrawal program on growth performance and carcass yield in grow-finish pigs. A. M. Gaines, J. D. Spencer, G. I. Petersen*, N. R. Augspurger, and S. J. Kitt, *JBS United, Inc., Sheridan, IN*.
3:00 PM	610	Effects of a Pichia-expressed phytase on performance and P excretion of growing pigs. L. M. McGinnis*[1], M. R. Widmer[1], C. L. Wright[1], T. M. Parr[2], and H. H. Stein[3], [1]*South Dakota State University, Brookings*, [2]*Syngenta Animal Nutrition, Research Triangle Park, NC*, [3]*University of Illinois, Urbana*.
3:15 PM	611	Effect of form of fat and NDF addition on apparent ileal and apparent total tract digestibility of fat in diets fed to growing pigs. D. Y. Kil*[1], T. E. Sauber[2], and H. H. Stein[1], [1]*University of Illinois, Urbana*, [2]*Pioneer Hi-Bred Intl. Inc., Johnston, IA*.
3:30 PM	612	Performance and phosphorus status of growing pigs are improved by a multi-enzyme complex containing NSP-enzymes

		and phytase. A. V. Mori, J. Kluess*, R. Maillard, and P. A. Geraert, *Adisseo France SAS, Commentry, France*.
3:45 PM	613	Comparison of particle size analysis of ground grain with or without the use of a flow agent. R. D. Goodband*[1], W. Diederich[2], S. S. Dritz[1], M. D. Tokach[1], J. M. DeRouchey[1], and J. L. Nelssen[1], [1]*Kansas State University, Manhattan,* [2]*Mid-West Laboratories, Omaha, NE*.
4:00 PM	614	Effects of a dry organic acid blend on growth performance and carcass parameters in growing-finishing pigs. J Zhao*[1], R. J. Harrell[1], B. R. Hinson[2], G. L. Allee[2], F. Navarro[1], and C. D. Knight[1], [1]*Novus International Inc, St. Louis, MO,* [2]*Univeristy of Missouri, Columbia*.
4:15 PM	615	Dietary arginine supplementation enhances the growth performance of milk-fed piglets. Y. Kang*[1], Y. L. Yin[1], R. L. Huang[1], X. F. Kong[1], T. J. Li[1], I. Shinzato[2], S. W. Kim[3,4], and G. Y. Wu[1,4], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*Ajinomoto, Tokyo, Japan,* [3]*Texas Tech University, Lubbock,* [4]*Texas A&M University, College Station*.
4:30 PM	616	Production of the recombinant bovine lactoferricin and its beneficial supplementation to the diet for weaned pigs. Z. R. Tang*[1], Y. M. Zhang[1,2], Y. L. Yin[1], A. F. Stewart[3], and G. Y. Wu[1,4], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China,* [2]*Gene Bridges GmbH, BioInnovation Zentrum, Am Tatzberg, Dresden, Germany,* [3]*BioInnovation Zentrum, Technical University of Dresden, Am Tatzberg, Dresden, Germany,* [4]*Texas A&M University, College Station.*
4:45 PM	617	InraPorc: a model and decision support tool for the nutrition of growing pigs and sows. J. van Milgen*, J. Noblet, M. Étienne, A. Valancogne, S. Dubois, and J. Y. Dourmad, *INRA, Saint Gilles, France*.

Nonruminant Nutrition
Protein and Amino Acid Nutrition in Swine
Chair: Scott Radcliffe, Purdue University
212

2:00 PM	618	Differential effects of leucine on translation initiation factor activation and protein synthesis in skeletal muscle, renal and adipose tissues of neonatal pigs. J. Escobar*, H. V. Nguyen, and T. A. Davis, *USDA/ARS, Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX*.
2:15 PM	619	Developmental expression and resveratrol regulation of the porcine lipoprotein lipase (LPL) gene. T. Z. Shan*, Y. Z. Wang, J. X. Liu, and Z. R. Xu, *Institute of Feed Science, Hangzhou, Zhejiang,China*.
2:30 PM	620	Effects of dried distillers grains and conjugated linoleic acid on gene expression for key enzymes in fatty acid synthesis. H. M. White*, S. S. Donkin, M. A. Latour, and S. L. Koser, *Purdue University, West Lafayette, IN*.
2:45 PM	621	Effect of dietary protein fluctuations and Paylean® on performance and carcass traits of finishing pigs. M. S. Edmonds*[1] and D. H. Baker[2], [1]*Kent Feeds, Inc., Muscatine, IA,* [2]*University of Illinois, Urbana*.
3:00 PM	622	Determining the optimum dietary tryptophan to lysine ratio in 25 to 40 kg growing pigs. A. D. Quant*[1], M. D. Lindemann[1], G. L. Cromwell[1], B. J. Kerr[2], and R. L. Payne[3], [1]*University of Kentucky, Lexington,* [2]*USDA, Ames, IA,* [3]*Degussa Corporation, Kennesaw, GA*.
3:15 PM	623	Tryptophan improves weight gain associated with increased plasma ghrelin level induced by oral ingestion of tryptophan in weaned pigs. J. Yin*, H. Zhang, and D. Li, *China Agricultural University, Beijing, China*.
3:30 PM	624	Nitrogen balance, ammonia and odor emissions in growing pigs fed reduced crude protein diets. D. V. Braña*[1,2], H. A. Rachuonyo[1], and M. Ellis[1], [1]*University of Illinois, Urbana,* [2]*INIFAP, Queretaro, Mexico*.
3:45 PM	625	Performance of pigs fed diets supplemented with DL-Methionine or liquid MHA-FA from 6 - 25 kg. O. S. Santos*[1], A. B. Borbolla[1], A. P. Pineda[1], R. F. Flores[1], A. P.-S. Pineli-Savedra[2], and D. H. Hoehler[3], [1]*Universidad Nacional Autónoma de México, Mexico City, Mexico,* [2]*CIAD, Hermosillo, Sonora, Mexico,* [3]*Degussa Corporation, Kennesaw, GA*.
4:00 PM	626	Low protein diets for pigs treated with ractopamine. G. E. Lanz A*[3,1] and J. A. Cuaron I[2], [1]*Paiepeme A.C., Queretaro, Mexico,* [2]*CNI-Fisiologia Animal, INIFAP, Queretaro, Mexico,* [3]*FESC UNAM, Ajuchitlan, Queretaro, Mexico*.
4:15 PM	627	Effects of ractopamine level and feeding duration on the performance and carcass characteristics of late finishing market pigs. C. W. Parks*[1], G. L. Allee[2], R. B. Hinson[2], and S. N. Carr[1], [1]*Elanco Animal Health, Greenfield, IN,* [2]*University of Missouri, Columbia*.
4:30 PM	628	The effect of dietary lysine or methionine and copper/manganese on osteochondrosis lesions and cartilage properties in pigs. N. F. Frantz*, J. L. Nelssen, G. A. Andrews, M. D. Tokach, S. S. Dritz, R. D. Goodband, and J. M. DeRouchey, *Kansas State University, Manhattan*.
4:45 PM	629	Effects of different Ractopamine withdrawal times on growth performance and fat free lean growth rate in finishing pigs.

		G. E. Lanz A*[3,1], M. Lucero P[3,1], and J. A. Cuaron I[2], [1]*Paiepeme A.C., Queretaro, Mexico*, [2]*CNI-Fisiología Animal, INIFAP, Queretaro, Mexico*, [3]*FESC UNAM, Ajuchitlan, Queretaro, Mexico*.

SYMPOSIUM
Nonruminant Nutrition
Understanding Protein Synthesis and Degradation and Their Pathway Regulations
Chair: Ming Z. Fan, University of Guelph
Sponsor: Degussa
217 A

2:00 PM	630	Postnatal ontogeny of skeletal muscle protein synthesis in pigs. T. A. Davis*, A. Suryawan, R. A. Orellana, and M. L. Fiorotto, *USDA/ARS Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX*.
2:45 PM	631	Measuring in vivo intracellular protein degradation rates in animal systems. W. G. Bergen*, *Auburn University, Auburn, AL*.
3:30 PM	632	The non-lysosomal Ca^{2+}-dependent protein degradation pathway: The calpains, proteasome, and myofibrillar protein turnover. D. E. Goll*, G. Neti, S. W. Mares, and V. F. Thompson, *University of Arizona, Tucson*.
4:15 PM	633	The mTOR-signaling pathway in regulating metabolism and growth. X. Yang*, C. Yang, A. Farberman, C. F. M. de Lange, J. France, and M. Z. Fan, *University of Guelph, Guelph, Ontario, Canada*.

Physiology & Endocrinology - Livestock and Poultry
Endocrinology
Chair: C. Richard Barb, ARS USDA
214 C

2:00 PM	634	Relationship between leptin and carcass quality and yield grade in a population of Certified Angus Beef–type cattle. D. L. McNamara*[1], T. B. Schmidt[3], E. L. Walker[4], M. M. Rolf[1], A. N. Brauch[1], W. Pittroff[2], and D. H. Keisler[1], [1]*University of Missouri, Columbia*, [2]*University of California, Davis*, [3]*Mississippi State University, Starkville*, [4]*Missouri State University, Springfield*.
2:15 PM	635	Variation in maintenance energy requirements of gestating beef cows and relationships with calf performance and plasma IGF-I. M. J. Prado-Cooper*, N. M. Long, R. P. Wettemann, G. W. Horn, L. J. Spicer, and C. R. Krehbiel, *Oklahoma Agricultural Experiment Station*.
2:30 PM	636	Negative energy balance increases prandial ghrelin and growth hormone concentrations in lactating dairy cows. B. J. Bradford* and M. S. Allen, *Michigan State University, East Lansing*.
2:45 PM	637	Effect of ghrelin and obestatin infusion on milk production, body condition score, and energy balance in dairy cows. J. R. Roche*[1,2], A. J. Sheahan[1], L. M. Chagas[1], D. Blache[3], D. P. Berry[4], and J. K. Kay[1], [1]*Dexcel, New Zealand*, [2]*University of Tasmania, Australia*, [3]*University of Western Australia, Australia*, [4]*Teagasc Moorepark, Ireland*.
3:00 PM	638	Expression of ghrelin and the growth hormone secretagogue receptor 1a (GHS-R1a) in the reproductive tissues of Holstein heifers. M. L. Rhoads*, J. B. Wheelock, L. L. Hernandez, R. P. Rhoads, and R. J. Collier, *University of Arizona, Tucson*.
3:15 PM	639	Seasonal effects on twenty-four hour patterns of melatonin in blood and milk of dairy cows. N. Castro*[1,2], M. T. Kollmann[3], V. Lollivier[4], S. Richter[1], A. Baumert[1], O. Wellnitz[1], and R. M. Bruckmaier[3], [1]*University of Bern, Bern, Switzerland*, [2]*Las Palmas de Gran canaria University, Las Palmas, Spain*, [3]*Technical University Munich, Germany*, [4]*INRA, France*.
3:30 PM	640	Effect of restricted feeding and monopropylene glycol postpartum on metabolic hormones and postpartum anoestrus in grazing dairy heifers. L. M. Chagas*[1], P. J. S. Gore[1], K. A. Macdonald[1], and D. Blache[2], [1]*Dexcel Limited, Hamilton, New Zealand*, [2]*The University of Western Australia, Crawley, Australia*.
3:45 PM	641	Hypothalamic genes expression in early- and late-maturing *Bos indicus* heifers. A. Vaiciunas*[1], L. L. Coutinho[2], and L. F. P. Silva[1], [1]*University of São Paulo, Pirassununga, SP, Brazil*, [2]*University of São Paulo, Piracicaba, SP, Brazil*.
4:00 PM	642	Evaluating reproductive and immune consequences of endocrine disrupting chemicals in an avian bioassay. M. A. Ottinger*[1], E. T. Lavoie[1], and M. J. Quinn[2], [1]*University of Maryland, College Park*, [2]*U.S. Army Center for Health Promotion and Preventive Medicine, Aberdeen, MD*.
4:15 PM	643	Differential expression of adiponectin, adiponectin receptor 1 (AdipoR1) and leptin mRNA in different adipose depots in sheep. A. Lemor*[1], M. Mielenz[1], M. Altmann[2], E. von Borell[2], and H. Sauerwein[1], [1]*University of Bonn, Germany*, [2]*Martin-Luther-University, Halle-Wittenberg, Germany*.

4:30 PM	644	Prolactin levels and ovulation rate in crossbreed ewes with induced oestrus during the anoestrous season and the effect of bromocryptine and naloxone. V. O. Fuentes-Hernandez*[1], R. Orozco[1], J. J. Uribe[1], V. M. Sanches[2], and P. I. Fuentes[3], [1]*Universidad de Guadalajara,* [2]*FMVZ Universidad Michoacana de San Nicolas Hidalgo,* [3]*Hospital Pemex Sur de Alta Especialidad Mexico DF*.
4:45 PM	645	Luteinizing hormone-releasing hormone immunization alters pituitary hormone synthesis and storage in bulls and steers. K. J. Wells*[1], T. W. Geary[2], D. M. de Avila[1], J. de Avila[1], V. A. Conforti[1], H. Ulker[1], D. J. McLean[1], A. J. Roberts[2], and J. J. Reeves[1], [1]*Washington State University, Pullman,* [2]*USDA ARS Fort Keogh, Miles City, MT.*
5:00 PM	646	Glial cell line-derived neurotrophic factor enhances porcine oocyte developmental competence in vitro. K. Linher*[1], D. Wu[1,2], and J. Li[1], [1]*University of Guelph, Guelph, Ontario, Canada,* [2]*Sichuan Agricultural University, China.*

Ruminant Nutrition
Corn Milling Co-Products - Dairy
Chair: Paul Kononoff, University of Nebraska
Sponsor: Vi-Cor
214 D

2:00 PM		Introduction to Corn Milling Co-Products (Dairy). Paul Kononoff, University of Nebraska.
2:05 PM	647	Maintaining milk components when feeding co-products of corn ethanol production. L. Armentano*, *University of Wisconsin, Madison*.
2:35 PM	648	Phosphorus utilization in dairy cows fed increasing amounts of dried distillers grains with solubles. K. Mjoun*, K. F. Kalscheur, B. W. Pamp, D. J. Schingoethe, and A. R. Hippen, *South Dakota State University, Brookings*.
2:50 PM	649	The effect of replacing corn dry distillers grains with triticale dry distillers grains on milk yield and composition of lactating dairy cows. A. M. Greter*, E. C. Davis, G. B. Penner, and M. Oba, *University of Alberta, Edmonton, Alberta, Canada*.
3:05 PM	650	Response of lactating Holstein cows to increased amounts of wet corn gluten feed. M. J. Brouk*[1], J. F. Smith[1], and K. N. Grigsby[2], [1]*Kansas State University, Manhattan,* [2]*Cargill, Inc., Blair, NE.*
3:20 PM	651	Increased diet fermentability reduces production response to corn distiller's grains in lactating cows: A statistical analysis. M. Hollmann*, D. K. Beede, and M. S. Allen, *Michigan State University, East Lansing*.
3:35 PM	652	Dried distillers grains + solubles from wheat fed to dairy cows. T. Andersson*[1], M. Murphy[1], E. Nadeau[2], and M. Carlsson[2], [1]*Lantmännen Feeds, Stockholm, Sweden,* [2]*Swedish University of Agricultural Sciences, Skara, Sweden.*
3:50 PM	653	Interactions of yeast culture and dried distillers grains plus solubles in diets of lactating dairy cows. A. R. Hippen*[1], D. J. Schingoethe[1], K. F. Kalscheur[1], P. Linke[1], K. Gross[1], D. Rennich[1], and I. Yoon[2], [1]*South Dakota State University, Brookings,* [2]*Diamond V. Mills, Inc., Cedar Rapids, IA.*
4:05 PM	654	Lactation performance of cows fed diets using soybean or byproduct protein sources. Z. Wu* and J. D. Ferguson, *University of Pennsylvania, Kennett Square*.
4:20 PM	655	Ruminal fermentation and total tract apparent digestibility in dairy cows fed increasing concentrations of corn germ. M. M. Abdelqader*, A. R. Hippen, D. J. Schingoethe, and K. F. Kalscheur, *South Dakota State University, Brookings.*
4:35 PM	656	Wheat grain as a prepartum cereal choice to ease periparturient stress in Holstein cows. H. Amanlou[1], D. Zahmatkesh[1], and A. Nikkhah*[1,2], [1]*Department of Animal Science, Zanjan, Iran,* [2]*Department of Animal Science, Winnipeg, MB, Canada.*

Ruminant Nutrition
Intake and Performance - Beef
Chair: Chris Richards, Oklahoma State University
217 B

2:00 PM	657	Factors affecting residual feed intake in feedlot steers. J. W. Homm*, L. L. Berger, and S. L. Rodriguez-Zas, *University of Illinois, Urbana*.
2:15 PM	658	The effect of residual feed intake rank in beef cows on forage intake and pasture carrying capacity. A. Meyer*, R. Kallenbach, M. Kerley, and K. Ladyman, *University of Missouri, Columbia*.
2:30 PM	659	Evaluation of feed efficiency in Santa Gertrudis steers and relationships with temperament and feeding behavior traits. R. R. Gomez*[1], B. M. Bourg[1], Z. D. Paddock[1], G. E. Carstens[1], P. A. Lancaster[1], R. K. Miller[1], L. O. Tedeschi[1], D. K. Lunt[2],

		S. A. Moore[3], and D. S. DeLaney[3], [1]*Texas A&M University, College Station,* [2]*Texas A&M University, McGregor,* [3]*King Ranch, Kingsville, TX*.
2:45 PM	660	Relationships of feed efficiency with carcass and non–carcass tissue composition in Angus bulls and heifers. F. R. B. Ribeiro*[1], G. E. Carstens[1], P. A. Lancaster[1], L. O. Tedeschi[1], and M. E. Davis[2], [1]*Texas A&M University, College Station,* [2]*The Ohio State University, Columbus.*
3:00 PM	661	The effects of sorting steers by weight into calf-fed, summer yearling and fall yearling feeding systems. D. R. Adams*, T. J. Klopfestein, G. E. Erickson, M. K. Luebbe, and M. A. Greenquist, *University of Nebraska, Lincoln*.
3:15 PM	662	The effect of Bos Koolus fed during summer on the feedlot performance and carcass characteristics of steers. I. Loxton[1], T. Grant[2], D. Reid[3], R. Lawrence*[4], and N. Kempe[5], [1]*Beef Support Services, Yeppoon, Queensland, Australia,* [2]*Department of Primary Industries and Fisheries, Theodore, Queensland, Australia,* [3]*Department of Primary Industries and Fisheries, Rockhampton, Queensland, Australia,* [4]*Integrated Animal Production, Toowoomba, Queensland, Australia,* [5]*Feedworks, Burleigh Heads, Queensland, Australia.*
3:30 PM	663	Effect of Ractopamine HCl on growth and carcass traits of finishing heifers fed to slaughter. S. B. Laudert*, G. J. Vogel, A. L. Schroeder, and W. J. Platter, *Elanco Animal Health, Greenfield, IN*.
3:45 PM	664	Plasma urea-N response to dosages and delivery patterns of Estradiol 17-beta and Trenbolone Acetate. S. L. Parr*, R. H. Pritchard, and K. W. Bruns, *South Dakota State University, Brookings*.
4:00 PM	665	Using programmed feeding to manage young beef cows. J. D. Shockey*, P. A. Beck, P. Gregorini, C. B. Stewart, and S. A. Gunter, *University of Arkansas Division of Agriculutre, SWREC, Hope*.
4:15 PM	666	Performance of beef cows fed free-choice whole cottonseed and hay during winter. G. M. Hill*[1], M. H. Poore[3], M. E. Pence[2], and B. G. Mullinix, Jr.[1], [1]*University of Georgia, Tifton,* [2]*University of Georgia Vet. Diagnostic Ctr., Tifton,* [3]*North Carolina State University, Raleigh*.
4:30 PM	667	Evaluation of NRC (1996) model energy requirement and DMI equation accuracy and precision for wintering beef cows in western Canada. J. L. Bourne[1], H. C. Block*[1], H. A. Lardner[2], and J. J. McKinnon[1], [1]*University of Saskatchewan, Saskatoon, SK, Canada,* [2]*Western Beef Development Centre, Humboldt, SK, Canada*.
4:45 PM	668	Improving fecal near-infrared reflectance spectroscopy predictions of botanical composition of ruminant diets. J. W. Walker*, B. S. Engdahl, E. S. Campbell, and C. J. Lupton, *Texas Agricultural Experiment Station, San Angelo, TX*.

SYMPOSIUM
Sheep Species
Biology and Management of Low-input Lambing Management in Easy-Care Systems
Chair: Michael L. Thonney, Cornell University
Sponsors: Premier Sheep Sypplies, Sydell, The Sheppard, ASI
207 B

2:00 PM	669	Genetic and physiological effects on maternal behavior and lamb survival. C. M. Dwyer*, *SAC, Edinburgh, UK*.
2:30 PM	670	Management of maternal-offspring behaviour to improve lamb survival in low input systems. J. Everett-Hincks* and K. Dodds, *AgResearch, Invermay Agricultural Centre, Mosgiel, Otago, New Zealand*.
3:00 PM	671	Evaluation of Dorper, Dorset, Katahdin, and Rambouillet crossbred ewes in high- and low-input production systems. K. A. Leymaster*, *USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE*.
3:30 PM		Break
3:45 PM	672	Pasture lambing prolific sheep. J. W. McNally*, *Tamarack Lamb & Wool, Hinckley, MN*.
4:15 PM	673	What does it mean to be locally adapted and who cares, anyway? F. D. Provenza*, *Utah State University, Logan*.
4:45 PM		Discussion.

Teaching/Undergraduate & Graduate Education
Teaching Session I - Assessment & Evaluation
Chair: Linda C. Martin, Oklahoma State University
204 A

2:00 PM	674	Evaluation and accreditation of agricultural research and teaching programs. J. R. Swearengen*, *AAALAC International,*

		Frederick, MD.
2:15 PM	675	Development and use of a learning outcomes based assessment tool. J. L. Beckett*, *California Polytechnic State University, San Luis Obispo*.
2:30 PM	676	Assessment of predictors of critical thinking ability in animal science undergraduates. L. M. Morgan*, *Clemson University, Clemson, SC*.
2:45 PM	677	Critical thinking dispositions of undergraduates in two animal science courses at the University of Georgia. T. D. Pringle*, J. L. Douglas, and J. C. Ricketts, *The University of Georgia, Athens*.

ADSA Foundation Scholar Lecture- Production Chair: Scott Rankin, University of Wisconsin-Madison 204 B		
2:00 PM		Metabolic regulation and integrative biology of transition cows – the "final frontier" revisited. T. Overton*, *Cornell University, Ithaca, NY*.

Teaching/Undergraduate & Graduate Education Teaching Session II - Curricular Innovation Chair: Jeannette A. Moore, North Carolina State University 204 A		
3:15 PM	678	Food Animal Scholars Program: An early selection program for undergraduates at North Carolina State University interested in pursuing a career in veterinary medicine working with food animals. W. L. Flowers*, C. R. Parkhurst, J. A. Moore, C. S. Whisnant, S. L. Pardue, and C. M. Williams, *North Carolina State University, Raleigh*.
3:30 PM	679	Design and development of a synchronously-delivered graduate course designed for the evaluation and practice of scholarship in animal sciences. L. A. Kriese-Anderson[1] and D. R. Mulvaney*[1,2], [1]*Auburn University, Auburn, AL*, [2]*Biggio Center for the Enhancement of Teaching and Learning, Auburn, AL*.
3:45 PM	680	The value of writing to a real-world audience for animal science students. M. W. Orth*, *Michigan State University, East Lansing*.
4:00 PM	681	Tracking undergraduate student performance while learning molecular genetics concepts. B. S. Walters* and T. J. Buttles, *University of Wisconsin, River Falls*.
4:15 PM	682	Bringing the industry into the classroom: Media interview project. J. A. Sterle*, *Texas A&M University, College Station*.
4:30 PM	683	Development of time-enhanced internet-based distance education in feed mill management and feed formulation. P. R Ferket*, *North Carolina State University, Raleigh*.
4:45 PM	684	The fundamentals of collegiate poultry judging. J. C. Butler* and P. A. Curtis, *Auburn University, Auburn, AL*.

Wednesday, July 11

POSTER PRESENTATIONS

Animal Behavior & Well-Being - Livestock and Poultry III Exhibit Hall C	
W1	Laying hens in conventional and enriched cages. G. B. Tactacan*, J. D. House, and W. Guenther, *University of Manitoba, Winnipeg, MB, Canada*.
W2	Evaluation of weight shifting as a pain indicator in lame pigs. L. Anil*, S. S. Anil, J. Deen, S. V. Westen, and S. K. Baidoo, *University of Minnesota, St. Paul*.
W3	Development of a feed-restriction model to identify factors responsible for fescue toxicosis-induced reduction in food intake. S. Raney*, P. A. Eichen, and D. E. Spiers, *University of Missouri, Columbia*.
W4	Assessing the performance of Redbro Cou Nu chickens in different environments. W. L. Willis[1], M. Johnson[1], C. Hatcher*[1], and R.

	Joyce[2], [1]*North Carolina Agricultural and Technical State University, Greensboro,* [2]*Joyce Foods, Inc., Winston Salem, NC.*
W5	The effect of mushroom and pokeweed extract on *Salmonella* in molting hens. W. L. Willis*, O. Isikhuemhen, I. Goktepe, M. Reed, and C. Murray, *North Carolina Agricultural and Technical State University, Greensboro*.
W6	Control of feral hog populations: a domestic pig model to attract and repel feral hogs using odors. N. Krebs, L. E. Hulbert*, and J. J. McGlone, *Texas Tech University, Lubbock.*
W7	Adaptation of Angus steers to long-term heat stress in the field using controlled heat challenge. B. Scharf*, L. E. Wax, D. H. Keisler, and D. E. Spiers, *University of Missouri, Columbia.*
W8	Dietary supplementation with omega-3 fatty acids affects sexual behavior in boars. M. J. Estienne* and A. F. Harper, *Virginia Polytechnic Institute and State University, Suffolk.*
W9	Evaluation of physiological differences in heat tolerant (Romosinuano) and heat susceptible (Angus) Bos taurus cattle during controlled heat challenge. B. Scharf*[1], L. E. Wax[1], J. A. Carroll[2], D. G. Riley[3], C. C. Chase Jr.[3], S. W. Coleman[3], D. H. Keisler[1], and D. E. Spiers[1], [1]*University of Missouri, Columbia,* [2]*USDA-ARS, Livestock Issues Research Unit, Lubbock, TX,* [3]*USDA-ARS, SupTropical Agricultural Research Station, Brooksville, FL.*

Animal Health - Livestock and Poultry
Bovine II
Exhibit Hall C

W10	Tumor necrosis factor-α (TNF-α), nitric oxide (NO), and xanthine oxidase (XO) responses to endotoxin (LPS) challenge in steers: effect of progesterone (P4) and estradiol (E2) treatment. S. Kahl* and T. H. Elsasser, *USDA, Agricultural Research Service, Beltsville, MD.*
W11	Prevalence of *Chlamydophila spp.* in randomly selected dairy farms in the western part of Germany. K. Kemmerling*[1], U. Mueller[1], M. Mielenz[1], K. Sachse[2], J. Winkelmann[3], F. Jaeger[4], and H. Sauerwein[1], [1]*Insitute of Animal Science, Physiology & Hygiene Group, University of Bonn, Germany,* [2]*Federal Research Institute for Animal Health, Jena, Germany,* [3]*North-Rhine-Westphalian Chamber of Agricultural Matters, Roleber , Germany,* [4]*North-Rhine-Westphalian Ministry of Enviroment, Conservation, Agriculture and Consumers Protection (MUNLV), Duesseldorf, Germany.*
W12	Growth, health, and select immunologic and metabolic functions of preruminant calves housed in warm and cold environments. B. J. Nonnecke*[1], R. L. Horst[1], M. R. Foote[2], B. L. Miller[3], T. E. Johnson[3], and M. Fowler[3], [1]*National Animal Disease Center, Ames, IA,* [2]*Iowa State University, Ames,* [3]*Land O'Lakes Research Farm, Webster City, IA.*
W13	Pasteurization of Colostrum Reduces the Incidence of Paratuberculosis in Neonatal Calves. J. R. Stabel*, *USDA-ARS-NADC, Ames, IA.*
W14	Effects of pre- and postpartum feeding fish meal on total leukocyte and differential counts in transition and early lactating cows. A. Heravi Moussavi*[1], M. Danesh Mesgaran[1], T. Vafa[1], and A. Soleimani[2], [1]*Center of Excellence for Animal Science, Ferdowsi University of Mashhad, Mashhad, Khorasan Razavy, Iran,* [2]*Azad University of Kashmar, Kashmar, Khorasan Razavy, Iran.*
W15	New intramammary infections during the dry period: The effect of short (30 days) vs. long (45 or 60 days) dry periods. A preliminary report. G. T. Church*[1], L. K. Fox[1], J. M. Gay[1], C. T. Gaskins[1], and C. S. Schneider[2], [1]*Washington State University, Pullman,* [2]*University of Idaho, Moscow.*
W16	Muscarinic receptors in the bovine gastrointestinal tract: mRNA expression and receptor binding in healthy cows and in cows with cecal dilatation-dislocation. E. C. Ontsouka*, R. M. Bruckmaier, A. Steiner, and J. W. Blum, *University of Berne, Vetsuisse Faculty, Berne, Switzerland.*
W17	mRNA expression of motility-mediating receptors from the abomasum to the spiral colon of healthy cows and of cows suffering from left-sided abomasal displacement. E. C. Ontsouka*, M. Niederberger, A. Steiner, R. M. Bruckmaier, and M. Meylan, *Vetsuisse Faculty, University of Berne, Berne, Switzerland.*
W18	The relationship between postpartum uterine bacterial infection (BI) and subclinical endometritis (SE). R. O. Gilbert*, N. R. Santos, K. N. Galvão, S. B. Brittin, and H. B. Roman, *Cornell University, Ithca, NY.*
W19	The recurrence of mycoplasma mastitis investigated by bulk tank analysis. V. Punyapornwithaya*, L. K. Fox, D. D. Hancock, and J. M. Gay, *Washington State University, Pullman.*
W20	Use of a calcium bolus to improve calcium homeostasis after calving. J. D. Sampson*[1], J. N. Spain[1], L. Carstensen[2], and C. Jones[3], [1]*University of Missouri, Columbia,* [2]*Boehringer Ingelheim Denmark A/S, Copenhagen O, Denmark,* [3]*Boehringer Ingelheim Vetmedica, Inc., St. Joseph, MO.*
W21	Dietary fish oil does not impact the response of early lactating cows to an endotoxic mastitis challenge. M. K. Yelle*, D. W. Kim, E. J. DePeters, and M. A. Ballou, *University of California, Davis.*
W22	Escherichia coli lipopolysaccharide upregulates the expression of both toll like receptor 4 and 2 (TLR4 and TLR2) in cultured bovine

	mammary epithelial cells. E. M. Ibeagha-Awemu*[1], J.-W. Lee[2], A. E. Ibeagha[1], D. D. Bannerman[3], M. J. Paape[3], and X. Zhao[1], [1]*McGill University, Ste Anne De Bellevue, Quebec, Canada,* [2]*National Pingtung University of Science and Technology, Neipu, Pingtung, Taiwan,* [3]*United States Department of Agriculture, Beltsville, MD.*
W23	Effect of supplementation with a *Bacillus*-based direct-fed microbial on calf growth, *Clostridium perfringens* shedding, and incidence of scours. C. Wehnes*[1], E. Davis[1], K. Novak[1], V. Patskevich[1], T. Rehberger[1], D. Shields[2], and J. Coalson[2], [1]*Agtech Products, Inc., Waukesha, WI,* [2]*Merrick's, Inc., Union Center, WI.*
W24	Prevalence, etiology and antimicrobial sensibility of subclinical mastitis. M. C. Rubio Robles*, M. A. Luque, R. Verdugo, R. Chin, R. Félix, E. Hernández,, T. Leal, and J. Mena, *Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico.*
W25	A cross-sectional survey of *Salmonella* serotypes from dairies with a history of Salmonellosis in the Great Lakes Region of the United States. C. Wehnes*, V. Patskevich, K. Mertz, and T. Rehberger, *Agtech Products, Inc., Waukesha, WI.*
W26	Correlating body weight and temperature changes after antibiotic treatment of morbid stocker calves with health and growth performance throughout the receiving phase. S. Behrends*, E. B. Kegley, and J. A. Hornsby, *University of Arkansas, Fayetteville.*
W27	Feeding unprotected fish oil 3 weeks prepartum alters the fatty acid composition of plasma in both the cow and calf at parturition, but had no effect on bactericidal or cytokine function. M. A. Ballou*, R. C. Gomes, and E. J. DePeters, *University of California, Davis.*
W28	Relationship of plasma immunoglobin G concentrations to temperament and growth performance. K. R. Parker*[1], S. T. Willard[2], R. D. Randel[3], T. H. Welsh, Jr.[4], and R. C. Vann[1], [1]*MAFES-Brown Loam Experiment Station, Raymond, MS,* [2]*Mississippi State University, Starkville,* [3]*Texas A&M University Agricultural Research & Extension Center, Overton,* [4]*Texas A&M University, College Station.*
W29	Impact of entomopathogenic fungus *Metarhizium anisopliae* on cattle naturally infested by adult *Haematobia irritans* in temperate Mexico. E. Maldonado-Simán[1], R. D. Améndola-Massiotti*[1], E. Galindo-Velasco[2], C. A. Angel-Sahagún[2], L. Bermúdez-Villanueva,[1], and R. Lezama-Gutiérrez[2], [1]*Universidad Autónoma Chapingo, Chapingo, México, México,* [2]*Universidad de Colima, Tecomán, Colima, México.*

Breeding and Genetics - Livestock and Poultry III
Exhibit Hall C

W30	The genes commonly expressed at early embryonic stages in mammals. C. Y. Lien*, E.-C. Lin, C. C. Hsu, S. T. Ding, and W. T. K. Cheng, *National Taiwan University, Taipei, Taiwan.*
W31	Environmental and genetic effects on growth traits of farmed red deer. R. Ramírez-Valverde*, A. Sánchez-Cervantes, J. G. García-Muñiz, and R. Núñez-Domínguez, *Universidad Autónoma Chapingo, Chapingo, México, México.*
W32	Effects of selected weather factors on feed intake of Angus, Polled Hereford, and Simmental beef bulls during feedlot performance tests. G. T. Tabler, A. H. Brown, Jr.*, E. E. Gbur, I. L. Berry, Z. B. Johnson, D. W. Kellogg, and K. C. Thompson, *University of Arkansas, Fayetteville.*
W33	Promoter region of the bovine growth hormone receptor (GHR) gene: resequencing, SNP detection, and association with performance traits in Brangus bulls. A. J. Garrett*[1], G. Rincon[2], J. F. Medrano[2], G. A. Silver[1], and M. G. Thomas[1], [1]*New Mexico State University, Las Cruces, New Mexico, United States,* [2]*University of California, Davis.*
W34	Animal model analyses of additive and non-additive genetic effects for 205-day weight in a Nellore x Hereford multibreed population in Brazil. A. de los Reyes[1], M. A. Elzo*[2], V. M. Roso[3], R. Carvalheiro[3], L. A. Fries[3], and J. L. Ferreira[1], [1]*Federal University of Goias, Goiania, GO, Brazil,* [2]*University of Florida, Gainesville,* [3]*GenSys Associated Consultants, Porto Alegre, RS, Brazil.*
W35	Growth and pubertal development of F_1 bulls from Hereford, Angus, Norwegian Red, Swedish Red and White, Friesian, and Wagyu sires. E. Casas*, D. D. Lunstra, L. V. Cundiff, and J. J. Ford, *USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.*
W36	Evaluation of post-weaning phenotypic residual feed intake in an Angus-Brahman multibreed herd of beef cattle. M. A. Elzo*[1], G. R. Hansen[2], J. G. Wasdin[1], J. D. Driver[1], and J. L. Jones[1], [1]*University of Florida, Gainesville,* [2]*North Florida Research and Education Center, Marianna, FL.*
W37	Regression of feed intake on selected environmental factors for beef bulls during postweaning feedlot performance tests. G. T. Tabler*, A. H. Brown, Jr., E. E. Gbur, Jr., I. L. Berry, Z. B. Johnson, D. W. Kellogg, and K. C. Thompson, *University of Arkansas, Fayetteville.*
W38	Genetic parameters for growth traits and their relationships with yearling wool weight in Baluchi sheep breed of Iran. A. Kamali*[1], H. R. Mirzaee[1], H. Naeemipour[2], A. Delghandi[3], and H. Farhangfar[2], [1]*Zabol University, Zabol, Iran,* [2]*Birjand University, Birjand, Iran,* [3]*Jihade Agriculture, Mashhad, Iran.*
W39	Estimation of genetic parameters for pre and post weaning average daily gains in a flock of Iran-black sheep breed of Iran. H. Farhangfar*[1], M. H. Molaee[2], and H. Naeemipour[1], [1]*Birjand University, Birjand, Iran,* [2]*Zabol University, Zabol, Iran.*
W40	Genetic analysis of birth and weaning weights in a flock of Iran-black sheep breed of Iran. H. Farhangfar*[1], M. H. Molaee[2], and H. Naeemipour[1], [1]*Birjand University, Birjand, Iran,* [2]*Zabol University, Zabol, Iran.*

W41	Estimation of genetic parameters for early growth traits in the Mehraban sheep using different models. P. Zamani*[1] and H. Mohammadi[2], [1]*Bu-Ali Sina University, Hamedan, Iran*, [2]*Agricultural-Jahad Organization, Hamedan, Iran*.
W42	Application of logistic regression model to estimate phenotypic trend for twining trait of Baluchi sheep in Abbasabad breeding station of Mashhad. H. Farhangfar*[1], M. Molaee[2], and H. Naeemipour[1], [1]*Birjand University, Birjand, Iran*, [2]*Zabol University, Zabol, Iran*.
W43	Genetic parameters estimation of Cashmere production for an indigenous goat in southern Khorasan province of Iran by using a repeatability model. H. Naeemipour*, H. Farhangfar, M. R. Asghari, and M. Bashtani, *Birjand University, Birjand,Iran*.
W44	Effect of genotype on characteristics of porcine aortic valves and bovine pericard as substitute heart valves. S. De Smet*[1], W. Deklerck[1], E. Claeys[1], G. Van Nooten[2], and K. Narine[2], [1]*Laboratory for Animal Nutrition and Animal Product Quality, Department of Animal Production, Ghent University, Melle, Belgium*, [2]*Department of Cardiac Surgery, University Hospital Ghent, Ghent, Belgium.*
W45	Response to genetic selection for *longissimus*color in Landrace swine: Status following two generations of selection. A. C. Naber*, K. M. Brueggemeier, S. J. Moeller, H. N. Zerby, and K. M. Irvin, *The Ohio State University, Columbus*.
W46	Genetic parameters for different measures of feed efficiency and their relationships with its component traits in Duroc pigs. M. A. Hoque*[1], K. Suzuki[1], H. Kadowaki[2], and T. Shibata[2], [1]*Tohoku University, Miyagi, Japan*, [2]*Miyagi Prefecture Animal Industry Experiment Station, Japan*.
W47	Genetic parameters for carcass traits and their genetic relationships with feed efficiency traits in Duroc pigs. M. A. Hoque*[1], K. Suzuki[1], and T. Oikawa[2], [1]*Tohoku University, Miyagi, Japan*, [2]*Okayama University, Japan.*
W48	Prediction of number born alive and weaning weight of litter in first parity using performance test traits in four breeds of swine. Z. B. Johnson*, *University of Arkansas, Fayetteville*.
W49	Estimation of the additive and dominance variances in SA Landrace pigs. D. Norris*[1], L. Varona[2], D. P. Visser[3], H. E. Theron[3], and S. F. Voordewind[3], [1]*University of Limpopo, Polokwane, South Africa*, [2]*Center UDL-IRTA, Lleida, Spain*, [3]*ARC-Animal Improvement Institute, Irene, South Africa*.
W50	EpiSNP: A computer package for genome-wide analysis of SNP epistasis and single-locus effects of quantitative traits. L. Ma*, D. Dvokin, J. R. Garbe, and Y. Da, *University of Minnesota, St. Paul*.
W51	SPSSQTL: A computer program for calculating statistical power and sample size for QTL and candidate gene detection. J. R. Garbe*, L. Ma, and Y. Da, *University of Minnesota, St. Paul*.
W52	The effect of two freezing rates and two equilibration times on semen post-thaw motility of bad freezer bulls. G. Rocha-Chavez[1], J. M. Tapia-Gonzalez[1], J. G Michel-Parra[1], M. A. Pinto-Jacobo[2], and G. Gonzalez-Guerra*[1], [1]*CUSUR Univ de Guadalajara, Cd Guzman, Jalisco, Mexico*, [2]*URPJ, Guadalajara, Jalisco, Mexico.*
W53	Effect of selection for increased egg production, age, and sex on turkey breast muscle development. C. S. Coy*, K. E. Nestor, and S. G. Velleman, *Ohio Agricultural Research and Development Center, The Ohio State University, Wooster*.
W54	Sequence homology comparison between goose and chicken liver cDNA libraries. Y. H. Wang*[1], E. -C. Lin[1], M. C. Hsu[2], C. Y. Lien[1], B. T. Tsai[1], C. F. Yen[1], H. W. Lin[1], S. T. Ding[1], W. T. K. Cheng[1], K. T. Yang[3], M. C. Huang[3], Y. -H. Fan[3], S. -H. Chiou[3], C. F. Chen[3], Y. P. Lee[3], [1]*National Taiwan University, Taipei, Taiwan*, [2]*National Taitung Junior College, Taitung, Taiwan*, [3]*National Chung Hsing University, Taichung, Taiwan*.
W55	Combining ability of characteristics of egg quality of quail for analyze system of diallel crossbreds. A. Piccinin, J. N. Gimenez, C. H. M. Malhado, C. Móri, C. Andrighetto, R. M. S. Emediato*, S. A. Maestá, A. A. Ramos, H. C. Gonçalves, and E. N. Martins, *São Paulo State University, Botucatu, São Paulo, Brazil*.
W56	Long-term effects on the expression of the intestinal Na-P type IIb cotransporter in broilers fed phosphorus deficient diets early in life. C. M. Ashwell*[1] and R. Angel[2], [1]*North Carolina State University, Raleigh, NC*, [2]*University of Maryland, College Park, MD.*
W57	Analysis of expressed sequenced tags from abdominal muscle cDNA library of the pacific white shrimp *Litopenaeus vannamei*. J. Cesar, B. Zhao, and J. Yang*, *University of Hawaii, Honolulu*.

Dairy Foods
Dairy Processing, Products and Microbiology
Exhibit Hall C

W58	Higher oxidative product in UHT drinking milk originated from milk powder than that from raw milk. S. Santinate, W. Suriyasathaporn, and P. Vinitchaikul*, *Chiang Mai University, Muang, Chiang Mai, Thailand.*
W59	Effect of cold storage and packaging material on butter flavor. P. R. Lozano[2], R. E. Miracle*[1], A. J. Krause[1], K. R. Cadwallader[2], and M. A. Drake[1], [1]*North Carolina State University, Raleigh*, [2]*University of Illinois, Champaign-Urbana*.
W60	Persistence of conjugated linoleic acid (CLA) on three dairy products. M. A. Rodriguez[1], P. Pellegrini[1], G. Muset[1], P. Gatti[1], D. A.

	Garciarena[2], and G. A. Gagliostro*[2], [1]*Instituto Nacional de Tecnología Industrial (INTI). Lácteos, Buenos Aires, Argentina*, [2]*Instituto Nacional de Tecnología Agropecuaria (INTA), Balcarce, Argentina*.
W61	Effects of refrigeration and calcium on whey proteins aggregation. M. R. Costa*[1,2], G. Brisson[1], M. L. Gigante[2], P. S. Tong[1], and R. Jiménez-Flores[1], [1]*California Polytechnic State University, San Luis Obispo*, [2]*State University of Campinas, Campinas, Brazil*.
W62	Seasonal variation of conjugated linoleic acid (CLA) and n-3 fatty acids of goat milk fat and its transfer into cheese. A. Nudda[1], G. Battacone[1], S. Testone[2], and G. Pulina*[1], [1]*Dipartimento di Scienze Zootecniche - Università di Sassari, Sassari, Italy*, [2]*Associazione Regionale Allevatori della Sardegna, Cagliari, Italy*.
W63	Survey of fluid milk quality. C. A. Boeneke*, K. J. Aryana, D. W. Olson, and J. L. Vargas, *Losuisiana State University Agricultural Center, Baton Rouge*.
W64	Effect of total protein content and whey to casein ratio on the texture of ice cream. J. M. Morton[1], P. Quok*[2], J. Estrade[1], W. Wang-Nolan[1], S. Vink[1], and P. S. Tong[1], [1]*Dairy Products Technology Center, San Luis Obispo, CA*, [2]*California Polytechnic State University, San Luis Obispo*.
W65	Influence of form of vitamins on yogurt characteristics. B. Dufrene*[1] and K. J. Aryana[2], [1]*Louisiana State University, Baton Rouge*, [2]*Louisiana State University Agricultural Center, Baton Rouge*.
W66	Effects of raw milk storage time and pasteurized milk storage temperature on milk shelf-life. G. B. Sanvido, D. Y. Kabuki, M. R. Costa*, and M. L. Gigante, *State University of Campinas, Campinas, SP, Brazil.*
W67	Colostrum fortified probiotic fat free yogurt. E. Albers[1], O. Cueva[1], and K. J. Aryana*[2], [1]*Louisiana State University, Baton Rouge*, [2]*Louisiana State University Agricultural Center, Baton Rouge*.
W68	The effect of the ratio of ice cream mix to yogurt on the properties of the resulting yogurt ice creams. D Olson*, K. J. Aryana, and C Boeneke, *Louisiana State University Agricultural Center, Baton Rouge*.
W69	Characteristics of ice cream as influenced by a weight loss ingredient. K. J. Aryana*[1], D Olson[1], and A Greenbaum[2], [1]*Louisiana State University Agricultural Center, Baton Rouge*, [2]*Louisiana State University, Baton Rouge*.
W70	Influence of garlic on the characteristics of yogurt. K. Bridges[1] and K. J. Aryana*[2], [1]*Louisiana State University, Baton Rouge*, [2]*Louisiana State University Agricultural Center, Baton Rouge*.
W71	Fatty acid composition of dairy foods and their intake in humans. T. R. Dhiman*, A. Hopkins, and N. Garg, *Utah State University, Logan*.
W72	High pressure processing prevents formation of overset eyes in Swiss cheese. N. Koca*[1,2], N. A. Kocaoglu-Vurma[2], V. M. Balasubramaniam[2], and W. J. Harper[2], [1]*Ege University, Bornova, Izmir, Turkey*, [2]*The Ohio State University, Columbus.*
W73	Effect of UHT and HTST processing on sweetness perception in sucrose–sweetened milk. J. M. Morton[1], S. J. Gualco*[2], P. Durongwong[2], J. Estrade[1], S. Vink[1], and P. S. Tong[1], [1]*Dairy Products Technology Center, San Luis Obispo, CA*, [2]*California Polytechnic State University, San Luis Obispo*.
W74	Gelation of β-lactoglobulin at low pH: concentration effects. P. Mudgal*, C. R. Daubert, and E. A. Foegeding, *North Carolina State University, Raleigh*.
W75	Development of the hazard analysis and critical control points (haccp) in a milk pasteurizing plant. J. Aranda*, D. N. Garza, R. González, and L. A. Villarreal, *Universidad Autónoma de Nuevo León, San Nicolás de los Garza, México*.
W76	Temporal global transcriptome analysis of *Lactobacillus acidophilus* during growth in milk. M. A. Azcarate-Peril* and T. R. Klaenhammer, *North Carolina State University, Raleigh*.
W77	Validation of Petrifilm plates for enumeration of total bacteria, psychotropic bacteria, and coliforms in goat milk. S. S. Chen[1,2], J. S. Van Kessel[3], B. Bah[1], F. Z. Ren[2], and S. S. Zeng*[1], [1]*Langston University, Langston, OK*, [2]*China Agricultural University, Beijing, China*, [3]*USDA-ARS, Beltsville, MD*.
W78	Applying slide-cover-glass method for cultivating anaerobic rumen fungi and employing polymerase chain reaction technique for their molecular identification. M. H. Sekhavati, M. R. Nassiry, M. Danesh Mesgaran*, and H. Tavasoli, *Ferdowsi University of Mashhad, Mashhad, Iran.*
W79	Quantification of Staphylococcus aureus which harboring sea in milk by real-time PCR. Y. Li* and Y. Jiang, *Key Lab of Dairy Science, Ministry of Education, Northeast Agricultural University, Harbin,China*.
W80	Detection of viable *Listeria monocytogenes* in milk by Real time RT-PCR. B. Yan* and Y. Jiang, *National Research Center of Dairy Engineering and Technology, Harbin, Heilongjiang, China.*
W81	PCR detection by rapid obtaining Salmonella in raw milk with filtration method. L. Wei and J. Yu-jun*, *National Research Center of Dairy Engineering and Technology, Harbin, Heilongjiang, China.*
W82	Acoustical emissions generated by *Lactococcus lactis* ssp *lactis* C2. C. L. Hicks*[1], J. M. Stencel[2], and H. Song[2], [1]*University of Kentucky*,

	Lexington, [2]Tribo Flow Separations, Lexington, KY.
W83	Survey of lactic acid bacteria in Hispanic-style cheeses for antimicrobial activity. J. A. Renye*, G. A. Somkuti, and D. L. Van Hekken, *Eastern Regional Research Center, USDA-ARS, Wyndmoor, PA.*
W84	Production of bacteriocins by staphylococcal strains isolated from Brazilian cheese. M. A. V. P. Brito[1] and G. A. Somkuti*[2], [1]*EMBPRAPA Dairy Cattle Research Center, Juiz de Fora, Brazil,* [2]*Eastern Regional Research Center, USDA-ARS, Wyndmoor, PA.*
W85	Inhibitory effect of *Lactobacillus* species on *Streptococcus mutans in vitro*. W. Y. Yang[1], A. R. Hostetler[1], C. S. Huh[2], and H. S. Kim*[1], [1]*Culture Systems, Inc., Mishawaka, IN,* [2]*Korea yakult Co., Yongin Si, Kyunggi Do, Korea.*
W86	Lipid binding characterization of lactic acid bacteria in dairy products. D. Bachiero*, S. Uson III, and R. Jimenez-Flores, *California Polytechnic State University, San Luis Obispo*.

Egg and Meat Science and Muscle Biology - Livestock and Poultry III
Exhibit Hall C

W87	Growth of muscular and adipose tissues of young heifers from different genetic groups. E. Rodrigues, M. D. B. Arrigoni, A. M. Jorge, P. S. A. Moreira, W. Bianchini, J. C. Hadlich, C. Andrighetto, C. L. Martins, D. D. Millen*, and R. D. L. Pacheco, *FMVZ/UNESP–Botucatu, São Paulo, Brazil*.
W88	Evaluation of performance, tissue growth and meat tenderness of Nellore, Brangus and Canchim young bulls. R. B. Rodrigues, M. D. B. Arrigoni, E. Rodrigues, D. D. Millen, R. D. L. Pacheco*, H. N. Oliveira, C. C. Laurino, M. V. Fossa, L. M. N. Sarti, M. Parrili, S. A. Matsuhara, C. L. Martins, J. P. S. T. Bastos, and T. M. Mariani, *FMVZ/UNESP–Botucatu, São Paulo, Brazil*.
W89	Efficacy of blood hemoglobin as an indicator of pork quality. A. N. Lepper*, H. N. Zerby, S. J. Moeller, K. M. Brueggemeier, and A. C. Naber, *The Ohio State University, Columbus*.
W90	Evaluation of Haugh Units and yolk index as criteria to establish a low temperature storage limit for refrigerated shell eggs. D. Shin*[1], C. Narciso-Gaytan[1], M. Sartor[1], J. R. Regenstein[2], and M. X. Sánchez-Plata[1], [1]*Texas A&M University, College Station,* [2]*Cornell University, Ithaca, NY.*
W91	The acceptance of brown-shelled eggs in a white-shelled egg market. N. P. Johnston*[1], L. K. Jefferies[1], B. Rodriguez[2], and D. E. Johnston[1], [1]*Brigham Young University, Provo, UT,* [2]*University of San Andres, La Paz, Bolivia*.
W92	Nutritional composition of raw and fried enhanced or non-enhanced boneless chicken breast fillets. J. Kiker*[1], J. Howe[2], J. Holden[2], J. Boyce[1], A. Luna[1], C. Alvarado[1], D. Wester[1], and L. Thompson[1], [1]*Texas Tech University, Lubbock,* [2]*Beltsville Human Nutrition Research Center, Beltsville, MD.*
W93	Physical and chemical meat traits of young heifers from different genetic groups. E. Rodrigues, M. D. B. Arrigoni, A. M. Jorge, P. S. A. Moreira, W. Bianchini, D. D. Millen, R. D. L. Pacheco*, J. C. Hadlich, C. Andrighetto, and C. L. Martins, *FMVZ/UNESP–Botucatu, São Paulo, Brazil.*
W94	Evaluation of meat tenderness of forage-finished cattle produced in Hawaii and factors affecting the tenderness. Y. S. Kim*, A. Ong, N. Bobbili, M. DuPonte, G. K. Fukumoto, and C. N. Lee, *University of Hawaii, Manoa, Honolulu.*
W95	The effect of dietary mushroom supplementation on egg characteristics and production attributes of leghorn hens. W. L. Willis, O. Isikhuemhen, A. Ely, D. Coverington, and C. King*, *North Carolina Agricultural and Technical State University, Greensboro.*
W96	On the tenderness of commercial boneless skinless broiler breast meat. Y. S. Lee*, C. M. Owens, and J. F. Meullenet, *University of Arkansas, Fayetteville*.
W97	Feeding wet distillers grains plus solubles reduces shelf life and increases lipid oxidation during retail display of beef steaks. A. S. de Mello Junior*, B. E. Jenschke, C. R. Calkins, L. M. Grimes, J. M. Hodgen, and G. E. Erickson, *University of Nebraska, Lincoln*.
W98	Mapping tenderness of the *M. Serratus ventralis.* L. M. Grimes* and C. R. Calkins, *University of Nebraska, Lincoln*.
W99	Correlations among carcass, meat and eating quality traits of finishing pigs. C. C. Tsai*[1], L. L. Lo[1], Y. C. Yang[1], R. S. Lin[2], T. H. Huang[3], J. Chen[1], L. C. Lee[1], P. Y. Lo[1], and H. J. Chien[1], [1]*Chinese Culture University, Taipei, Taiwan, ROC,* [2]*National ILan University, ILan,Taiwan ROC,* [3]*Taiwan Farm Industry Co., Ltd., Pingtung, Taiwan, ROC.*
W100	A novel laser air puff and shape profile method for predicting tenderness of broiler breast meats. Y. S. Lee*, A Saha, C. M. Owens, and J. F. Meullenet, *University of Arkansas, Fayetteville*.

Forages and Pastures - Livestock and Poultry
Pastures and Grazing
Exhibit Hall C

W101	Effect of morphological traits on intake characteristics of four grass species found in temperate biodiverse pasture systems. K. J. Soder* and M. A. Sanderson, *USDA-ARS, Pasture Systems & Watershed Mgmt. Research Unit,, University Park, PA.*
W102	Estimation of forage intake and the presence of alkaloids in ruminal fluid and forage in steers grazing three different fescue types. R. L. Stewart, Jr*, G. Scaglia, J. P. Fontenot, W. S. Swecker, Jr., A. O. Abaye, J. H. Fike, and M. A. McCann, *Virginia Polytechnic and State University, Blacksburg*.
W103	Efficacy of EndoFighter™ for stocker cattle grazing endophyte-infected tall fescue pastures during late summer and fall. R. Norman[1], C. D. Lane[1], S. S. Block[2], W. W. Gill[1], A. E. Fisher[1], R. L. Mills[1], B. T. Campbell[1], F. N. Schrick[1], and J. C. Waller*[1], [1]*University of Tennessee, Department of Animal Science, Knoxville,* [2]*ADM Animal Nutrition Research, Decatur, IL*.
W104	Effect of cultivar and defoliation frequency on forage yield of *Chloris gayana* kunth in a moderate saline soil of the semiarid chaco of Argentina. M. V. Cornacchione*[1], H. E. Pérez[2], and A. E. Fumagalli[1,3], [1]*Instituto Nacional de Tecnología Agropecuaria, Santiago del Estero, Argentina,* [2]*Instituto Nacional de Tecnología Agropecuaria, Leales, Tucumán, Argentina,* [3]*Universidad Nacional de Santiago del Estero, Santiago del Estero, Argentina*.
W105	Effect of herbage depletion on cattle grazing dynamics in wheat pastures. P. Gregorini*[1], M. Bowman[3], W. Coblentz[4], P. A. Beck[2], and S. A. Gunter[2], [1]*USDA–ARS, University Park, PA,* [2]*University of Arkansas SWREC, Hope,* [3]*University of Arkansas, Fayetteville,* [4]*USDA–ARS, Madison, WI.*
W106	Evaluation of ryegrass-based pastures grazed under the leaf stage concept in commercial dairy farms in the highlands of Costa Rica. J. Ml. Sánchez*[1,2], L. Villalobos[1,3], and A. Martínez[1,2], [1]*Universidad de Costa Rica, San José,* [2]*Centro de Investigación en Nutrición Animal, San José, Costa Rica,* [3]*Escuela de Zootecnia, San José, Costa Rica*.
W107	Supplementation of digestible fiber and glucomannan to tall fescue pastures: Dry matter intake and fecal alkaloid concentration. R. L. Mills*[1,2], C. J. Richards[2], and J. C. Waller[1], [1]*The University of Tennessee, Knoxville,* [2]*Oklahoma State University, Stillwater*.
W108	Evaluation of endomycorrhizal colonization in three species of crassulacean acid metabolism in northern part of Mexico. J. R. Martinez*[1], M. A. Peña[2], R. E. Vazquez[1], E. Gutierrez[1], E. Olivares[1], J. A. Vidales[1], and R. D. Valdez[3], [1]*Facultad de Agronomia, UANL, Monterrey, Mexico,* [2]*INIFAP, General Teran, Mexico,* [3]*CRUCeN, Universidad de Chapingo, Zacatecas, Mexico*.
W109	Evaluation of EndoFighter™ in a tall fescue grazing system for beef cattle. A. E. Fisher*[1], S. S. Block[2], K. J. Daniels[2], M. A. Franklin[2], N. A. Pyatt[2], and J. C. Waller[1], [1]*University of Tennessee, Department of Animal Science, Knoxville,* [2]*ADM Animal Nutrition Research, Decatur, IL*.
W110	Changes in chemical composition and vertical distribution of kura clover-reed canarygrass swards relative to days of regrowth. K. L. Kammes*, D. K. Combs, and K. A. Albrecht, *University of Wisconsin, Madison*.
W111	Growth performance and immune function of fall-born beef calves weaned from endophyte infected tall fescue pastures on different dates in the dpring. J. D. Caldwell*[1], K. P. Coffey[1], W. K. Coblentz[2], R. K. Ogden[2], M. L. Looper[3], D. L. Kreider[1], J. A. Jennings[4], D. S. Hubbell, III[1], T. W. Hess[1], and C. F. Rosenkrans, Jr.[1], [1]*University of Arkansas, Fayetteville,* [2]*University of Arkansas, Fayetteville,* [3]*USDA-ARS, Marshfield, WI,* [4]*USDA-ARS, Marshfield, WI,* [5]*USDA-ARS, Booneville, AR,* [6]*University of Arkansas, Fayetteville,* [7]*Cooperative Extension Service, Little Rock, AR,* [8]*University of Arkansas, Fayetteville,* [9]*University of Arkansas, Fayetteville,* [10]*University of Arkansas, Fayetteville*.
W112	Intensive short duration grazing of fescue pastures to extend the grazing season of winter wheat. W. A. Phillips*, B. K. Northup, and B. C. Venuto, *USDA-ARS Grazinglands Research Laboratory, El Reno, OK*.
W113	Growth and reproductive performance of heifers grazing Jesup tall fescue varying in endophyte status. M. E. Drewnoski*, E. J. Oliphant, J. T. Green, jr, M. E. Hockett, and M. H. Poore, *North Carolina State University, Raleigh*.
W114	Comparison of bloat potential between hard red and soft red winter wheat. M. S. Akins*[1], E. B. Kegley[1], K. P. Coffey[1], K. S. Lusby[1], W. K. Coblentz[2], R. K. Bacon[1], J. C. Moore[1], J. D. Caldwell[1], and J. V. Skinner Jr.[1], [1]*University of Arkansas, Fayetteville,* [2]*USDA-ARS, Marshfield, WI.*
W115	The effect of initial spring grazing date and stocking rate on sward profile during the main grazing season. E. Kennedy*[1,2], M. O'Donovan[1], F. O'Mara[2], and L. Delaby[3], [1]*Teagasc, Dairy Production Research Centre, Moorepark, Fermoy, Co. Cork, Ireland,* [2]*School of Agriculture, Food Science and Veterinary Medicine, UCD, Belfield, Dublin, Ireland,* [3]*INRA, UMR Production du Lait St. Gilles, France*.
W116	Comparing finishing beef cattle performance and forage characteristic of ryegrass (*Lolium perenne*), rye (*Secale cereale*) and oats (*Avena sativa*). A. C. Pereira*, E. J. Bungenstab, J. C. Lin, B. Gamble, S. P. Schmidt, C. Kerth, and R. B. Muntifering, *Auburn University, Auburn, AL*.
W117	Performance of stocker cattle grazing two sorghum × sudangrass hybrids under various stocking rates. K. C. McCuistion*[1], F. T. McCollum[2], L. W. Greene[3], B. W. Bean[2,3], and R. VanMeter[3], [1]*Texas A&M University, Kingsville,* [2]*Texas Cooperative Extension, Amarillo,* [3]*Texas Agricultural Experiment Station, Amarillo*.
W118	Nutritive value of marafalfa grass under tropical dry forest conditions. T. Clavero* and R. Razz, *Facultad de Agronomia. Universidad del Zulia, Maracaibo, Zulia, Venezuela*.

W119	Comparing wether kids on summer cultivated pasture and mesquite rangeland with and without maize grain supplement. S. Pagan-Riestra*[1,2], J. P. Muir[1], K. A. Littlefield[1,4], and S. M. Weiss[3], [1]*Texas Agricultural Experiment Station, Stephenville,* [2]*Texas A&M University, College Station,* [3]*University of the U.S. Virgin Islands Experiment Station, Kingshill, St. Croix,* [4]*Tarleton State University, Stephenville, TX*.
W120	Cactus pear cladodes as a source of forage for growing-finishing lambs in Central Mexico. G. Aranda-Osorio*, C. A. Flores-Valdez, and M. Cruz-Miranda, *Universidad Autonoma Chapingo, Chapingo, Mexico*.
W121	Supplementation effects of Calliandra (Calliandra calothyrsus) on weight gains and efficacy of control of gastrointestinal nematodes in weanling goats. A. Acero*, E. Valencia, and A. A Rodríguez, *University of Puerto Rico, Mayaguez Campus, Mayaguez, Puerto Rico*.

Goat Species III
Exhibit Hall C

W122	Luster measurement in mohair produced by Angora goats. C. J. Lupton*, B. S. Engdahl, F. A. Pfeiffer, and J. W. Walker, *Texas Agricultural Experiment Station, San Angelo*.
W123	Effects of feed restriction and subsequent realimentation on tissue and mohair fiber by growing Angora goats. R. Puchala*, A. Patra, A. L. Goetsch, G. Animut, and T. Sahlu, *E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK*.
W124	Effects of selection for increased juniper consumption on body weight and mohair production of Angora goats. F. A. Pfeiffer*, E. S. Campbell, B. S. Engdahl, T. D. Lovett, C. J. Lupton, C. A. Taylor, D. F. Waldron, and J. W. Walker, *Texas Agricultural Experiment Station, San Angelo*.
W125	Participant demographics of a web-based certification program for meat goat producers. R. C. Merkel*, T. A. Gipson, S. P. Hart, and T. Sahlu, *E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK*.
W126	Effectiveness of a web-based certification program for meat goat producers. S. P. Hart*, R. C. Merkel, T. A. Gipson, and T. Sahlu, *E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK*.
W127	Goat conferences in Arkansas. J. A. Pennington*, *University of Arkansas Cooperative Extension Service, Little Rock*.
W128	Estimation of meat goat carcass composition using regression analysis. K. E. Logan*, H. N. Zerby, S. J. Moeller, T. J. Fraley, and D. A. Mangione, *The Ohio State University, Columbus*.
W129	Effect of hydrodynamic pressure processing on chevon quality characteristics. K. R. Eega*[1], J. H. Lee[1], M. B. Solomon[2], T. D. Pringle[3], K. W. McMillin[4], and G. Kannan[1], [1]*Fort Valley State University, Fort Valley, GA,* [2]*USDA/ARS Food Technology and Safety, Beltsville, MD,* [3]*University of Georgia, Athens,* [4]*Louisiana State University, Baton Rouge*.
W130	Quality characteristics of jerky made from Hydrodynamic Pressure processed (HDP) chevon and beef. K. R. Eega*[1], J. H. Lee[1], M. B. Solomon[2], T. D. Pringle[3], K. W. McMillin[4], and G. Kannan[1], [1]*Fort Valley State University, Fort Valley, GA,* [2]*USDA/ARS Food Technology and Safety Laboratory, Beltsville, MD,* [3]*The University of Georgia, Athens,* [4]*Louisiana State University, Baton Rouge*.
W131	Chemical composition and quality of chevon as influenced by a diet high in condensed tannins. M. Vanguru*, J. H. Lee, D. A. Moore, B. Kouakou, T. H. Terrill, and G. Kannan, *Fort Valley State University, Fort Valley, GA*.
W132	The small ruminant nutrition system: Development of a goat submodel. A. Cannas*[1], L. O. Tedeschi[2], and D. G. Fox[3], [1]*University of Sassari, Sassari, Sardinia, Italy,* [2]*Texas A&M University, College Station,* [3]*Cornell University, Ithaca, NY*.
W133	Short-term trends of Boer and Kiko bucks in a central performance test. T. A. Gipson*[1], L. Dawson[2], and T. Sahlu[1], [1]*E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK,* [2]*Oklahoma State University, Stillwater*.
W134	Influence of dietary condensed tannins on gastrointestinal tract, skin, and carcass bacterial counts in meat goats. J. H. Lee*, D. A. Moore, M. Vanguru, B. Kouakou, T. H. Terrill, and G. Kannan, *Fort Valley State University, Fort Valley, GA*.
W135	Dietary regimen and gastrointestinal tract microbial loads in meat goats. J. H. Lee*, B. Kouakou, and G. Kannan, *Fort Valley State University, Fort Valley, GA*.
W136	Impact of types of pelleted feed and two pellet to hay ratios on the development of urolithogenic compounds in meat goats. K. Sullivan[1], S. Freeman*[1], M. Poore[1], E. van Heugten[1], K. Ange-van Heugten[1], and B. Wolfe[2], [1]*North Carolina State University, Raleigh,* [2]*The Wilds, Cumberland, OH*.

Nonruminant Nutrition
Feeder Pig and Sow Nutrition II
Exhibit Hall C

W137	Comparison and accounting for differences of three phytase activity assay methods. J. D. Weaver* and X. G. Lei, *Cornell University,*

	Ithaca, NY.
W138	Effects of dietary supplementation of an enzyme blend on digestibility of nutrients in the hindgut of growing pigs. F. Ji*[1], D. Casper[2], D. Spangler[2], K. Haydon[3], and J. E. Pettigrew[1], [1]*University of Illinois, Urbana,* [2]*Agri-King, Inc., Fulton, IL,* [3]*Prince Agri Products, Quincy, IL.*
W139	Effect of sex and feeding level on meat quality and fatty acid profile of backfat of Iberian pigs reared under intensive production systems. M. P. Serrano[1], D. G. Valencia[1], R. Lázaro[1], A. Fuentetaja[2], and G. G. Mateos*[1], [1]*Universidad Politécnica de Madrid, Spain,* [2]*Copese, Segovia, Spain.*
W140	Effects of conjugated linoleic acid (CLA) on sow reproductive performance. R. Patterson*, M. L. Connor, and C. M. Nyachoti, *University of Manitoba, Winnipeg, Manitoba, Canada.*
W141	Apparent and standardized ileal amino acid digestibilities in pea and pea protein isolate fed to growing pigs. F. O. Opapeju, G. Borgesa*, R. Patterson, and C. M. Nyachoti, *University of Manitoba, Winnipeg, Manitoba, Canada.*
W142	Growth performance and carcass characteristics of growing pigs fed crude glycerol. P. J. Lammers*[1], M. S. Honeyman[1], B. J. Kerr[2], T. E. Weber[2], and K. Bregendahl[1], [1]*Iowa State University, Ames,* [2]*USDA-ARS, Swine Odor and Manure Management Research Unit, Ames, IA.*
W143	True phosphorus digestibility of feedstuffs determined with growing and finishing pigs. S. Bunzen, H. S. Rostagno*, L. T. Albino, L. R. Apôlonio, and C. G. Borsatto, *Federal University of Viçosa, Viçosa, MG, Brazil.*
W144	Effect of phytase on phosphorus and calcium digestibility in lactating sows. J. Tossenberger[1], L. Babinszky*[1], and I. Kühn[2], [1]*University of Kaposvár, Kaposvár, Hungary,* [2]*AB Enzymes GmbH, Darmstadt, Germany.*
W145	Effect of dietary fat and restriction on productivity and fatty acid composition of Iberian pigs. J. Viguera*[1], M. Señorón[2], M. Cortés[3], J. Peinado[1], J. Ruiz[3], and P. Medel[1], [1]*Imasde Agropecuaria, S.L., Pozuelo de Alarcón, Spain,* [2]*SAT Villa Vieja, Olivenza, Spain,* [3]*Universidad de Extremadura, Cáceres, Spain.*
W146	Effect of dietary fat on productivity, fatty acid composition and lipid oxidation in Iberian pigs. J. Viguera*[1], M. Señorón[2], M. Cortés[3], J. Peinado[1], and J. Ruiz[3], [1]*Imasde Agropecuaria, S.L., Pozuelo de Alarcón, Spain,* [2]*SAT Villa Vieja, Olivenza, Spain,* [3]*Universidad de Extremadura, Cáceres, Spain.*
W147	Effect of lignocellulose intake on the ileal endogenous amino acid losses in growing pigs. L. Babinszky*, J. Tossenberger, and J. Tenke, *University of Kaposvár, Kaposvár, Hungary.*
W148	The effect of wheat dried distillers grains plus solubles in diets for fattening pigs with or without xylanase. K. Sigfridson and A.-K. Haraldsson*, *Lantmännen, Lidköping, Sweden.*
W149	Isolation and characterization of Bacillus sp. PPS-52 producing thermophilic protease. S. J. Lim and D.-K. Kang*, *Dankook University, Cheonan, Choongnam-do, Rep. of Korea.*
W150	Comparison of the digestible energy content of corn and triticale when fed to finishing pigs. C. Feoli*, J. D. Hancock, C. R. Monge, and T. L. Gugle, *Kansas State University, Manhattan.*
W151	DXA scans of pig feet accurately predict bone ash content. L. E. Hoffman*, T. Burgers, D. K. Schneider, and T. D. Crenshaw, *University of Wisconsin, Madison.*
W152	Short-term excesses of potassium bicarbonate for prevention of fatigue in market pigs. J. R. Danielson*, J. L. Reichert, J. A. Kane, and T. D. Crenshaw, *University of Wisconsin, Madison.*
W153	Effects of dietary supplemental Megazone® on growth performance, nutrients digestibility, blood characteristics, meat quality and carcass traits in weaning-to-finishing pigs. Y. H. Kim*[1], Y. Wang[2], J. C. Park[1], H. J. Jung[1], J. H. Cho[2], Y. J. Chen[2], J. S Yoo[2], I. C. Kim[1], S. J. Lee[1], H. K. Moon[1], and I. H. Kim[2], [1]*National Livestock Research Institute, Cheonan, Chungnam, Republic of Korea,* [2]*Dankook University, Cheonan, Chungnam, Republic of Korea.*
W154	Pharmacological addition of zinc to diets inhibits phytase activity but does not compromise inorganic phosphorus (iP) retention in young growing pigs. K. M. Retallick*, M. T. Repinski, J. L. Reichert, J. R. Danielson, D. K. Schneider, and T. D. Crenshaw, *University of Wisconsin, Madison.*
W155	Effects of dietary supplementation of ginseng by-product on growth performance and pork quality parameters in finishing pigs. J. C. Park*, Y. H. Kim, H. J. Jung, S. D. Lee, H. D. Jang, I. C. Kim, S. J. Lee, and H. K. Moon, *National Livestock Research Institute, Cheonan, Chungnam, Republic of Korea.*
W156	Comparative determination of true digestibility and the fecal endogenous calcium losses associated with soybean meal for growing barrows and gilts by the regression analysis technique. Y. Zhang*[1], J. Wang[2], S. Yan[1], Y. L. Yin[3], and M. Z. Fan[4], [1]*Inner Mongolian Agricultural University, Huhhot, China,* [2]*The Chinese Academy of Agricultural Sciences, Beijing, China,* [3]*Institute of Subtropical Agriculture, the Chinese Academy of Sciences, Changsha, China,* [4]*University of Guelph, Guelph, Canada.*
W157	Evaluation of corn grain with the genetically modified event DAS-59122-7 fed to growing-finishing pigs. H. H. Stein*[1], D. W. Rice[2], B. L. Smith[2], M. A. Hinds[2], T. E. Sauber[2], C. Pedersen[3], D. M. Wulf[4], and D. N. Peters[4], [1]*University of Illinois, Urbana,* [2]*Pioneer Hi-Bred*

	Intl. Inc., Johnston, IA, [3]Danisco Animal Health, Marlborough, UK, [4]South Dakota State University, Brookings.
W158	Reactive lysine in distillers dried grains and distillers dried grains with solubles measured with the homoarginine or the furosine procedure. A. A. Pahm*[1], C. Pedersen[2], D. Simon[3], and H. H. Stein[1], [1]*University of Illinois, Urbana,* [2]*Danisco Animal Nutrition, Marlborough, UK,* [3]*South Dakota State University, Brookings.*
W159	Ensilage of the high moisture sorghum related to the endosperm structure and starch granules. A. B. R. C. Lopes*[1], D. A. Berto[1], M. Cereda[2], M. Leonel[2], and C. Costa[1], [1]*FMVZ/UNESP, Botucatu, SP, Brazil,* [2]*Cerat/FCA/UNESP, Botucatu, SP, Brazil,* [3]*FAPESP, São Paulo, SP, Brazil.*
W160	Effect of weaning age on nursery pig growth performance. B. E. Bass*, C. L. Bradley, Z. B. Johnson, J. W. Frank, and C. V. Maxwell, *University of Arkansas, Fayetteville.*
W161	The endosperm structure and starch granules to ensilage of high moisture corn grains. A. B. R.C. Lopes*[1], D. A. Berto[1], M. Cereda[2], M. Leonel[1], and C. Costa[1], [1]*Faculdade de Medicina Veterinária e Zootecnia/UNESP, Botucatu, SP, Brazil,* [2]*Cerat/FCA/UNESP, Botucatu, SP, Brazil.*
W162	Effects of feeding alfalfa on nursery pig growth performance. C. L. Martin*[1], J. W. Frank[1], Z. B. Johnson[1], G. M. Weiss[2], and C. V. Maxwell[1], [1]*University of Arkansas, Fayetteville,* [2]*Progress Plus LCC, Lancaster, WI.*
W163	Effect of *Ascophyllum nodosum* extract on growth performance, nutrient digestibility, carcass characteristics and selected intestinal microflora populations of grower-finisher pigs. G. E. Gardiner[1,2], A. J. Campbell[1,3], J. V. O'Doherty[3], E. Pierce[3], P. B. Lynch[1], F. C. Leonard[3], C. Stanton[1,2], R. P. Ross[1,2], and P. G. Lawlor*[1], [1]*Teagasc, Moorepark Research Centre, Fermoy, Co. Cork, Ireland,* [2]*Alimentary Pharmabiotic Centre, Cork, Ireland,* [3]*University College Dublin, Belfield, Dublin, Ireland.*
W164	Effects of energy and lysine intake during late gestation and lactation on the lactational performance in multiparous sows. S. Heo, Y. X. Yang, Z. Jin, J. H. Yun, J. Y. Choi, B. K. Yang, and B. J. Chae*, *Kangwon National University, Chuncheon, Kangwon-Do, Republic of Korea.*
W165	Effects of dietary energy and lysine levels during late gestation and lactation on the lactational performance in primiparous sows. S. Heo, Y. X. Yang, Z. Jin, J. H. Yun, J. Y. Choi, B. K. Yang, and B. J. Chae*, *Kangwon National University, Chuncheon, Kangwon-Do, Republic of Korea.*
W166	Effect of GnRH-analogue and chromium methionine supplementation on reproductive performance of the female pig. J. A. Romo*[1], R. Barajas[1], J. J. Valencia[2], E. Silva[3], and F. Juarez[1], [1]*FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico,* [2]*FMVZ-Universidad Nacional Autonoma de Mexico, Mexico, D.F., Mexico,* [3]*FMVZ-Universidad de Colima, Colima, Colima, Mexico.*
W167	Effects of yeast culture supplementation to lactation diet on lactation performance of sows. C. Vasquez*[1], A. T. Moore[1], C. R. Richardson[2], and S. W. Kim[1], [1]*Texas Tech University, Lubbock, TX, USA,* [2]*Texas State University, San Marcos, TX, USA.*
W168	Antibiotics, acidifiers or yeast on the productive performance of growing pigs challenged with *Salmonella cholerasuis.* A. A. Martinez*[1], J. Lopez[1], J. N. Vazquez[1], B. Merino[2], G. E. Lanz[2], and J. A. Cuaron[3], [1]*CENID-Microbiologia,INIFAP, Mexico,* [2]*PIEPEME, A.C., Mexico,* [3]*CENID-Fisiologia Animal, INIFAP, Mexico.*
W169	Benzoic acid as feed additive for growing pigs naturally infected with *Salmonella cholerasuis*. A. A. Martinez*[1], J. Lopez[1], B. Merino[2], J. Cervantes[3], and J. A. Cuaron[4], [1]*CENID-Microbiologia, INIFAP, Mexico,* [2]*PAIEPEME, A. C., Mexico,* [3]*DSM Nutritional Products, Mexico,* [4]*CENID-Fisiologia Animal, INIFAP, Mexico.*
W170	Response of grower pigs to dietary inclusion of naked oats (Avena nuda). P. B. Lynch*[1], P. G. Lawlor[1], and J. Burke[2], [1]*Teagasc, Moorepark Research Centre, Fermoy, Co. Cork, Ireland,* [2]*Teagasc, Oakpark Research Centre, Carlow, Ireland.*
W171	Comparison of growing swine performance when diets containing DL- methionine and cull chickpeas in substitution of soybean meal and corn. J. M. Uriarte*, J. F. Obregón, H. R. Guemez, O. S. Acuña, and F. G. Ríos, *Universidad Autónoma de Sinaloa, Culiacán, Sinaloa, México.*
W172	Use of a selected clay in growing pigs fed zearalenone contaminated sorghum grain. J. Lopez[1], A. A. Martinez*[1], D. V. Gonzalez[1], and J. A. Cuaron[2], [1]*CENID-Microbiologia, INIFAP, Mexico,* [2]*CENID Fisiologia Animal, INIFAP, Mexico.*
W173	Effects of flaxseed and carbohydrase enzyme on portal blood short chain fatty acids, caecal digesta amine content and tissue fatty acid profiles in piglets. E. Kiarie*, B. A. Slominski, and C. M. Nyachoti, *University of Manitoba, Winnipeg, MB, Canada.*

Nonruminant Nutrition
Poultry Nutrition III
Exhibit Hall C

W174	Biochemical profile of broilers fed diets supplemented with amylase from Cryptococcus flavus and Aspergillus niger HM2003. C. S. Minafra[2,1], J. H. Stringhini*[1], S. F. F. Marques[1], M. A. Andrade[1], C. J. Ulhoa[1], and G. H .K. Moraes[2], [1]*Universidade Federal de Goias, Goiania, Goias, Brazil,* [2]*Universidade Federal de Viçosa, Viçosa, Minas Gerais Brazil.*

W175	Effects of graded levels of cottonseed cake on performance, haematological and carcass characteristics of broilers fed from day old to 8 weeks of age. G. O. Adeyemo* and O. G. Longe, *University of Ibadan, Oyo, Nigeria*.
W176	Serum biochemistry profile of broilers fed an enzymatic complex from Trichoderma harzianum. S. M. F. Marques[1], C. S. Minafra[2,1], J. H. Stringhini*[1], P. M. Rezende[1], M. A. Andrade[1], M. B. Cafe[1], and C. J. Ulhoa[1], [1]*Universidade Federal de Goias, Goiania, Goias, Brazil*, [2]*Universidade Federal de Viçosa, Viçosa, MInas Gerais Brazil*.
W177	Feeding performance in laying hens fed diets containing DAS-59122-7 maize grain compared with diets containing non-transgenic maize grain. C. M. Jacobs*[1], P. L. Utterback[1], C. M. Parsons[1], B. Smith[2], M. Hinds[2], D. Rice[2], M. Liebergesell[2], and T. Sauber[2], [1]*University of Illinois, Urbana*, [2]*Pioneer Hi-Bred International, Inc., Johnston, IA*.
W178	Effects of supplemental humic substances on egg production and quality in laying hens. Q. Wang*, H. J. Kim, J. H. Cho, Y. J. Chen, J. S. Yoo, and I. H. Kim, *Dankook University, Cheonan, Choognam, Korea*.
W179	Enzyme complex containing NSP-enzymes and phytase improves the performance of broilers fed corn or wheat-based diets. A. V. Mori[1], M. Francesch[2], J. McNab[3], A. Knox[3], and P. A. Geraert*[1], [1]*Adisseo France SAS, Commentry, France*, [2]*Institut de Recerca i Tecnologia Agroalimentaries, Reus, Spain*, [3]*Nutrition Ltd., Roslin, United Kingdom*.
W180	Effects of fermented wild-ginseng culture by-products on egg productivity, egg quality, blood characteristics and ginsenoside concentration of yolk in laying hens. H. D. Jang*, J. H. Cho, Y. J. Chen, J. S. Yoo, and I. H. Kim, *Dankook University, Cheonan, Choognam, Korea*.
W181	Effects of enzyme addition to corn-soybean-meal-based diets on performance and processing yields of guinea fowl (Numida meleagris) broilers. H. L. Santiago*, J. A. Orama, and A. A. Rodríguez, *University of Puerto Rico, Mayagüez, Puerto Rico*.
W182	Dietary flaxseed supplementation affects broiler live performance. V. L. Carney*[1], M. J. Zuidhof[1], M. Betti[2], B. L. Schneider[1], R. A. Renema[2], F. E. Robinson[2], and D. R. Korver[2], [1]*Alberta Agriculture and Food, Edmonton, Alberta, Canada*, [2]*University of Alberta, Edmonton, Alberta, Canada*.
W183	Effect of Alternate Lutein and Flaxseed Enriched Diet Combinations on Production Parameters in Laying Hens. D. Franco-Jimenez*[1,3], R. Renema[1], M. Zuidhof[2], and F. Robinson[1], [1]*University of Alberta, Edmonton, Alberta, Canada*, [2]*Alberta Agriculture, Food and Rural Development, Edmonton, Alberta, Canada*, [3]*California State Polytechnic University, Pomona*.
W184	Impact of different sources of dietary unsaturated fatty acids on productive performance and immunological status of broiler chickens subjected to heat stress. M. N. Makled*, A. A. El-Sebaie, O. S. Afifi, and A. A. Nafady, *Assiut University, Assiut, Egypt*.
W185	Dietary supplementation with *atractylodes macrocephala koidz* polysaccharides enhances growth performance and development of immune organs in ducks. L. L. Li*[1], Y. L. Yin[1], B. Zhang[2], G. H. Wen[1,2], A. K. Li[3], Z. P. Hou[1], P. Zhang[1], and G. Y. Wu[1,4], [1]*The Chinese Academy of Sciences, Changsha, Hunan, China*, [2]*Hunan Agricultural University, Changsha, Hunan, China*, [3]*Academy of State Grain Administration of China, Beijing, China*, [4]*Texas A&M University, College Station*.
W186	Production of low cholesterol eggs by dietary supplementation of probiotics and essential trace minerals in laying hen. S. J. You*, C. W. Kang, and B. Y. An, *KonKuk University, Seoul, Korea*.
W187	A dose response comparison of MINTREX® Zn versus Zn-methionine in the presence of a Cu-Zn antagonism in 19 day-old broiler chickens. R. B. Shirley*, C. W. Wuelling, T. R. Hampton, J. J. Dibner, and C. D. Knight, *Novus International, Inc., Saint Charles, MO*.
W188	Use of enriched Selenium yeasts in laying hens diet: effects on production, metabolism, Se egg content and Se organs content. G. Invernizzi*, M. Ferroni, A. Agazzi, R. Rebucci, G. Savoini, A. Baldi, and V. Dell'Orto, *University of Milan, Milan, Italy*.
W189	Performance of alternative meat chickens for organic markets: impact of genotype, methionine level, and methionine source. A. C. Fanatico*, T. O'Connor-Dennie, C. M. Owens, and J. L. Emmert, *University of Arkansas, Fayetteville*.
W190	Fractional protein synthesis rate in breast muscle and liver tissues of broiler breeder hens before and after sexual maturity based on using ^{15}N-Phe, and LC-MS and GC-C-IRMS. M. K. Manangi* and C. N. Coon, *University of Arkansas, Fayetteville*.
W191	Effects of methionine versus cystine supplementation on egg production parameters and feather quality in Bovan strain laying hens from 20 to 70 weeks of age. S. E. Scheideler*, P. Weber, and S. Shields, *University of Nebraska, Lincoln*.
W192	Comparison of various methods for endogenous ileal amino acid flow determination in broiler chickens. A. Golian*[1], W. Guenter[1], D. Hoehler[2], and C. M. Nyachoti[1], [1]*University of Manitoba, Winnipeg, MB, Canada*, [2]*Degussa Corporation, Kennesaw, GA*.
W193	Ideal ratio of Arg, Ile, Met, Met + Cys, Thr, Trp, and Val relative to Lys for 28 to 34-week-old laying hens. S. Roberts*[1], B. Kerr[2], D. Hoehler[3], and K. Bregendahl[1], [1]*Iowa State University, Ames*, [2]*NSRIC, USDA/ARS, Ames, IA*, [3]*Degussa Corporation, Kennesaw, GA*.
W194	Carcass Yield of modern vs 1970's heritage broilers fed drug free recommended and low protein diets. A. Golian*[2], T. A. Woyengo[1], C. Bennett[3], W. Guenter[1], and H. Muc[1], [1]*University of Manitoba, Winnipeg, Manitoba, Canada*, [2]*University of Ferdowsi, Mashhad, Iran*, [3]*Manitoba Agriculture, Food and Rural Initiatives, Winnipeg, Manitoba, Canada*.
W195	Performance and carcass parameters of broiler chicken from 1 to 45 d fed with different levels and source of vitamin D. J. A. G. Brito[1], A. G. Bertechini*[1], J. C. C. Carvalho[1], R. L. Rios[1], J. O. B. Sorbara[2], and F. J. Piraces[2], [1]*Universidade Federal de Lavras, DZO, Lavras, MG*,

	Brazil, [2]*DSM Nutritional Products, Sao Paulo, SP, Brazil.*
W196	Performance and bone characteristics of broiler chicken from 1 to 21 d fed with different levels and source of vitamin D. J. A. G. Brito[1], A. G. Bertechini*[1], J. C. C. Carvalho[1], E. J. Fassani[1], J. O. B. Sorbara[2], and F. J. Piraces[2], [1]*Universidade Federal de Lavras, DZO, Lavras, MG, Brazil,* [2]*DSM Nutritional Products, Sao Paulo, SP, Brazil.*
W197	Performance and carcass yield of four quail genetic groups selected for meat production. C. Móri, E. A. Garcia, A. C. Pavan, A. Piccinin, C. C. Pizzolante, R. M. S. Emediato*, A. B. G. Faitarone, M. R. Scherer, D. A. Berto, and S. A. Maestá, *São Paulo State University, Botucatu, São Paulo, Brazil.*
W198	Effects of genotype and plane of nutrition on performance and carcass composition of guinea fowl (Numida meleagris) broilers raised in the tropics. V. Díaz*, H. L. Santiago, and A. A. Rodríguez, *University of Puerto Rico, Mayagüez, Puerto Rico.*

Physiology & Endocrinology - Livestock and Poultry
Reproductive Physiology
Exhibit Hall C

W199	Influence of post-AI nutrition on blood urea nitrogen, progesterone, and pregnancy. G. A. Perry*, B. L. Perry, J. R. Nelson, and J. A. Walker, *South Dakota State University, Brookings.*
W200	Effect of dietary ω-3 polyunsaturated fatty acid supplementation on hormone and metabolite concentrations and corpus luteum size in beef heifers. S. Childs*[1,2], J. M. Sreenan[1], A. A. Hennessy[3], C. Stanton[3], M. G. Diskin[1], and D. A. Kenny[2], [1]*Teagasc Animal Production Research Centre, Athenry, Co. Galway, Ireland,* [2]*University College, Dublin, Ireland,* [3]*Teagasc Moorepark Food Research Centre, Co. Cork, Ireland.*
W201	Effect of level of dietary supplementation on concentrations of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) in selected tissues in cattle. S. Childs*[1,2], J. M. Sreenan[1], A. A. Hennessy[3], C. Stanton[3], and D. A. Kenny[2], [1]*Teagasc Animal Production Research Centre, Athenry, Co. Galway, Ireland,* [2]*University College, Dublin, Ireland,* [3]*Teagasc Moorepark Food Research Centre, Co Cork, Ireland.*
W202	Nutritional and genetic effects on the follicular growth of the Nelore-Hereford heifers. J. O. J. Barcellos*, E. R. Prates, J. López, and J. Braccini, *Federal University of Rio Grande do Sul, Porto Alegre- RS - Brasil.*
W203	Levels of serum progesterone in creole cows with and without corpus luteum treated with CIDR®, progesterone, β-estriadiol and $PGF_{2\alpha}$. J. P. Zarate Martinez*, J. A. Ramirez Godinez, and F. A. Rodriguez Almeida, *Universidad Autonoma de Chihuahua, Chihuahua, Chih. Mexico.*
W204	Effect of progestin treatment on formation of persistent follicles in beef heifers. M. E. Heaton*, J. A. Atkins, J. F. Bader, C. L. Johnson, and M. F. Smith, *University of Missouri, Columbia.*
W205	Relationships between cortisol concentrations and cow temperament with calf exit velocity from 3 weeks of age through weaning. N. C. Burdick*[1], R. D. Randel[2], J. P. Banta[2], D. A. Neuendorff[2], J. C. White[2], J. G. Lyons[3], T. H. Welsh, Jr.[3], R. C. Vann[4], and J. C. Laurenz[1], [1]*Texas A&M University-Kingsville, Kingsville,* [2]*Texas A&M University Agricultural Research and Extension Center, Overton,* [3]*Texas A&M University, College Station,* [4]*Mississippi State University, Raymond.*
W206	Microbial flora of normal and abnormal cervical mucous discharge associated with reproductive performance of cows and heifers in estrus. A. Ata, H. Turutoglu, M. Kale, M. S. Gulay*, and F. Pehlivanoglu, *Mehmet Akif Ersoy University, Burdur, Turkey.*
W207	In vitro production of bovine embryos in chemically defined serum-free media. A. Dhali, V. M. Anchamparuthy, S. P. Butler, R. E. Pearson, and F. C. Gwazdauskas*, *Virginia Polytechnic Institute and State University, Blacksburg.*
W208	Droplet vitrification method did not induce cytoskeletal damage in mouse embryos. A. Dhali, V. M. Anchamparuthy, S. P. Butler, R. E. Pearson, and F. C. Gwazdauskas*, *Virginia Polytechnic Institute and State University, Blacksburg.*
W209	Association of oviductal fluid (ODF) proteins with the bovine zona pellucida. E. Monaco*[1], B. Gasparrini[2], L. Boccia[2], A. De Rosa[2], L. Attanasio[2], G. Campanile[2], and G. Killian[1], [1]*Pennsylvania State University, State College,* [2]*Federico II University, Naples, Italy.*
W210	Decreased pulsatile LH secretion does not affect the function of the corpus luteum of pregnancy in cattle. H. T. Toriz*, H. Basurto, A. A. Porras, and C. G. Gutierrez, *Facultad de Medicina Veterinaria. UNAM, Mexico DF, Mexico.*
W211	Protective effects of the antioxidant dithiothreitol (DTT) on preimplantation bovine embryos exposed to heat shock. L. A. de Castro e Paula* and P. J. Hansen, *University of Florida, Gainesville.*
W212	Nylon mesh vitrification for cryopreservation of bovine oocytes. V. M. Anchamparuthy*, A. Dhali, S. P. Butler, R. E. Pearson, and F. C. Gwazdauskas, *Virginia Polytechnic Institute and State University, Blacksburg.*
W213	Follicle numbers on the ovaries of cows selected for high and low IGF. L. Snellgrove[1], T. A. Hoagland*[1], G. W. Kazmer[1], M. E. Davis[2], D. Schrieber[1], and S. A. Zinn[1], [1]*University of Connecticut, Storrs,* [2]*The Ohio State University, Columbus.*

W214	Effect of insulin-like growth factor-1 during culture on blastocyst mRNA abundance and survival in utero to day 14 of bovine embryos produced in vitro. J. Block*[1], C. Wrenzycki[2], D. Herrman[2], T. M. Rodina[1], H. Niemann[2], A. D. Ealy[1], A. E. Fischer-Brown[3], and P. J. Hansen[1], [1]*University of Florida, Gainesville*, [2]*Institute for Animal Science, Neustadt, Germany*, [3]*University of Illinois, Urbana*.
W215	Effect of supplementation with Megalac-E on pregnancy rate in primiparous Nellore cows. C. N. Lopes[1], J. L. M. Vasconcelos*[1], T. P. B. Araujo[2], and L. O. F. Oliveira[3], [1]*FMVZ-UNESP, Botucatu, SP, Brazil*, [2]*Arm&Hammer, Brazil*, [3]*Propec Consultoria, Brazil*.
W216	Progesterone postpartum determination and reproductive performance of crossbred cows. M. S. Arellano-Cornejo[1], J. C. Martinez-Gonzalez*[2], E. M. Romero-Trevino[1], F. Briones-Encinia[2], F. De la Garza-Requena[2], and M. Dominguez-Munoz[3], [1]*Instituto Tecnologico Superior de Altamira, Altamira, Tamaulipas, Mexico*, [2]*Agronomia y Ciencias, Universidad Autonoma de Tamaulipas, Ciudad Victoria, Tamaulipas, Mexico*, [3]*FMVZ, Universidad Autonoma de Tamaulipas, Ciudad Victoria, Tamaulipas, Mexico.*
W217	Diagnosis of bovine freemartinism by fluorescence in situ hybridization using a bovine Y chromosome-specific DNA probe. S. H. Sohn, E. J. Cho, W. J. Son, and C. Y. Lee*, *Jinju National University, Jinju, Korea*.
W218	Influence of insulin on plasma and hepatic composition, ovarian activity and estrous behavior in early lactation dairy cows. J. A. Casas*, M. F. Sa Filho, C. Narciso, F. Rivera, and J. E. P. Santos, *Veterinary Medicine Teaching and Research Center, University of California Davis, Tulare*.
W219	Influence of parity on follicular dynamics and resumption of ovarian cycle in postpartum dairy cows. T. Tanaka*, M. Arai, S. Ohtani, S. Uemura, S. Kim, T. Kuroiwa, and H. Kamomae, *Tokyo University of Agriculture and Technology, Fuchu, Tokyo, Japan.*
W220	Pregnancy loss in lactating Holstein cows diagnosed with twin versus singleton fetuses. N. Silva del RÍo*[1], J. D. Colloton[2], and P. M Fricke[1], [1]*University of Wisconsin, Madison*, [2]*Bovine Services LLC, Edgar, WI.*
W221	Effects of twin pregnancy and prepartum diet on early postpartum ovarian activity in Holstein dairy cows. N. Silva del Río*, R. R. Grummer, and P. M. Fricke, *University of Wisconsin, Madison.*
W222	Relationship between the occurrence of first ovulation in early postpartum and metabolic status in the cows that experiencing postpartum disease. M. Matsui*, E. Kaneko, M. Kataoka, C. Kawashima, N. Sudo, N. Matsunaga, M. Ishi, K. Kida, Y.-I. Miyake, and A. Miyamoto, *Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Hokkaido, Japan.*
W223	Effects of dietary fats differing in proportion of unsaturated fatty acids on characteristics of preovulatory follicles in dairy cows. M. Katz*[1,2], A. Arieli[2], and U. Moallem[1], [1]*Agriculture Research Organization, Bet Dagan, Israel*, [2]*Faculty of Agriculture, Hebrew University, Rehovot, Israel*.
W224	Effects of endothelin-1 infused chronically adjacent the luteal-containing ovary or intrauterine in ewes on luteal function. C. W. Weems*, Y. S. Weems, D. Johnson, T. Uchima, E. Lennon, A. Raney, K. Goto, G. Bowers, J. Saldana, and J. Pang, *University of Hawaii, Honolulu*.
W225	Effect of extender on retention of viability and motility in hair sheep and goat semen stored at 4°C. J. L. Mook* and S. Wildeus, *Virginia State University, Petersburg*.
W226	Use of fecal progestin determinations to characterize the estrous cycle in captive female bontebok (*Damaliscus pygargus pygargus*). M. McGee*[1], A. Kouba[2], S. Bowers[1], R. Meek[2], B. L. Elliot[2], C. Horton[2], T. Hill[2], E. Piorkowski[2], and S. Willard[1], [1]*Mississippi State University, Mississippi State*, [2]*Memphis Zoo, Memphis, TN*.
W227	Cloning and characterization of chicken prostaglandin E receptor subtypes 2 and 4 (EP2 and EP4). A. H. Y. Kwok*, C. Y. Wang, Y. Wang, and F. C. Leung, *The University of Hong Kong, Hong Kong, HK-SAR, China*.
W228	Pulmonary hemodynamic responses to intravenous prostaglandin E_2 in broiler chickens. S. Stebel and R. F. Wideman, Jr.*, *University of Arkansas, Fayetteville*.
W229	Coordinate accumulation of the egg envelope glycoproteins during follicular development in Japanese quail (*Coturnix japonica*). T. Sasanami*[1], M. Ohtsuki[1,2], G. Hiyama[3], N. Kansaku[3], A. Tsukada[4], K. Tahara[4], T. Watanabe[4], T. Yoshimura[4], and M. Mori[1], [1]*Shizuoka University, Shizuoka, Japan*, [2]*Gifu University, Gifu, Japan*, [3]*Azabu University, Sagamihara, Japan*, [4]*Nagoya University, Nagoya, Japan*.
W230	Nicarbazin reduces egg production and fertility in White Pekin ducks via reducing ZP3 in the perivitelline membrane. V. P. Reinoso*, R. Katani, and G. F. Barbato, *The Pennsylvania State University, University Park.*
W231	Isolation and culture of chicken oocytes. W. D. Berry*, S. S. Oates, L. M. Stevenson, and C. R. James, *Auburn University Poultry Science, Auburn, AL*.
W232	Gene expression of hen granulosa cell (GC) steroidogenic enzymes and gonadotropin receptors following a chronic heat stress (HS) episode. H. Taira*[1] and M. M. Beck[2], [1]*University of Nebraska, Lincoln*, [2]*Clemson University, Clemson, SC*.
W233	Some observations on molting male Japanese quail. B. K. Biswas and K. L. Arora*, *Fort Valley State University, Fort Valley, GA.*
W234	Rooster semen cryopreservation: Effect of line and male age on sperm function. D. C. Bongalhardo*[1], J. Pelaez[1], J. E. Fulton[2], S. Saxena[2], P. Settar[2], N. P. O'Sullivan[2], J. Arango[2], and J. A. Long[1], [1]*Beltsville Agricultural Research Center, Beltsville, MD*, [2]*Hy-Line International, Dallas Center, IA.*

W235	Transcript profiling in mammary of ovariectomized pregnant gilts receiving progesterone and relaxin replacement therapy in late gestation. D. E. Graugnard*, J. J. Loor, E. A. Cutler, R. E. Everts, S. L. Rodriguez-Zas, and W. L. Hurley, *University of Illinois, Urbana*.
W236	Effect of boron supplementation on semen quality in mature boars. W. L. Flowers*[1], J. W. Spears[1], and F. H. Nielsen[2], [1]*North Carolina State University, Raleigh,* [2]*USDA-ARS, Grand Forks Human Nutrition Center, Grand Forks, ND*.
W237	Transient transgene transmission to piglets by sperm-mediated gene transfer. Z. Wu[1], Z. Li[1,2], and J. Yang*[2], [1]*South China Agricultural University, Guangzhou, Guangdong, China,* [2]*University of Hawaii, Honolulu*.
W238	Computer-assisted analysis of sperm parameters after selection of motile sperm by either percoll gradient, filtration or swim-up procedures. C. N. Person*, T. D. Lester, M. D. Person, and R. W. Rorie, *University of Arkansas, Fayetteville*.

Production, Management & the Environment - Livestock and Poultry III
Exhibit Hall C

W239	Effect of soaking dairy cows at the feed line on animal body temperature in a tunnel ventilated barn equipped with evaporative pads located in a tropical climate, Thailand. D. V. Armstrong*[1], M. J. VanBaale[1], S. Rungruang[2], V. Wuthironarith[2], M. J. Brouk[3], and J. F. Smith[3], [1]*The University of Arizona, Tucson,* [2]*Charoen Pokphand Group Co., Ltd., Bangkok, Thailand,* [3]*Kansas State University, Manhattan*.
W240	Effect of soaking dairy cows at the feed line on animal behavior in a tunnel ventilated barn equipped with evaporative pads located in a tropical climate, Thailand. D. V. Armstrong*[1], M. J. VanBaale[1], S. Rungruang[2], V. Wuthironarith[2], M. J. Brouk[3], and J. F. Smith[3], [1]*The University of Arizona, Tucson,* [2]*Charoen Pokphand Group Co., Ltd., Bangkok, Thailand,* [3]*Kansas State University, Manhattan*.
W241	Thermal status for different breeds of dairy cattle exposed to summer heat stress in a grazing environment. J. N. Spain*[1], L. Parsons[1], R. Crawford[2], C. Brown[2], and D. E. Spiers[1], [1]*University of Missouri, Columbia,* [2]*Soutwest Research Center, Mt. Vernon, MO*.
W242	Labor, housing, feeding, and bedding affects on herd turnover rate and mortality rates of Southeastern Pennsylvania dairy herds. C. D. Dechow[1] and R. C. Goodling*[2], [1]*The Pennsylania State University, University Park,* [2]*Pennsylvania State Cooperative Extension, University Park, PA*.
W243	Body weight and condition score of four dairy genetic groups in summer or winter under low-input management. D. G. Johnson*[1], B. J. Heins[2], L. B. Hansen[2], A. J. Seykora[2], and J. G. Linn[2], [1]*University of Minnesota, Morris,* [2]*University of Minnesota, St. Paul*.
W244	Phosphorus removal capacity of forages used on South Florida dairies. Y. C. Newman*, J. M. Scholberg, M. B. Adjei, and L. E. Sollenberger, *University of Florida, Gainesville*.
W245	Efficiency of use of imported magnesium, sulfur, copper, and zinc in Idaho dairy farms. A. N. Hristov*, W. Hazen, and J. W. Ellsworth, *University of Idaho, Moscow*.
W246	Reproductive status of dairy herds in Alberta: An objective assessment based on milk progesterone (P4) concentrations. D. J. Ambrose*[1], M. G. Colazo[1], and J. P. Kastelic[2], [1]*Alberta Agriculture and Food, Edmonton, AB, Canada,* [2]*Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*.
W247	Incidence and interrelation of some common hoof problems in a Southeast US dairy herd. A. H. Sanders*[1], J. K. Shearer[1], L. C. Shearer[1], S. R. van Amstel[2], D. W. Webb[1], and A. De Vries[1], [1]*University of Florida, Gainesville,* [2]*University of Tennessee, Knoxville*.
W248	Economic analysis of bovine somatotropin to increase pregnancy rates in lactating dairy cows. A. A. Bell*, P. J. Hansen, and A. De Vries, *University of Florida, Gainesville*.
W249	Performance of beef calves weaned by traditional, fenceline, and two-step methods. D. D. Buskirk, J. M. Siegford, and B. A. Wenner*, *Michigan State University, East Lansing*.
W250	A comparison of visual and palpation-based body condition scoring systems. J. M. Bewley*[1], R. E. Boyce[2], D. J. Roberts[3], M. P. Coffey[3], A. Bagnall[3], and M. M. Schutz[1], [1]*Purdue University, West Lafayette, IN,* [2]*IceRobotics Ltd., Roslin, Scotland, UK,* [3]*3Scottish Agricultural College Dairy Research Centre, Dumfries, Scotland, UK*.
W251	Effect of discontinuous roughage delivery in a feedlot diet on liveweight gain and feed efficiency of beef steers. M. Avila[3], J. I. Arroquy*[1,2], and J. J. Saravia[1], [1]*INTA 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*.
W252	Simulation model of fat deposition and distribution in beef steers: 1. Empirical models converting fat thickness to subcutaneous fat and KPH to visceral fat. M. J. McPhee*[1,2], J. W. Oltjen[1], J. G. Fadel[1], D. Perry[2], and R. D. Sainz[1], [1]*University of California, Davis,* [2]*NSW DPI, Armidale, Australia*.
W253	Simulation model of fat deposition and distribution in beef steers: 2. Empirical models to initialize fat deposition models. M. J. McPhee*[1,2], J. W. Oltjen[1], J. G. Fadel[1], and R. D. Sainz[1], [1]*University of California, Davis,* [2]*NSW DPI, Armidale, Australia*.
W254	Pasturing to decrease greenhouse gas emissions from feedlot cattle operations: A whole system approach. H. Koknaroglu[1], T. Akunal[1], T.

	Purevjav*[2], and M. P. Hoffman[2], [1]*Suleyman Demirel University, Isparta, Turkey*, [2]*Iowa State University, Ames.*
W255	Evaluation of a delayed-release anabolic implant in finishing steers. W. Nichols[1], J. Hutcheson[1], D. Yates[1], M. Streeter[1], D. Smith*[2], and M. Brown[2], [1]*Intervet, Inc., Millsboro, DE*, [2]*West Texas A&M University, Canyon*.
W256	Temperament, assessed upon feedlot entry, did not impact performance of Texas A&M Ranch to Rail steers. K. O. Curley, Jr.*[1], J. J. Cleere[2], J. C. Paschal[3], T. H. Welsh, Jr.[1], and R. D. Randel[4], [1]*Texas Agricultural Experiment Station, College Station*, [2]*Texas Cooperative Extension, College Station*, [3]*Texas Cooperative Extension, Corpus Christi*, [4]*Texas Agricultural Experiment Station, Overton*.
W257	Effect of frame score on performance and carcass characteristics of steers finished in the feedlot or backgrounded for various time on pasture and finished in the feedlot. H. Koknaroglu[1], T. Akunal[1], T. Purevjav*[2], and M.P. Hoffman[2], [1]*Suleyman Demirel University, Isparta, Turkey*, [2]*Iowa State University, Ames*.

Ruminant Nutrition III
Exhibit Hall C

W258	Biological treatment of peanut hay as ruminant feed. B. Borhami*[1], S. Soliman[2], M. EL-Adawy[1], E. Ghonaim[2], M. Yacout[3], and H. Gado[4], [1]*Department of Animal Production, Faculty of Agriculture, Alexandria Univ., Alexandria, Egypt*, [2]*Central Lab for food and Feed (CLFF), Ministry of Agriculture, Dokki, Gizza, Egypt*, [3]*Animal Production Research Institute, Ministry of Agriculture, Dokki, Gizza, Egypt*, [4]*Department of Animal Production, Faculty of Agriculture, Ain Shams Univ., Cario, Egypt.*
W259	Predicting intake of maize stover by sheep using near infrared reflectance spectroscopy. S. Fernandez-Rivera*, D. Negassa, J. Hanson, and G. Gebremariam, *International Livestock Research Institute, Addis Ababa, Ethiopia*.
W260	Energy costs of steam-flaking corn with different chemical grain conditioning agents. A. T. Moore*[1], C. R. Richardson[1], J. M. Harris[2], G. V. Pollard[3], and D. C. Boyles[1], [1]*Texas Tech University, Lubbock*, [2]*Westway Feed Products, Inc., Tomball, TX*, [3]*Texas State University, San Marcos*.
W261	Determining optimum density of steam-flaked corn for feedlot heifers. M. L. May*, M. J. Quinn, B. E. Depenbush, and J. S. Drouillard, *Kansas State University, Manhattan*.
W262	Influence of dietary crude protein concentration on pancreatic α-amylase and trypsin activities in feedlot steers. K. C. Swanson*, H. Salim, Y. Wang, S. Holligan, M. Z. Fan, and B. W. McBride, *University of Guelph, Guelph, ON, Canada*.
W263	Effects of dexamethasone administration and Revalor-S® on growth, carcass characteristics and visceral organ and fat mass of finishing beef steers. S. E. Kitts*, C. C. Taylor-Edwards, D. B. Edwards, J. B. Cannon, A. F. Beckemeyer, K. E. Earing, D. L. Harmon, E. S. Vanzant, and K. R. McLeod, *University of Kentucky, Lexington.*
W264	Effects of ractopamine HCl and steroid implants on feedlot performance and carcass characteristics of cull beef cows. K. W. Harborth*, T. T. Marston, J. A. Unruh, and B. J. Johnson, *Kansas State University, Manhattan*.
W265	Effect of age on feedlot performance and carcass characteristics of cull beef cows. K. W. Harborth*, T. T. Marston, J. A. Unruh, and B. J. Johnson, *Kansas State University, Manhattan*.
W266	Adding neem oil to a feedlot diet modulated proportions of volatile fatty acids and increased microbial protein synthesis in a continuous culture. W. Z. Yang*[1], J. Laurain[2], and B. Ametaj[3], [1]*Research Centre, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada*, [2]*National Engineering School of Agronomy and Food Sciences, Nancy, France*, [3]*Department of Agricultiral, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.*
W267	Fat tissue deposition and plasma hormone concentrations in early Angus–Nellore cattle treated with recombinant bovine somatotropin (rbST). C. L. Martins, R. C. Cervieri, M. D. B. Arrigoni, A. C. Silveira, C. A. Oliveira, D. D. Millen*, R. D. L. Pacheco, H. N. Oliveira, and L. A. L. Chardulo, *FMVZ/UNESP Botucatu, São Paulo, Brazil*.
W268	Influence of concentrate supplements on performance of grazing growing steers during the dry season, in tropical pastures. R. H. T. B. Goes*[1], R. P. Lana[2], D. D. Alves[3], A. B. Mancio[2], and T. B. Freitas[2], [1]*Universidade Federal da Grande Dourados, Dourados, MS, Brasil*, [2]*Universidade Federal de Viçosa, Viçosa, MG. Brasil*, [3]*Universidade Estadual de Montes Claros, Janauba, MG, Brasil*.
W269	Energy levels in multiple supplements for finishing beef cattle grazing *Brachiaria brizantha* pasture during the rainy to dry transition season. M. F. L. Sales, M. F. Paulino, P. V. R. Paulino*, M. O. Porto, and S. de Campos Valadares Filho, *Universidade Federal de Viçosa, Viçosa, MG, Brazil*.
W270	Effect of two buffers on nutrient digestibilities and rumina fermentation in Holstein steers. O. D. Montañez-Valdez*[1], E. O. Garcia-Flores[2], J. R. Barcena-Gama[3], S. S. Gonzalez- Muñoz[3], M. E. Ortega-Cerrilla[3], J. G. Peralta-Ortiz[3], and J. H. Avellaneda-Cevallos[4], [1]*Centro Universitario del Sur de la Universidad de Guadalajara, Ciudad Guzmán, Jalisco, México*, [2]*Centro Universitario del la Costa Sur de la Universidad de Guadalajara, Autlán, Jalisco, México*, [3]*Colegio de Postgraduados, Montecillos, Estado de México, México*, [4]*Universidad Técnica Estatal de Quevedo, Quevedo, Los Ríos, Ecuador.*
W271	Phase feeding strategies to meet metabolizable amino acid requirements of calf-fed Holstein steers. R. A. Zinn[1], J. F. Calderón[2], L. Corona[3], A. Plascencia[2], M. F. Montaño[2], and N. Torrentera*[2], [1]*University of California, Davis, El Centro*, [2]*Universidad Autonoma de*

	Baja California, Mexicali, B.C. Mexico, [3]*Universidad Autonoma de Mexico, Mexico, D.F.*
W272	Relationships between feed efficiency, carcass and ultrasound traits in Angus beef cattle divergently selected for serum IGF–I concentration. F. R. B. Ribeiro*[1], G. E. Carstens[1], P. A. Lancaster[1], L. O. Tedeschi[1], and M. E. Davis[2], [1]*Texas A&M University, College Station,* [2]*The Ohio State University, Columbus.*
W273	Feed efficiency of beef cows and its progeny during the preweaning interval[1]. T. Z. Albertini[2], S. R. de Medeiros[3], R. A. de A. Torres, Jr.[3], A. R. D. L. Sousa[3], F. A. Biberg[3], and D. P. D. Lanna*[2], [1]*Fapesp, Embrapa,* [2]*ESALQ-USP, Piracicaba, SP, Brazil,* [3]*Embrapa Beef Cattle, Campo Grande, MS, Brazil.*
W274	Body composition and net protein and energy requirements of steers from four zebu and zebu × B. taurus crossbreds[1]. R. Silva Goulart[2], E. Benno Pott[3], M. Mello de Alencar[3], G. Maria da Cruz[3], R. Tullio[3], and D. Pazzanese Duarte Lanna*[2], [1]*FAPESP, USP, Embrapa,* [2]*ESALQ/USP, Piracicaba, SP, Brazil,* [3]*Embrapa, Sao Carlos, SP, Brazil.*
W275	Relationship between residual feed intake, water intake and ultrasound body composition traits in Angus bulls. G. R. Hansen*[1], G. E. Carstens[2], and D. G. Riley[3], [1]*University of Florida NFREC, Marianna,* [2]*Texas A & M University, College Station,* [3]*USDA-ARS STARS, Brooksville, Fl.*
W276	Effect of yeast culture on 28-day performance of newly weaned, low-stress beef calves. C. R. Belknap*[1], R. R. Scott[2], and J. C. Forcherio[2], [1]*Diamond V Mills, Cedar Rapids, IA,* [2]*LongView Animal Nutrition Center, Gray Summit, MO.*
W277	Effects of an intratracheal challenge with *Mannheimia haemolytica* on intake and N balance in fed or fasted steers. L. O. Burciaga-Robles*[1], C. R. Krehbiel[1], D. L. Step[2], B. P. Holland[1], M. Montelongo[2], A. W. Confer[2], J. N. Gilliam[2], and C. L. Goad[3], [1]*Department of Animal Science,* [2]*Center for Veterinary Health Sciences,* [3]*Department of Statistics. Oklahoma State University, Stillwater.*
W278	Feedlot performance and rumen parakeratosis incidence in *Bos indicus* type bullocks fed high-grain diets and monensin or polyclonal antibody preparations against rumen bacteria. D. D. Millen*, R. D. L. Pacheco, M. D. B. Arrigoni, M. Parrili, S. A. Matsuhara, M. V. Fossa, L. M. N. Sarti, C. L. Martins, J. P. S. T. Bastos, and T. M. Mariani, *FMVZ/UNESP–Botucatu, São Paulo, Brazil.*
W279	Effects of a saccharin-containing additive (SUCRAM) on total tract digestibility, plasma metabolites, and urine organic acid excretion by steer calves. C. H. Ponce*[1], M. S. Brown[1], J. C. Silva[1], P. Schlegel[2], and W. Rounds[3], [1]*West Texas A&M University, Canyon,* [2]*Pancosma, SA, Geneva, Switzerland,* [3]*Prince Agri Products, Quincy, IL.*
W280	Evaluation of feeding behavior of young cattle from different genetic groups fed with high concentrate diets with different NDF levels. L. M. N. Sarti, R. D. L. Pacheco*, D. D. Millen, M. D. B. Arrigoni, M. V. Fossa, S. A. Matsuhara, M. Parrili, C. L. Martins, H. N. Oliveira, T. M. Mariani, J. P. S. T. Bastos, and L. F. S. Niero, *FMVZ/UNESP–Botucatu, São Paulo, Brazil.*
W281	Beet pulp as a non-roughage fiber source in a total concentrate diet fed growing heifers. A. D. Faleiro, A. Ferret*, X. Manteca, J. L. R. de la Torre, and S. Calsamiglia, *Universitat Autonoma de Barcelona, Bellaterra, Spain.*
W282	Post weaning performance of Holstein dairy heifers fed diets differing in forage quality and supplemented with a low moisture block. H. Chester-Jones*[1], D. Ziegler[1], R. Larson[2], B. Ziegler[2], J. Linn[3], M. Raeth-Knight[3], and G. Golombeski[3], [1]*University of Minnesota Southern Research and Outreach Center, Waseca,,* [2]*Hubbard Feeds, Mankato, MN,* [3]*University of Minnesota Southern Research and Outreach Center, St. Paul.*
W283	Performance of Holstein dairy heifers fed whole-shelled corn and protein pellet diets differing in protein levels. D. Ziegler*[1], M. Raeth-Knight[2], J. Linn[2], G. Golombeski[2], R. Larson[3], B. Ziegler[3], and H. Chester-Jones[1], [1]*University of Minnesota Southern Research and Outreach Center, Waseca,* [2]*University of Minnesota, St. Paul,* [3]*Hubbard Feeds, Mankato, MN.*
W284	Effects of amount and composition of concentrate on silage and total DM intake of dairy cows. P. Huhtanen*[1], M. Rinne[2], and J. Nousiainen[3], [1]*Cornell University, Ithaca, NY,* [2]*MTT-Agrifood Research, Finland,* [3]*Valio Ltd, Finland.*
W285	The use of the Rumensin Premix in dairy cows: factors influencing its effects on milk production and milk composition. J. Dubuc*[1], D. DuTremblay[1], M. Brodeur[1], R. Bagg[2], P. Dick[2], J. Baril[2], and L. DesCoteaux[1], [1]*Universite de Montreal, Saint-Hyacinthe, Quebec, Canada,* [2]*Elanco Animal Health, Guelph, Ontario, Canada.*
W286	Effects of feeding monensin and brown midrib corn silage on milk production and rumen fermentation. C. R. Mullins*, A. M. Gehman, P. J. Kononoff, and B. N. Janicek, *University of Nebraska, Lincoln.*
W287	Effects of mixing red clover silage with grass silage on the fatty acid and sensory properties of milk from dairy cows. J. M. Moorby*[1], D. R. Davies[1], W. J. Fisher[1], N. M. Ellis[1], N. D. Scollan[1], and G. R. Nute[2], [1]*Institute of Grassland and Environmental Research, Aberystwyth, UK,* [2]*University of Bristol, UK.*
W288	Effects of mixing red clover silage with grass silage on feed intake and milk output from dairy cows. J. M. Moorby*, D. R. Davies, W. J. Fisher, N. M. Ellis, and N. D. Scollan, *Institute of Grassland and Environmental Research, Aberystwyth, UK.*
W289	Intake, digestibility and milk production and composition of dairy cows fed sugar–cane based diets corrected with soybean meal or different levels of urea. A. H. do Nascimento Rangel*[1], J. M. de Souza Campos[2], S. de Campos Valadares Filho[2], A. Barbosa[2], and P. V. R. Paulino[2], [1]*Universidade Federal Rural do Semi–Árido, Mossoró, RN, Brazil,* [2]*Universidade Federal de Viçosa, Viçosa, MG, Brazil.*

W290	Performance and nutritional parameters of replacement dairy heifers fed corn silage or sugar–cane based diets supplemented with increasing concentrate levels. A. H. do Nascimento Rangel*[1], J. M. de Souza Campos[2], P. V. R. Paulino[2], A. J. de Assis[2], and A. S. de Oliveira[2], [1]*Universidade Federal Rural do Semi–Árido, Mossoró, RN, Brazil*, [2]*Universidade Federal de Viçosa, Viçosa, MG, Brazil*.
W291	Use of NutriDense corn variety for corn and corn silage in diets fed to high producing dairy cows. J. Sampson and J. Spain*, *University of Missouri, Columbia*.
W292	Comparative effects of wild-type, *bmr*-6, *bmr*-12 and stacked sorghum: Sorghum stover digestibility. H. M. Dann*[1], A. M. DiCerbo[1], J. F. Pedersen[2], and R. J. Grant[1], [1]*William H. Miner Agricultural Research Institute, Chazy, NY*, [2]*USDA, ARS, NPA Wheat, Sorghum and Forage Research, University of Nebraska, Lincoln*.
W293	Impact of the brown midrib (BMR) mutant gene on the nutritive value of sudangrass fed as forage to lactating dairy cows. D. N. Ledgerwood*, E. J. DePeters, P. H. Robinson, S. J. Taylor, and J. M. Heguy, *University of California, Davis, CA*.
W294	Use of computer simulation model to teach systems approach to metabolism. H. A. Johnson*, C. C. Calvert, and R. L. Baldwin, *University of California, Davis*.
W295	Energy dilution of growing heifers' diet as a tool for induced negative energy balance in cattle. A. Arieli*[1], O. Eshel[1], U. Moallem[2], and Z. Uni[1], [1]*Hebrew University of Jerusalem, Rehovot, Israel*, [2]*Agricultural Research Organization, Bet Dagan, Israel*.
W296	Negative exponential models to predict dry matter intake of dairy heifers. P. C. Hoffman*, K. A. Weigel, and R. R. Wernberg, *University of Wisconsin, Madison*.
W297	Impact of corn particle size and forage source on nitrogen digestibility and partitioning in lactating Holstein dairy cows. N. E. Brown*, V. A. Ishler, T. W. Cassidy, K. Heyler, and G. A. Varga, *The Pennsylvania State University, University Park*.
W298	Evaluation of a corn replacement product in diets fed to lactating dairy cows. D. J. Rincker*[1], N. A. Janovick Guretzky[1], P. H. Doane[2], and J. K. Drackley[1], [1]*University of Illinois, Urbana*, [2]*ADM Animal Nutrition Research, Decatur, IN*.
W299	Effect of feed energy source on milk components in dairy cattle. M.-C. Ferland*[1], D. Lefebvre[2], and K. M. Wade[1], [1]*McGill University, Montreal, QC, Canada*, [2]*Valacta, Ste. Anne de Bellevue, QC, Canada*.
W300	The effect of dry chopped alfalfa hay content on eating behavior, milk yield and components, and rumen fermentation in lactating dairy cows. D. D. Maulfair* and A. J. Heinrichs, *The Pennsylvania State University, University Park*.
W301	Evening feeding improves nutrient digestibility and nitrogen balance in lactating cows. A. Nikkhah*, J. C. Plaizier, C. J. Furedi, A. D. Kennedy, G. H. Crow, and K. M. Wittenberg, *Department of Animal Science, Winnipeg, MB, Canada*.
W302	Time of feed delivery: A determinant of post feeding patterns in feed intake of lactating cows. A. Nikkhah*, J. C. Plaizier, C. J. Furedi, G. H. Crow, and A. D. Kennedy, *Department of Animal Science, Winnipeg, MB, Canada*.
W303	Feed sorting in dairy cattle: effects of forage content and dietary change. T. J. DeVries*[1], K. A. Beauchemin[1], and M. A. G. von Keyserlingk[2], [1]*Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*, [2]*University of British Columbia, Vancouver, BC, Canada*.
W304	Understanding feed sorting by dairy cows. W. Z. Yang* and K. A. Beauchemin, *Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*.
W305	Susceptibility of lactating dairy cows to ruminal acidosis depends on the proportion of forage in the diet. F. Dohme[1], T. J. DeVries[2], K. A. Beauchemin*[2], K. M. Krause[3], and K. S. Schwartzkopf-Genswein[2], [1]*Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland*, [2]*Agriculture and Agri-Food Canada, Lethbridge, AB, Canada*, [3]*West Virginia University, Morgantown*.
W306	Diagnosis of acidosis in dairy cattle using milk fatty acid profiles. M. Craninx*[1], A. Beeckman[1], H. Van Laar[2], J. Martin-Tereso[2], and V. Fievez[1], [1]*Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Ghent, Belgium*, [2]*Nutreco Ruminant Research Centre, Boxmeer, The Netherlands*.
W307	Subacute ruminal acidosis increases milk fat depression with diets supplemented with polyunsaturated fatty acids. O. AlZahal*, M. R. Or-Rashid, S. L. Greenwood, M. S. Douglas, and B. W. McBride, *University of Guelph, Guelph, Ontario, Canada*.
W308	The effect of buffering dairy cow diets with limestone, Acid Buf or sodium bicarbonate + limestone on production response and rumen parameters. C. W. Cruywagen*[1], S. J. Taylor[2], and M. M. Beya[1], [1]*Stellenbosch University, Stellenbosch, South Africa*, [2]*Celtic Sea Minerals, Cork, Ireland*.
W309	Ruminal temperature may aid in the detection of subacute ruminal acidosis. O. AlZahal*[1], E. Kebreab[1], J. France[1], M. Froetschel[2], and B. W. McBride[1], [1]*University of Guelph, Guelph, Ontario, Canada*, [2]*Edgar L. Rhodes Center for ADS, University of Georgia, Athens*.
W310	Evaluation of an intraruminal pH probe. B. A. Crooker*[1], W. J. Weber[1], S. C. Denham[2], and J. L. Vicini[2], [1]*University of Minnesota, St. Paul*, [2]*Monsanto Company, St. Louis, MO*.
W311	Role of effective fiber in reducing milk fat depression in lactating cows fed Rumensin. D. R. Mertens*, *U.S. Dairy Forage Research Center, Madison, WI*.

W312	Validation of an on-farm tool (Z-Box) for determining a physical effectiveness factor using a bioassay based on chewing activity and ruminal fermentation in lactating dairy cows. H. M. Dann*[1], K. W. Cotanch[1], M. P. Carter[1], C. S. Ballard[1], T. Eguchi[2], and R. J. Grant[1], [1]*William H. Miner Agricultural Research Institute, Chazy, NY,* [2]*Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan.*
W313	Use of a caliper to measure skinfold thickness in multiparous Holstein cows and its relationship to body condition score. H. M. Dann* and J. K. Drackley, *University of Illinois, Urbana.*
W314	Development of a method for measuring forage fragility. K. W. Cotanch*[1], R. J. Grant[1], J. Darrah[1], H. M. Wolford[1], and T. Eguchi[2], [1]*William H. Miner Agricultural Research Institute, Chazy, NY,* [2]*Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan.*
W315	Near infrared spectroscopy can be used to predict pH and concentrations of volatile fatty acids in fermented feeds. D. P. Casper*, D. Spangler, J. Horst, S. Gravert, and K. Thompson, *Agri-King, Inc., Fulton, IL.*
W316	Effect of lignin type, acid detergent lignin or Klason lignin, on rate and extent of NDF digestion. E. Raffrenato*, M. E. Van Amburgh, J. B. Robertson, and P. J. Van Soest, *Cornell University, Ithaca, NY.*
W317	Estimating NDF rate of digestion: a comparison of different approaches for use in a first order model application. E. Raffrenato*, M. E. Van Amburgh, P. J. Van Soest, and J. B. Robertson, *Cornell University, Ithaca, NY.*
W318	Urinary creatinine concentration during the periparturient period and the effect of correcting urinary creatinine concentration for DM content on the ability to predict total urinary output. G. Chibisa*[1], G. B. Penner[2], G. N. Gozho[1], and T. Mutsvangwa[1], [1]*University of Saskatchewan, Canada,* [2]*University of Alberta, Canada.*
W319	New analytical method indicates that purine metabolites may interfere in estimates of microbial flow. S. M. Reynal* and G. A. Broderick, *US Dairy Forage Research Center, Madison, WI.*
W320	Comparative characterization of reticular and duodenal digesta in dairy cows and possibilities to estimate microbial outflow from the rumen based on reticular sampling. A. N. Hristov*, *University of Idaho, Moscow.*
W321	Kinetics of milk production as a function of energy and protein supplementation. R. P. Lana*[1,2], D. C. Abreu[1,2], P. F. C. Castro[1], B. Zamperline[1], and B. S. B. C. Souza[1], [1]*Universidade Federal de Viçosa, MG, Brazil,* [2]*CNPq, Brasília, DF, Brazil.*
W322	Effects of inoculation of ryegrass at ensiling on production of milk from dairy cows and whole body N partitioning. J. M. Moorby*, D. R. Davies, W. J. Fisher, and N. M. Ellis, *Institute of Grassland and Environmental Research, Aberystwyth, UK.*
W323	Nitrogen utilization and nutrient digestibility in dairy cattle fed brown midrib corn silage and monensin. A. M. Gehman*, P. J. Kononoff, and B. N. Janicek, *University of Nebraska, Lincoln.*
W324	Effect of carbohydrates or amino acid infusions on plasma ghrelin in early and late lactating cows. I. Schei*[1,2] and H. Volden[1], [1]*Department of Animal and Aquacultural Sciences, Norwegian University of Life Sciences, Ås, Norway,* [2]*TINE BA, Ås, Norway.*
W325	Depression in feed intake by a highly fermentable diet is related to plasma insulin concentration and insulin response to glucose infusion. B. J. Bradford* and M. S. Allen, *Michigan State University, East Lansing.*
W326	Effect of weaning age on calving age, milk yield, and milk composition in the first lactation. J. A. Elizondo Salazar*, S. I. Kehoe, G. I. Zanton, C. D. Dechow, and A. J. Heinrichs, *The Pennsylavania State University, University Park.*
W327	Effects of dietary AflaDetox on aflatoxin M1 residue in milk of dairy cows. M. Denli*[1], J. C. Blandon[1], S. Salado[2], J. F. Perez[2], and S. Calsamiglia[1], [1]*Animal Nutrition, Management and Welfare Research Group, Universitat Autònoma de Barcelona, Barcelona, Spain,* [2]*Adiveter S.L. Agro-Reus, Tarragona, Spain.*
W328	*In vitro* aflatoxin binding efficiency of several sequestering agents in water or rumen fluids. F. Masoero[1], A. Gallo[1], D. E. Diaz*[2], G. Piva[1], and M. Moschini[1], [1]*Catholic University of Piacenza, Piacenza, PC, Italy,* [2]*Utah State University, Logan.*
W329	Early lactation production, body condition, and incidence of disease in multiparous Holstein cows fed a low potassium diet supplemented with SoyChlor®16-7 prepartum. J. Siciliano-Jones[1], P. W. Jardon[2], M. Kucerak[2], and M. B. de Ondarza*[3], [1]*F.A.R.M.E. Institute, Homer, NY,* [2]*West Central®, Ralston, IA,* [3]*Paradox Nutrition, LLC, West Chazy, NY.*
W330	Intake of oral histidine does not alter milk or milk component production in dairy cattle. N. G. Purdie*, A. Krueger, V. R. Osborne, and J. P. Cant, *University of Guelph, Guelph, Ontario, Canada.*
W331	Meta-functional genomics of the rumen biome. S. C. Fernando[1], H. T. Purvis, II[1], F. Z. Najar[2], G. Wiley[2], S. Macmil[2], L. O. Sukharnikov[2], T. G. Nagaraja[3], C. R. Krehbiel[1], B. A. Roe[2], and U. DeSilva*[1], [1]*Oklahoma State University, Stillwater,* [2]*University of Oklahoma, Norman,* [3]*Kansas State University, Manhattan.*
W332	A meta-analysis on the effects of feeding malate to ruminants. E. M. Ungerfeld* and R. A. Kohn, *University of Maryland, College Park.*
W333	A multiple regression approach to explore the contribution of 2-hydroxy-4-methylthio butanoic acid or ruminally protected DL-methionine to production parameters for lactating dairy cows reported in the literature. G. R. Bowman*[1], M. Vázquez-Añón[1], and L. M.

	Rode[2], [1]*Novus International, Inc., St. Louis, MO,* [2]*Sage Biosciences, Inc., Alberta, Canada.*
W334	Effect of a phytase on *in vitro* digestibility and finishing Criollo lambs fed a high sorghum diet. G. Buendía–Rodríguez[1], G. D. Mendoza–Martínez[2], S. S. González*[1], E. Aranda–Ibáñez[1], L. Miranda–Romero[3], L. Melgoza–Contreras[2], and J. H. Avellaneda–Cevallos[4], [1]*Colegio de Postgraduados, Montecillo, Edo. México, México,* [2]*UAM Xochimilco, México D.F.,* [3]*Universidad Autónoma Chapingo, Chapingo, Edo. México, México,* [4]*Universidad Técnica Estatal de Quevedo, Quevedo, Ecuador*.
W335	Digestibility and blood parameters in growing goats offered high concentrate diets with different rice straw particle size. X. G. Zhao[1], B. Zeng[1], S. X. Tang[1], Z. H. Sun[1], Z. L. Tan*[1], Z. H. Cong[1], and G. O. Tayo[1,2], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, P.R.China,* [2]*Babcock University, Ikeja Lagos, Nigeria.*

Sheep Species
Sheep Production and Management
Exhibit Hall C

W336	Effect of acetylated soybean peptides on ruminal fermentation and nitrogen metabolism in sheep. Z. J. Cao*, L. S. Li, Y. J. Wang, and M. Ma, *China Agricultural University, Beijing, China.*
W337	Effects of rearing system on performance of weaned Pelibuey lambs. E. Gonzalez*[1,2], J. Arece[2], O. Cáceres[2], and P. P. Gomarín[2], [1]*INRA Antilles-Guyane, Domaine Duclos, Petit Bourg, Guadeloupe, France,* [2]*Estación Experimental de Pastos y Forrajes 'Indio Hatuey', Central España Republicana, C.P., Matanzas, Cuba*.
W338	Evaluation of growth and carcass characteristics of pure Pelibuey sheep and their cross with Dorper and Katahdin breeds. J. G. Canton* and J. A. Quintal, *Instituto Nacional de Investigaciones Forestales Agricolas y Pecuarias, Merida, Yucatan*.
W339	Growth and feed efficiency of F1 Pelibuey lambs crossbred with specialized breeds for commercial production of meat. J. G. Canton*[1], R. F Bores[1], J. J. Baeza[1], J. A. Quintal[1], R. H. Santos[2], and C. A. Sandoval[2], [1]*Instituto Nacional de Investigaciones Forestales Agricolas y Pecuarias, Mérida, Yucatán,* [2]*Universidad Autónoma de Yucatán, Mérida, Yucatán*.
W340	Introduction to Merino breeding resource flocks at Rafter 7 Ranch in Nevada. T. Wuliji*[1], H. Glimp[1,2], W. Jesko[2], and W. Rauw[1], [1]*University of Nevada, Reno,* [2]*Rafter 7 Ranch, The Edwin L Wiegand Trust, Yerington, NV.*
W341	Evaluation of Saint Croix ram lambs for growth, feed efficiency, blood urea nitrogen, and glucose levels by multivariate analysis. J. Simroth-Rodriguez*[1], E. Gutierrez-Ornelas[1], H. Bernal-Barragan[1], H. Morales-Treviño[1], J. Colin-Negrete[1], and V- Torres[2], [1]*Facultad de Agronomia, Universidad Autonoma de Nuevo Leon, Marin, Mexico,* [2]*Instituto de Ciencia Animal, Apartado Postal 24, San Jose de las Lajas La Habana, Cuba*.
W342	Effect of dried distillers grains substituting for corn-soybean meal on growth and feed intake of Pelibuey sheep. A. Estrada-Angulo*[1], G. Contreras[1], A. Perez[1], G. Gamez[1], O. Lozano[2], F. G. Rios[1], and E. Vazquez[1], [1]*FMVZ - UAS, Culiac$/aacute;n, Sinaloa, Mexico,* [2]*Ganadera Flexi, Culiac$/aacute;n, Sinaloa, Mexico.*
W343	Effect of dried distillers grains substituting for corn-soybean meal on apparent digestibility and energy concentration of feed in growing Pelibuey sheep. A. Estrada-Angulo*[1], G. Contreras[1], M. Osuna[1], A. Perez[1], O. Lozano[2], and E. Vazquez[1], [1]*FMVZ - UAS, Culiacán, Sinaloa, Mexico,* [2]*Ganadera Flexi, Culiacán, Sinaloa, Mexico*.
W344	Quantitative carcass characteristics of different sheep categories. R. S. B. Pinheiro, A. G. Silva Sobrinho, R. M. S. Emediato*, and S. M. Yamamoto, *São Paulo State University, Botucatu, São Paulo, Brazil*.
W345	Measurements of *Longissimus dorsi* muscle cross-section and leg muscularity index of sheep from different categories. R. S. B. Pinheiro, A. G. Silva Sobrinho, A. M. Jorge, R. M. S. Emediato*, and S. M. Yamamoto, *São Paulo State University, Botucatu, São Paulo, Brazil.*
W346	Yield of wholesale cuts and non-carcass components of Morada Nova and Somális Brasileira $/times; Morada Nova ram lambs. R. S. B. Pinheiro[1], A. G. Silva Sobrinho[1], A. M. Jorge[1], R. M. S. Emediato*[1], S. Gonzaga Neto[2], and S. M. Yamamoto[1], [1]*São Paulo State University, Botucatu, São Paulo, Brazil,* [2]*Paraíba Federal University, Areia, Paraíba, Brazil*.
W347	Effect of rumen-protected fat in diets of Bergamasca ewes on lamb growth, ewe weight gain, and milk production. M. M. Stradiotto, E. R. Siqueira, R. M. S. Emediato*, S. A. Maestá, and A. Piccinin, *São Paulo State University, Botucatu, São Paulo, Brazil*.
W348	Effect of weaning system on composition and yield of milk of Bergamasca ewes. L. S. Serrão, E. R. Siqueira, R. M. S. Emediato*, E. O. Queiroz, C. C. Boucinhas, M. M. Stradiotto, and S. A. Maestá, *São Paulo State University, Botucatu, São Paulo, Brazil.*
W349	Effect of use of bypass fat in the feeding of Bergamasca milk ewes on gastrointestinal nematode infections. M. M. Stradiotto, E. R. Siqueira, R. M. S. Emediato*, A. F. T. Amarante, S. A. Maestá, and A. Piccinin, *São Paulo State University, Botucatu, São Paulo, Brazil.*
W350	Sheep mastitis: Pathogens and susceptibility to antimicrobial agents. L. S. Serrão, E. R. Siqueira, R. M. S. Emediato*, P. F. Domingues, E. O. Queiroz, C. C. Boucinhas, M. M. Stradiotto, and S. A. Maestá, *São Paulo State University, Botucatu, São Paulo, Brazil*.
W351	Postpartum ovarian activity of Santa Ines lactating ewes fed soybean hulls replacing coastcross hay. R. C. Araujo[1], A. V. Pires*[1], I.

	Susin[1], C. Q. Mendes[1], G. H. Rodrigues[1], F. S. Urano[1], C. A. Oliveira[2], and P. Viau[2], [1]*ESALQ/University of São Paulo, Piracicaba, SP, Brazil*, [2]*FMVZ/University of São Paulo, São Paulo, SP, Brazil*.
W352	Multivariate analysis of within-litter birth weight variation, litter weight and litter size in the Ripollesa ewe. J. Casellas*, G. Caja, and J. Piedrafita, *Grup de Recerca en Remugants, Universitat Autònoma de Barcelona, Bellaterra, Spain.*
W353	The influence of maternal and fetal breed on vascularity of the placenta in sheep. P. P. Borowicz*, A. T. Grazul-Bilska, D. A. Redmer, K. A. Vonnahme, J. S. Caton, and L. P. Reynolds, *Center for Nutrition and Pregnancy, and Department of Animal and Range Sciences, North Dakota State University, Fargo.*
W354	Genetic resistance to nematode parasites in sheep: use of Box-Cox transformation in QTL mapping. M. V. B. Silva*[1], C. P. Van Tassell[1], T. S. Sonstegard[1], J. Mugambi[2], S. Nagda[2], S. McClintock[2], M. Malek[3], P. Boettcher[3], S. Kemp[2], J. F. Garcia[3], F. Iraq[2], and O. Hanotte[2], [1]*United States Department of Agriculture, Agricultural Research Service, Beltsville,MD*, [2]*International Livestock Research Institute, Nairobi, Kenya*, [3]*Atomic Energy Agency, Vienna, Austria*.
W355	Effect of HCl-Zilpaterol and HCl-ractopamine on non-carcass components of hair sheep grown in the feedlot. F. G. Rios*, J. C. Robles, A. Estrada-Angulo, J. F. Obregon, G. Contreras, and A. B. Perez, *FMVZ - UAS, Culiacan, Sinaloa, Mexico.*

Swine Species
Exhibit Hall C

W356	Nutritional value of sticky coffee hull silage on starting pigs diets. I. Moreira*[1], P. L. O. Carvalho[1], D. Paiano[2], L. M. Peñuela Sierra[3], L. M. Piano[1], and M. E. O. Girola[1], [1]*Universidade Estadual de Maringá, Maringá, Paraná, Brazil*, [2]*Universidade Estadual de Mato Grosso do Sul, Aquidauana, MS, Brazil*, [3]*Universidad Del Tolima, Ibagué, Tolima, Colombia.*
W357	Use of sticky coffee hull silage on growing pigs feeding. I. Moreira*[1], P. L. O. Carvalho[1], D. Paiano[2], G. C. Oliveira[1], I. S. Kuroda Júnior[1], and F. L. Mourinho[1], [1]*Universidade Estadual de Maringá, Maringá, Paraná, Brazil*, [2]*Universidade Estadual de Mato Grosso do Sul, Aquidauana, Mato Grosso do Sul, Brazil.*
W358	Evaluating varied periods of water deprivation on body weight and feed intake in 50 to 70 kg pigs. A. D. Quant*, M. D. Lindemann, G. L. Cromwell, H. J. Monegue, J. S. Monegue, and B. G. Kim, *University of Kentucky, Lexington.*
W359	Evaluation of pigs raised on two types of pasture-based and a confined grow-finish systems for production efficiency. K. Nadarajah*, D. L. Kuhlers, and W. F. Owsley, *Auburn University, Auburn, AL.*
W360	An analysis of the effect of age and weaning status on gastrointestinal characteristics and microbiota of young pigs. J. C. Miguel*, P. J. Laski, R. I. Mackie, and J. E. Pettigrew, *University of Illinois, Urbana.*
W361	Effect of bacitracin supplementation on lactation management, neonatal piglet performance, and subsequent reproductive performance of sows. F. B. Turner*[1], L. M. Thompson[1], K. J. Kinney[1], S. E. Shute[1], W. L. Flowers[1], R. A. Schlutz[2], and B. Pratte[3], [1]*North Carolina State University, Raleigh*, [2]*Avoca Veterinary Clinic, Avoca, IA*, [3]*Alpharma Animal Health Division, Fort Lee, NJ.*
W362	Comparing histopathological scores and exterior data for phenotyping pigs to address leg weakness. C. Rudolph, E. Tholen, M. Mielenz, G. Breves*, K. Schellander, and H. Sauerwein, *University of Bonn, Bonn, Germany.*
W363	A novel freezing-thawing device for porcine semen using a detachable catheter. G. Rocha-Chavez[1], M. A. Pinto-Jacobo*[2,1], L. Pinal-Suazo[1], and J. G. Michel-Parra[1], [1]*CUSUR Univ de Guadalajara, Cd Guzman Jalisco Mexico*, [2]*URPJ, Guadalajara Jalisco Mexico.*
W364	Analysis of the association of factors associated with stillbirth in breeding sows. S. S. Anil*, L. Anil, J. Deen, S. K. Baidoo, and R. D. Walker, *University of Minnesota, St. Paul.*
W365	Influence of sex and terminal sire line on fresh meat quality, fatty acid profile of backfat, and ham weight losses during ripening of Iberian pigs reared under intensive production systems. M. P. Serrano[1], D. G. Valencia[1], R. Lázaro[1], A. Fuentetaja[2], and G. G. Mateos*[1], [1]*Universidad Politécnica de Madrid, Spain*, [2]*Copese, Segovia, Spain.*
W366	Influence of gender on growth and carcass quality of pigs slaughtered at the same age destined to the production of high quality dry-cured hams. M. A. Latorre[1], L. Ariño[2], E. García[3], and R. Lázaro*[4], [1]*Centro de Investigaci$/oacute;n y Tecnología Agroalimentaria de Arag$/oacute;n, Zaragoza, Spain*, [2]*Integraciones Porcinas S.L., Teruel, Spain*, [3]*Jamones y Embutidos Alto Mijares S.L., Teruel, Spain*, [4]*Universidad Polit$/eacute;cnica de Madrid, Spain.*
W367	Influence of slaughter weight on performance and carcass quality of pigs destined to the production of high quality dry-cured hams. M. A. Latorre[1], L. Ari$/ntilde;o[2], E. Garc$/iacute;a[3], and G. G. Mateos*[4], [1]*Centro de Investigaci$/oacute;n y Tecnología Agroalimentaria de Arag$/oacute;n, Zaragoza, Spain*, [2]*Integraciones Porcinas S.L. Teruel, Spain*, [3]*Jamones y Embutidos Alto Mijares S.L., Teruel, Spain*, [4]*Universidad Polit$/eacute;cnica de Madrid, Spain.*
W368	Change of characteristics of rib eye with cut section of pork using computer image analysis. M. Oishi*, Y. Furumoto, S. Hidaka, and K. Kuchida, *Obihiro University of A & VM, Obihiro, Hokkaido, Japan.*

Teaching/Undergraduate & Graduate Education Exhibit Hall C	
W369	Evaluation of Mississippi State University equine curriculum. M. Nicodemus* and K. Slater, *Mississippi State University, Mississippi State*.
W370	Development of an animal science managerial mentoring program. J. S. Pendergraft and B. T. Gutierrez*, *Sul Ross State University, Alpine, TX*.
W371	Animal welfare assessment scenarios as a tool for animal production industries. J. M. Siegford*, C. Daigle, M. Tubbs, T. Bernardo, C. R. Heleski, R. Malinowski, and R. Snider, *Michigan State University, East Lansing*.
W372	Poultry production demonstration: 2.The effects of breeder hen's age on incubation, broiler growout and processing of broilers. G. M. Pesti*, R. I. Bakalli, and M. Y. Shim, *University of Georgia, Athens*.
W373	Effect of management type, conventional versus organic, on production and culling in Southeastern Pennsylvania dairy herds. K. E. Griswold*[1], H. Karreman[2], and J. Mylin[3], [1]*Pennsylvania State University Cooperative Extension, University Park,* [2]*Penn Dutch Cow Care, Gap, PA,* [3]*Lancaster DHIA, Manheim, PA.*

OTHER EVENTS

ADSA/ASAS Joint Business Meeting
206 B
9:30 AM

ADSA Business Meeting
206 A
10:00 AM

ASAS Business Meeting
207 A
10:00 AM

AMPA Business Meeting
207 B
10:00 AM

SYMPOSIA AND ORAL SESSIONS

Animal Health - Livestock and Poultry
Poultry and Swine II
Chair: Kim Cole, The Ohio State University
212

9:30 AM	685	Gene expression of alpha-toxin and *Clostridium perfringens* colonization in the development of necrotic enteritis disease in broiler chickens. W. Si[1], J. Gong[1], Y. Han*[2], H. Yu[1], H. Zhou[1], and S. Chen[3], [1]*Food Research Program, Agriculture and Agri-Food Canada, Guelph, Ontario, Canada,* [2]*Maple Leaf Foods Agresearch, Guelph, Ontario, Canada,* [3]*Labotory Service Division, University of Guelph, Guelph, Ontario, Canada*.
9:45 AM	686	Comparison of the severity of Necrotic Enteritis caused by *Clostridium perfringens* in broiler chickens given either an attenuated or non-attenuated live coccidial vaccine. G. Mathis*[1] and C. Hofacre[2], [1]*Southern Poultry Research, Inc., Athens, GA,* [2]*University of Georgia, Athens.*
10:00 AM	687	Efficacy of CloSTAT™$_{brand}$ direct-fed microbial for control of experimentally induced necrotic enteritis by *Clostridium perfringens* in broiler chickens. B. Boren*[1], G. F. Mathis[2], C. L. Hofacre[3], and S. Moore[1], [1]*Kemin AgriFoods North America, Des Moines, IA,* [2]*Southern Poultry Research, Athens, GA,* [3]*University of Georgia, Athens.*

10:15 AM	688	Immune interference of bacteriophage efficacy to treat colibacillosis in broiler chickens. W. E. Huff*, G. R. Huff, N. C. Rath, and A. M. Donoghue, *USDA/ARS Poultry Production and Product Safety Research Unit, University of Arkansas, Fayetteville, AR.*
10:30 AM	689	Effect of lactic acid bacteria probioitc culture treatment timing on *Salmonella* in neonatal broilers. J. P. Higgins*, S. E. Higgins, V. Salvador, A. D. Wolfenden, G. Tellez, and B. M. Hargis, *University of Arkansas, Fayetteville*.
10:45 AM	690	Evaluation of methods for detecting influenza viruses in wild aquatic birds. T. V. Dormitorio*, J. J. Giambrone, K. Guo, and G. Hepp, *Auburn University, Auburn, AL.*
11:00 AM	691	Evaluation of a novel recombinant salmonella vaccine vector for avian influenza. K. Cole*[1], S. L. Layton[1], M. M. Cox[1], Y.M. Kwon[1], L. R. Berghman[2], W. G. Bottje[1], and B. M. Hargis[1], [1]*University of Arkansas, Fayetteville*, [2]*Texas A&M University, College Station.*
11:15 AM	692	Differential antibody response to AIV vaccination in chickens with different Mx genotypes. X. Y. Li, L. J. Qu, Z. H. Ning, G. Y. Xu, J. Y. Li, Z. C. Hou, and N. Yang*, *China Agricultural University, Beijing, China.*
11:30 AM	693	Impact of ergot infested sorghum on the reproductive performance of sows. G. M. AbdRahim*[1], R. C. Richardson[2], and A. Gueye[3], [1]*Alabama A&M University, Normal*, [2]*Texas State University, San Marcos*, [3]*Mt. Ida College, Newton, MA.*
11:45 AM	694	The effect of dam parity on circulating immunoglobulins (Ig) in neonatal swine. T. E. Burkey*, R. K. Johnson, P. S. Miller, D. E. Reese, and R. Moreno, *University of Nebraska, Lincoln.*
12:00 PM	695	Impact of ochratoxin A and zearalenone on weaning piglets and counteracting. V. H. Starkl*[1] and M. Forat[2], [1]*Biomin GmbH, Herzogenburg, Lower Austria, Austria*, [2]*Instituto Internacional de Investigacion Animal, Queretaro, Mexico.*
12:15 PM	696	Dietary supplementation with *acanthopanax senticosus* extracts beneficially modulates the gut microflora in weaned pigs. X. F. Kong*[1], Y. L. Yin[1], W. Y. Chu[2], F. G. Yin[1], H. J. Liu[1], F. F. Xing[1], Q. H. He[1], T. J. Li[1], R. L. Huang[1], P. Zhang[1], S. W. Kim[3,4], and G. Y. Wu[1,4], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China*, [2]*Nanjing Agricultural University, Nanjing, Jiangshu, China*, [3]*Texas Tech University, Lubbock*, [4]*Texas A&M University, College Station.*

Non ruminant Nutrition
Poultry Nutrition - Ingredient and Mineral Nutrition
Chair: Edgar Oviedo, North Carolina State University
214 D

9:30 AM	697	Investigation of antagonism and absorption of zinc and copper when different forms of minerals were fed to chicks. T. Ao*, J. L. Pierce, R. Power, A. J. Pescatore, K. A. Dawson, A. H. Cantor, M. J. Ford, and B. L. Shafer, *Alltech-University of Kentucky Nutrition Research Alliance, Lexington, KY.*
9:45 AM	698	Body weight, carcass yield and intestinal clearance of broilers having Na and K salts in the drinking water during pre slaughter feed removal. H. A. Gomes, S. L. Vieira*, D. M. Freitas, and C. A. Torres, *Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil.*
10:00 AM	699	The effect of dietary glycine and *Clostridium perfringens* challenge on whole blood chemiluminescence responses in broiler chickens. Z. Papp, J. P. Dahiya, G. Widyaratne, J. E. G. Smits, and M. D. Drew*, *University of Saskatchewan, Saskatoon, SK, Canada*.
10:15 AM	700	Live performance of broilers fed diets supplemented with the plant extract Sangrovit or a blend of organic and inorganic acids. S. L. Vieira*[1], D. M. Freitas[1], J. L. B. Coneglian[1], A. F. Klein[1], P. X. Silva[1], and O. Figueiró[2], [1]*Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil*, [2]*Phytobiotics, Londrina, PR, Brazil*.
10:30 AM	701	Effects of tannin concentration on nutritional value of sorghum grain in broiler chicks. C. R. Monge*[1], J. D. Hancock[1], C. Feoli[1], R. C. Kaufman[1,2], M. R. Tuinstra[1], S. R. Bean[1,2], S. Beyer[1], and B. P. Ioerger[2], [1]*Kansas State University, Manhattan*, [2]*USDA/ARS, Manhattan*.
10:45 AM	702	Effects of tannins from different sorghums on nutrient utilization in broiler chicks. C. R. Monge*[1], J. D. Hancock[1], C. Feoli[1], R. C. Kaufman[1,2], M. R. Tuinstra[1], S. R. Bean[1,2], S. Beyer[1], and B. P. Ioerger[2], [1]*Kansas State University, Manhattan*, [2]*USDA/ARS, Manhattan, KS.*
11:00 AM	703	Quality characteristics of newly developed flaxseed: Chemical evaluation. B. A. Slominski*[1], T. Davie[1], A. Rogiewicz[1], W. Jia[1], C. M. Nyachoti[1], O. Jones[2], J. Dean[3], and P. Dribnenki[3], [1]*University of Manitoba, Winnipeg, Canada*, [2]*Canadian Bio-Systems, Calgary, Canada*, [3]*Agricore United, Winnipeg, Canada*.
11:15 AM	704	Evaluation of a dynamic model of calcium and phosphorus metabolism in layers. E. Kebreab*[1], J. Dijkstra[2], R. P. Kwakkel[2], and J. France[1], [1]*University of Guelph, Guelph, ON, Canada*, [2]*Wageningen University, Wageningen, The Netherlands*.

11:30 AM	705	Impact of Dietary Available Phosphorus Levels on Growth and Tibia Ash of Male Broilers to 21 d. L. A. Oden*[1], S. D. Frankenbach[2], N. Augspurger[2], and J. B. Carey[1], [1]*Texas A&M University, College Station, TX,* [2]*JBS United, Inc., Sheridan, IN*.
11:45 AM	706	Apparent calcium and phosphorus retention with different levels and source of vitamin D. J. A. G. Brito[1], A. G. Bertechini[1], J. C. C. Carvalho[1], A. Geraldo[1], J. O. B. Sorbara*[2], and F. J. Piraces[2], [1]*Universidade Federal de Lavras, DZO, Lavras, MG, Brazil,* [2]*DSM Nutritional Products, Sao Paulo, SP, Brazil*.
12:00 PM	707	Differences in amino acid digestibility in soybeans processed by different methods. T. Shi[1,2], H. M. Edwards, Jr.[2], G. M. Pesti*[2], and R. I. Bakalli[2], [1]*Shandong Academy of Agricultural Sciences, Jinan, Shandong, China,* [2]*University of Georgia, Athens, GA, USA*.

Production, Management & the Environment - Livestock and Poultry
Poultry Management, and Environment
Chair: Joe Hess, Auburn University
210

9:30 AM	708	Evaluation of hydrated lime as a litter treatment at three application rates for broiler chickens. J. P. Blake*, J. B. Hess, K. S. Macklin, and C. A. Wilson, *Auburn University, Auburn, AL*.
9:45 AM	709	Evaluation of Poultry Guard™ litter treatment at three application rates for broiler chickens. J. P. Blake*, J. B. Hess, K. S. Macklin, and C. A. Wilson, *Auburn University, Auburn, AL*.
10:00 AM	710	Litter bacterial levels associated Poultry Guard™. K. S. Macklin*, J. P. Blake, J. B. Hess, and R. A. Norton, *Auburn University, Auburn, AL*.
10:15 AM	711	Pasteurization of chicken litter with steam and calcium oxide to reduce colonization and incidence of Salmonella typhimurium. M. Farnell*[1], A. Byrd[2], L. Sunkara[1], K. Stringfellow[1], P. Anderson[1], J. McReynolds[2], J. Carey[1], A. Bell[2], R. Stipanovic[2], and D. Caldwell[1], [1]*Texas A & M University, College Station,,* [2]*USDA-ARS, College Station, TX*.
10:30 AM	712	Evaluation of Envirobed® litter product for broiler production. R. M. Hulet* and T. L. Cravener, *The Pennsylvania State University, University Park.*
10:45 AM	713	Use of ferric sulfate for ammonia reduction in commercial broiler houses. C. W. Ritz*[1], L. A. Harper[1], B. D. Fairchild[1], M. Czarick[1], J. Pavlicek[2], and V. Johnson[2], [1]*The University of Georgia,* [2]*Kemira Water Solutions*.
11:00 AM	714	Egg yolk and serum antibody titers, and manure nutrients of broiler breeder hens immunized with uricase or urease. Adrizal*[1], P. Patterson[2], and T. Cravener[2], [1]*University of Jambi, Jambi, Indonesia,* [2] *Pennsylvania State University, University Park.*
11:15 AM	715	Dietary sodium bisulfate, humate and zeolite for broiler chickens: Impact on performance, litter nutrients and ammonia flux. P. Patterson*[1], T. Cravener[1], E. Wheeler[2], P. Topper[2], and D. Topper[2], [1]*Dept of Poultry Sci,* [2]*Dept of Ag Biol Engn., The Pennsylvania State University, University Park.*
11:30 AM	716	The potential for plants to trap emissions from farms with laying hens: 1. Ammonia. P. H. Patterson*[1], Adrizal[4], R. M. Hulet[1], and R. M. Bates[2], [1]*Dept. of Poultry Sci.,* [2]*Dept. of Horticulture,* [3]*Dept. of Agric. Biol. Engn., The Pennsylvania State University, University Park,* [4]*University of Jambi, Jambi, Indonesia*.
11:45 AM	717	The potential for plants to trap emissions from farms with laying hens: 2. Ammonia and dust. Adrizal*[1], P. Patterson[2], and M. Hulet[2], [1]*University of Jambi, Jambi, Indonesia,* [2]*Dept. of Poultry Sci.,* [3]*Dept. of Horticulture,* [4]*Dept. of Agric. Biol. Engn., Pennsylvania State University, University Park,* [5]*Dept. of Natr. Res. Ecol. Manag., Iowa State Univ., Ames.*
12:00 PM	718	Vegetative buffers for fan emissions from poultry farms: ammonia, dust, and foliar nitrogen. R. M. Hulet*[1], Adrizal[1], P. H. Patterson[1], and C. A. B. Myers[2], [1]*The Pennsylvania State University, University Park,* [2]*Berks County Extension, Lebanon, PA,* [3]*Capital Region Extension, Lancaster, PA,* [4]*USDA-NRCS, Harrisburg, PA,* [5]*USDA-NRCS, Corning, NY,* [6]*Iowa State University, Ames.*

SYMPOSIUM
Distillers Grains Symposium
217 D

10:30 AM	Market confusion of the varying nutrient contens of distillers feed products. L. Forester, *ADM*.
11:05 AM	How to utilize distillers grains based on nutrient content. C. Parsons, *University of Illinois, Urbana.*
11:40 AM	Environmental impacts (beneficial and detrimental) of feeding distillers grains relative to other feedstuffs. T. Klopfenstein,

		University of Nebraska, Lincoln.

SYMPOSIUM
ARPAS Symposium
Current and Future On-Farm Auditing & Assessment
Chair: Darrell D. Johnson, Burkmann Feeds
205

10:30 AM	719	Animal welfare assessment and auditing. S. E. Curtis*, *University of Illinois, Urbana*.
11:00 AM	720	Auditing and assessing nutrient management for water quality. A. L. Sutton*, *Purdue University, West Lafayette, IN.*
11:30 AM	721	Auditing and assessing nutrient management for air quality. N. A. Cole*[1], R. W. Todd[1], B. Auvermann[2], and D. B. Parker[3], [1]*USDA-ARS-CPRL, Bushland, TX,* [2]*Texas Agricultural Experiment Station, Amarillo,* [3]*West Texas A&M University, Canyon.*
12:00 PM	722	Training and certification of animal auditors. A. K. Baysinger*, *Farmland Foods, Bruning, NE.*
12:30 PM		Roundtable Discussion.

Breeding and Genetics - Livestock and Poultry
Dairy Cattle III
Chair: Janice Rumph, Montana State University
206 B

10:30 AM	723	Analysis of calving ease trait in Canadian Holsteins. A. Sewalem*[1,2], F. Miglior[1,2], G. Kistemaker[2], P. Sullvian[2], and B. Doormaal[2], [1]*Agriculture and Agri-Food Cananda, Guelph, Ontario, Canada,* [2]*Canadian Dairy Network, Guelph, Ontario, Canada.*
10:45 AM	724	Genetics of grass dry matter intake, energy balance and digestibility in Irish grazing dairy cows. D. P. Berry*, M. O'Donovan, and P. Dillon, *Moorepark Dairy Production Research Center, Fermoy, Co. Cork, Ireland.*
11:00 AM	725	Principal components approach for estimating heritability of mid-infrared spectrum in bovine milk. H. Soyeurt*[1,2], S. Tsuruta[3], I. Misztal[3], and N. Gengler[1,4], [1]*Gembloux Agricultural University, Gembloux, Belgium,* [2]*FRIA, Brussels, Belgium,* [3]*University of Georgia, Athens,* [4]*FNRS, Brussels, Belgium.*
11:15 AM	726	Associations between body size, body condition score and fertility parameters in pasture-based seasonally calving commercial dairy herds in Australia. T. E. Stirling*[1], C. R. Stockdale[2], and K. L. Macmillan[1], [1]*The University of Melbourne, Werribee, Victoria, Australia,* [2]*Primary Industries Research Victoria, Kyabram, Victoria, Australia.*
11:30 AM	727	Comparison of yield in Holsteins, Jerseys, and reciprocal crosses in the Virginia Tech - Kentucky crossbreeding trial. B. G. Cassell*[1], K. M. Olson[1], and A. J. McAllister[2], [1]*Virginia Polytechnic Institute and State University, Blacksburg,* [2]*University of Kentucky, Lexington.*
11:45 AM	728	Quantitative Trait Loci affecting IgG serum protein levels, birth weight and gestation length in a Holstein x (Holstein x Jersey) backcross population. C. Maltecca*, K. A. Weigel, H. Khatib, and V. R. Schutzkus, *University of Wisconsin, Madison.*
12:00 PM	729	Stearoyl-CoA desaturase gene polymorphism and milk production traits in Italian Holsteins. N. P. P. Macciotta*[1], M. Mele[2], G. Pagnacco[3], M. Cassandro[4], G. Conte[2], A. Cappio-Borlino[1], and P. L. Secchiari[2], [1]*Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari, Italia,* [2]*Dipartimento di Agronomia e Gestione dell'Agro-Ecosistema, Università di Pisa, Pisa, Italia,* [3]*Dipartimento di Scienze e Tecnologie Veterinarie per la Sicurezza Alimentare, Università di Milano, Milano, Italia,* [4]*Dipartimento di Scienze Animali, Università di Padova, Padova, Italia.*
12:15 PM	730	Effect of pregnancy on milk yield of Canadian dairy cattle. S. Loker*[1], J. Bohmanova[1], F. Miglior[2,3], M. Kelly[1], and G. Kistemaker[3], [1]*University of Guelph, Guelph, ON, Canada,* [2]*Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada,* [3]*Canadian Dairy Network, Guelph, ON, Canada.*

Dairy Foods
Products and Processing
Chair: Diane Van Hekken, USDA, Wyndmoor, PA
202

10:30 AM	731	Kinetics and properties of plant β-galactosidase extracted from durian seeds *(Durio zibethinus)* and its utilization on ice milk production. E. E. El Tanboly*, *National Research Center, Dokki, Cairo, Egypt*.
10:45 AM	732	Selenium supplementation of lactating dairy cows: effects on total selenium content and speciation in blood, milk and cheese. R. H. Phipps*[1], A. S. Grandison[1], A. K. Jones[1], D. T. Juniper[1], and G. Bertin[2], [1]*University of Reading, Reading,* [2]*Alltech (France), Paris, France*.
11:00 AM	733	Effects of temperature and membrane pore size on fractionation of caprine milk proteins in developing infant formula analogs. C. O. Maduko[1] and Y. W. Park*[2,1], [1]*University of Georgia, Athens,* [2]*Fort Valley State University, Fort Valley, GA.*
11:15 AM	734	The effect of dry period duration and dietary energy density in early lactation on the rennet gelation properties of milk. S. T. Butler*, M. de Feu, B. O' Brien, and J. J. Murphy, *Teagasc Moorepark DPRC, Co Cork, Ireland.*
11:30 AM		Break
11:45 AM	735	Rheological properties of rennet gels prepared with milk protein concentrates. M. A. Ferrer*[1,2], A. R. Hill[2], and M. Corredig[2], [1]*University of Zulia, Maracaibo, Venezuela,* [2]*University of Guelph, Ontario, Canada*.
12:00 PM	736	Rheological properties of whey protein dispersions in the presence of exopolysaccharides from *Lactococcus lactis* ssp. *cremoris*. I. Ayala Hernandez*[1], A. N. Hassan[2], and M. Corredig[1], [1]*University of Guelph, Ontario, Canada,* [2]*South Dakota State University, Brookings*.
12:15 PM	737	The impact of preacidification of milk and fermentation time on the properties of yogurt type gel. Y. Peng*[1], D. S. Horne[2], and J. A. Lucey[1], [1]*University of Wisconsin, Madison,* [2]*Formerly of Hannah Research Institute, Ayr, Scotland*.

Egg and Meat Science and Muscle Biology - Livestock and Poultry II
Chair: Chris Kerth, Auburn University
213

	738	Please see page ### (Marination Symposium)
10:30 AM	739	Maximizing carcass characteristics of grass- and grain-fed Bonsmara steers using electrical stimulation. K. R. Hawks*[1], R. K. Miller[1], T. D. A. Forbes[2], F. M. Rouquette, Jr.[3], J. W. Holloway[2], and B. G. Warrington[2], [1]*Texas A&M University, College Station,* [2]*Texas Agricultural Experiment Station Uvalde, Uvalde,* [3]*Texas Agricultural Experiment Station Overton, Overton*.
10:45 AM	740	A novel technique to assess internal body fat using real–time ultrasound. F. R. B. Ribeiro*[1], L. O. Tedeschi[1], J. Stoffer[2], and G. E. Carstens[1], [1]*Texas A&M University, College Station,* [2]*Cornell University, Ithaca, NY.*
11:00 AM	741	Proteomic analysis of whole muscle fingerprints from yellow perch, (*Perca flavescens*), and identification of proteins associated with body weight and length. J. M. Reddish*, K. B. Green-Church, A. D. Nichols, N. S. St-Pierre, and M. Wick, *The Ohio State University, Columbus.*
11:15 AM	742	Production and evaluation of a value-added turkey product using mechanically separated turkey meat. S. Williams*, N. Djeri, M. Balaban, and A. Ruiz, *University of Florida, Gainesville*.
11:30 AM	743	Impact of early deboning and portioning on tenderness of vertically portioned broiler breast fillets. C. M. Owens*, S. C. Purcell, A. Saha, and J. F. Meullenet, *University of Arkansas, Fayetteville*.
11:45 AM	744	Carcass and meat quality traits of Angus-cross steers finished on three different winter annual forages. C. R. Kerth*, K. W. Braden, and B. S. Wilborn, *Auburn University, Auburn, AL*.
12:00 PM	745	Impact of litter size and birth weight on growth performance, carcass characteristics, and meat quality in pigs. J. Bérard[1], M. Kreuzer[2], and G. Bee*[1], [1]*Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland,* [2]*ETH Zurich, Institute of Animal Science, Zurich, Switzerland*.

Extension Education - Livestock and Poultry
Extension Dairy Session
Chair: Richard Stup, Pennsylvania State University

214 A		
10:30 AM	746	A Net Present Value Dashboard of the dairy cow in a commercial setting. D. T. Galligan*, J. Ferguson, R. Munson, and D. Remsburg, *University of Pennsylvania, School of Veterinary Medicine, Kennett Square*.
10:45 AM	747	Accuracy of prediction of future uniform milk prices in Florida from Class III and IV futures markets. S. Feleke* and A. De Vries, *University of Florida, Gainesville*.
11:00 AM	748	Economic evaluation of decision choices facing dairy producers in Sicily, additional milk or additional cows? D. T. Galligan*[1], G. Azzaro[2], and G. Licitra[2,3], [1]*University of Pennsylvania, School of Veterinary Medicine, Kennett Sqaure*, [2]*CoRFiLaC, Regione Siciliana, Ragusa, Italy*, [3]*2DACP University of Catania, Catania, Italy*.
11:15 AM	749	Spartan Dairy Ration Evaluator/Balancer Version 3: A user-friendly, windows-based software program for dairy nutrition management. M. J. VandeHaar*, H. F. Bucholtz, D. K. Beede, M. S. Allen, and R. D. Kriegel, *Michigan State University, East Lansing*.
11:30 AM	750	Nitrogen and phosphorus in by-product feeds and dairy diets in central Texas. T. D. Nennich*[1], N. M. Cherry[1], R. A. Whitney[2], R. J. Scott[3], and W. H. Weems[4], [1]*Texas A&M University, Stephenville*, [2]*Texas Cooperative Extension, Comanche*, [3]*Texas Cooperative Extension, Stephenville*, [4]*Texas Cooperative Extension, Hamilton.*
11:45 AM	751	An evaluation of family farm transfer in Vermont. S. Purchase[1], C. Ballard*[2], and D. Maynard[1], [1]*University of Vermont, Burlington*, [2]*W.H. Miner Agricultural Research Institute, Chazy, NY*.
12:00 PM	752	A survey of AABP-L members concerning training of farm personnel. D. W. Remsburg*, D. T. Galligan, and J. D. Ferguson, *University of Pennsylvania School of Veterinary Medicine, Kennett Square*.
12:15 PM	753	The "Summer to Winter performance ratio" as a tool for evaluating heat stress relief efficiency of dairy herds. I. Flamenbaum*[1] and E. Ezra[2], [1]*Ministry of Agriculture, Extension Service, Beit-Dagan, Israel*, [2]*Israel Cattle Breeders Association, Caesarea, Israel*.

Lactation Biology Applied Lactation Biology Chair: Tom McFadden, University of Vermont 204 A		
10:30 AM	ADSA Pioneer	Serendipity in science: The DUMPS story. J. L. Robinson, Urbana, IL.
10:45 AM	754	Induced lactation in nulliparous dairy goats with or without prolactin secretion enhancement. A. A. K. Salama*, G. Caja, E. Albanell, S. Carné, R. Casals, and X. Such, *Universitat Autònoma de Barcelona, Bellaterra, Spain*.
11:00 AM	755	Effects of shortening the dry period from 60 to 40 days on milk yield and composition during the subsequent lactation. D. J. Grusenmeyer*, C. M. Ryan, R. W. Everett, D. M. Galton, and T. R. Overton, *Cornell University, Ithaca, NY*.
11:15 AM	756	Effects of altered timing and duration of unilateral frequent milking during early lactation on milk production of dairy cows. E. H. Wall* and T. B. McFadden, *Lactation and Mammary Gland Biology Group, Department of Animal Science, University of Vermont, Burlington*.
11:30 AM	757	Use of milking frequency for alleviating milk depression in Holstein dairy cows under heat stress conditions. R. Ben Younes[1], M. Ayadi[2], T. Najar[1], M. Zouari[3], A. A. K. Salama[4], X. Such[4], M. Ben M'Rad[1], and G. Caja*[4], [1]*Institut National Agronomique de Tunisie, Tunis, Tunisia*, [2]*Institut Superieur de Biologie Appliquée de Medenine, Tunisia*, [3]*Office des Terres Domaniales, Tunis, Tunisa*, [4]*Universitat Autònoma de Barcelona, Bellaterra, Spain*.
11:45 AM	758	Comparison of manual and automatic milk flow recording in dairy goats. G. Caja[1], M. Rovai*[2], S. Carné[1], A. A. K. Salama[1], X. Such[1], and R. M. Bruckmaier[3], [1]*Universitat Autònoma de Barcelona, Bellaterra, Spain*, [2]*E (Kika) de la Garza American Institute for Goat Research, Langston, OK*, [3]*Veterinary Physiology, University of Bern, Switzerland*.
12:00 PM	759	Comparisons of teat structure changes after milking between farms with high and low bulk somatic cell counts. P. Vinitchaikul* and W. Suriyasathaporn, *Faculty of Veterinary Medicine, Chiang Mai University, Muang, Chiang Mai, Thailand*.

Production, Management & the Environment - Livestock and Poultry Livestock, Production, and Management Chair: Sandy Johnson, Kansas State University 214 C

10:30 AM	760	Effects of winter feeding systems on cow performance, soil nutrients, and crop biomass. B. M. Kelln*[1], H. A. Lardner[1,2], J. Schoenau[1], and K. Lang[1], [1]*University of Saskatchewan, Saskatoon, Saskatchewan, Canada*, [2]*Western Beef Development Centre, Lanigan, Saskatchewan, Canada*.
10:45 AM	761	Incorporating condensed corn distillers solubles into an integrated pasture and drylot finishing system for feedlot steers. T. Purevjav*, M. P. Hoffman, and W. B. Roush, *Iowa State University, Ames.*
11:00 AM	762	Effects of pre-breeding target weight and progestin on reproduction, calving parameters, and rebreeding in beef heifers. J. L. Martin*, K. W. Creighton, J. A. Musgrave, D. C. Adams, and R. N. Funston, *University of Nebraska West Central Research and Extension Center, North Platte*.
11:15 AM	763	Simulation model of fat deposition and distribution in beef steers: 3. Model description and development. M. J. McPhee*[1,2], J. W. Oltjen[1], J. G. Fadel[1], and R. D. Sainz[1], [1]*University of California, Davis,* [2]*NSW DPI, Armidale, Australia.*
11:30 AM	764	Simulation model of fat deposition and distribution in beef steers: 4. Model evaluation. M. J. McPhee*[1,2], J. W. Oltjen[1], J. G. Fadel[1], and R. D. Sainz[1], [1]*University of California, Davis,* [2]*NSW DPI, Armidale, Australia.*
11:45 AM	765	Use of neonatal blood parameters to predict weaning weight in Brahman cattle. J. P. Banta*[1], N. C. Burdick[1], J. C. White[1], R. C. Vann[2], D. A. Neuendorff[1], A. W. Lewis[1], J. C. Laurenz[1], T. H. Welsh, Jr.[1], and R. D. Randel[1], [1]*Texas A&M University System, Overton, College Station, Kingsville,* [2]*Mississippi State University, Raymond.*
12:00 PM	766	Effects of pre-shipping management on measures of performance and inflammation in beef calves entering a receiving feedlot. J. D. Arthington*[1], X. Qiu[1], R. F. Cooke[1], D. B. Araujo[1], C. C. Chase[2], and S. W. Coleman[2], [1]*University of Florida-IFAS, Range Cattle Research and Education Center, Ona,* [2]*USDA-ARS, Brooksville, FL.*
12:15 PM	767	Water solubility of phosphorus in feedlot cattle feces and manure. V. R. Bremer*, C. D. Buckner, G. E. Erickson, and T. J. Klopfenstein, *University of Nebraska, Lincoln*.
12:30 PM	768	Practices and perceptions of cow-calf producers regarding the National Animal Identification System. S. J. Breiner*[1], D. A. Blasi[1], K. M. Boone[1], T. C. Schroeder[1], and S. A. Grau[2], [1]*Kansas State University*, [2]*Beef Magazine.*

Production, Management & the Environment - Livestock and Poultry
Livestock Production, Management, and Environment
214 B

10:30 AM	769	Effect of littered systems on pollutant emissions into the air in gestating sows. C. Pineiro*[1], G. Montalvo[2], P. Illescas[2], and M. Bigeriego[3], [1]*PigCHAMP Pro Europa, SA, Spain,* [2]*Tragsega, Spain,* [3]*Spanish Ministry of Agriculture, Spain.*
10:45 AM	770	Effect of different dietary strategies on productive performance and gas emissions in post-weaned piglets. G. Montalvo[1], C. Pineiro*[2], J. Morales[2], S. Godbout[3], S. P. Lemay[3], M. Belzile[3], J. Feddes[4], P. Illescas[1], M. Bigeriego[5], and C. de Blas[6], [1]*Tragsega, Spain,* [2]*PigCHAMP Pro Europa SA, Spain,* [3]*IRDA, Canada,* [4]*U. Alberta, Canada,* [5]*Spanish Ministry of Agriculture, Spain,* [6]*UP Madrid, Spain.*
11:00 AM	771	Cost of ammonia emissions abatement techniques in Spain. C. Pineiro*[1], G. Montalvo[2], P. Illescas[2], and M. Bigeriego[3], [1]*PigCHAMP Pro Europa, SA, Spain,* [2]*Tragsega, Spain,* [3]*Spanish Ministry of Agriculture, Spain.*
11:15 AM	772	Influence of diet and genotype on performance of weanling pigs destined for natural label or commodity pork markets. A. F. Harper* and M. J. Estienne, *Virginia Polytechnic Institute and State University, Blacksburg*.
11:30 AM	773	Loading gantry versus traditional chute for the finisher pig: Effect on transportation and packing plant losses. N. Berry*, A. Johnson, K. Stalder, T. Baas, and L. Karriker, *Iowa State University, Ames*.
11:45 AM	774	Effect of autosort technology on pork production measures. J. M. Suchomel*, A. E. DeDecker, and J. L. Salak-Johnson, *University of Illinois, Urbana*.
12:00 PM	775	Characterization of the acute-phase protein response following vaccination and weaning in beef steers. R. F. Cooke*[1], D. B. Araujo[1], G. L. Stokka[2], and J. D. Arthington[1], [1]*University of Florida - RCREC, Ona,* [2]*Pfizer Animal Health, New York, NY.*
12:15 PM	776	Efficacy of chlorate against *E. coli* O157:H7 and *Salmonella* Typhimurium in bovine feedlot soil mixture. C. E. Oliver*[1], B. K. Magelky[2], M. L. Bauer[1], J. S. Caton[1], H. Hakk[2], G. L. Larsen[2], R. C. Anderson[3], and D. J. Smith[2], [1]*North Dakota State University, Fargo,* [2]*USDA/ARS Biosciences Research Laboratory, Fargo, ND,* [3]*USDA/ARS Food & Feed Safety Research Unit, Southern Plains Agricultural Research Center, College Station, TX*.

Ruminant Nutrition
Nutrition and Animal Health
Chair: Marc Bauer, North Dakota State University

217 B

10:30 AM	777	Effects of maternal nutrition and selenium supply on postnatal organ mass: Evidence for developmental programming in lambs. J. S. Caton*[1], J. J. Reed[1], T. L. Neville[1], K. A. Vonnahme[1], P. P. Borowicz[1], J. B. Taylor[2], D. A. Redmer[1], J. S. Luther[1], C. J. Hammer[1], K. R. Carlin[1], and L. P. Reynolds[1], [1]*Center for Nutrition and Pregnancy, Animal and Range Sciences Dept., North Dakota State University, Fargo,* [2]*USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID.*
10:45 AM	778	Effects of maternal nutrition and selenium supply on ewe and lamb performance. T. L. Neville*[1], J. J. Reed[1], K. A. Vonnahme[1], P. P. Borowicz[1], J. B. Taylor[2], D. A. Redmer[1], J. S. Luther[1], C. J. Hammer[1], G. P. Lardy[1], L. P. Reynolds[1], and J. S. Caton[1], [1]*Center for Nutrition and Pregnancy, Animal and Range Sciences Dept., North Dakota State University, Fargo,* [2]*USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID.*
11:00 AM	779	First-lactation milk production for cows fed control or intensified milk replacer programs as calves. J. K. Drackley*, B. C. Pollard, H. M. Dann, and J. A. Stamey, *University of Illinois, Urbana*.
11:15 AM	780	Effect of mineral supplementation with MIN-AD during the transition period on cow health and production performance. J. E. Nocek*[1], R. G. Hinders[2], C. J. Sniffen[3], G. A. Nunnery[4], and M. B. Crombie[4], [1]*Spruce Haven Farm and Research Ctr, Auburn, NY,* [2]*Hinders Nutritional Consulting, Acampo, CA,* [3]*Fencrest, Holderness, NH,* [4]*MIN-AD, Inc., Amarillo, TX.*
11:30 AM	781	Effects of twin pregnancy and dry period feeding strategy on milk production, energy balance and metabolic profiles in Holstein cows. N. Silva del Río*, R. R. Grummer, and P. M. Fricke, *Department of Dairy Science, University of Wisconsin, Madison*.
11:45 AM	782	Effect of botanical extracts (Queen of Calves) on the growth, development and weaning age of calves. J. K. Margersion* and R. W. Reynolds, *Massey University, Palmerston North, New Zealand.*
12:00 PM	783	Impacts on growth of beef cattle due to long-term copper deficiency are further exacerbated in the presence of high dietary manganese. S. L. Hansen*, L. R. Legleiter, R. S. Fry, K. E. Lloyd, and J. W. Spears, *North Carolina State University, Raleigh.*
12:15 PM	784	Effects of high b-vitamin supplementation on measures of health and performance of veal calves. D. Wood*[1], J. Sowinski[1], and N. Keith[2], [1]*Animix, Juneau, WI,* [2]*Keith Associates, Springfield, MO.*

Ruminant Nutrition
Protein and Fiber Digestion
Chair: Oscar Ruiz-Barrera, Independent University of Chihuahua, Mexico
217 A

10:30 AM	785	Protein requirements of Nellore bulls, steers and heifers in Brazil. P. V. R. Paulino*[1], S. de C. Valadares Filho[1], M. A. Fonseca[1], K. A. Magalhães[1], M. I. Marcondes[1], M A. de Souza[1], E. Detmann[1], R. F. D. Valadares[1], and R. D. Sainz[2], [1]*Universidade Federal de Viçosa, Viçosa, MG, Brazil,* [2]*University of California, Davis.*
10:45 AM	786	Digestibility of cottonseed with Tifton 85 hay fed free-choice to beef steers. G. M. Hill*[1], M. H. Poore[2], and B. G. Mullinix, Jr.[1], [1]*University of Georgia, Tifton,* [2]*North Carolina State University, Raleigh.*
11:00 AM	787	Performance of beef heifers and digestibility of steers fed whole cotton seed, corn gluten feed and pigeon peas. V. A. Corriher*, G. M. Hill, S.C. Phatak, and B.G. Mullinix, Jr., *University of Georgia, Tifton*.
11:15 AM	788	The rumen passage rate of forage NDF is highly associated only to the level of intake of dietary NDF. A. Cannas*[1], F. Boe[1], V. Giovanetti[2], E. Zerbini[3], and G. Molle[2], [1]*Dipartimento di Scienze Zootecniche, University of Sassari, Sassari, Sardinia, Italy,* [2]*Istituto Zootecnico e Caseario della Sardegna, Olmedo, Sardinia, Italy,* [3]*Cargill Animal Nutrition, Spessa, Italy*.
11:30 AM	789	Meta analysis of rumen fill of cattle in relation to NDF intake and digestibility. D. J. Sauvant*[1] and D. R. Mertens[2], [1]*AgroParisTech, Paris, France,* [2]*US Dairy Forage Research Center, Madison, WI.*
11:45 AM	790	Predicting ruminal passage rates of fiber fractions and starch in dairy cattle. J. A. Voelker Linton* and M. S. Allen, *Michigan State University, East Lansing*.
12:00 PM	791	Evaluation of counts of ruminal fibrolytic bacteria and enzyme activities in response to corn silage particle size in high-yielding dairy cows. Q. Zebeli*[1], V. Ölschläger[1], M. Tafaj[1], W. Vahjen[2], B. Junck[1], O. Simon[2], and W. Drochner[1], [1]*University of Hohenheim, Stuttgart, Germany,* [2]*Free University of Berlin, Berlin, Germany*.
12:15 PM	792	Nutrient digestibility and utilization in non-lactating fistulated cows fed diets containing ratios of untreated corn silage and Silo-King®treated alfalfa haylage. G. A. Ayangbile*, D. Spangler, D. Jones, and K. Thompson, *Agri-King, Inc., Fulton, IL.*

Swine Species

Chair: Mark Wilson, Ralco Nutrition 217 C		
10:30 AM	793	Effects of a ground raw soybean diet on reproductive performance in gilts. D. Sykes*, K. Necaise, W. Brookshire, P. Gerard, F. Cunningham, M. Crenshaw, and P. Ryan, *Mississippi State University, Mississippi State.*
10:45 AM	794	Effect of feeding Luctarom "S" 55972Z® on sow reproductive performance. D. Towey[1], J. Sonderman[2], D. Reese*[1], D. Travnicek[1], and K. Eskridge[1], [1]*University of Nebraska, Lincoln, Lincoln, NE,* [2]*Danbred North America, Columbus, NE.*
11:00 AM	795	Supplemental microbial phytase effects the expression of intestinal and liver mineral transporters in the iron/zinc deficient pig. E Tako*, R. P Glahn, R. M Welch, X Lei, and D. D Miller, *Cornell University, Ithaca, NY.*
11:15 AM	796	Effects of dried distillers grains and NCKP soybean meal on growth performance and fat quality characteristics of growing/finishing pigs. J. M. Benz*, M. D. Tokach, S. S. Dritz, J. L. Nelssen, J. M. DeRouchey, and R. D. Goodband, *Kansas State University, Manhattan.*
11:30 AM	797	Effects of a commercial sequestering agent on performances of fattening pigs fed diet artificially contaminated by aflatoxin B1 and ochratoxin A. G. Battacone*[1], G. A. Carboni[2], P. Nicolussi[2], C. Patta[2], and G. Pulina[1], [1]*Dipartimento di Scienze Zootecniche - University of Sassari, Sassari, Italy,* [2]*Istituto Zooprofilattico Sperimentale per la Sardegna, Sassari, Italy.*
11:45 AM	798	Ghrelin secretion is more closely aligned to the energy balance than with feeding behaviour in the grower pig. P. C. Wynn*, K. Scrimgeour, M. J. Gresham, P. Thomson, and R. E Newman, *Faculty of Veterinary Science University of Sydney, Sydney, NSW, Australia.*

SYMPOSIUM Teaching/Undergraduate & Graduate Education From Choosing a Graduate Program to Embarking on a Successful Career: A Guide for Livestock and Poultry Science Students Chair: Meghan Wulster-Radcliffe, American Society of Animal Science 204 B		
10:30 AM	799	Choosing a graduate program. D. R. Notter*, *Virginia Polytechnic Institute and State University, Blacksburg.*
10:55 AM	800	Research and teaching: what else? The unwritten guide to graduate school. C. C. Taylor-Edwards*, *University of Kentucky, Lexington.*
11:20 AM	801	Opportunities outside of the lab, international experience, networking, and professional societies? J. S. Radcliffe*, *Purdue University, West Lafayette, IN.*
11:45 AM		The defense is scheduled, now what? A job? S. R. Jordan, AgriTech Placement LLC.
12:10 PM		Discussion.

Bio Ethics - Livestock and Poultry Chair: Mhairi Sutherland, Texas Tech University 206 A		
11:00 AM	802	Why it is important to understand bioethical concepts. R. D. Reynnells*[1], C. C. Croney[2], and D. J. R. Cherney[3], [1]*USDA/CSREES/PAS, Washington, DC,* [2]*Oregon State University, Corvallis,* [3]*Cornell University, Ithaca, NY.*
11:15 AM	803	The ethical landscape of non surgical embryo-transfer in pigs: An explorative Study of Public Concerns. F. R. Stafleu[2], D. W. B. Ducro-Steverink[1], and J. W. M. Merks*[1], [1]*IPG, Institute for Pig Genetics B.V., Beuningen, the Netherlands,* [2]*Ethics Institute, Utrecht University, Utrecht, the Netherlands.*
11:30 AM	804	Animal welfare and the ethics of care: towards a sustainable practice. R. Anthony*, *University of Alaska, Anchorage.*
11:45 AM	805	Animal biotechnology: where to from here? A. L. Van Eenennaam*, *University of California, Davis.*

SYMPOSIUM Distillers Grains Symposium 217 D	
2:00 PM	Overview of the ethanol industry, current energy environment and energy bill. B. Dineen, *Renewable Fuels Association.*

2:35 PM		Total energy picture and ethanol: Petroleum interation. M. Johanns, *USDA.*
3:10 PM		Environmental impact of renewable fuels and sustainable agriculture. D. Walters, *University of Nebraska, Lincoln*.
3:45 PM		Results of RFA/AFIA task force study evaluating analytical methods of distillers grains for precision, replicability and "in-use" methodology compliance. R. Sellers, *AFIA, Arlington, VA.*
4:20 PM		Corn: Ethanol – Supply and demand outlook. S. Meyer, *Paragon Economics*.

SYMPOSIUM
ADSA Production Division Symposium
Chair: Ronald Pearson, Virginia Polytechnic Institute and State University
217 A

2:00 PM		Introduction. R. E. Pearson, *Virginia Polytechnic Institute and State University.*
2:15 PM		Biological impact of heat stress on reproductive performance. P.J. Hansen, *University of Florida, Gainesville*.
2:55 PM	806	Feeding programs that meet the challenges of heat stress. J. N. Spain* and D.E. Spiers, *University of Missouri, Columbia*.
3:35 PM		Break
3:50 PM	807	Environmental modifications to address heat stress. M. J. Brouk*[1], J. P. Harner, III[1], J. F. Smith[1], and D. V. Armstrong[2], [1]*Kansas State University, Manhattan*, [2]*University of Arizona, Tucson*.
4:30 PM	808	What we have learned about the genes involved in the response to heat stress. R. J. Collier* and R. P. Rhoads, *University of Arizona*.
5:10 PM		Discussion.

Breeding and Genetics - Livestock and Poultry
Swine
Chair: Gary Rohrer, USDA - ARS
206 B

2:00 PM	809	Genetic factors affecting growth traits of Nili-Ravi Buffalo calves in Pakistan. P. Akhtar*, U. Kalsoom, S. Ali, M. Yaqoob, M. I. Mustafa, and J. I. Sultan, *Faculty of Animal Husbandry, University of Agriculture, Faisalabad, Punjan, Pakistan.*
2:15 PM	810	Genetic analysis of ewe stayability and its association with lamb growth and adult body weight. R. C. Borg[1], D. R. Notter*[1], and R. W. Kott[2], [1]*Virginia Polytechnic Institute and State University, Blacksburg*, [2]*Montana State University, Bozeman*.
2:30 PM	811	Gene regulation in liver of cattle exposed to heat stress. E. Antoniou*, J. Robertson, and D. Spiers, *University of Missouri, Columbia*.
2:45 PM	812	Differential gene expression profiling of malignant melanoma in Sinclair swine. M. A. Okomo-Adhiambo[1], A. Rink[2], W. Rauw[1], C. W. Beattie[3], and L. Gomez-Raya*[1], [1]*University of Nevada, Reno*, [2]*Animal Disease and Food Safety Laboratory, Reno, NV*, [3]*University of Illinois, Chicago.*
3:00 PM	813	Genetic parameter estimates for growth, carcass composition, and meat quality traits in Duroc swine. C. R. Schwab*, R. Tait, and T. J. Baas, *Iowa State University, Ames*.
3:15 PM		Break
3:30 PM	814	Doe reproductive and fitness traits among three meat goat breeds semi-intensively managed in the southeastern US. R. Browning, Jr.*, M. L. Leite-Browning, B. Donnelly, and M. Byars, *Tennessee State University, Nashville*.
3:45 PM	815	Measures of libido and their relation to testicular hypertrophy and fertilizing competence in boars. D. O. Umesiobi*, *Central University of Technology, Bloemfontein, Free State, South Africa*.
4:00 PM	816	Comparison of pure Berkshire, Landrace, and the reciprocal crosses at two market endpoints. K. M. Brueggemeier*, A. C. Naber, S. J. Moeller, H. N. Zerby, and K. M. Irvin, *The Ohio State University, Columbus*.
4:15 PM	817	Correlated response in fatty acid composition from five generations of selection for intramuscular fat in Duroc pigs. J. L. Burkett*, T. J. Baas, D. C. Beitz, C. R. Schwab, N. L. Berry, and S. Zhang, *Iowa State University, Ames*.

4:30 PM	818	Analysis of incidence of Porcine Circovirus Associated Disease (PCVAD) in a landrace/large white composite population. J. S. Bates*, A. R. Doster, and R. K. Johnson, *University of Nebraska, Lincoln*.
4:45 PM	819	Breeding for robust pigs across the year in heat stress affected areas. B. Zumbach[1], I. Misztal[1], S. Tsuruta[1], J. P. Sanchez*[1], M. J. Azain[1], W. Herring[2], J. Holl[2], and T. Long[2], [1]*University of Georgia, Athens,* [2]*Smithfield Premium Genetics Group, Rose Hill, NC*.

Dairy Foods
Cheese II
Chair: Kayanush J. Aryana, Louisiana State University Agricultural Center
201

2:00 PM	ADSA Pioneer	Dairy foods: My travels through academia. W. E. Sandine, McKinney, TX.
2:15 PM	820	Addition of probiotic microorganisms to improve proteolysis, sensory evaluation and the release of antihypertensive peptides in Cheddar cheeses ripened at 4 and 8 ºC. L. Ong[1], N. P. Shah*[1], and A. Henriksson[2], [1]*Victoria University, Werribee, Victoria, Australia,* [2]*DSM Food Specialties, Moorebank, NSW, Australia.*
2:30 PM	821	Ras cheesemaking using starter cultures and nonstarter lactic acid bacteria isolated from the Pharos land. M. El Soda*, S. Awad, and N. Ahmed, *Faculty of Agriculture, University of Alexandria, Alexandria, Egypt*.
2:45 PM	822	Microbiological evaluation of commercial cream cheese. A. Losambe* and P. S. Kindstedt, *University of Vermont, Burlington*.
3:00 PM	823	Microbiological and sensory characteristics of Prato cheese obtained from milk with different levels of somatic cells. P. C. B. Vianna[1], G. Mazal[1], M. V. Santos*[2], H. M. A. Bolini[1], and M. L. Gigante[1], [1]*State University of Campinas, Campinas, São Paulo, Brazil,* [2]*University of São Paulo, Pirassununga, São Paulo, Brazil*.
3:15 PM		Break
3:30 PM	824	Effect of temperature abuse on water-holding capacity and microbiological characteristics of commercial cream cheese and cream cheese spread. A. Losambe* and P. S. Kindstedt, *University of Vermont, Burlington*.
3:45 PM	825	New alternative approaches to study cheese microstructure. M. Caccamo*[1], G. Impoco[2], F. Zanini[3], G. Tromba[3], P. Campo[1], S. Carpino[1], and G. Licitra[1,4], [1]*CoRFiLaC, Regione Siciliana, Ragusa, Italy,* [2]*IPLAB, University of Catania, Italy,* [3]*Sincrotrone Trieste S.C.p.A., Trieste, Italy,* [4]*D.A.C.P.A. University of Catania, Italy*.
4:00 PM	826	Enhancement of flavour profile of cheddar cheese using microencapsulated enzymes. K. Kailasapathy* and S. Seneweera, *University of Western Sydney, NSW, AUSTRALIA.*

SYMPOSIUM
Dairy Foods
Milk Proteins and Enzymes: Proteomics and Milk
Chair: Rafael Jimenez-Florez, California Polytechnic State University
Sponsor: California Dairy Research Foundation
202

2:00 PM	827	Recent developments in proteomics: Implications for dairy protein research. P. Qi*, *USDA-ARS-ERRC, Wyndmoor, PA.*
2:30 PM	828	Quantitative proteomic analysis of bacterial enzymes released in cheese during ripening. V. Gagnaire, D. Molle, J. Jardin, and S. Lortal*, *INRA, Rennes, France*.
3:00 PM		Instrumentation and Technology of Proteomics today. Mi. Salemi* and B. Phinney, *University of California-Davis.*
3:30 PM		Proteomics and the mammary gland and mammary cell. J. McManaman, *University of Colorado, Ft. Collins.*
4:15 PM		Discussion.
4:45 PM		Concluding remarks.

Extension Education - Livestock and Poultry
Extension Livestock Session

Chair: Tim Safranski, University of Missouri
214 A

2:00 PM	829	Animal Science Image Gallery – A Source for poultry images. J. B. Hess* and W. D. Berry, *Auburn University, Auburn, AL*.
2:15 PM	830	National training program on depopulation and disposal procedures for avian influenza infected poultry flocks: An extension success story. G. Malone*[1] and N. Tablante[2], [1]*University of Delaware, Georgetown*, [2]*University of Maryland, College Park.*
2:30 PM	831	Educating livestock producers on the impacts of temporary feeding sites by the use of a novel mobile rain fall demonstration trailer. K. W. Harborth*, J. M. DeRouchey, T. T. Marston, and J. P. Harner, *Kansas State University, Manhattan*.
2:45 PM	832	The effect of tillage practice and corn stalk grazing on crop yields. W. A. Griffin*[1], T. J. Klopfenstein[1], G. E. Erickson[1], W. Luedtke[2], and M. A. Schroeder[2], [1]*Universtiy of Nebraska, Lincoln*, [2]*Agricultural Research and Development Center, Ithaca, NE*.
3:00 PM	833	Evaluation of storage methods for wet distillers grains plus solubles with forages and byproducts in silo bags and bunker silos. D. R. Adams*, T. J. Klopfenstein, and G. E. Erickson, *University of Nebraska, Lincoln.*
3:15 PM	834	Evaluating the Alabama beef quality assurance program. W. F. Owsley*, H. D. Dorough, and J. D. Gladney, *Auburn University, Auburn*.
3:30 PM	835	Evaluation of a total ranch management workshop as an educational tool to transfer technology in Mexico. R. Teliz-Triujeque*[1,2], R. H. Williams[2], J. A. Ortega-Santos[2], C. W. Hanselka[3], E. A. Gonzalez-Valenzuela[1], J. A. Hinojosa[2], and R. L. Stanko[2], [1]*INIFAP, Mexico*, [2]*Texas A&M University, Kingsville*, [3]*Texas Cooperative Extension, Corpus Christi*.
3:45 PM	836	Summary of the 2004 – 2005 University of Georgia Master Cattlemen's Programs. T. W. Wilson*[1], J. E. Rossi[1], R. C. Lacy[1], M. E. Pence[1], J. Andrea[2], R. E. Silcox[1], D. Ensley[1], R. L. Stewart[1], J. W. Worley[1], N. C. Hinkle[1], and J. C. McKissick[1], [1]*The University of Georgia, Tifton*, [2]*Clemson University, Clemson, SC*.

Forages and Pastures - Livestock and Poultry
Grazing
Chair: Glen Aiken, USDA-ARS
214 B

2:00 PM	837	Copper and Cu/Zn superoxide dismutase status in steers grazing three fescue types. R. L. Stewart, Jr*, G. Scaglia, W. S. Swecker, Jr., J. P. Fontenot, A. O. Abaye, J. H. Fike, M. A. McCann, and E. A. Wong, *Virginia Polytechnic and State University, Blacksburg*.
2:15 PM	838	Effects of clipping and implants on rates of hair growth and sweating, and rectal temperature of steers grazing endophyte-infected tall fescue. L. K. McClanahan*[1] and G. E. Aiken[2], [1]*University of Kentucky, Lexington*, [2]*USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY*.
2:30 PM	839	Comparison of novel endophyte tall fescues for stocker cattle in southern Arkansas. P. A. Beck*[1], C. B. Stewart[1], D. Singh[2], and S. A. Gunter[1], [1]*University of Arkansas SWREC, Hope*, [2]*Barenbrug USA, Tangent, OR.*
2:45 PM	840	Supplementation of digestible fiber and glucomannan to tall fescue pastures: performance, forage availability, and prolactin response. R. L. Mills*[1,2], C. J. Richards[2], F. N. Schrick[1], and J. C. Waller[1], [1]*The University of Tennessee, Knoxville*, [2]*Oklahoma State University, Stillwater*.
3:00 PM	841	Performance of primiparous beef cows grazing bahiagrass pastures with three rates of soybean hull supplementation. J. M. B. Vendramini* and J. D. Arthington, *Range Cattle Research and Education Center - University of Florida, Ona*.
3:15 PM	842	Grazing efficiency in free range Merino sheep. W. M. Rauw*[1], H. A. Glimp[1], W. Jesko[2], M. Sandstrom[1], and L. Gomez-Raya[1], [1]*Department of Animal Biotechnology, University of Nevada Reno, Reno*, [2]*Rafter 7 Ranch, Yerington, NV*.
3:30 PM		Break
3:45 PM	843	Glycerol as a supplemental energy source for meat goats. K. R. Hampy*, K. P. Coffey, D. W. Kellogg, E. B. Kegley, J. D. Caldwell, M. S. Lee, M. S. Akins, J. L. Reynolds, J. C. Moore, and K. D. Southern, *University of Arkansas, Fayetteville*.
4:00 PM	844	Effects of level of concentrate supplementation on nutrient digestion of lactating dairy cows grazing at two pasture allowances. T. H. Garmo, H. Volden, S. J. Krizsan*, and S. K. Nes, *Norwegian University of Life Sciences, Ås, Norway*.
4:15 PM	845	Effect of daily herbage allowance and concentrate level, offered at different stages of lactation, on milk production, dry matter intake, blood metabolites, bodyweight and body condition score. E. Kennedy*[1,2], M. O'Donovan[1], F. O'Mara[2], and

		L. Delaby[3], [1]*Teagasc, Dairy Production Research Centre, Moorepark, Fermoy, Co. Cork, Ireland,* [2]*School of Agriculture, Food Science and Veterinary Medicine, UCD, Belfield, Dublin 4, Ireland,* [3]*INRA, UMR, Production du Lait 35590 St. Gilles, France*.
4:30 PM	846	Timing of herbage and fasting allocation in strip grazed cattle: Effects on patterns of ingestive behavior, herbage intake, and nutrient supply. P. Gregorini*[1], S. A. Gunter[2], and P. A. Beck[2], [1]*USDA–ARS, University Park, PA,* [2]*University of Arkansas SWREC, Hope*.
4:45 PM	847	Frequent reallocation of strip grazing cows improves productivity. P. A. Abrahamse*, J. Dijkstra, and S. Tamminga, *Animal Nutrition Group, Wageningen University, Wageningen, The Netherlands*.
5:00 PM	848	Effect of sulphite salts on the aerobic stability and intake levels of whole crop wheat by grazing of dairy cattle. J. K. Margerison*[1] and R. R. Edwards[2], [1]*Massey University, Palmerston North, New Zealand,* [2]*University of Plymouth, Plymouth, UK*.

SYMPOSIUM
Growth and Development - Livestock and Poultry
Transcriptional Factors and Cell Mechanisms for Regulation of Growth and Development with Application to Animal Agriculture
Chairs: Hugh Chester-Jones, University of Minnesota and Sandy Velleman, The Ohio State University
204 B

2:00 PM	849	Postnatal myogenesis: A tale of transcription factors. Z. Yablonka-Reuveni*, I. Kirillova, G. Shefer, K. Rider, R. Almuly, A. Vine, B. Kwiatkowski, and K. Day, *University of Washington*.
2:45 PM	850	The role of microRNAs in muscle development. T. P. L. Smith*[1], T. G. McDaneld[1], M. E. Doumit[2], L. K. Matukumalli[3], T. S. Sonstegard[3], L. L. Coutinho[4], and R. T. Wiedmann[1], [1]*USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE,* [2]*Michigan State University, East Lansing,* [3]*USDA, ARS, Bovine Functional Genomics Laboratory, Beltsville, MD,* [4]*University of Sao Paulo, Brazil*.
3:30 PM	851	Cellular and molecular regulation of muscle growth and development in meat animals. W. R. Dayton*, M. E. White, and M. R. Hathaway, *University of Minnesota, St Paul*.
4:15 PM	852	Application of cellular mechanisms to growth and development of food producing animals. B. J. Johnson*, *Kansas State University, Manhattan*.

SYMPOSIUM
International Animal Agriculture - Livestock and Poultry
Global Livestock and Poultry Issues
Chair: John LaBore, Eli Lilly and Company
207 A

2:00 PM	853	Factors affecting milk price and revenues of dairy farms in the central region of Thailand. J. A. Rhone*[1], R Ward[1], S Koonawootrittriron[2], and M. A. Elzo[1], [1]*Univeristy of Florida, Gainesville,* [2]*Kasetsart University, Bangkok, Thailand*.
2:15 PM	854	Factors affecting bacterial score and bulk tank somatic cell count of dairy farms in the central region of Thailand. J. A. Rhone*[1], S. Koonawootrittriron[2], and M. A. Elzo[1], [1]*University of Florida, Gainesville,* [2]*Kasetsart University, Bangkok, Thailand*.
2:30 PM	855	Effects of supplementing finger millet straw with concentrates differing in partitioning factor on microbial biomass synthesis in crossbred dairy cows. W. Jackson*[1], S. Sudha[2], U. Krishnamoorthy[2], R. Bhaskaran[2], and P. Robinson[1], [1]*University of California, Davis,* [2]*Karnataka Veterinary, Animal & Fisheries Sciences University, Bangalore, Karnataka, India*.
2:45 PM		Livestock, livelihoods and the environment in developing countries. Ade Freeman*, International Livestock Research Institute, Kenya; Jeroen Dijkman, FAO Pro-Poor Livestock Initiative.
3:25 PM		Role of livestock in human health and nutrition in developing countries. Thomas Fitz Randolph*, International Livestock Research Institute, Kenya; Esther Schelling and Jakob Zinsstag, Swiss Tropical Institute, Switzerland.
4:05 PM		Poultry. TBA.

Nonruminant Nutrition

General Topics
Chair: Robert Payne, Degussa AG
212

2:00 PM	856	Temporal changes in biochemical indices of sulfur amino acid (SAA) metabolism in the folate deficient piglet. Z. Zhang* and J. D. House, *University of Manitoba, Winnipeg, MB, Canada*.
2:15 PM	857	Effects of diet conditioning (steam at low and high temperatures, expanding, and extruding) prior to pelleting on growth performance in nursery pigs. K. K. Lundblad*[1,2], S. Issa[2], J.D. Hancock[2], M. Sørensen[3,4], K. C. Behnke[2], E. Prestløkken[1], L. J. McKinney[2], and S. Alavi[2], [1]*Felleskjøpet Fôrutvikling, Trondheim, Norway*, [2]*Kansas State University, Manhattan*, [3]*University of Life Sciences, Aas, Norway*, [4]*AKVAFORSK, Aas, Norway*.
2:30 PM	858	Effects of diet conditioning (steam at low and high temperatures, expanding, and extruding) prior to pelleting on growth performance in broiler chicks. K. K. Lundblad*[1,2], S. Issa[2], J. D. Hancock[2], M. Sørensen[3,4], K. C. Behnke[2], E. Prestløkken[1], L. J. McKinney[2], and S. Alavi[2], [1]*Felleskjøpet Fôrutvikling, Trondheim, Norway*, [2]*Kansas State University, Manhattan*, [3]*University of Life Sciences, Aas, Norway*, [4]*AKVAFORSK, Aas, Norway*.
2:45 PM	859	Effects of feed form and fiber inclusion in the diet on nutrient utilization in twenty one–day–old broilers. E. Jiménez-Moreno[1], J. M. González-Alvarado[1,2], A. de Coca-Sinova[1], R. Lázaro[1], and G. G. Mateos*[1], [1]*Universidad Politécnica de Madrid, Spain*, [2]*Universidad Autónoma de Tlaxcala, México*.
3:00 PM	860	Effects of inclusion of several fiber sources on digesta pH of broilers. E. Jiménez-Moreno*[1], J. M. González-Alvarado[1,2], A. González-Serrano[1], R. Lázaro[1], and G. G. Mateos[1], [1]*Universidad Politécnica de Madrid, Spain*, [2]*Universidad Autónoma de Tlaxcala, México.*
3:15 PM	861	Adhesion ability of probiotic lactobacillus strains and their effect on piglet performance. S. Qiao*, X. Li, and H. Yu, *National Key Lab of Animal Nutrition, China Agricultural University, Beijing, China*.
3:30 PM	862	Supplementing rice protein concentrate to a milk-based diet enhances growth performance in weaned pigs. Z. P. Hou[1], Y. L. Yin*[1,2], R. L. Huang[1], T. J. Li[1], P. Zhang[1], X. Wu[1], and G. Y. Wu[1,3], [1]*Key Laboratory of Subtropical Agro-ecology, Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China*, [2]*Nanchang University, Nanchang, Jiangxi, China*, [3]*Texas A&M University, College Station*.
3:45 PM	863	Effects of different carbohydrates on the growth performance of weaned pigs. X. G. He*[1,2], H. J. Xu[1,2], X. F. Kong[1,2], W. Y. Chu[2], R. L. Huang[2], Z. Y. Deng[1], S. W. Kim[3,4], G. Y. Wu[1,4], and Y. L. Yin[1,4], [1]*Nanchang University, Nanchang, Jiangxi, China*, [2]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Hunan, Changsha, China*, [3]*Texas Tech University, Lubbock*, [4]*Texas A&M University, College Station.*
4:00 PM	864	*Pediococcus pentosaceus* FBB61 reduces oxidative damage by ochratoxin A in rats. A. Piva[1], V. Pizzamiglio*[1], E. Grilli[1], M. R. Messina[1], P. P. Gatta[1], G. Casadei[2], M. Bognanno[3], and F. Galvano[3], [1]*DIMORFIPA, University of Bologna, Bologna, Italy*, [2]*Northeastern University, Boston, MA*, [3]*STAFA Dept., Mediterranean University of Reggio Calabria, Reggio Calabria, Italy.*
4:15 PM	865	Apparent ileal digestibility of nitrogen, amino acids and energy of soybean meals from different origins in twenty one-day-old broilers. A. Coca-Sinova, D. G. Valencia, E. Jiménez-Moreno, J. M. González-Alvarado, R. Lázaro, and G. G. Mateos*, *Universidad Politécnica de Madrid, Spain*.
4:30 PM	866	Fecal near-infrared reflectance spectroscopy (NIRS) calibrations for predicting intake of donkeys. N. Kidane*, J. Stuth, and D. Tolleson, *Texas A&M University, College Station.*

SYMPOSIUM
Nonruminant Nutrition
Natural Phytobiotics for Health of Young Animals: Applications and Mechanisms
Chair: Sung Woo Kim, Texas Tech University
Sponsor: Biomin USA
213

2:00 PM		Introduction. S. W. Kim, *Texas Tech University, Lubbock.*
2:15 PM	867	Natural phytobiotics for health of young piglets and poultry: Mechanisms and application. W. Windisch*[1] and A. Kroismayr[2], [1]*University of Natural Ressources and Applied Life Sciences, Vienna, Austria*, [2]*BIOMIN GmbH, Herzogenburg, Austria*.
3:00 PM	868	The use of bioactive herbal saccharides in China. X. Piao*[1], S. Yuan[1], S. W. Kim[2], D. Li[1], and D. Ou[1], [1]*China Agriculture University, Beijing, China*, [2]*Texas Tech University, Lubbock.*
3:45 PM	869	Effect of a phytogenic feed additive on reproduction performance of sows. A. Kroismayr*[1,4], C. Hsun[2], M. Racousier[3], and

		T. Steiner[4], [1]*University of Natural Resources and Applied Life Sciences, Vienna, Austria*, [2]*BIOMIN America Inc, San Antonio, Texas*, [3]*Universidad Mayor, Santiago, Chile*, [4]*BIOMIN GmbH, Herzogenburg, Austria*.
4:00 PM	870	Effects of phytobiotics on nursery pig performance. R. C. Sulabo*[1], J. Y. Jacela[1], J. M. DeRouchey[1], M. D. Tokach[1], F. Neher[2], R. D. Goodband[1], S. S. Dritz[1], and J. L. Nelssen[1], [1]*Kansas State University, Manhattan*, [2]*Biomin Inc., San Antonio, TX*.
4:15 PM	871	Dietary supplementation with *Acanthopanax Senticosus* extracts enhances the digestion and absorption of dietary protein and amino acids in weaned pigs. F. G. Yin*[1], X. F. Kong[1], Y. L. Yin[1], H. J. Liu[1], F. F. Xing[1], Q. H. He[1], T. J. Li[1], R. L. Huang[1], P. Zhang[1], and G. Y. Wu[1,2], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China*, [2]*Texas A&M University, College Station*.

Nonruminant Nutrition
Weanling Pig Nutrition
Chair: Jeffery Escobar, Virginia Polytechnic and State University
210

2:00 PM	872	Effect of organic acids and antibiotic growth promoters on growth performance, gastrointestinal pH, intestinal microbial populations and immune responses of weaned pigs. Z. Li[1], D. Li[1], G. Yi*[2], J. Yin[1], and P. Sun[1], [1]*China Agricultural University, Beijing, P.R. China*, [2]*DaChan NorthEast Asia Corp, Beijing, P. R. China*.
2:15 PM	873	Dietary supplementation with glycyrrhetinic acid (GA) increases endogenous arginine provision and growth performance in milk-fed piglets. Z. S. He[1], Y. L. Hu[2], Y. L. Yin*[1,3], R. L. Huang[1], X. F. Kong[1], T. J. Li[1], F. W. Li[1], and G. Y. Wu[1,3], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China*, [2]*Nanjing Agricultural University, Nanjing, Jiangsu, China*, [3]*Texas A&M University, College Station.*
2:30 PM	874	Dietary arginine supplementation enhances the immune status of piglets. B. E. Tan[1], Y. L. Yin*[1], X. F. Kong[1], T. J. Li[1], R. L. Huang[1], P. Zhang[1], F. G. Yin[1], I. Shinzato[2], S. W. Kim[3,4], and G. Y. Wu[1,4], [1]*Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China*, [2]*Ajinomoto, Tokyo, Japan*, [3]*Texas Tech University, Lubbock*, [4]*Texas A&M University, College Station*.
2:45 PM	875	Evaluation of different additives in weaned pigs raised in a commercial setting. K. J. Touchette[1], M. D. Newcomb[1], J. A. Cuaron[2], G. Lanz-Arias[2], and D. W. Giesting*[1], [1]*Cargill Animal Nutrition, Elk River, MN*, [2]*INIFIAP/PAIPEME, Queretaro, Qro., Mexico.*
3:00 PM	876	The interaction of dietary energy and an *E. coli* phytase enzyme on the performance of weanling pigs. A. D. Beaulieu*[1], J. F. Patience[1], T. M. Parr[2], C. L. Wyatt[2], and M. R. Bedford[2], [1]*Prairie Swine Centre, Inc., Saskatoon, SK, Canada*, [2]*Syngenta Animal Nutrition, RTP, NC.*
3:15 PM	877	Bioavailability of iron in an organic iron source for young pigs. G. L. Cromwell*, M. D. Lindemann, and H. J. Monegue, *University of Kentucky, Lexington*.
3:30 PM	878	A comparison of water delivered direct fed microbials or organic acids with in-feed antibiotics on weanling pig growth performance, intestinal morphology, gut microbiota and immune status following a *Salmonella typhimurium* challenge. M. C. Walsh*[1], D. M. Sholly[1], K. L. Saddoris[1], B. E. Aldridge[1], A. L. Sutton[1], M. H. Rostagno[2], B. T. Richert[1], and J. S. Radcliffe[1], [1]*Purdue University, West Lafayette, IN*, [2]*USDA Livestock Behaviour Unit, West Lafayette, IN*.
3:45 PM	879	Influence of diet and manure management on growth performance and carcass characteristics of wean-finish pigs. D. M. Sholly*, R. B. Hinson, K. L. Saddoris, M. C. Walsh, A. L. Sutton, B. T. Richert, and J. S. Radcliffe, *Purdue University, West Lafayette, IN*.
4:00 PM	880	Relationship of isoprostanes, biomarker of oxidative stress, and pig productivity. T. S. Stahl*, J. B. Zamzow, D. Wang, and A. E. Atwood, *Iowa State University, Ames*.
4:15 PM	881	The impact of coating on thermostability and bioefficacy of phytase in weaned pigs fed corn-soybean meal based diets. A. Owusu-Asiedu[1], P. H. Simmins[1], J. L. Landero[2,3], and R. T. Zijlstra*[3], [1]*Danisco Animal Nutrition, Marlborough, UK*, [2]*Universidad Autónoma de Baja California, Mexicali, México*, [3]*University of Alberta, Edmonton, AB, Canada*.
4:30 PM	882	Enzymatic comparisons of *Aspergillus niger* PhyA and *Escherichia coli* AppA2 phytases. A. H. J. Ullah[2], J. D. Weaver*[1], K. Sethumadhavan[2], E. J. Mullaney[2], and X. G. Lei[1], [1]*Cornell University, Ithaca, NY*, [2]*SRRC, ARS, USDA, New Orleans, LA.*
4:45 PM	883	Effects of dietary electrolyte balance and molasses in diets with corn-based distillers dried grains with solubles on growth performance in nursery and finishing pigs. C. Feoli*[1], J. D. Hancock[1], S. M. Williams[1], T. L. Gugle[1], S. D. Carter[2], and N. A. Cole[3], [1]*Kansas State University, Manhattan*, [2]*Oklahoma State University, Stillwater*, [3]*USDA/ARS, Bushland, TX*.

Physiology & Endocrinology - Livestock and Poultry
Reproductive Physiology
Chair: Mark J. Estienne, Virginia Polytechnic and State University
214 C

2:00 PM	884	Emerging concepts regarding the integration of neuroendocrine signals that regulate gonadotropin secretion in domestic livestock. C. A. Lents*[1] and C. R. Barb[2], [1]*The University of Georgia, Athens,* [2]*USDA-ARS, Russell Research Center, Athens, GA.*
2:30 PM	885	Effects of human chorionic gonadotropin (hCG) and gonadotropin releasing hormone (GnRH) on follicle and corpus luteum dynamics and concentrations of progesterone in pre-pubertal Angus heifers. C. R. Dahlen*[2], J. E. Larson[1], G. Marquezini[1], and G. C. Lamb[1], [1]*North Central Research and Outreach Center, University of Minnesota, Grand Rapids,* [2]*Northwest Research and Outreach Center, University of Minnesota, Crookston*.
2:45 PM	886	Increasing ovulation rate reduced follicle size and increased blood progesterone concentrations but had no effect on fertility in cattle selected for twins. S. E. Echternkamp*, R. A. Cushman, and M. F. Allan, *USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE*.
3:00 PM	887	Altered liver gene expression and reproductive function in postpartum suckled beef cows on different planes of nutrition. M. Bionaz*[1], F. Samadi[2], M. J. D'Occhio[2,3], and J. J. Loor[1], [1]*University of Illinois, Urbana,* [2]*The University of Queensland, Gatton Campus, Australia,* [3]*CRC for Beef Genetic Technologies, Gatton Campus, Australia*.
3:15 PM	888	Luteal function at day 30 of pregnancy in relation to serum progesterone in dairy cows at risk for late embryonic or early fetal mortality. J. D. Rhinehart*[1], J. A. Flores[1], R. A. Milvae[2], and E. K. Inskeep[1], [1]*West Virginia University, Morgantown,* [2]*University of Connecticut, Storrs*.
3:30 PM	889	Effect of seminal plasma and transforming growth factor (TGF)-β1 treatment on pregnancy outcome in beef cattle. J. F. Odhiambo*[1], I Holásková[1], J. D. Rhinehart[1], D. H. Poole[2], J. M. DeJarnette[3], E. K. Inskeep[1], and R. A. Dailey[1], [1]*West Virginia University, Morgantown,* [2]*Ohio State University, Colombus,* [3]*Select Sires Inc, Plains City, OH*.
3:45 PM	890	Prolactin and luteinizing hormone profiles during the reproductive cycle in the native Thai chicken. S. Kosonsiriluk[1], N. Sartsoongnoen[1], N. Prakobsaeng[1], I. Rozenboim[2], M. E. El Halawani[3], and Y. Chaiseha*[1], [1]*Suranaree University of Technology, Nakhon Ratchasima, Thailand,* [2]*The Hebrew University of Jerusalem, Rehovot, Israel,* [3]*University of Minnesota, Saint Paul.*
4:00 PM	891	The effect of active immunization against vasoactive intestinal peptide and inhibin on semen production of young and aged roosters. I. Rozenboim* and N. Avital, *Hebrew University of Jerusalem, Paculty of Agriculture Dept Animal Science, Rehovot, Israel*.
4:15 PM	892	Chicken epiregulin (ER) gene: cDNA cloning, genomic organization, and regulation of its mRNA expression in ovarian granulosa cells. Y. Wang*, J. Li, and F. C. Leung, *The University of Hong Kong, Hong Kong, HK-SAR, China.*
4:30 PM	893	Effects of different cryopreservation methods on the glyocalyx of chicken spermatozoa. J. Pelaez and J. A. Long*, *Beltsville Agricultural Research Center, Beltsville*.
4:45 PM	894	Testicular development in meishan and commercial crossbred prepubertal boars. J. J. Ford*, *U.S. Meat Animal Research Center, Clay Center, NE*.
5:00 PM	895	Transcript profiling of testes from boars divergently selected for testosterone production. M. S. Ashwell*, S. Druyan, C. M. Ashwell, and J. P. Cassady, *North Carolina State University, Raleigh*.

SYMPOSIUM
Production, Management & the Environment - Livestock and Poultry
The Evolving National Animal Identification System
Chair: John Paterson, Montana State
214 D

2:00 PM		Introductions. John Paterson.
2:15 PM		Update on the National Animal Identification System. Neil Hammerschmidt.
2:45 PM	896	The Canadian Livestock Traceability System. J. M. Stitt*, *Canadian Cattle Identification Agency, Calgary, Alberta, Canada*.
3:15 PM		Break
3:45 PM		Report on NAIS Pilot Projects and Field Trials. David Morris.

4:15 PM	897	Issues surrounding existing and potentially disruptive RFID technologies for the identification of food producing animals. D. A. Blasi*, *Kansas State University, Manhattan*.
4:45 PM		Questions.

Ruminant Nutrition
Intake Behavior/Acidosis/Metabolism - Dairy
Chair: Kendall Swanson, University of Guelph
217 C

2:00 PM	899	Severity of ruminal acidosis increases with repeated bouts particularly when cows are fed low forage diets. F. Dohme*[1], T. J. DeVries[2], K. A. Beauchemin[2], K. M. Krause[3], and K. S. Schwartzkopf-Genswein[2], [1]*Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland*, [2]*Agriculture and Agri-Food Canada, Lethbridge, AB*, [3]*West Virginia University, Morgantown*.
2:15 PM	898	Feed sorting in dairy cattle: Effects of repeated acidosis challenges. T. J. DeVries*[1], F. Dohme[2], and K. A. Beauchemin[1], [1]*Agriculture and Agri-Food Canada, Lethbridge, AB*, [2]*Agroscope Liebefeld-Posieux, Posieux, Switzerland*.
2:30 PM	900	Grain-induced subacute ruminal acidosis (SARA) stimulates translocation of lipopolysaccharide (LPS) into the blood, and increases acute phase proteins in bovine plasma and milk. E. Khafipoor*, D. O. Krause, and J. C. Plaizier, *University of Manitoba, Winnipeg, MB, Canada*.
2:45 PM	901	Induction of subacute ruminal acidosis (SARA) by replacing alfalfa hay with alfalfa pellets does not stimulate inflammatory response in lactating dairy cows. E. Khafipoor*, D. O. Krause, and J. C. Plaizier, *University of Manitoba, Winnipeg, MB, Canada*.
3:00 PM	902	Particle analysis of swallowed hay boluses varying in chop length. I. Schadt*[1], M. Caccamo[1], J. D. Ferguson[2], G. Azzaro[1], R. Petriglieri[1], P. Van Soest[3], and G. Licitra[1,4], [1]*CoRFiLaC, Regione Siciliana, Ragusa, Italy*, [2]*University of Pennsylvania, School of Veterinary Medicine, Kennett Square*, [3]*Cornell University, Ithaca, NY*, [4]*D.A.C.P.A. University of Catania, Catania, Italy*.
3:15 PM	903	Rumen function and lameness in pasture based dairy cows of the South Island of New Zealand. J. Gibbs*, J. Laporte-Uribe, C. Trotter, and J. Noel, *Dairy Science Group, Agriculture and Life Sciences, Lincoln University, Canterbury, New Zealand*.
3:30 PM	904	Effect of lifecycle stage of dairy cattle on serum mineral concentrations. D. R. Bremmer[1], R. H. Schulte[2], and M. T. Socha*[3], [1]*Vita Plus Corporation, Madison, WI*, [2]*Modified Genetics, Marshfield, WI*, [3]*Zinpro Corporation, Eden Prairie, MN*.
3:45 PM	905	Phosphorus balance in dairy cows during lactation. J. A. Elizondo Salazar*[1], D. B. Beegle[1], J. D. Ferguson[2], and Z. Wu[2], [1]*Pennsylvania State University, University Park*, [2]*University of Pennsylvania, Kennett Square*.
4:00 PM	906	Effect of 2-hydroxy-4-(methylthio) butanoic acid isopropyl ester on milk production and composition of high yielding lactating Holstein dairy cows. R. H. Phipps*[1], A. K. Jones[1], C. K. Reynolds[1], D. I. Givens[1], P-A. Geraert[2], and C. Richard[2], [1]*University of Reading, Reading, UK*, [2]*Adisseo, Commentary, France.*
4:15 PM	907	Transport of 2-hydroxy-4-methyl-thio-butanoic isopropyl ester (HMBi) across rumen epithelium in vitro. W. Heimbeck*[1] and G. Breves[2], [1]*Degussa GmbH, Hanau, Germany*, [2]*Institute for Physiology, School of Veterinary Medicine, Hannover, Germany*.
4:30 PM	908	Responses of rumen and blood metabolites of Holstein dairy cows to propylene glycol during frequent feeding. Y.-H. Chung*, C. M. Martinez, N. E. Brown, T. W. Cassidy, and G. A. Varga, *Dairy and Animal Science, Pennsylvania State University, University Park.*
4:45 PM	909	Glucose minimal modeling in lactating dairy cows. R. C. Boston*[1], J. R. Roche[2], and P. J. Moate[1], [1]*University of Pennsylvania, Kennett Square*, [2]*University of Tasmania, Burnie, Tas, Australia*.

Ruminant Nutrition
Lipid Supplementation
Chair: Tilak Dhiman, Utah State University
ASAS Early Career Achievement Award Sponsored by the ASAS Foundation
217 B

2:00 PM		ASAS Early Career Achievement Award Introduction.
2:05 PM	910	A decade of research developments in ruminant nutrition at the University of Wyoming. B. W. Hess*, *University of Wyoming, Laramie*.
2:35 PM		Questions for Dr. Hess.
2:45 PM	911	Effect of dietary fish and soyoil supplementation on muscle fatty acid concentrations and oxidative lipid stability in beef

		cattle. D. A. Kenny*[1], J. P. Kelly[1], F. J. Monahan[1], and A. P. Moloney[2], [1]*University College Dublin, Dublin 4, Ireland,* [2]*Teagasc Grange Research Centre, Co. Meath, Ireland*.
3:00 PM	912	Effects of feeding fresh and oxidized fat in the presence and absence of dietary antioxidant on lactation performance. M. Vazquez-Anon[1], G. Bowman*[1], T Hampton[1], P. Vazquez[2], T. Jenkins[3], and J. Nocek[4], [1]*Novus International, St Charles, MO,* [2]*Universidad de Santiago, Lugo, Spain,* [3]*Clemson University, Clemson, SC,* [4]*Spruce Haven Research, Union Springs, NY*.
3:15 PM	913	The energetic and non–energetic effects of supplemental fish oil during the peripartum period on the metabolic status of multiparous Holstein cows. M. A. Ballou*, M. K. Yelle, R. C. Gomes, D. W. Kim, and E. J. DePeters, *University of California, Davis*.
3:30 PM	914	Lactation response and milk α-linolenic acid concentration in dairy goats fed different forage species supplemented with extruded linseed. A. Doyon*[1], G. F. Tremblay[2], D. Cinq–Mars[3], and P. Y. Chouinard[1], [1]*Nutraceuticals and Functional Foods Institute (INAF), Laval University, Quebec, QC, Canada,* [2]*Agriculture and Agri-Food Canada, Soils and Crops Research and Development Center, Quebec, QC, Canada,* [3]*Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec, Direction de l'innovation scientifique et technologique, Quebec, QC, Canada*.
3:45 PM	915	Predicting production of de novo fatty acids in milk. P. J. Moate*[1], W. Chalupa[1], R. C. Boston[1], and I. J. Lean[2], [1]*University of Pennsylvania, Kennett Square, PA,* [2]*Sydney University, Sydney, NSW, Australia*.
4:00 PM	916	Effect of in vitro DHA supplementation to adapted and non-adapted rumen inoculum on the biohydrogenation of linolenic and linoleic acid. B. Vlaeminck[1], G Mengistu[2], J. Dijkstra[2], and V. Fievez*[1], [1]*Laboratory for Animal Nutrition and Animal Product Quality, Ghent University, Belgium,* [2]*Animal Nutrition Group, Wageningen University, The Netherlands*.
4:15 PM	917	Identification of enriched conjugated linoleic acid isomers in cultures of ruminal microorganisms after dosing with 1-^{13}C-linoleic acid. Y-J. Lee*[1], J. T. Brenna[2], P. Lawrence[2], S. K. Duckett[1], G. L Powell[1], W. C. Bridges, Jr.[1], and T. C. Jenkins[1], [1]*Clemson University, Clemson, SC,* [2]*Cornell University, Ithaca, NY*.
4:30 PM	918	Octadeca-carbon fatty acids affect microbial fermentation, methanogenesis and microbial flora in vitro. C. M. Zhang*[1], J. X. Liu[1], Y. Q. Guo[1], Z. P. Yuan[1], J. K. Wang[1], and W. Y. Zhu[2], [1]*College of Animal Sciences, Ministry of Education Key Laboratory of Molecular Animal Nutrition, Zhejiang University, Hangzhou, Zhejiang, P.R. China,* [2]*College of Animal Science and Technology, Nanjing Agricultural University, Nanjing, Jiangsu, P.R. China*.
4:45 PM	919	Effect of feeding rate of a 26% CP calf milk replacer. T. M. Hill*, H. G. Bateman, II, J. M. Aldrich, and R. L. Schotterbeck, *Akey, Lewisburg, OH*.
5:00 PM	920	Effect of CP concentration in a post-weaning calf grower. T. M. Hill*, H. G. Bateman, II, J. M. Aldrich, and R. L. Schotterbeck, *Akey, Lewisburg, OH*.

Sheep Species
Sheep Production and Management
Chair: Michael L. Thonney, Cornell University
207 B

2:00 PM	921	Cobalt supplementation to the pregnant ewe reduces vitamin E levels in the newborn lamb. T. M. Boland*, L. Hayes, J. J. Murphy, T. Sweeney, J. J. Callan, and T. F. Crosby, *University College Dublin, Belfield, Dublin 4, Ireland.*
2:15 PM	922	Evaluation of alternative small ruminant finishing systems for the tropics. S. A. Weiss*, R. C. Ketring, and R. W. Godfrey, *University of the Virgin Islands, St. Croix, Kingshill*.
2:30 PM	923	Potential for onions to reduce bitterweed toxicity in sheep. E. S. Campbell*[1], T. R. Whitney[2], C. A. Taylor[1], and N. Garza[1], [1]*Texas Agricultural Experiment Station, Sonora, TX,* [2]*Texas Agricultural Experiment Station, San Angelo, TX*.
2:45 PM	924	Effectiveness of allopathic and homeopathic dewormers on gastrointestinal nematodes and gain in ewes. A. Baños L, E. Cortés D*, S. Vázquez, J. L. Zaragoza, P. A. Martínez, and T. González, *UACh-Chapingo, Mexico*.
3:00 PM	925	Influence of feeding tanniniferous sainfoin on the nitrogen balance of lambs artificially infected with the abomasal nematode *Haemonchus contortus*. A. Scharenberg[1], Y. Arrigo[1], F. Heckendorn[2], H. Hertzberg[2], A. Gutzwiller[1], H. D. Hess[1], M. Kreuzer[3], and F. Dohme*[1], [1]*Agroscope Liebefeld-Posieux, Research Station ALP, Posieux, Switzerland,* [2]*Research Institute for Organic Farming (FiBL), Frick, Switzerland,* [3]*ETH Zurich, Institute of Animal Science, Zurich, Switzerland*.
3:15 PM		Break
3:30 PM	926	Prediction of carcass measures and wholesale product weights in sheep using B-mode ultrasound. T. D. Leeds*[1], M. R. Mousel[1], D. R. Notter[2], and G. S. Lewis[1], [1]*USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID,* [2]*Virginia Polytechnic Institute and State University, Blacksburg*.

3:45 PM	927	Prediction of lamb carcass leg and loin weights using leg score and leg width measurements. M. R. Mousel*[1], T. D. Leeds[1], D. R. Notter[2], and H. N. Zerby[3], [1]*USDA-ARS U.S. Sheep Experiment Station, Dubois, ID*, [2]*Virginia Polytechnic Institute and State University, Blacksburg*, [3]*The Ohio State University, Columbus*.
4:00 PM	928	Influence of body weight and body condition score at breeding on conception and prolificacy of Merino and Composite Coopworth, East Friesian, Romney and Texel sheep in Tasmania, Australia. A. E. O. Malau-Aduli*[1], G. H. Bond[1], and M. Dunbabin[2], [1]*University of Tasmania, Hobart, Tasmania 7001, Australia*, [2]*Bangor, Dunalley, Tasmania 7177, Australia.*
4:15 PM	929	Body weight changes and subsequent lambing rates of western white-faced ewes grazing winter range. J. B. Taylor*, C. A. Moffet, and T. D. Leeds, *USDA, ARS, U. S. Sheep Experiment Station, Dubois, ID.*
4:30 PM	930	Changes in metabolic and endocrine measurements during feed restriction in dairy ewes with different BCS. G. Pulina*[1], G. C. Bomboi[2], A. Mazzette[1], B. Floris[2], C. Dimauro[1], S. P. G. Rassu[1], and A. Nudda[1], [1]*Dipartimento di Scienze Zootecniche - Università di Sassari, Sassari, Italy*, [2]*Dipartimento di Biologia Animale - Università di Sassari, Sassari, Italy*.

Thursday, July 12

SYMPOSIA AND ORAL SESSIONS

Beef Species II
Feed Intake and Efficiency
Chair: Denny Crews, Agriculture and Agri-Food Canada
214 B

8:30 AM	931	Energy cost of cows' grazing activity: Estimation in large plots. A. Brosh*, Z. Henkin, E. D. Ungar, A. Dolev, A. Orlov, Y. Shabtay, Y. Yehuda, and Y. Aharoni, *Beef Cattle Section, Newe Yaar Research Center, ARO, Israel*.
8:45 AM	932	Relationships among exit velocity, cortisol, and carcass characteristics of beef heifers. R. R. Reuter[1,2], J. D. Dailey*[2], J. A. Carroll[2], M. S. Brown[3], and M. L. Galyean[1], [1]*Texas Tech University, Lubbock*, [2]*USDA-ARS Livestock Issues Research Unit, Lubbock, TX*, [3]*West Texas A&M University, Canyon*.
9:00 AM	933	Evaluation of a mathematical model to estimate total feed required for pen-fed animals based on performance and diet information. B. M. Bourg*[1], L. O. Tedeschi[1], and M. S. Brown[2], [1]*Texas A&M University, College Station*, [2]*West Texas A&M University, Canyon.*
9:15 AM		BREAK
9:30 AM	934	Genetic trends for feed intake, average daily gain, mid-test weight and residual feed intake in a population of Angus cattle selected for feed efficiency. D. P. Kirschten*[1], E. J. Pollak[1], D. R. Strohbehn[2], and D. Warden[3], [1]*Cornell University, Ithaca, NY*, [2]*Iowa State University, Ames*, [3]*Wardens Farm, Council Bluffs, IA.*
9:45 AM	935	Relationship between residual feed intake and ultrasonic measures of body composition in yearling performance tested bulls. T. L. Perkins*, J. L. Drury, and A. Rimal, *Missouri State University, Springfield*.
10:00 AM	936	Characterization of residual feed intake and relationships with serum insulin-like growth factor-I in growing Brangus heifers. P. A. Lancaster*[1], G. E. Carstesn[1], J. G. Lyons[1], T. H. Welsh, Jr.[1], R. D. Randel[2], and T. D. A. Forbes[3], [1]*Texas Agricultural Experiment Station, College Station*, [2]*Texas Agricultural Experiment Station, Overton*, [3]*Texas Agricultural Experiment Station, Uvalde*.
10:15 AM	937	Feed efficiency and residual feed intake of Nelore young bulls selected for yearling weight. R. Almeida*[1], R. F. Nardon[2], A. G. Razook[2], L. A. Figueiredo[2], and D. P. D. Lanna[3], [1]*Universidade Federal do Paraná, Paraná, Brazil*, [2]*Instituto de Zootecnia, São Paulo, Brazil*, [3]*ESALQ/USP, São Paulo, Brazil*.

Breeding and Genetics - Livestock and Poultry
Analyses and Methods II
Chair: Curt Van Tassell, USDA - ARS
207 B

8:30 AM	938	Genetic parameters estimation for Test Day Model evaluation in Italy. F. Canavesi* and S. Biffani, *ANAFI, Cremona, Italy*.
8:45 AM	939	Use of a mathematical computer model to predict feed intake in Angus cattle: Genetic parameters between observed and predicted values, and relationships with other traits. D. P. Kirschten*, E. J. Pollak, and D. G. Fox, *Cornell University*,

		Ithaca, NY.
9:00 AM	940	Computing options for genetic evaluation with a large number of genetic markers. S. Tsuruta, I. Misztal*, and J. K. Bertrand, *University of Georgia, Athens.*
9:15 AM	941	Sampling genotype configurations in large complex pedigree. M. Szydlowski*[1] and N. Gengler[1,2], [1]*Gembloux Agricultural University, Gembloux, Belgium,* [2]*National Fund for Scientific Research, Brussels, Belgium.*
9:30 AM	942	Comparisons of single and multiple trait random regression models for analyses of multi-parity test-days. S. Tsuruta* and I. Misztal, *University of Georgia, Athens.*
9:45 AM	943	Investigation of genetic differences in feed efficiency through comparison of observed versus model predicted feed intake in *Bos indicus – Bos taurus* F_2 full sib steers. T. S. Amen*, J. E. Sawyer, A. D. Herring, J. O. Sanders, D. K. Lunt, and C. A. Gill, *Texas A&M University, College Station.*
10:00 AM		Break
10:15 AM	944	First screening of QTL using a segment mapping approach. M. Sargolzaei*[1], F. Schenkel[1], and H. D. Daetwyler[2], [1]*University of Guelph, Guelph, Ontario, Canada,* [2]*Roslin Institute, Roslin, Midlothian, Scotland, UK.*
10:30 AM	945	Evaluating the feasibility of fitting haplotype effects as random: variance component estimation. L. A. Kuehn*, R. M. Thallman, and K. A. Leymaster, *USDA-ARS U.S. Meat Animal Research Center, Clay Center, NE.*
10:45 AM	946	Interval mapping of deleterious recessive loci in half-sib families. L. Gomez-Raya* and W. M. Rauw, *University of Nevada, Reno.*
11:00 AM	947	Investigating the role of genetics on bovine respiratory disease incidence. M. J. Schneider*, J. R. Tait, M. V. Ruble, and J. M. Reecy, *Iowa State University, Ames.*
11:15 AM	948	Simulation study controlling inbreeding in litter size. S.-H. Oh*[1], G.-M. Kim[1], and Y.-C. Jung[2], [1]*North Carolina A&T State University, Greensboro,* [2]*Jung P&C Institute, Seongnam, Gyeonggi, South Korea.*

SYMPOSIUM
Contemporary & Emerging Issues - Livestock and Poultry
Contemporary and Emerging Issues
Chair: Judy Stabel, USDA-ARS, National Animal Disease Center
Sponsor: ABSTC
207 A

8:30 AM	949	Avian H5N1: still an animal virus? F. C. Leung*, *The University of Hong Kong, Hong Kong, HK-SAR, China.*
9:15 AM	950	Bovine spongiform encephalopathy in the United States. J. A. Richt*, *National Animal Disease Center-ARS-USDA, Ames, IA.*
10:00 AM	951	Scenario and economic analysis of a hypothetical link between MAP and Crohn's disease. H. Groenendaal* and F. Z. Zagmutt, *Vose Consulting, Boulder, CO.*
10:45 AM	952	Tuberculosis: a re-emerging disease at the interface of domestic animals and wildlife. M. V. Palmer*, *National Animal Disease Center, ARS, USDA, Ames, IA.*

Nonruminant Nutrition
Poultry Nutrition - Phosphorus and Phytase
Chair: Michael Persia, Syngenta Animal Nutrition
214 D

8:30 AM	953	Early response of young breeder source broilers to combined xylanase-amylase-protease-phytase supplementation of a high performance feed and when both ME-available phosphorus (AP) are reduced. E. T. Moran* and R. Lehman, *Auburn University, Auburn University, AL.*
8:45 AM	954	The effects of supplemental Quantum Phytase on second cycle Hyline W-36 hens. M. Lilburn[1] and C. Wyatt*[2], [1]*Ohio State University, Wooster,* [2]*Syngenta Animal Nutrition, Research Triangle Park, NC.*
9:00 AM	955	Influence of dietary calcium and phytase source on broiler performance. T. M. Parr*, M. R. Bedford, and C. L. Wyatt, *Syngenta Animal Nutrition, Research Triangle Park, NC.*

9:15 AM	956	Influence of dietary calcium and phytase source on litter moisture and mineral content. M. R. Bedford*[1], T. Parr[1], M. E. Persia[1], A. Batal[2], and C. L. Wyatt[1], [1]*Syngenta Animal Nutrition, Research Triangle Park, NC,* [2]*University of Georgia, Athens*.
9:30 AM	957	A holo-analysis of trials investigating the gain and feed conversion ratio benefits of Quantum™ phytase supplementation to broilers under a variety of managerial, environmental and dietary conditions. M. R. Bedford*, C. Murphy, and M. E. Persia, *Syngenta Animal Nutrition, Research Triangle Park, NC.*
9:45 AM	958	A novel rapid method for determining Quantum™ phytase activity levels in animal feeds. R. Upton*, C. Wyatt, M. Yarnall, A. Bruton, and T. Parr, *Syngenta Animal Nutrition, Research Triangle Park, NC.*
10:00 AM	959	The interaction between dietary electrolyte balance and microbial phytase on the performance and nutrient utilization of broiler chickens. V. Ravindran*[1], A. J. Cowieson[2], and P. H. Selle[3], [1]*Massey University, Palmerston North, New Zealand,* [2]*Danisco Animal Nutrition, Marlborough, United Kingdom,* [3]*University of Sydney, Camden, Australia*.
10:15 AM	960	Energetic implications of endogenous amino acid flow at the terminal ileum of broilers as influenced by phytate and phytase. A. J. Cowieson*[1] and V. Ravindran[2], [1]*Danisco Animal Nutrition, Marlborough, United Kingdom,* [2]*Massey University, Palmerston North, New Zealand*.
10:30 AM	961	The response of chicks fed 5 corn cultivars to phytase supplementation. G. M. Pesti*, H. M. Edwards, Jr., and R. I. Bakalli, *University of Georgia, Athens*.
10:45 AM	962	Performance and nutrient utilization in broilers fed corn-soybean based diets supplemented with coated phytase. I. A. Emiola*[1], T. A. Woyengo[1], A. Owusu-Asiedu[2], P. H. Simmins[2], W. Guenter[1], and C. M. Nyachoti[1], [1]*University of Manitoba, Winnipeg, MB, Canada,* [2]*Danisco Animal Nutrition, Marlborough, United Kingdom.*
11:00 AM	963	Phytase recovery test after pelleting process in different commercial feed mills in Brazil. J. O. B. Sorbara*[1,2], J. L. Lecznieski[1], C. Arakaki[1], and F.J. Piraces[1], [1]*DSM Nutritional Products, Sao Paulo, SP, Brazil,* [2]*Universidade Estadual de Maringa, Maringa, PR, Brazil*.
11:15 AM	964	Influence of feed phosphates and phytase supplementation on broiler performance. T. Mushtaq*[1], M. Sarwar[1], G. Ahmad[1,2], M. A. Mirza[1], and M. M. H. Mushtaq[1], [1]*University of Agriculture, Faisalabad, Pakistan,* [2]*Shamim Feed Industries, Bahawalpur, Pakistan.*

Physiology & Endocrinology - Livestock and Poultry
Metabolic Physiology
Chair: Ramesh Ramachandran, Pennsylvania State University
210

8:30 AM	965	Plane of nutrition by tick burden interaction in cattle: Effect on metabolic indicators in plasma. D. Tolleson*, G. Carstens, T. Welsh, P. Teel, O. Strey, S. Prince, K. Dean, and L. Slay, *Texas A&M University*.
8:45 AM	966	Using serum components and ultrasound measurements at weaning to predict feedlot gain and carcass merit. J. S. Thurlow*[1], T. L. Perkins[2], S. T. Reiter[1], A. H. Brown Jr.[1], and C. F. Rosenkrans Jr.[1], [1]*University of Arkansas, Fayetteville,* [2]*Missouri State University, Springfield*.
9:00 AM	967	Use of infrared thermal imaging to measure changes in body temperature following lipopolysaccharide (LPS) administration in hair sheep ewes. R. W. Godfrey*[1], R. C. Ketring[1], and S. T. Willard[2], [1]*University of the Virgin Islands, Agricultural Experiment Station, St. Croix, US Virgin Islands,* [2]*Mississippi State University, Mississippi State*.
9:15 AM	968	Effects of plane of nutrition and selenium on colostrum quality and mammary development in ewes. T. J. Swanson*[1], C. J. Hammer[1], J. B. Taylor[2], D. A. Redmer[1], K. A. Vonnahme[1], J. S. Luther[1], T. L. Neville[1], J. J. Reed[1], J. S. Caton[1], and L. P. Reynolds[1], [1]*North Dakota State University, Fargo,* [2]*USDA-ARS, U.S. Sheep Experiment Station, Dubois, ID.*
9:30 AM	969	Evaluating nutritional status of Dorper and Rambouillet ewes in a range sheep production system. T. R. Whitney*, D. F. Waldron, T. D. Willingham, and B. O. Payne, *Texas A&M Agricultural Experiment Station, San Angelo*.
9:45 AM	970	Variation in metabolic parameters in dairy cattle kept in a constant environment. K. L. Ingvartsen*, T. Larsen, P. Berg, and N. C. Friggens, *University of Aarhus, Faculty of Agricultural Sciences, Tjele, Denmark.*
10:00 AM		Break
10:15 AM	971	Uncovering adaptive hepatic gene networks due to prepartum plane of dietary energy and physiological state in periparturient Holstein cows. M. Bionaz*, J. K. Drackley, S. L. Rodriguez-Zas, H. M. Dann, N. A. Janovick Guretzky, R. E. Everts, R. Oliveira, H. A. Lewin, and J. J. Loor, *University of Illinois, Urbana*.
10:30 AM	972	Liver fatty acid binding protein (FABP) and acyl-CoA synthase (ACSL) isoform gene expression due to plane of dietary energy prepartum in dairy cows. M. Bionaz*, J. K. Drackley, H. M. Dann, and J. J. Loor, *University of Illinois, Urbana*.

10:45 AM	973	The use of nicotinic acid as antilipolytic agent to induce sustained low plasma NEFA concentrations in feed restricted Holstein cows. J. A. A. Pires* and R. R. Grummer, *University of Wisconsin, Madison*.
11:00 AM	974	Reduction of plasma NEFA concentration by nicotinic acid enhances the response to insulin in feed restricted Holstein cows. J. A. A. Pires*, J. B. Pescara, and R. R. Grummer, *University of Wisconsin, Madison*.
11:15 AM	975	Effect of short-term feeding of a plant botanical during late-gestation on temperature and physiological responses of piglets challenged with LPS. J. L. Salak-Johnson*[1], J. M. Suchomel[1], S. R. Niekamp[1], S. Block[2], and R. Balsbaugh[3], [1]*University of Illinois at Urbana-Champaign, Urbana*, [2]*ADM Animal Nutrition Research, Decatur, IN*, [3]*ADM Alliance Nutrition, Inc., Quincy, IL*.
11:30 AM	976	Effects of multiple concurrent stressors on rectal temperature, blood acid-base status, and loin muscle glycolytic potential in market weight pigs. M. J. Ritter*[1], M. Ellis[2], D. B. Anderson[3], S. E. Curtis[2], K. K. Keffaber[1], J. Killefer[2], F. K. McKeith[2], C. M. Murphy[2], and B. A. Peterson[2], [1]*ELANCO Animal Health, Greenfield, IN*, [2]*University of Illinois, Urbana*, [3]*Colorado State University, Fort Collins.*
11:45 AM	977	Neonatal Fc receptor mRNA expression in fetal pigs and in gastrointestinal tissues from pigs fed diets of varying form with or without irradiated and non-irradiated spay-dried animal plasma. C. N. Groesbeck*[1], T. E. Burkey[2], J. E. Minton[1], S. S. Dritz[1], R. D. Goodband[1], M. D Tokach[1], J. M. DeRouchey[1], and J. L. Nelssen[1], [1]*Kansas State University, Manhattan*, [2]*University of Nebraska, Lincoln*.

SYMPOSIUM
Poultry-Breeding and Hatchery Symposium
Semen Evaulation and Fertility Determination in Poultry
Chair: Murray Bakst, BGL, ANRI, ARS, USDA, Beltsville, MD
214 C

8:30 AM		Introduction.
8:40 AM	978	Using sperm penetration values to evaluate broiler breeder performance and reproductive efficiency. R. K. Bramwell*, *University of Arkansas, Fayetteville*.
9:10 AM	979	Advances in sperm cell biology stemming from the analysis of sperm mobility. D. Froman*, *Oregon State University, Corvallis*.
9:40 AM		Break
10:00 AM	980	Using the Sperm Quality Analyzer Vt for dosimetry of turkey semen in commercial turkey operations; the potential impact on fertility, and the economic implications of better utilization of sires with superior growth potential. K. K. Krueger*, *Diamond K Research, Marshville, NC.*
10:30 AM	981	Using egg breakout to estimate flock fertility. J. L. Wilson*, *University of Georgia, Athens*.
11:00 AM		Round Table Discussion. Moderator: Julie Long, *ARS-USDA, Beltsville, MD*.

Ruminant Nutrition
Nitrogen Digestion/Metabolism
Chair: Chad Mueller, Oregon State University
214 A

8:30 AM	982	Development and establishment of an enzymatic in vitro procedure for estimating intestinal protein digestibility of feedstuffs for ruminants. R. Irshaid[1,2] and K.-H. Suedekum*[2], [1]*University of Kiel, Kiel, Germany*, [2]*University of Bonn, Bonn, Germany*.
8:45 AM	983	Evaluation of lysine digestibility in rumen undegraded protein using the precision-fed rooster assay and two *in vitro* methods. S. E. Boucher*[1], C. Pedersen[2], H. H. Stein[3], C. M. Parsons[3], and C. G. Schwab[1], [1]*University of New Hampshire, Durham*, [2]*Danisco Animal Nutrition, Marlborough, UK*, [3]*University of Illinois, Urbana*.
9:00 AM	984	Amino acid digestibility in rumen undegraded protein estimated in cecectomized roosters and the immobilized digestive enzyme assay (IDEA™). S. E. Boucher*[1], M. Vázquez-Añán[2], J. Wu[2], C. M. Parsons[3], and C. G. Schwab[1], [1]*University of New Hampshire, Durham*, [2]*Novus International, St. Louis, MO*, [3]*University of Illinois, Urbana*.
9:15 AM	985	Influence of level of intake upon rumen degradability of protein sources. I. Schadt*[1], G. Azzaro[1], R. Petriglieri[1], P. J. Van Soest[2], K.-H. Südekum[3], and G. Licitra[1,4], [1]*CoRFiLaC, Regione Siciliana, Ragusa, Italy*, [2]*Cornell University, Ithaca, NY*, [3]*University of Bonn, Bonn, Germany*, [4]*D.A.C.P.A. University of Catania, Catania, Italy*.

9:30 AM	986	Balancing diets for rumen microbial protein requirements: 1) effects on animal performance under a deficient rumen available protein scenario. P. J. Guiroy*, D. H. Theuninck, C. B. Calk, and J. N. Pike, *Cargill Inc, Minnetonka, MN*.
9:45 AM	987	Balancing diets for rumen microbial protein requirements: 2) effects on animal performance under an excess rumen available protein scenario. J. N. Pike*, P. J. Guiroy, D. H. Theuninck, and C. B. Calk, *Cargill Inc, Minnetonka, MN*.
10:00 AM	988	Effect of level of metabolizable protein on milk production and nitrogen utilization in lactating dairy cows. C. Wang*[1], J. X. Liu[1], Z. P. Yuan[1], Y. M. Wu[1], S. W. Zhai[1], and H. W. Ye[2], [1]*Institute of Dairy Sciences, Ministry of Education Key Laboratory of Molecular Animal Nutrition, Zhejiang University, Hangzhou, China*, [2]*Hangzhou Zhengxing Animal Industry Company, Hangzhou, China*.
10:15 AM	989	Nutrient demand affects nitrogen utilization responses to diets containing alfalfa or orchardgrass. J. A. Voelker Linton* and M. S. Allen, *Michigan State University, East Lansing*.
10:30 AM	990	A comparative review of the flow of nitrogen fractions at the omasal canal and duodenum of dairy cows. I. R. Ipharraguerre*[1], S. M. Reynal[2], P. Huhtanen[3], J. H. Clark[4], G. A. Broderick[2], and S. Ahvenjärvi[5], [1]*Lucta S.A., Barcelona, Spain*, [2]*US Dairy Forage Research Center, Madison*, [3]*Cornell University, Ithaca*, [4]*University of Illinois, Urbana*, [5]*MTT Agrifood Research Finland, Jokioinen*.
10:45 AM	991	Essential oil supplementation of a corn silage based diet deficient in rumen undegraded protein fed to lactating Holstein dairy cows. C. A. Crawford, C. G. Schwab, A. B. Conroy, P. S. Erickson, N. L. Whitehouse*, and S. E. Boucher, *University of New Hampshire, Durham*.
11:00 AM	992	The effect of rumen undegradable and rumen degradable protein concentration on urea recycling in mid-lactation cows. S. K. Ivan*[1], R. L. Baldwin, VI[2], and R. A. Kohn[1], [1]*University of Maryland, College Park*, [2]*USDA-ARS, Beltsville, MD*.
11:15 AM	993	Nitrogen excretion and utilization efficiency in dairy sheep fed diets with different dietary energy contents. V. Giovanetti[1], M. Decandia[1], F. Boe[2], E. Zerbini[3], A. Cannas[2], and G. Molle*[1], [1]*Istituto Zootecnico e Caseario della Sardegna, Olmedo, Sardinia, Italy*, [2]*Dipartimento di Scienze Zootecniche, Università di Sassari, Sassari, Sardinia, Italy*, [3]*Cargill Animal Nutrition, Spessa, Italy*.

SYMPOSIUM
Swine Species
Impact of Season on the Boar and Sow
Chair: Mark Wilson, Ralco Nutrition
213

8:30 AM		Introduction. M. Wilson, *Ralco Nutrition, Madison, WI*.
8:40 AM		Nutritional regimes that may reduce infertility influences of season. O. Peltoniemi, *University of Helsinki, Finland*.
9:30 AM		Immunology of Heat Stress and Summer Infertility. J. Crenshaw, *APC, Inc.*.
10:15 AM		Heat Stress and Management Ways to Handle Heat Stress. Speaker TBD.
11:00 AM		Panel Discussion and Q&A.

SYMPSOIUM
Teaching/Undergraduate & Graduate Education
Swine Teaching
Chair: Duane E. Reese, University of Nebraska
212

8:30 AM		Introduction.
8:35 AM	994	Enrollment in swine classes at 49 four-year institutions during academic years 1998-99 to 2005-06. D. E. Reese*, K. M. Eskridge, and D. A. Travnicek, *University of Nebraska, Lincoln*.
8:50 AM	995	Regionalization of teaching efforts? - Midwest Poultry Consortium experience. M. M. Beck*[1] and B. C. Wentworth[2], [1]*Clemson University, Clemson, SC*, [2]*University of Wisconsin, Madison*.
9:20 AM	996	Regionalizaton of swine teaching efforts. D. J. Meisinger*, *US Pork Center of Excellence, Ames, IA*.
9:50 AM		Discussion: Create a Library or Depository of Teaching Resources?

10:35 AM		Break
10:50 AM		Panel Discussion - W.L. Flowers, R.D. Goodband and T.J. Safranski.
	997	Student perceptions of and enrollment in swine management courses at North Carolina State University. W. L. Flowers*, *North Carolina State University, Raleigh.*
	998	A survey of student demographics enrolled in a distance education swine production class. R. D. Goodband* and B. C. Minshal, *Kansas State University, Manhattan.*
	999	Teaching swine production as a capstone experience in the writing intensive curriculum. T. J. Safranski*, *University of Missouri, Columbia*.
11:50 AM		General Discussion.