

# ANIMAL BEHAVIOR AND WELL-BEING 2

## POSTER SESSION

### Management and Environmental Issues

Wednesday, 8:00 a.m. – 5:00 p.m.  
Authors of even numbered boards present  
8:00 a.m. - 10:00 a.m.  
Authors of odd numbered boards present  
9:00 a.m. - 11:00 a.m.  
Room: Exhibit Hall AB

#### Board Abstract No. No.

- |    |     |   |
|----|-----|---|
| 1  | 131 | Stress and immune responses in loose and cross-tied horses during transport. C. Stull* <sup>1</sup> and A. Rodiek <sup>2</sup> , <sup>1</sup> University of California, Davis, <sup>2</sup> California State University, Fresno.  |
| 2  | 132 | Welfare of surplus calves in the dairy industry. S.T. Millman*, The Humane Society of the United States, Washington, DC.  |
| 3  | 133 | Genetic parameters for behavioral traits related to the temperament in German Angus and Simmental cattle. H. Mathiak, M. Gauly*, Katja Hoffmann, R. Beuing, Martina Kraus, and G. Erhardt, Justus-Liebig-University of Giessen, Germany.  |
| 4  | 134 | Nursing behavior of pigs related to litter growth. G. E. Bressner, S. W. Kim*, and R. A. Easter, University of Illinois, Urbana.  |
| 5  | 135 | Bedding material preferences of dairy cattle. D.M. Falconer, D. Fraser, J.M. Matias, C.B. Tucker*, and D.M. Weary, University of British Columbia Vancouver, Canada.  |
| 6  | 136 | A synthetic maternal pheromone stimulates weanling pig feeding behavior and weight gain. D. L. Anderson* <sup>1</sup> , D. Thiabaud <sup>2</sup> , and J. J. McGlone <sup>1</sup> , <sup>1</sup> Texas Tech University, Lubbock, <sup>2</sup> Ceva Sante Animale, Libourne, France.   |
| 7  | 137 | Effects of bedding on behavior and milk production of dairy buffalo. S. H. Raza* <sup>1</sup> , S. M. Raza <sup>2</sup> , and M. S. Khan <sup>1</sup> , <sup>1</sup> University of Agriculture Faisalabad, Pakistan, <sup>2</sup> Hi-Tech Feeds, Rawalpindi, Pakistan.  |
| 8  | 138 | Correlation coefficients among productive, physiological and hormonal responses and temperature-humidity index in heat stressed Holstein cows. A. Correa* <sup>1</sup> , D. V. Armstrong <sup>1</sup> , D. E. Ray <sup>1</sup> , R. M. Enns <sup>1</sup> , C. M. Howison <sup>1</sup> , H. G. González <sup>2</sup> , F. J. Verdugo <sup>2</sup> , and A. P. Márquez <sup>2</sup> , <sup>1</sup> University of Arizona, <sup>2</sup> Universidad Autónoma de Baja California, Mexico.   |
| 9  | 139 | Effects of social stressors on belly-nosing behavior in early-weaned piglets. J.M. Gardner and T.M. Widowski*, University of Guelph, Ontario, Canada.   |
| 10 | 140 | Influence of split marketing on the physiology, behavior and performance of finishing swine. L.V. Scroggs* <sup>1</sup> , H.G. Kattesh <sup>1</sup> , J.L. Morrow-Tesch <sup>2</sup> , K.J. Stalder <sup>1</sup> , J.W. Dailey <sup>2</sup> , and J.F. Schneider <sup>1</sup> , <sup>1</sup> The University of Tennessee, Knoxville, <sup>2</sup> USDA-ARS, Lubbock, TX.  |
| 11 | 141 | Effects of prenatal exposure of dairy cattle to a low magnetic field on open-field behavior and relationship to humans. Jan Broucek* <sup>1</sup> , Michael Uhrincat <sup>1</sup> , Clive W. Arave <sup>2</sup> , Ted H. Friend <sup>3</sup> , Stefan Mihina <sup>1</sup> , Andrew Sandor <sup>1</sup> , Anton Hanus <sup>1</sup> , and Stefan Marencač <sup>1</sup> , <sup>1</sup> Research Institute of Animal Production, Nitra, Slovakia, <sup>2</sup> Utah State University, Logan, USA, <sup>3</sup> Texas A&M University, College Station. |
| 12 | 142 | Effects of rearing methods of calves prior to weaning on subsequent open-field behavior at 28 weeks of age. Jan Broucek* <sup>1</sup> , Michael Uhrincat <sup>1</sup> , Ted H. Friend <sup>2</sup> , Clive W. Arave <sup>3</sup> , Stefan Mihina <sup>1</sup> , Anton Hanus <sup>1</sup> , Stefan Marencač <sup>1</sup> , and Peter Kisac <sup>1</sup> , <sup>1</sup> Research Institute of Animal Production, Nitra, Slovakia, <sup>2</sup> Texas A&M University, College Station, <sup>3</sup> Utah State University, Logan.                    |
| 13 | 143 | Comparing dairy cow behavior in new and old free stall facilities. R. J. Norell*, J. H. Packham, and W. F. Cook, University of Idaho, Idaho Falls, Montpelier, Emmett, ID.  |
| 14 | 144 | Study of neuroendocrine consequences of very early weaning in swine through the study of urinary excretion of corticosteroids and catecholamines. M. Hay* <sup>1,2</sup> , P. Orgeur <sup>3</sup> , and P. Mormède <sup>1</sup> , <sup>1</sup> Neurogenetics and Stress, INRA, Bordeaux, <sup>2</sup> National Veterinary School, Toulouse, <sup>3</sup> Animal Behavior lab., Nouzilly, France.  |

# ANIMAL HEALTH 2

## SYMPOSIUM

### Nutritional and Environmental Factors Influencing Immunity

Sponsored by *Fort Dodge Animal Health*

Chair: P. R. Cheeke, Oregon State University, Corvallis

Wednesday, 8:00 a.m. - 11:00 a.m.

Room: Ballroom 1

Time	Abstract Number	
8:00		<b>INVITED</b> Early segregated weaning of pigs. T. Stahly, Iowa State University, Ames.
8:45	7	<b>INVITED</b> At the interface of environment-immune interactions: cytokine and growth factor receptors. K.W. Kelley*, University of Illinois, Urbana.
9:30	8	Association between retained placenta and neutrophil function in dairy cattle. K Kimura* <sup>1</sup> , J. Goff <sup>1</sup> , and H. Tyler <sup>2</sup> , <sup>1</sup> National Animal Disease Center, USDA-ARS, <sup>2</sup> Iowa State University, Ames.
9:45	9	<b>INVITED</b> Lipid-Soluble Antioxidant Vitamins on Immunity. B. P. Chew and J. S. Park, Washington State University, Pullman.
10:30		<b>ROUND TABLE DISCUSSION - ALL SPEAKERS</b>

# BREEDING AND GENETICS 2

## POSTER SESSION

### Dairy Breeding and Genetics

Wednesday, 8:00 a.m. - 5:00 p.m.

Authors of even numbered boards present

8:00 a.m. - 10:00 a.m.

Authors of odd numbered boards present

9:00 a.m. - 11:00 a.m.

Room: Exhibit Hall AB

Board No.	Abstract No.	
15	199	Evaluation of lifetime production of top cows in different dairy breeds. M. Horvai-Szabo <sup>1</sup> , J. Dohy* <sup>1</sup> , and G. Hollo <sup>1</sup> , <sup>1</sup> Szent Istvan University, Godollo, Hungary.
16	200	Analysis of plasma IGF-I hormone levels in Holstein-Friesian heifers. M. Horvai-Szabo <sup>1</sup> , R. Renaville <sup>2</sup> , and J. Dohy* <sup>1</sup> , <sup>1</sup> Szent Istvan University, Godollo, Hungary, <sup>2</sup> Faculte des Sciences Agronomiques, Gembloux, Belgique.
17	201	Results of a simulated selection using markers in dairy cattle with respect to longevity traits. G. Freyer* <sup>1</sup> , L. Panicke <sup>1</sup> , and G. Erhardt <sup>2</sup> , <sup>1</sup> Research Institute for the Biology of Farm Animals, <sup>2</sup> Justus Liebig University Giessen.
18	202	Relationships between parameters of the glucose tolerance test (GTT) in young sires and their estimated breeding values (EBV). L. Panicke* <sup>1</sup> , R. Staufienbiel <sup>2</sup> , O. Burkert <sup>2</sup> , E. Fischer <sup>3</sup> , and F. Reinhardt <sup>4</sup> , <sup>1</sup> Research Institute for the Biology of Farm Animals, Dummerstorf, Germany, <sup>2</sup> Free University Berlin, Institute of Veterinary Physiology, Germany, <sup>3</sup> University of Rostock, Faculty of Agricultural and Environmental Sciences, Germany, <sup>4</sup> United Datasystems for Animal Production, Verden, Germany.

- 19 203 Realized advantages of progeny testing young dairy bulls in multiple countries. N.R. Zwald\* and K.A. Weigel, University of Wisconsin, Madison.
- 20 204 Early prediction of 305 days milk production using an empirical Bayes method. J.A.C. Pereira\*<sup>1</sup>, M. Suzuki<sup>1</sup>, K. Hagiya<sup>1</sup>, and Y. Atagi<sup>2</sup>, <sup>1</sup>Obihiro University of A & VM., Obihiro, Japan, <sup>2</sup>National Livestock Breeding Center(Ministry of Agriculture Forestry and Fisheries), Fukushima, Japan.
- 21 205 Heritability and genetic correlation for lifetime production and first lactation traits of Holstein cows in Japan. K. Hagiya\*<sup>1</sup>, M. Suzuki<sup>1</sup>, J. A. C. Pereira<sup>1</sup>, and T. Kawahara<sup>2</sup>, <sup>1</sup>Obihiro University of A & VM, Obihiro, Japan, <sup>2</sup>Hokkaido Dairy Cattle Milk Recording and Testing Association, Sapporo, Japan.
- 22 206 Method R estimates of heritability and repeatability for milk, fat, and protein yields of Japanese Holstein cows. M. Suzuki\*<sup>1</sup>, K. Hagiya<sup>1</sup>, J. A. C. Pereira<sup>1</sup>, and T. Yoshizawa<sup>2</sup>, <sup>1</sup>Obihiro University of A & VM, Obihiro, Japan, <sup>2</sup>National Livestock Breeding Center(Ministry of Agriculture Forestry and Fisheries), Fukushima, Japan.
- 23 207 Analysis of breeding efficiency in relation to dairy performance in Holstein cows. E. Szüecs\*<sup>1</sup>, K. Bódis<sup>2</sup>, A. Gáspárdy<sup>1</sup>, I. Györkös<sup>3</sup>, J. Tözser<sup>1</sup>, and Gy. Látits<sup>1</sup>, <sup>1</sup>Szent István University, Gödöllő, Hungary, <sup>2</sup>Technische Universität München, Freising/Weißenstephan, Germany, <sup>3</sup>Research Institute for Animal Breeding and Nutrition, Herceghalom, Hungary.
- 24 208 Feet and leg structures associated with changes in productive life in dairy cows. P. O. Boisot\* and R. D. Shanks, University of Illinois, Urbana-Champaign.
- 25 209 Predicting losses due to mastitis. C.M. Wachter\* and B.T. McDaniel, North Carolina State University, Raleigh.
- 26 210 Estimates of genetic parameters for milk yield of first lactation Holstein cows. A. P. Marquez\*<sup>1</sup>, J. H. Herrera<sup>2</sup>, A. Correa<sup>1</sup>, F. J. Verdugo<sup>1</sup>, H. C. Hernandez<sup>3</sup>, and H. G. Gonzalez<sup>1</sup>, <sup>1</sup>Universidad Autónoma de Baja California, <sup>2</sup>Colegio de Postgraduados, <sup>3</sup>Universidad Autónoma de Baja California Sur, Mexico.
- 27 211 Estimates of genetic parameters and breeding values for milk yield in a Holstein dairy herd at north west of Mexico. A. P. Marquez\*<sup>1</sup>, J. H. Herrera<sup>2</sup>, G. H. Torres<sup>2</sup>, A. Correa<sup>1</sup>, and H.G. Gonzalez<sup>1</sup>, <sup>1</sup>Universidad Autónoma de Baja California, <sup>2</sup>Colegio de Postgraduados, Mexico.
- 28 212 Collection, validation, and use of test-day data for genetic evaluations. J.C. Philpot\* and G.R. Wiggans, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.
- 29 213 Effects of crossbreeding and season of calving on production of milk fat and protein of primiparous dairy cows. K. E. Lesmeister\*<sup>1</sup>, D. W. Kellogg<sup>1</sup>, A. H. Brown, Jr.<sup>1</sup>, Z. B. Johnson<sup>1</sup>, and A. G. Lane<sup>2</sup>, <sup>1</sup>University of Arkansas, Fayetteville, <sup>2</sup>Lane Ag Consultants, Stephenville, TX.
- 30 214 Effects of crossbreeding and season of calving on milk production of primiparous dairy cows. K. E. Lesmeister\*<sup>1</sup>, D. W. Kellogg<sup>1</sup>, A. H. Brown, Jr.<sup>1</sup>, Z. B. Johnson<sup>1</sup>, and A. G. Lane<sup>2</sup>, <sup>1</sup>University of Arkansas, Fayetteville, <sup>2</sup>Lane Ag Consultants, Stephenville, TX.
- 31 215 Milk Production Loss Associated with Mastitis and the Efficacy of Treatment Protocols. E.H. Shim\*, D.E. Morin, and R.D. Shanks, University of Illinois, Urbana.
- 32 216 Effect of adjustment for herd test day on repeatability and heritability of 305-day milk, fat, and protein yields. H.D. Norman\*, J.R. Wright, and G.R. Wiggans, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.
- 33 217 Effects of Inbreeding on Reproductive and Growth Traits, and Breeding Values in a Closed Brown Swiss Herd. A. S. Falcao<sup>1</sup>, R. M. Filho<sup>2</sup>, C.D.U. Magnabosco\*<sup>3</sup>, and R. Bozzi<sup>4</sup>, <sup>1</sup>Universidade Estadual de Maringá, PR/Brasil, <sup>2</sup>Universidade Federal do Ceará, Fortaleza,CE/Brasil, <sup>3</sup>Embrapa Cerrados,Planaltina,DF/Brasil, <sup>4</sup>UNIFI,Firenze Italia.
- 34 218 Quality of reproductive event data for Dairy Herd Improvement herds in Wisconsin. Weidong Zhang\* and G. E. Shook, University of Wisconsin, Madison.
- 35 219 Impact of input data quality on national genetic evaluations. H. Jorjani\*, Interbull Centre.
- 36 220 Comparison of genetic evaluations of culled and surviving cows. T.A. Ferris\*<sup>1</sup>, H.D. Norman<sup>2</sup>, and G.R. Wiggans<sup>2</sup>, <sup>1</sup>Michigan State University, East Lansing, <sup>2</sup>Agricultural Research Service, USDA, Beltsville, MD.
- 37 221 Growth, luteal activity, and pregnancy rates of three breed types of dairy heifers. A. H. Brown, Jr.\*<sup>1</sup>, D. W. Kellogg, Z. B. Johnson, R. W. Rorie, W. K. Coblenz, K. M. Lesmeister, and W. R. Jackson, University of Arkansas, Fayetteville.
- 38 222 Metropolis-Hastings procedures to sample directly from the joint posterior distribution of dispersion parameters. R.A.A., Jr Torres\* and Richard L. Quaas, Cornell University, Ithaca, NY.
- 39 223 Impact of lactation length adjustment procedures on accuracy and heritability of adjusted milk yield in buffaloes. M. S. Khan<sup>1</sup>, H. Z. Chaudhry\*<sup>1</sup>, and S. H. Raza<sup>1</sup>, <sup>1</sup>Faculty of Animal Husbandry, University of Agriculture, Faisalabad, Pakistan.

# BREEDING AND GENETICS 3

## CYBER CAFÉ – POSTER SESSION

### Statistical Software and Decision Support Applications for Animal Breeding and Genetics

Wednesday, 8:00 a.m. - 5:00 p.m.  
Authors present 8:00 a.m. - 10:00 a.m.  
Room: Exhibit Hall AB

Board No.	Abstract No.	
41	224	SIMBULL2: An instructional simulator for dairy cattle breeding and management. G. E. Shook*, E. D. Hailman, and M. R. Dentine, University of Wisconsin, Madison.
42	225	Preconditioned conjugate gradient method by iteration on data for solving mixed model equations. S. Tsuruta* <sup>1</sup> , I. Misztal <sup>1</sup> , and I. Strandén <sup>2</sup> , <sup>1</sup> University of Georgia, Athens, GA, <sup>2</sup> Agriculture Research Centre, Jokioinen, Finland.

# BREEDING AND GENETICS 4

## Statistical Methods in Animal Breeding and Genetics

Chair: R. J. Tempelman, Michigan State University, East Lansing

Wednesday, 8:30 a.m. - 11:00 a.m.  
Room: Ballroom 2

Time	Abstract Number	
8:30	226	Application of hierarchical models to analysis of test day yields. J. Jamrozik* and L.R. Schaeffer, University of Guelph, Guelph, ON, Canada.
8:45	227	Modeling accuracy of final score observations at different ages. L. Klei* <sup>1</sup> , T.J. Lawlor <sup>1</sup> , I. Misztal <sup>2</sup> , and S. Tsuruta <sup>2</sup> , <sup>1</sup> Holstein Association USA, Inc., Brattleboro, VT., <sup>2</sup> University of Georgia, Athens, GA.
9:00	228	Approximation of Reliabilities for Multiple-trait Model with Maternal Effects. Tomasz Strabel*, Ignacy Misztal, and J. Keith Bertrand, University of Georgia, Athens, GA.
9:15	229	Bayesian variable selection for describing growth data using a random regression model. F. E. Grignola* and J. P. Steibel, Facultad de Agronomía, Universidad de Buenos Aires, Argentina.
9:30	230	Covariance estimation with Method-R. T. Druet* <sup>1,4</sup> , I. Misztal <sup>2</sup> , M. Duangjinda <sup>2</sup> , A. Reverter <sup>3</sup> , and N. Gengler <sup>1,4</sup> , <sup>1</sup> National Fund for Scientific Research, Brussels, Belgium, <sup>2</sup> University of Georgia, Athens, <sup>3</sup> University of New England, Armidale, Australia, <sup>4</sup> Gembloux Agricultural University, Gembloux.
9:45	231	Genetic variation of lactation curves in dairy sheep: Wood's model versus a quadratic function. Y. M. Chang* <sup>1</sup> , R. Rekaya <sup>2</sup> , D. Gianola <sup>1</sup> , and D. L. Thomas <sup>1</sup> , <sup>1</sup> Department of Animal Sciences, University of Wisconsin-Madison, <sup>2</sup> Department of Dairy Science, University of Wisconsin, Madison.
10:00	232	Methodology to account for the effect of degree of non-linearity in breeding objectives on selection criteria. G.E. Vander Voort* and G. Jansen, University of Guelph, Canada.
10:15	233	Structuring the Residual Covariance Matrix in the Analysis of Longitudinal Binary Data. R. Rekaya* <sup>1</sup> , K. A. Weigel <sup>1</sup> , and D. Gianola <sup>1</sup> , <sup>1</sup> University of Wisconsin, Madison.
10:30	234	Methods for Attenuating Bias of Variance Component Estimates in Threshold Models when Herds are Small. R. Rekaya* <sup>1</sup> ,

K. A. Weigel<sup>1</sup>, D. Gianola<sup>1</sup>, B. Heringstad<sup>2</sup>, and G. Klemetsdal<sup>2</sup>, <sup>1</sup>University of Wisconsin, Madison, <sup>2</sup>Agricultural University of Norway, Ås, Norway.

10:45 235 Genetic parameters and response to selection in proportional hazard models. M.H. Yazdi\*<sup>1</sup>, P. Visscher<sup>1</sup>, V. Ducrocq<sup>2</sup>, and R. Thompson<sup>3</sup>, <sup>1</sup>IERM, University of Edinburgh, UK, <sup>2</sup>Institut National de la Recherche Agronomique, Jouss-en-Josas, France, <sup>3</sup>Institute of Arable Crops Research, Harpenden, Hertfordshire UK.

## DAIRY FOODS 7

# MILK PROTEIN AND ENZYME NOMENCLATURE

### SYMPOSIUM

#### Biologically Active Peptides from Milk

Sponsored by *California Dairy Research Foundation, Dairy Farmers of America, Dean Foods, Hilmar Cheese/AMPC, M & M Mars*

Chair: R. Jiménez-Flores, Cal Poly,  
San Luis Obispo, CA

Wednesday, 8:00 a.m. - 11:00 a.m.  
Room: 316

Time	Abstract Number	
8:00		Introduction. R. Jiménez-Flores, Cal Poly, San Luis Obispo, CA
8:05	33	<b>INVITED</b> Bioactive Milk Peptides: A Perspective. D.A. Clare* and H.E. Swaisgood, North Carolina State University, Raleigh.
8:50	34	<b>INVITED</b> Transgenic over-expression of bovine $\alpha$ -lactalbumin and human IGF-I in porcine mammary gland: effects on lactation and piglet growth and development. S.M. Donovan* <sup>1</sup> , M.H. Monaco <sup>1</sup> , G.T. Bleck <sup>2</sup> , J.B. Cook <sup>1</sup> , M. Noble <sup>1</sup> , W.L. Hurley <sup>1</sup> , and M.B. Wheeler <sup>1</sup> , <sup>1</sup> University of Illinois, Urbana, <sup>2</sup> Gala Design, Sauk City, WI.
9:30	35	<b>INVITED</b> Antimicrobial activity of the multimeric form of human milk alpha lactalbumin. H Sabharwal* and J Zabriskie, Rockefeller University, New York, NY.
10:15		<b>INVITED</b> Molten globule structures in milk proteins: implications for structure function relationships. H. M. Farrell, Jr., USDA ARS. Wyndmoor, PA.

# DAIRY FOODS 8

## Cheese - Mozzarella

Chair: R. Govindasamy-Lucey, Center for Dairy Research, Madison, WI

Wednesday, 8:30 a.m. - 9:45 a.m.

Room: 313

Time	Abstract Number	
8:30	384	Modification of pizza sauce to limit changes in composition and melted consistency of pizza cheese. R.H. Ouellette* and P.S. Kindstedt, University of Vermont, Burlington.
8:45	385	Development and application of a model system to increase the pH of Mozzarella cheese. P.S. Kindstedt, A.B. Zielinski*, and M. Almena-Aliste, University of Vermont, Burlington.
9:00	386	Development and application of a model system to decrease the pH of Mozzarella cheese. P.S. Kindstedt*, A.B. Zielinski, C. Ge, and M. Almena-Aliste, University of Vermont, Burlington.
9:15	387	Effect of frozen storage on functional properties of Mozzarella and non-pasta-filata style pizza cheeses. M.-I Kuo* and S. Gunasekaran, University of Wisconsin, Madison.
9:30	388	Comparison of melt profiles of LMPS Mozzarella manufactured by pasta filata and stirred curd methods. C.M. Chen, A.L. Dikkeboom, M.E. Johnson, and M.G. Zimbric*, Wisconsin Center for Dairy Research, Madison.

# DAIRY FOODS 9

## POSTER SESSION

### Dairy Foods - Microbiology and Cheese Technology

Chair: V. Mistry, South Dakota State University, Brookings

Wednesday, 8:00 a.m. - 5:00 p.m.

Authors of even numbered boards present

9:00 a.m. - 11:00 a.m.

Authors of odd numbered boards present

3:00 p.m. - 5:00 p.m.

Room: Exhibit Hall AB

Board No.	Abstract No.	
43	389	Comparative study of <i>Lactobacillus acidophilus</i> strains for probiotic characteristics. S. Oh* <sup>1</sup> , C. H. Chai <sup>2</sup> , S. Kim <sup>2</sup> , Y.-J. Kim <sup>1</sup> , R. H. Liu <sup>1</sup> , H. S. Kim <sup>3</sup> , and R. W. Worobo <sup>1</sup> , <sup>1</sup> Cornell University, <sup>2</sup> Korea University, <sup>3</sup> Culture Systems Inc, Misawaka, IN.
44	390	Purification and partial amino acid sequence of an acidocin 30SC, a bacteriocin produced by <i>Lactobacillus acidophilus</i> 30SC. S. Oh* <sup>1</sup> , S. Kim <sup>2</sup> , J. J. Churey <sup>1</sup> , and R. W. Worobo <sup>1</sup> , <sup>1</sup> Cornell University, Ithaca, NY, <sup>2</sup> Korea University.
45	391	Fermentation of fructooligosaccharides by lactic acid and probiotic bacteria. H. Kaplan* and R. Hutkins, University of Nebraska, Lincoln, NE.
46	392	Acid tolerance of <i>Lactobacillus acidophilus</i> increases following exposure to supernatant from early stationary phase cells. R. Hage* and P. Courtney, The Ohio State University, Columbus.
47	393	Translocation and clearing of <i>Lactobacillus acidophilus</i> . Maria G. Conde, Celia L. L. F. Ferreira*, Isabelle D. P. Marlieri,

Elisa Teshima, and Luciana M. Borba, Universidade Federal de Vicosa.

- 48 394 Impact of starter culture on whey flavor variability. R.M. Tomaino\*, D.L. Larick, and L.G. Turner, North Carolina State University, Raleigh.
- 49 395 Inhibition of *Lactococcus lactis* spp lactis c2 bacteriophage proliferation in *L. lactis* ssp. *lactis* C2 grown in medium containing heat treated *L. lactis* ssp lactis c2 phage-peptide C.L. Hicks\*, University of Kentucky, Lexington.
- 50 396 Characterisation of *Bifidobacterium* isolates using amplification of the transketolase/transaldolase intergenic spacer region in combination with temporal temperature gel electrophoresis. J. P. Burton\* and G. W. Tannock, University of Otago, Dunedin, New Zealand.
- 51 397 Study of exopolysaccharide production by *Lactobacillus rhamnosus* ATCC 9595M in a supplemented whey permeate medium. M. Macedo\*<sup>1</sup>, C. Lacroix<sup>1</sup>, and C-P. Champagne<sup>2</sup>, <sup>1</sup>Dairy Research Centre STELA, Quebec/PQ/Canada, <sup>2</sup>Food Research and Development Centre, St-Hyacinthe/PQ/Canada.
- 52 398 Capsule formation by nonropy yogurt cultures affects its viscoelastic properties. Ashraf Hassan\*, Milena Corredig, and Joseph Frank, The University of Georgia, Athens.
- 53 399 Characterization and differentiation of *Lactobacillus acidophilus* strains for use as probiotics. S. McKechnie<sup>1</sup>, N.P. Shah\*<sup>1</sup>, and M.L. Britz<sup>2</sup>, <sup>1</sup>Victoria University of Technology Melbourne, Australia, <sup>2</sup>University of Melbourne, Victoria, Australia.
- 54 400 Pediocin production by recombinant *Streptococcus thermophilus*. G.A. Somkuti\*, P.E. Coderre, and D.H. Steinberg, Eastern Regional Research Center, ARS-USDA.
- 55 401 Identification and characterization of PepO2 from *Lactobacillus helveticus* CNRZ32, an enzyme involved in the hydrolysis of a b-casein derived bitter peptide. Y.S. Chen\*<sup>1</sup>, J.E. Christensen<sup>2</sup>, and J.L. Steele, <sup>1</sup>Department of Food Science, <sup>2</sup>Department of Bacteriology.
- 56 402 Amplification of the core streptavidin and b-galactosidase genes and construction of a core *Stp-LAC* 4 fusion gene. L.M. Damasceno<sup>1</sup>, F.L.M. Passos\*<sup>1</sup>, V.G. Janolino<sup>2</sup>, and H.E. Swaisgood<sup>2</sup>, <sup>1</sup>Universidade Federal de Vicosa, Vicosa-UFV, MG, Brazil, <sup>2</sup>North Carolina State University, Raleigh.
- 57 403 Occurrence of *Bacillus sporothermodurans* and the influence of the thermal processing procedure on its presence in Brazilian UHT milk. P.B. Zacarchenco\*<sup>1</sup>, M. F. F. Leitao<sup>1</sup>, M. T. Destro<sup>2</sup>, and C. Andrigheto<sup>2</sup>, <sup>1</sup>Faculdade Engenharia de Alimentos-UNICAMP, Campinas, Sao Paulo/Brazil, <sup>2</sup>Faculdade Ciencias Farmaceuticas-USP, Sao Paulo, Sao Paulo/Brazil.
- 58 404 Optimizing of beta-cyclodextrin recycling process for cholesterol removal in cream. H. S. Kwak\*, H. M. Suh, J. Ahn, and H. J. Kwon, Sejong University, Seoul, Korea.
- 59 405 Binding bile salts by soluble fiber: potential use in dairy products containing a probiotic culture. E.P. Cuesta\* and S.E. Gilliland, Oklahoma State University, Stillwater.
- 60 406 Cholesterol recovery from beta-cyclodextrin complex of cream using a new combined method with immobilized cyclomaltodextrinase of alkalophilic *Bacillus* sp. KJ133 and solvent extraction. H. J. Kwon, H. J. Jung, and H. S. Kwak\*, Sejong University, Seoul, Korea.
- 61 407 Increase in conjugated linoleic acid (CLA) in fermented milk by *Lactococcus lactis*. Y.-J. Kim\*<sup>1</sup>, S.T. Lee<sup>1</sup>, and R.H. Liu<sup>1</sup>, <sup>1</sup>Cornell University, Ithaca.
- 62 408 Factors affecting the filtration of nonfat milk through diatomaceous earth to reduce *Bacillus* endospore contamination. A. Bienvenue\*<sup>1</sup> and R. Jimenez-Flores<sup>1</sup>, <sup>1</sup>DPTC, Cal Poly State University, San Luis Obispo, CA.
- 63 409 Water-soluble nitrogen accumulation and *Lactococcus* cell viability after high pressure processing of Cheddar cheese. U. Nienaber, T.H. Shellhammer, W.J. Harper, and P.D. Courtney\*, Ohio State University, Columbus.
- 64 410 Influence of cream homogenization and protein supplementation of Cheddar cheese milk by ultrafiltration on functionality of whey protein concentrates. M. G. Nair, V. V. Mistry\*, and B. S. Oommen, MN-SD Dairy Foods Research Center, South Dakota State University, Brookings.
- 65 411 Influence of rennet source on casein peptide formation in low-fat Mozzarella cheese. E.L. Malin\*, M.H. Tunick, and P.W. Smith, Eastern Regional Research Center, U.S. Department of Agriculture, Wyndmoor, PA.
- 66 412 Cheese yield and standardization of milk for cheese making: comparison of predictive cheese yield equations. C.M. Chen<sup>1</sup>, A.L. Dikkeboom\*<sup>1</sup>, M.E. Johnson<sup>1</sup>, and M.G. Zimbric<sup>1</sup>, <sup>1</sup>Wisconsin Center for Dairy Research, Madison.
- 67 413 Characteristics of reduced fat Edam cheese with adjunct cultures. W. Tungjaroenchai\*, M. A. Drake, and C. H. White, Mississippi State University, Mississippi State.
- 68 414 Effect of fat composition and milk treatment on development of cheese texture. M. Almena-Aliste\* and Y. Noel, National Agronomic Research Institute, INRA, Dairy Technology and Analysis Research Unit, Jura, France.

- 69 416 Effect of late blowing inhibitors on bacteriological and chemical changes in Swiss cheese. S. M. El-Gindy\*, Assiut University, Egypt.
- 70 415 Texture evaluation of cheese with soft consistency: effect of testing conditions on penetrometric parameters. M. Almena-Aliste\*<sup>1,2</sup>, Y. Noel<sup>1</sup>, and A. Cepeda Suez<sup>2</sup>, <sup>1</sup>INRA, Dairy Technology and Analysis Research Unit, Poligny (France), <sup>2</sup>Hygiene and Inspection of Foods, Faculty of Veterinary-University of Santiago de Compostela, Spain.

## FOOD SAFETY 3

### POSTER SESSION

Wednesday, 8:00 a. m. - 5:00 p.m.  
 Authors present: 8:30 a.m. - 10:30 a.m.  
 Room: Exhibit Hall AB

#### Board Abstract No. No.

- 71 459 Reduction of fecal shedding of Enterohemorrhagic *Escherichia coli* O157:H7 in lambs by feeding microbial feed supplement M. Lema\*, L. Williams, and D. Rao, Alabama A&M University, Normal.
- 72 460 Epidemiological survey of Salmonella prevalence in Pennsylvania dairy herds. H. Aceto\*, R.J. Munson, D.T. Galligan, C.E. Benson, D. Munro, and S. Rankin, University of Pennsylvania School of Veterinary Medicine, Kennett Square.
- 73 461 Detection of verotoxin-producing *Escherichia coli* in culled beef cows. H. S. Hussein\*, B. H. Thran, M. R. Hall, S. F. Khaiboullina, W. G. Kvasnicka, and R. C. Torell, University of Nevada, Reno.
- 74 462 A one-year investigation of prevalence of verotoxin-producing *Escherichia coli* in beef heifers grazing an irrigated pasture. B. H. Thran\*, H. S. Hussein, S. F. Khaiboullina, and M. R. Hall, University of Nevada, Reno,.
- 75 463 Stereochemical determination of clenbuterol residues in hogs. David J. Smith\*, USDA ARS Biosciences Research Lab, Fargo, ND.
- 76 464 A carbonate and alkali treatment that eliminates *Escherichia coli* from dairy cattle manure. F. Diez-Gonzalez<sup>1</sup>, G.N. Jarvis<sup>1</sup>, D.A. Adamovich<sup>1</sup>, and J.B. Russell\*<sup>2</sup>, <sup>1</sup>Cornell University, Ithaca, NY, <sup>2</sup>ARS/USDA, Ithaca, NY.
- 77 465 *Lactobacillus* spp. prevent *Salmonella enteritidis* colonization in chicken intestine .L.Z. Jin\* and X. Zhao, McGill University/Macdonald Campus, Quebec, Canada.
- 78 466 Survival of naturally occurring *Escherichia coli* and a streptomycin-resistant strain of *E. coli* K-12 (ATCC 35695) during the aging period of hard cheeses made from raw milk. Alex Teo <sup>1</sup> and J. Schlessner\*<sup>2</sup>, <sup>1</sup>Illinois Institute of Technology, Chicago, IL, <sup>2</sup>Food and Drug Administration, NCFST, Summit-Argo, IL.
- 79 467 The microbial ecology of milk powder processing via Terminal Restriction Fragment Patterns (TRFP-PCR) and the cloning and sequencing of community 16s rDNA for the identification of those TRF-fragments. A. Rife\*<sup>1</sup>, M. Pitesky<sup>1</sup>, C. L. Kitts<sup>2</sup>, and R. Jimenez-Flores<sup>1</sup>, <sup>1</sup>Dairy Products Technology Center, Cal Poly State University, <sup>2</sup>The Environmental Biotechnology Center, Cal Poly State University, San Luis Obispo, CA.
- 80 468 Behaviour of *Listeria monocytogenes* in minas frescal cheese made with lactic acid and mesophilic starter. M.C.M. Naldini and A.Y. Kuaye, Universidade Estadual de Campinas.
- 81 469 Properties and characterization of a monoclonal antibody for its use in screening endospores in skim milk powder. S. Fuller\* and R. Jimenez-Flores, Cal Poly State University, DPTC, San Luis Obispo, CA.
- 82 470 Safety Improvement of Salmon using Biopreservatives. H. Zuckerman\*<sup>1</sup> and R. Ben Avraham<sup>2</sup>, <sup>1</sup>Technion, Haifa, Israel, <sup>2</sup>Milouda, Ashrat, Israel.
- 83 471 Fate of toxigenic contaminant and nontoxigenic fungi in blue-veined cheese. S. M. El-Gindy\*, Assiut University, Egypt.



# FORAGES AND PASTURES 2

## Silage and Pasture Management - Dairy

Chair: T. R. Dhiman, Utah State University, Logan

Wednesday, 8:00 a.m. - 11:00 a.m.

Room: 314

Time	Abstract Number	
8:00	472	High Population Corn Grain Silage in a Dairy Operation: A Field Demonstration. G.A. Brown* <sup>1</sup> , <sup>1</sup> University of Missouri Outreach and Extension, Columbia.
8:15	473	Effect of corn silage containing high oil, waxy, multileaf, or bm3 corn genetics on feed intake, milk yield, and milk composition of dairy cows. V. R. Moreira* <sup>1</sup> , J. Jimmink <sup>1</sup> , L. D. Satter <sup>1</sup> , J. L. Vicini <sup>2</sup> , and G. F. Hartnell <sup>2</sup> , <sup>1</sup> US Dairy Forage Research Center, USDA-ARS, Madison, WI, <sup>2</sup> Monsanto Co., St. Louis, MO.
8:30	474	Effect of level of surface-spoiled silage on the nutritive value of corn silage diets. L. A. Whitlock*, T. J. Wistuba, M. K. Siefers, R. V. Pope, and K. K. Bolsen, Kansas State University, Manhattan.
8:45	475	The effect of delayed filling and application of a buffered propionic acid-based additive on the fermentation of barley silage. J. A. Mills* <sup>1</sup> , A. G. Whiter <sup>1</sup> , C. L. Myers <sup>2</sup> , and L. Kung, Jr. <sup>1</sup> , <sup>1</sup> University of Delaware, Newark, DE, <sup>2</sup> Kemin Industries, Inc., Des Moines, IA.
9:00	476	The effect of varying doses of a buffered propionic acid-based preservative on the fermentation and aerobic stability of barley silage. J. M. Neylon* <sup>1</sup> , L. Kung, Jr. <sup>1</sup> , C. L. Myers <sup>2</sup> , N. K. Ranjit <sup>1</sup> , and J. M. Robinson <sup>1</sup> , <sup>1</sup> University of Delaware, Newark, DE, <sup>2</sup> Kemin Industries, Inc., Des Moines, IA.
9:15	477	<i>Lactobacillus buchneri</i> and enzymes improves the aerobic stability of high moisture corn. C. C. Taylor* <sup>1</sup> , J. M. Neylon <sup>1</sup> , J. A. Lazartic <sup>2</sup> , J. A. Mills <sup>1</sup> , R. M. Tetreault <sup>1</sup> , A. G. Whiter <sup>1</sup> , R. Charley <sup>2</sup> , and L. Kung, Jr. <sup>1</sup> , <sup>1</sup> University of Delaware, Newark, DE, <sup>2</sup> Biototal Canada, Ontario.
9:30		<b>BREAK</b>
9:45		<b>INVITED</b> Improving alfalfa and other forages for livestock with transgenics. N. P. Martin, Dairy Forage Research Center, USDA-ARS, Madison, WI.
10:15	478	Effect of Maturity and Mechanical Processing of Corn Silage on Total Tract Starch Digestibility of Corn Silage Based Total Mixed Rations. L.M. Johnson* <sup>1</sup> , J.H. Harrison <sup>1</sup> , D. Davidson <sup>1</sup> , B. Mahanna <sup>2</sup> , and K. Shinnors <sup>3</sup> , <sup>1</sup> Washington State University, <sup>2</sup> Pioneer Hi-Bred Int'l Inc., Johnston, IA, <sup>3</sup> University of Wisconsin, Madison.
10:30	479	Effect of two corn hybrids, with or without kernel processing, on milk production. V. R. Moreira* <sup>1</sup> , L. D. Satter <sup>1</sup> , and M. I. Endres <sup>2</sup> , <sup>1</sup> U.S. Dairy Forage Research Center, USDA-ARS, Madison, WI, <sup>2</sup> Mycogen Seeds, Eagan, MN.
10:45	480	Effect of Mechanical Processing of High Moisture Corn Silage on Loss of Effluent. J.H. Harrison* <sup>1</sup> , D. Olson <sup>1</sup> , J. Hay <sup>1</sup> , and D. Davidson <sup>1</sup> , <sup>1</sup> Washington State University, Puyallup.

# GOAT SPECIES 2

## POSTER SESSION

Wednesday, 8:00 a.m. - 5:00 p.m.  
Authors of even numbered boards present  
8:00 a.m. - 10:00 a.m.  
Authors of odd numbered boards present  
9:00 a.m. - 11:00 a.m.  
Room: Exhibit Hall AB

### Board Abstract No. No.

- 84 532 Effects of individual vs group confinement and forage access on performance of artificially reared, confined Alpine kids. A.L. Goetsch\*, G. Detweiler, T. Sahlu, L.J. Dawson, and S.S. Zeng, E (Kika) de la Garza Institute for Goat Research, Langston University, Langston, OK.
- 85 533 Effect of chromium picolinate supplementation on the number of blood leukocytes and weight gain of early-weaned goat kids. F.G. Rios\*<sup>1</sup>, F.A. Nuñez<sup>2</sup>, G. Zambrano<sup>2</sup>, J.A. Ortega<sup>2</sup>, and R. Barajas<sup>1</sup>, <sup>1</sup>Universidad Autonoma de Sinaloa, <sup>2</sup>Universidad Autónoma de Chihuahua, Mexico.
- 86 534 Effects of dietary protein level on performance of weaned Boer crossbred and Spanish wethers. I. Prieto<sup>1</sup>, A.L. Goetsch<sup>1</sup>, S.A. Soto-Navarro<sup>1</sup>, V. Banskalieva<sup>1</sup>, M. Cameron<sup>1</sup>, R. Puchala<sup>1</sup>, L.J. Dawson<sup>1</sup>, and S.W. Coleman<sup>2</sup>, <sup>1</sup>E (Kika) de la Garza Institute for Goat Research, Langston University, Langston, OK, <sup>2</sup>Grazinglands Research Laboratory, USDA, ARS, El Reno, OK.
- 87 535 Effect of dietary protein degradability and liveweight on blood metabolites in prepubertal female goats. Graciela Cufre\*, Oscar Forchetti, M. Isabel Vazquez, Leopoldo Godio, and Martin Chaves, Universidad Nacional de Rio Cuarto, Cordoba, Argentina.
- 88 536 Intestinal digestible protein and ruminal ammonia-N in grazing goats: strategies to estimate supplement requirements. A.S. Juarez-Reyes\*, G. Nevarez-Carrasco, and M.A. Cerrillo, Universidad Juarez del Estado de Durango. Durango, Dgo. Mexico.
- 89 537 Estimating fecal crude protein excretion in goats. A.L. Adams\*<sup>1</sup>, J.E. Moore<sup>2</sup>, A.L. Goetsch<sup>1</sup>, and T. Sahlu, <sup>1</sup>E (Kika) de la Garza Institute for Goat Research, Langston University, Langston, OK, <sup>2</sup>Department of Animal Science, University of Florida, Gainesville.
- 90 538 Effect of saltbush (*Atriplex amnicola*) on performance of goats on saline rangelands. S. H. Raza\*<sup>1</sup>, M. Riaz<sup>1</sup>, and P. N. Raza<sup>2</sup>, <sup>1</sup>University of Agriculture, Faisalabad, Pakistan, <sup>2</sup>Hi-Tech Feeds, Rawalpindi, Pakistan.
- 91 539 PEG supplementation of kids and effects of early post-weaning nutritive plane upon subsequent growth. R.C. Merkel\*<sup>1</sup>, A.L. Goetsch<sup>1</sup>, T. Sahlu<sup>1</sup>, and N. N. Silanikove<sup>2</sup>, <sup>1</sup>E (Kika) de la Garza Institute for Goat Research, Langston University, Langston, OK, <sup>2</sup>Volcani Center, Bet Dagen, Israel.
- 92 540 Vegetation management with goats and steers in the Appalachian region of North Carolina. J-M Luginbuhl\*, J. T. Green, and M. H. Poore, North Carolina State University, Raleigh.
- 93 541 Nutrient digestibility of bean straw-based diets by goats. M.A. Cerrillo and A.S. Juarez-Reyes, Universidad Juarez del Estado de Durango. Durango, Dgo. Mexico.
- 94 542 Effect of whole cottonseed on intake, apparent digestibility and rate of passage in goats. Y. Smoot\*, S. Solaiman, and Q. McCrary, Tuskegee University, Tuskegee, AL.
- 95 543 Broiler litter and urea-treated wheat straw as feedstuffs for Alpine doelings. G. Animut\*<sup>1</sup>, R.C. Merkel<sup>2</sup>, G. Abebe<sup>3</sup>, T. Sahlu<sup>2</sup>, and A.L. Goetsch<sup>2</sup>, <sup>1</sup>Alemaya University of Agriculture, Dire Dawa, Ethiopia, <sup>2</sup>E (Kika) de la Garza Institute for Goat Research, Langston University, Langston, OK, <sup>3</sup>Awassa College of Agriculture, Awassa, Ethiopia.
- 96 544 Intake, growth and body composition changes in Spanish and Tennessee Stiff-legged goats. C. O. Smith\*<sup>1</sup>, J. M. Dzakuma<sup>1</sup>, E. Risch<sup>1</sup>, P. M. Johnson<sup>1</sup>, and H. D. Blackburn<sup>2</sup>, <sup>1</sup>Prairie View A&M university, Prairie View, TX., <sup>2</sup>USDA/ARS/National Animal Germplasm Program, Fort Collins, CO.
- 97 545 Effect of live weight at slaughter on goat kid meat quality. A. Arguello\*<sup>1</sup>, A. Marichal<sup>1</sup>, N. Castro<sup>1</sup>, R. Gines<sup>1</sup>, J.L. Lopez<sup>1</sup>, and S. Solomon<sup>2</sup>, <sup>1</sup>Animal Production Unit, Las Palmas de Gran Canaria University, Arucas, Las Palmas, Spain, <sup>2</sup>USDA, Agricultural Research Service, Beltsville, MD.

- 98 546 Changes in Warner Bratzler shear values and mechanical strength of intramuscular connective tissue of chevon due to storage condition. G. Kannan<sup>\*1</sup>, C. B. Chawan<sup>2</sup>, B. Kouakou<sup>1</sup>, and S. Gelaye<sup>1</sup>, <sup>1</sup>Agricultural Research Station, Fort Valley State University, Fort Valley, Georgia, <sup>2</sup>Alabama A&M University, Normal.
- 99 547 Manipulation for out of season breeding in Spanish goats. T Wuliji<sup>\*1</sup>, A.L Goetsch<sup>1</sup>, A Litherland<sup>2</sup>, T Sahlu<sup>1</sup>, R Puchala<sup>1</sup>, and L.J Dawson<sup>1</sup>, <sup>1</sup>E (Kika) de la Garza Institute for Goat Research, Langston University, OK, <sup>2</sup>AgResearch Grasslands, Private Bag, Palmerston North, New Zealand.
- 100 548 Effects of physiological status and energy intake on cortisol, thyroid hormones and blood metabolites in dairy goats. B. Kouakou<sup>\*1</sup>, S. Gelaye<sup>1</sup>, O.S. Gazal<sup>2</sup>, G. Kannan<sup>1</sup>, T.H. Terrill<sup>1</sup>, and E.A. Amoah<sup>1</sup>, <sup>1</sup>Agricultural Research Station, Fort Valley State University, GA, <sup>2</sup>Department of Biological Sciences, Saint Cloud State University, MN.

## GRADUATE STUDENT PAPER COMPETITION

### ADSA-ASAS NORTHEAST SECTION

Chair: T. G. Hartsock, University of Maryland, College Park

Wednesday, 8:00 a.m. – 10:45 a.m.

Room: 318

Time	Abstract Number	
8:00	549	Growth hormone (GH) response to growth hormone-releasing hormone (GHRH) in beef cows divergently selected for milk production. T.L. Auchtung <sup>*1</sup> , D.S. Buchanan <sup>2</sup> , C.A. Lents <sup>2</sup> , S.M. Barao <sup>1</sup> , and G.E. Dahl <sup>1</sup> , <sup>1</sup> University of Maryland, College Park, <sup>2</sup> Oklahoma Agricultural Experiment Station, Stillwater.
8:15	550	Effect of age and equine somatotropin treatment on immune function in female horses. P.D. Guirnalda <sup>*</sup> , V. Roegner, and K. Malinowski, Rutgers-The State University of New Jersey, New Brunswick, NJ.
8:30	551	Age related changes of somatotropin, insulin-like growth factor-I and insulin-like growth factor binding protein-2 and -3 in male and female Hereford calves. K.E. Govoni <sup>*</sup> , T.A. Hoagland, and S.A. Zinn, University of Connecticut, Storrs.
8:45	552	Effects of prepartum somatotropin and/or monensin on periparturient metabolism and production. J. E. Vallimont <sup>*1</sup> , G. A. Varga <sup>1</sup> , A. Arieli <sup>2</sup> , and T. W. Cassidy <sup>1</sup> , <sup>1</sup> The Pennsylvania State University, University Park, <sup>2</sup> Hebrew University of Jerusalem, Israel.
9:00	553	Effect of a short-term treatment with a Controlled Internal Drug Releasing (CIDR) device and Follicle Stimulating Hormone (FSH) on induction of estrus and lambing rates in anestrus ewes. M Knights <sup>*</sup> , T. D. Maze, P. E. Lewis, and E. K. Inskeep, West Virginia University, Morgantown.
9:15		<b>BREAK</b>
9:30	554	Comparison of energy parameters in Jersey and Holstein dairy cows in early lactation. R. R. Rastani <sup>*</sup> and S. M. Andrew, University of Connecticut, Storrs.
9:45	555	The effect of urea calcium chloride fertilization on yield and nutrient composition of cool-season forage grasses for prepartum dairy cows. K.M. Danahey <sup>*1,2</sup> , E.D. Thomas <sup>2</sup> , J.R. Knapp <sup>1</sup> , C.S. Ballard <sup>2</sup> , and C.J. Sniffen <sup>2</sup> , <sup>1</sup> University of Vermont, Burlington, VT, <sup>2</sup> W.H. Miner Institute, Chazy, NY.
10:00	556	Supplementing Natuphos with an <i>Escherichia coli</i> phytase expressed in yeast improves its in vitro and in vivo efficacy. C.H. Stahl <sup>*</sup> , K.R. Roneker, T. Xiang, J.R. Thornton, and X.G. Lei, Cornell University, Ithaca, NY.
10:15	557	Replacement value of wet microbrewery grains in swine finishing diets. B.A. Altizio <sup>*</sup> , J.E. Wohlt, P.A. Schoknecht, and M.L. Westendorf, Cook College, Rutgers University, New Brunswick, NJ.
10:30	558	Effect of trough-anchored blind teats on production and welfare of early-weaned piglets, fed a liquid or pelleted diet. J.A. Rau <sup>*</sup> and I.J.H. Duncan, University of Guelph, Colonel K.L. Campbell Centre for the Study of Animal Welfare, Guelph, Canada.

# GROWTH AND DEVELOPMENT 3

## POSTER SESSION

Wednesday, 8:00 a.m. - 5:00 p.m.

Authors of even numbered boards present

8:00 a.m. - 10:00 a.m.

Authors of odd numbered boards present

9:00 a.m. - 11:00 a.m.

Room: Exhibit Hall AB

Board No.	Abstract No.	
101	585	In Utero Dietary Conjugated Linoleic Acid (CLA) Alters Body Composition and Growth Rate in Newborn Pigs. S.P. Poulos* <sup>1</sup> , M.J. Azain <sup>1</sup> , and G.J. Hausman <sup>1,2</sup> , <sup>1</sup> U. of Georgia, Athens, GA, <sup>2</sup> USDA-ARS, Athens, GA.
102	586	Adipose tissue characteristics of weanling pigs fed conjugated linoleic acid. V. L. Adams* <sup>1</sup> , C. D. Gilbert <sup>1</sup> , H. J. Mersmann <sup>2</sup> , and S. B. Smith <sup>1</sup> , <sup>1</sup> Texas A&M University, <sup>2</sup> Children's Nutrition Research Center, USDA/ARS.
103	587	Effects of conjugated linoleic acid on milk composition and baby pig growth in lactating sows. R.J. Harrell* <sup>1</sup> , O. Phillips <sup>1</sup> , D.L. Jerome <sup>2</sup> , R.D. Boyd <sup>3</sup> , D.A. Dwyer <sup>4</sup> , and D.E. Bauman <sup>4</sup> , <sup>1</sup> North Carolina State University, <sup>2</sup> Conlinco Inc., Detroit Lakes, MN, <sup>3</sup> Pig Improvement Company USA, Franklin, KY, <sup>4</sup> Cornell University, Ithaca, NY.
104	588	An immunocastration vaccine Improvac <sup>®</sup> increases growth in individually and group-housed boars. I. McCauley <sup>1</sup> , G.M. Cronin <sup>1</sup> , J.L. Barnett <sup>1</sup> , K.L. Butler <sup>1</sup> , D.P. Hennessy <sup>2</sup> , R.G. Campbell <sup>3</sup> , B. Luxford <sup>3</sup> , R.J. Smits <sup>3</sup> , A.J. Tillbrook <sup>4</sup> , and F.R. Dunshea* <sup>1</sup> , <sup>1</sup> Agriculture Victoria, Victorian Institute of Animal Science, Werribee, Vic 3030, Australia, <sup>2</sup> CSL Limited, Parkville, Australia, <sup>3</sup> Bunge Meat Industries, Corowa, Australia, <sup>4</sup> Monash University, Clayton, Australia.
105	589	Vaccination of entire boars with Improvac <sup>®</sup> eliminates boar taint and increases growth performance. F.R. Dunshea* <sup>1</sup> , C. Colantoni <sup>2</sup> , K. Howard <sup>2</sup> , P. Jackson <sup>1</sup> , K.A. Long <sup>1</sup> , S. Lopaticki <sup>1</sup> , E.A. Nugent <sup>1</sup> , J.A. Simons <sup>1</sup> , J. Walker <sup>2</sup> , and D.P. Hennessy <sup>2</sup> , <sup>1</sup> Agriculture Victoria, Victorian Institute of Animal Science, Werribee, Australia, <sup>2</sup> CSL Limited, Parkville, Australia.
106	590	An immunocastration vaccine Improvac <sup>®</sup> and porcine somatotropin Reporcin have synergistic effects upon growth performance in boars. I. McCauley* <sup>1</sup> , M. Kolek <sup>1</sup> , D. Suster <sup>1</sup> , W.T. Oliver <sup>2</sup> , R.J. Harrell <sup>2</sup> , and F.R. Dunshea <sup>1</sup> , <sup>1</sup> Agriculture Victoria, Victorian Institute of Animal Science, Werribee, Australia, <sup>2</sup> North Carolina State University, Raleigh.
107	591	Effect of Paylean <sup>™</sup> (ractopamine hydrochloride) on swine growth performance and carcass leanness as determined by 20- and 13-trial pooled summaries, respectively. D. J. Jones* <sup>1</sup> , D. H. Mowrey <sup>1</sup> , D. B. Anderson <sup>1</sup> , A. L. Schroeder <sup>1</sup> , E. E. Thomas <sup>1</sup> , L. E. Watkins <sup>1</sup> , R. E. Karnak <sup>1</sup> , D. M. Roth <sup>1</sup> , and J. R. Wagner <sup>1</sup> , <sup>1</sup> Elanco Animal Health, Greenfield, IN.
108	592	Recombinant bovine somatotropin enhances growth rates in two species of ornamental fish; Giant Danios ( <i>Danio aequipinnatus</i> ) and Zebra Fish ( <i>Brachydanio rerio</i> ). P. R. Simpson* <sup>1</sup> , B. C. Peterson <sup>1</sup> , N. J. Hughes <sup>1</sup> , and G. T. Schelling <sup>1</sup> , <sup>1</sup> Department of Animal and Veterinary Science, University of Idaho, Moscow.
109	593	Effects of replacing fish meal protein with meat and bone meal protein as a major dietary ingredient on growth performance in rainbow trout ( <i>Oncorhynchus mykiss</i> ). G.T. Schelling* <sup>1</sup> , M.T. Casten, N.J. Hughes, R.A. Roeder, and R.W. Hardy, University of Idaho, Moscow.
110	594	Growth response of white sturgeon to bovine somatotropin dosage levels and administration patterns. G.T. Schelling* <sup>1</sup> , M.T. Casten, R.A. Roeder, and R.W. Hardy, University of Idaho, Moscow.
111	595	Growth response of rainbow trout to bovine somatotropin dosage levels and administration patterns. G.T. Schelling* <sup>1</sup> , N.J. Hughes, P.R. Simpson, and B.C. Peterson, University of Idaho, Moscow.
112	596	Differential expression of insulin-like growth factor binding proteins (IGFBP) -3 and -5 mRNA by primary porcine satellite cells. M.E. White* <sup>1</sup> , H.R. Hathaway <sup>1</sup> , and W.R. Dayton <sup>1</sup> , <sup>1</sup> University of Minnesota, St. Paul.
113	597	Satellite cell activation, IGF-I mRNA, myostatin mRNA and hepatocyte growth factor (HGF) mRNA levels in the semimembranosus muscles of anabolic steroid implanted and nonimplanted feedlot steers. W. R. Dayton* <sup>1</sup> , B. J. Johnson <sup>2</sup> , M. E. White <sup>1</sup> , and M. R. Hathaway <sup>1</sup> , <sup>1</sup> University of Minnesota, St. Paul, <sup>2</sup> South Dakota State University, Brookings.
114	598	Fatty acid attachment to human growth hormone-releasing factors (1-29) and (1-44)NH <sub>2</sub> increases the release of GH and IGF-1 in growing pigs. P. Dubreuil* <sup>1</sup> , T. Aribat <sup>2</sup> , and P. Brazeau <sup>3</sup> , <sup>1</sup> College of Veterinary Medicine, University of Montreal, QC, Canada, <sup>2</sup> Asana Laboratories, Longueuil, QC, Canada, <sup>3</sup> Notre-Dame Hospital, University of Montreal, QC, Canada.

- 115 599 Induction of growth hormone (GH) messenger RNA (mRNA) by corticosterone (CORT) in cultures of chicken embryonic pituitary cells. I. Bossis\* and Tom E. Porter, University of Maryland, College Park.
- 116 600 Identifying differentially expressed genes in C2C12 myogenic cells using Differential Display PCR. J.B. Edeal\*, C.D. Gladney, M.F. Allan, D. Pomp, and S.J. Jones, University of Nebraska, Lincoln.
- 117 601 The effect of LXRA activators on adipocyte differentiation. T.D. Brandebourg\*<sup>1</sup>, V.A. Manning<sup>1</sup>, A.E. Brodie<sup>1</sup>, and C.Y. Hu<sup>2</sup>, <sup>1</sup>Oregon State University, Corvallis, <sup>2</sup>Oregon State University and Sultan Qaboos University.
- 118 602 Analysis of Adipocyte Gene Expression During Marbling in Angus X Hereford Steers. K.D. Childs\*<sup>1</sup>, M Allan<sup>2</sup>, D Pomp<sup>2</sup>, J.R. Malayer<sup>1</sup>, R.D Geisert<sup>1</sup>, D.W. Goad<sup>1</sup>, and J.B. Morgan<sup>1</sup>, <sup>1</sup>Oklahoma State University, Stillwater, <sup>2</sup>University of Nebraska, Lincoln.

## HORSE SPECIES 2

### Equine Research, Extension and Teaching

Chair: K. Anderson, University of Nebraska, Lincoln.

Wednesday, 8:00 a.m. - 11:00 a.m.

Room: 312

Time	Abstract Number	
8:00	632	Identification of the toxic compounds in <i>Acer rubrum</i> . J Boyer*, D Breeden, and D Brown, Cornell University, Ithaca.
8:15	633	Dose dependent decrease in feed intake following intravenous injection of urocortin into pony mares. P. R. Buff* <sup>1</sup> , N. C. Whitley <sup>2</sup> , E. L. McFadin-Buff <sup>1</sup> , and D. H. Keisler <sup>1</sup> , <sup>1</sup> University of Missouri, Columbia, <sup>2</sup> University of Maryland-Eastern Shore, Princess Anne.
8:30	634	Fecal output, digestibility and pasture intake predicted by marker methods in grazing horses. J.L. Holland* <sup>1</sup> , D.S. Kronfeld <sup>1</sup> , W.L. Cooper <sup>1</sup> , and P.A. Harris <sup>2</sup> , <sup>1</sup> Virginia Polytechnic Institute and State University, Middleburg AREC, Middleburg, <sup>2</sup> Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, Leics. UK.
8:45	637	Glycemic response of mares fed a typical pelleted horse feed. W. B. Staniar* <sup>1</sup> , C. A. Williams <sup>1</sup> , D. S. Kronfeld <sup>1</sup> , and P. A. Harris <sup>2</sup> , <sup>1</sup> Virginia Polytechnic Institute and State University, Blacksburg, VA USA, <sup>2</sup> Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, UK.
9:00	636	Equi-Si™ increases plasma and milk silicon levels and alters bone and collagen metabolism in horses. K. J. Lang*, B. D. Nielsen, M. W. Orth, G. M. Hill, H. C. Schott, and K. L. Waite, Michigan State University, East Lansing.
9:15	635	Glycemic response in thoroughbred mares fed a high fat and fiber or high sugar and starch pasture supplement. C.A. Williams* <sup>1</sup> , D.S. Kronfeld <sup>1</sup> , W.B. Staniar <sup>1</sup> , and P.A. Harris <sup>2</sup> , <sup>1</sup> Virginia Polytechnic Institute and State University, Middleburg AREC, Middleburg, <sup>2</sup> Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, Leics, UK.
9:30		<b>BREAK</b>
9:45	638	The effect of fish oil supplementation on exercising horses. C.I. O'Connor*, L.M Lawrence, A.C. St. Lawrence, and S. Hayes, University of Kentucky, Lexington, KY.
10:00	639	Forelimb kinematics and kinetics of the fox trot. M.C. Nicodemus*, J.L. Lanovaz, and H.M. Clayton, Michigan State University, East Lansing.
10:15	640	Natural Partners: Land Grant Universities and State Horse Councils. C.M. Brady* <sup>1</sup> , M.A. Russell <sup>1</sup> , P.J. Naile <sup>2</sup> , and C. McCormick <sup>1</sup> , <sup>1</sup> Purdue University, West Lafayette, <sup>2</sup> Indiana Horse Council.
10:30	641	Using Cooperative Learning to Teach Horse Science and Management Students with Varying Backgrounds. M.J. Wylie*, University of Wisconsin, Madison.
10:45	642	Integration of an equine program in an animal science curriculum: the minor degree approach. GR Gallagher*, Berry College, Mt. Berry, GA.

# INTERNATIONAL ANIMAL AGRICULTURE 1

## Research in Action

Chair: G. B. Huntington, North Carolina State University, Raleigh

Wednesday, 8:00 a.m. - 9:15 a.m.

Room: 320

Time	Abstract Number	
8:00	643	Genotype Differences in Heat-Shock Protein (Hsp70) Expression in Bovine Lymphocytes Exposed to Temperature Treatments. R Banuelos-Valenzuela* <sup>1</sup> , CF Arechiga <sup>1</sup> , HR Vega-Carrillo <sup>2</sup> , and SH Sanchez-Rodriguez <sup>2</sup> , <sup>1</sup> FMVZ-Universidad Autonoma de Zacatecas, Zacatecas, ZAC. MEXICO, <sup>2</sup> CREN-Universidad Autónoma de Zacatecas, Zacatecas, ZAC. Mexico.
8:15	644	Management of tropical pastures renovated using the Barreiro system. C. D. U. Magnabosco* <sup>1</sup> , R. D. Sainz <sup>2</sup> , A. O. Barcellos <sup>1</sup> , I. P. Oliveira <sup>3</sup> , and D.O. Costa <sup>3</sup> , <sup>1</sup> Embrapa Cerrados, Planaltina,DF/Brasil, <sup>2</sup> University of California, Davis,CA/USA, <sup>3</sup> Embrapa Arroz e Feijão, Goiânia,GO/Brasil.
8:30	645	Sustainable use of mountain pastures by sheep in Switzerland. M. Schneeberger*, Swiss Sheep Breeders' Association, Langenthal, Switzerland.
8:45	646	Effect of a Synchronized-Ovulation Treatment in Hereford Heifers at the Beginning of a Breeding Program with Bull Sires and/or Timed Artificial Insemination in North-Central Mexico. JA Ramirez-Chequer, R de Leon-Medina, JO Enriquez, MA Castillo-Pecina, RM Rincon, R Banuelos-Valenzuela, and CF Arechiga*, FMVZ-Universidad Autónoma de Zacatecas, Mexico.
9:00	647	Manure Management in Dairy Systems: A China-State of Wisconsin Comparison. M.A. Wattiaux* <sup>1</sup> , J.M. Powell <sup>2</sup> , G.G. Frank <sup>3</sup> , and Z.G. Wu <sup>2</sup> , <sup>1</sup> The Babcock Institute, <sup>2</sup> U.S. Dairy Forage Research Center, <sup>3</sup> The Center for Dairy Profitability, University of Wisconsin, Madison.

# MEAT SCIENCE AND MUSCLE BIOLOGY 3

## Pork Quality

Chair: S. J. Jones, University of Nebraska, Lincoln

Wednesday, 8:00 a.m. -10:00 a.m.

Room: 317

Time	Abstract Number	
8:00	667	Pork quality attributes associated with carcass side to side variation. C.A. Stahl* <sup>1</sup> , M.L. Linville <sup>1</sup> , M.A. Swaney-Stueve <sup>2</sup> , K.R. Maddock <sup>1</sup> , G.L. Allee <sup>1</sup> , and E.P. Berg <sup>1</sup> , <sup>1</sup> University of Missouri Department of Animal Science, <sup>2</sup> University of Missouri Department of Food Science & Human Nutrition, Columbia, MO.
8:15	668	Conjugated linoleic acids (CLA) markedly modify fatty acid profile of fat tissues in growing pigs. G. Bee*, Swiss Federal Research Station for Animal Production, Posieux, Switzerland.
8:30	669	Influence of dietary conjugated linoleic acid on meat quality and sensory traits of stress-genotype pigs. B.R. Wiegand*, J.E. Swan, F.C. Parrish, Jr., and T.J. Baas, Iowa State University Ames.
8:45	670	Compositional differences in bellies of CLA-fed stress genotype pigs as determined by TOBEC. J.E. Swan*, B.R. Wiegand, S.T. Larsen, F.C. Parrish, Jr., and T.J. Baas, Iowa State University, Ames.

- 9:00 671 Does creatine monohydrate supplemented to swine finishing rations affect pork quality?. E.P. Berg<sup>1</sup>, M.L. Linville\*<sup>1</sup>, C.A. Stah<sup>1</sup>, K.R. Maddock<sup>1</sup>, and G.L. Allee<sup>1</sup>, <sup>1</sup>University of Missouri, Columbia.
- 9:15 672 The effect of Improvac on pork quality. D.N. D'Souza<sup>1</sup>, D. Hennessy<sup>2</sup>, M. Danby<sup>2</sup>, I. McCauley<sup>3</sup>, and B.P. Mullan\*<sup>1</sup>, <sup>1</sup>Agriculture Western Australia, South Perth, Australia, <sup>2</sup>CSL Limited, Melbourne, Australia, <sup>3</sup>Victorian Institute of Animal Science, Attwood, Australia.
- 9:30 673 Pork quality and muscle characteristics of pigs finished indoors or outdoors during the winter months. J.G. Gentry\*<sup>1</sup>, J.R. Blanton<sup>1</sup>, J.J. McGlone<sup>1</sup>, J.L. Morrow-Tesch<sup>2</sup>, and M.F. Miller<sup>1</sup>, <sup>1</sup>Texas Tech University, Lubbock, TX, <sup>2</sup>USDA-ARS, Lubbock, TX.
- 9:45 674 Modeling the probability of purchasing pork with specific quality traits. P. Chen, K. Koehler, T. J. Baas, and J.C.M. Dekkers, Iowa State University, Ames.

## MILK SYNTHESIS 2

### SYMPOSIUM

#### The Physiology and Economics of Alternate Methods for the Initiation and Maintenance of Lactation

Sponsored by *Monsanto Company*

Chair: J. C. Byatt, Monsanto Company,  
St. Louis, MO

Wednesday, 8:00 a.m. - 11:00 a.m.  
Room: 307

Time	Abstract Number	
8:00	96	<b>INVITED</b> Induced lactation in prepubertal Holstein heifers S. Ball <sup>1</sup> , K. Polson <sup>1</sup> , J. Emeny <sup>1</sup> , W. Eyestone <sup>1</sup> , and R. M. Akers* <sup>2</sup> , <sup>1</sup> PPL Therapeutics, Inc., Blacksburg, VA, <sup>2</sup> Virginia Tech, Blacksburg, VA.
8:15	97	<b>INVITED</b> Induced lactation: physiology, perception, profitability and propriety. R.S. Kensinger* <sup>1</sup> , <sup>1</sup> Penn State University, University Park.
8:45	98	<b>INVITED</b> Effect of milking interval on mammary function and shape of the lactation curve. K. Stelwagen*, Research Station for Cattle, Sheep and Horse Husbandry (PV), Lelystad, The Netherlands.
9:25	99	<b>INVITED</b> Manipulation of lactation persistency with maintenance of milk quality. C. H. Knight* and A. Sorensen, Hannah Research Institute, Ayr KA6 5HL, UK.
10:05	100	<b>INVITED</b> Economics of Atypical Milk Production. D. Galligan* and L. Lormore, University of Pennsylvania School of Veterinary Medicine, Kennett Square.
10:35		<b>ROUND TABLE DISCUSSION</b>

# NONRUMINANT NUTRITION 5

## Young Pig Nutrition: Ingredient Evaluations

Chair: B. Borg, American Proteins Corp., Ames, IA

Wednesday, 8:00 a.m. - 10:00 a.m.

Room: 309

Time	Abstract Number	
8:00	767	Efficacy of partially hydrolyzed corn syrup solids as a replacement for lactose in manufactured liquid diets for neonatal pigs. W.T. Oliver*, S.A. Mathews, O. Phillips, E.E. Jones, J. Odle, and R.J. Harrell, North Carolina State University, Raleigh.
8:15	768	The effect of spray-dried animal plasma addition to nursery diets varying in soybean meal concentration. J. Hartke* and G. Apgar, Southern Illinois University, Carbondale.
8:30	769	Feeding spray-dried plasma decreases the activation of the hypothalamic-pituitary-adrenal axis. K.J. Touchette* <sup>1</sup> , G.L. Allee <sup>1</sup> , R.L. Matteri <sup>2</sup> , C.J. Dyer <sup>2</sup> , and J.A. Carroll <sup>2</sup> , <sup>1</sup> University of Missouri-Columbia, <sup>2</sup> Animal Physiology Research Unit, Agricultural Research Service, USDA, Columbia, MO.
8:45	770	Evaluation of PROTIMAX during various phases of rearing on piglet performance. J.A. Godfredson-Kisic* and Thomas Shipp, DuCoa, Highland, IL.
9:00	771	Evaluation of ProtiOne™ versus plasma protein for two-week-old weanling pigs. T.E. Shipp* and J.A. Godfredson-Kisic, DuCoa, Highland, IL.
9:15	772	Nitrogen balance of nursery pigs fed different soybean fractions. B.W. Senne*, S.D. Carter, L.A. Pettey, and J.A. Shriver, Oklahoma State University, Stillwater.
9:30	773	The effect of arginine and glutamine on postweaning performance and intestinal morphology of pigs. K. J. Touchette* <sup>1</sup> , G.L. Allee <sup>1</sup> , K. Watanabe <sup>2</sup> , Y. Toride <sup>2</sup> , I. Shinzato <sup>2</sup> , and J.L. Usry <sup>3</sup> , <sup>1</sup> University of Missouri-Columbia, <sup>2</sup> Ajinomoto Co. Inc., <sup>3</sup> Heartland Lysine, Inc.
9:45		What have we learned? Merlin Lindemann, University of Kentucky, Lexington.
10:00	<b>BREAK</b>	

# NONRUMINANT NUTRITION 6

## Specialty Ingredients in Young Pig Diets

Chair: J. Lopez, ADM Animal Health and Nutrition, Quincy, IL

Wednesday, 9:15 a.m. - 11:00 a.m.

Room: 310

Time	Abstract Number	
9:15	774	Supplemental alpha-lipoic acid and neonatal health and performance in weaned pigs. K.R. Maddock* <sup>1</sup> , E.P. Berg <sup>1</sup> , M.E. Zannelli <sup>2</sup> , L.A. Beausang <sup>2</sup> , C.A. Stahl <sup>1</sup> , M.L. Linville <sup>1</sup> , and J.A. Carroll <sup>3</sup> , <sup>1</sup> University of Missouri-Columbia, <sup>2</sup> Endogen, Inc., Woburn, MA, <sup>3</sup> Animal Physiology Research Unit, Agricultural Research Service, USDA, Columbia, MO.
9:30	775	Effect of various combinations of copper citrate and copper sulfate on the growth performance of weanling pigs. C. R. Dove* and T. C. Schell, University of Georgia, Tifton.
9:45	776	Effect of pharmacological ZnO levels in starter pig diets on fecal excretion of Zn. T. A. Meyer*, M. D. Lindemann, and G. L. Cromwell, University of Kentucky, Lexington.
10:00	777	Evaluation of conjugated linoleic acid (CLA) and dietary antibiotics as growth promotants in weanling pigs. T. E. Weber*, S.



A. DeCamp, K. A. Bowers, C. T. Herr, S. L. Knoll, B. T. Richert, and A. P. Schinckel, Purdue University, West Lafayette, IN.

- 10:15 778 Lactitol and tributyrin synergistically prevent the post-weaning syndrome in swine. A. Piva\*<sup>1</sup>, A. Prandini<sup>2</sup>, L. Fiorentini<sup>2</sup>, M. Morlacchini<sup>3</sup>, F. Galvano<sup>4</sup>, and J. Luchansky<sup>5</sup>, <sup>1</sup>Universita' di Bologna-Italy, <sup>2</sup>Universita' Cattolica del S. Cuore, Piacenza-Italy, <sup>3</sup>CERZOO-Italy, <sup>4</sup>Universita' di Reggio Calabria-Italy, <sup>5</sup>USDA, Agricultural Research Service, NAA, ERRC.
- 10:30 779 Enteroguard as an alternative feed additive to antibiotics in weanling pig diets. C.M.C. v.d. Peet-Schwering and J.W.G.M. Swinkels, Research Institute for Pig Husbandry, Rosmalen, The Netherlands.
- 10:45 What have we learned? Gretchen Hill, Michigan State University, East Lansing.

## PHYSIOLOGY 5

### Follicles and Nutrition

Chair: M. L. O'Connor, Penn State University, University Park

Wednesday, 8:00 a.m. - 9:30 a.m.

Room: 319

Time	Abstract Number	
8:00	890	Use of bovine ovarian follicle wall in a culture system to study long-term steroidogenesis. M. Frajblat* and W. R. Butler, Cornell University, Department of Animal Science, Ithaca, NY.
8:15	891	Development of follicular cysts in cattle is due to an estradiol-induced GnRH/LH surge without subsequent progesterone exposure. A. Gumen*, R. Sartori, F. Costa, and M. C. Wiltbank, University of Wisconsin, Madison.
8:30	892	Differences between lactating cows and nulliparous heifers in follicular dynamics, luteal growth, and serum steroid concentrations. R. Sartori*, J. Haughian, G.J.M. Rosa, R. D. Shaver, and M. C. Wiltbank, University of Wisconsin, Madison.
8:45	893	The effects of body condition and protein supplementation of postpartum beef cows on estrous behavior and follicle size. C. A. Lents*, F. J. White, D. L. Lalman, and R. P. Wettemann, Oklahoma Agricultural Experiment Station, Stillwater.
9:00	894	Effects of urea infusion on uterine luminal pH, prostaglandins and proteins in lactating dairy cows. M. L. Bode*, R. O. Gilbert, and W. R. Butler, Cornell University, Ithaca, NY.
9:15	895	Effect of Menhaden fish meal on uterine secretion of PGF <sub>2α</sub> , dry matter intake, milk yield and milk composition. R. Mattos* <sup>1</sup> , J. Williams <sup>2</sup> , C. R. Staples <sup>1</sup> , and W. W. Thatcher <sup>1</sup> , <sup>1</sup> University of Florida, Gainesville, <sup>2</sup> University of California, Davis.

## PHYSIOLOGY 6

### Litter size, Immunoglobulins, Growth Hormone, and Behavior

Chair: J. E. Chandler, Louisiana State University, Baton Rouge

Wednesday, 9:30 a.m. – 11:00 a.m.

Room: 319

Time	Abstract Number	
9:30	896	Characteristics of the reproductive biology of multiparous sows from a commercially relevant population. M.E. Wilson* <sup>1</sup> , K.A. Vonnahme <sup>1</sup> , G.R. Foxcroft <sup>2</sup> , G. Gourley <sup>3</sup> , T. Wolff <sup>4</sup> , M. Quirk-Thomas <sup>5</sup> , and S.P. Ford <sup>1</sup> , <sup>1</sup> Iowa State University, Ames, <sup>2</sup> University of Alberta, Edmonton, <sup>3</sup> SGE, Webster City, <sup>4</sup> Roche Vitamins Inc., Kansas City, <sup>5</sup> Pig Improvement Company, Frankfort, KY.
9:45	897	Beta-Lactoglobulin as a modulator of intestinal activity and effects on immunoglobulin uptake in the gut of the neonatal pig. L.F. Sutton* and Brenda Alston-Mills, North Carolina State University, Raleigh.

- 10:00 898 Pituitary adenylate cyclase-activating polypeptide induces release of similar amounts of growth hormone before and after meal feeding of steers. R. P. Radcliff\*, L. T. Chapin, K. J. Lookingland, and H. A. Tucker, Michigan State University, East Lansing.
- 10:15 899 Pre-weaning growth hormone (GH) response to growth hormone-releasing hormone (GHRH) is indicative of on-test average daily gain (ADG): selection for GH response to GHRH increases its association with ADG. T. L. Auchtung\*, S. M. Barao, and G. E. Dahl, University of Maryland, College Park.
- 10:30 900 Superovulatory responses in cows receiving bovine somatotropin. F. Moreira\*, L. Badinga, C. Burnley, and W. W. Thatcher, University of Florida, Gainesville.
- 10:45 901 Effects of melengestrol acetate (MGA) on sexual behavior, testosterone (T) and luteinizing hormone (LH) concentrations in mature beef bulls. D. B. Imwalle, R. D. Smith, A. L. King, J. D. Bailey, and K. K. Schillo, University of Kentucky, Lexington.

## PRODUCTION AND MANAGEMENT 5

### Dairy Reproductive and Health Management

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

Wednesday, 8:00 a.m. - 10:45 a.m.  
Room: 315

- | Time  | Abstract Number |   |
|-------|-----------------|---|
| 8:00  | 963             | Reproductive trends among Southeastern dairy herds. S.P. Washburn <sup>1</sup> , C.H. Brown <sup>1</sup> , B.T. McDaniel <sup>1</sup> , and S.L. White <sup>1</sup> , <sup>1</sup> North Carolina State University, Raleigh.  |
| 8:15  | 964             | Monitoring estrus detection efficiency in dairy cattle using cusum and Shewhart charts. A. de Vries*, G. R. Steuernagel, and B. J. Conlin, University of Minnesota, St. Paul.   |
| 8:30  | 965             | Comparison of AI pregnancy rates in dairy cattle by order of preparation of insemination straws. Greg Goodell*, DUO Dairy Research Facility, Loveland, CO.  |
| 8:45  | 966             | Effects of performance and physiological characteristics of dairy heifers on first lactation yield and lifetime performance. M.L. Miller* and M.A. Faust, Iowa State University, Ames.  |
| 9:00  | 967             | Prepartum milking of Holstein heifers: III. Effects on lactation measures of production, reproduction and udder health. J.F. Kearney <sup>1</sup> , M.M. Schutz <sup>1</sup> , S.D. Eicher <sup>2</sup> , and X. Li <sup>1</sup> , <sup>1</sup> Purdue University, West Lafayette, IN, <sup>2</sup> USDA-ARS, West Lafayette, IN.   |
| 9:15  |                 | <b>BREAK</b>  |
| 9:30  | 968             | The Influence of Reproductive Efficiency on Income Over Feed Costs in Holstein Dairy Herds in Ragusa Sicily. JD Ferguson <sup>1</sup> , DT Galligan <sup>1</sup> , S Ventura <sup>2</sup> , S Barresi <sup>2</sup> , G Alderisi <sup>2</sup> , and G Licitra <sup>2</sup> , <sup>1</sup> University of Pennsylvania, Kennett Square, <sup>2</sup> Consorzio-Ricerca Fileria Lattiero, Sicily. |
| 9:45  | 969             | Management of length of lactation and dry period to increase net farm income in a simulated dairy herd. M.E. French*, M.L. McGilliard, and R.E. Pearson, Virginia Polytechnic and State University, Blacksburg.   |
| 10:00 | 970             | The Interaction of a Web-based Dairy Expert System and Production Benchmarks. A.M. Chapa*, J.W. Smith, L.O. Ely, M. Nakazawa, C. Ramakrishnan, and W.D. Potter, University of Georgia, Athens.  |
| 10:15 | 971             | Comparison of health parameters and milk production of cattle receiving an additional dose of E. coli. naked core antigen vaccine for the prevention of coliform mastitis during the third month of lactation. Greg Goodell*, DUO Dairy Research Facility, Loveland, CO.  |
| 10:30 | 972             | An Investigation of the Factors affecting the Adherence of a Dry Cow Teat Sealant in Commercial Dairy Herds in Ontario. G. H. Lim*, K. E. Leslie, D. F. Kelton, C. Church, and J. TenHag, Univeristy of Guelph, Ontario, Canada.  |

# RUMINANT NUTRITION 8

## Protein and Amino Acids I

Co-Chairs: M. Vasquez-Anon, Novas International, St. Charles, MO and K. Webb, Jr., Virginia Tech University, Blacksburg

Wednesday, 7:30 a.m. - 11:00 a.m.

Room: 308

Time	Abstract Number	
7:30	1118	Extruded-expelled cottonseed meal with lint as a source of rumen undegradable protein for lactating dairy cows. M.J. Meyer*, J.E. Shirley, A.F. Park, M.J. VanBaale, and E.C. Titgemeyer, Kansas State University, Manhattan.
7:45	1119	Determination of the amount of wet corn gluten feed to include in diets for lactating dairy cows. M.J. VanBaale* <sup>1</sup> , J.E. Shirley <sup>1</sup> , E.C. Titgemeyer <sup>1</sup> , M.J. Meyer <sup>1</sup> , A.F. Park <sup>1</sup> , R.U. Lindquist <sup>2</sup> , and R.T. Ethington <sup>2</sup> , <sup>1</sup> Kansas State University, Manhattan, <sup>2</sup> Minnesota Corn Processors, Inc.
8:00	1120	Portal-drained visceral (PDVF) flux and mammary uptake (MU) of free (FAA) and peptide-bound amino acids (PBAA) in lactating cows fed diets containing steam flaked corn (SF) at 360 or 490 g/l. H. Tagari* <sup>1</sup> , K. Webb <sup>2</sup> , B. Theurer <sup>3</sup> , T. Huber <sup>3</sup> , P. Cuneo <sup>3</sup> , D. Deyoung <sup>3</sup> , A. Delgado-Elorduy <sup>3</sup> , M. Sadik <sup>3</sup> , A. Alio <sup>3</sup> , O. Lozano <sup>3</sup> , J. Simas <sup>3</sup> , C. Nussio <sup>3</sup> , P. Pu <sup>3</sup> , F. Santos <sup>3</sup> , and J. Santos <sup>3</sup> , <sup>1</sup> Hebrew University of Jerusalem, <sup>2</sup> Virginia Tech, Blacksburg, <sup>3</sup> University of Arizona, Tucson.
8:15	1121	Portal-drained visceral flux (PDVF) and mammary uptake (MU) of free (FAA) and peptide-bound amino acids (PBAA) in lactating cows fed diets containing steam flaked (SFS) or dry rolled (RDS) sorghum. H. Tagari* <sup>1</sup> , K. Webb <sup>2</sup> , B. Theurer <sup>3</sup> , T. Huber <sup>3</sup> , P. Cuneo <sup>3</sup> , D. Deyoung <sup>3</sup> , A. Delgado-Elorduy <sup>3</sup> , M. Sadik <sup>3</sup> , A. Alio <sup>3</sup> , O. Lozano <sup>3</sup> , J. Simas <sup>3</sup> , C. Nussio <sup>3</sup> , P. Pu <sup>3</sup> , F. Santos <sup>3</sup> , and J. Santos <sup>3</sup> , <sup>1</sup> Hebrew University of Jerusalem, <sup>2</sup> Virginia Tech, Blacksburg, <sup>3</sup> University of Arizona, Tucson.
8:30	1122	Effects of duodenal infusion of graded amounts of Phe on mammary uptake and metabolism in dairy cows. H. Rulquin* <sup>1</sup> and P.M. Pisulewski <sup>2</sup> , <sup>1</sup> UMRPL INRA, St Gilles, France, <sup>2</sup> Agricultural Univ., Cracow, Poland.
8:45	1123	A blood procedure to determine bioavailability of rumen-protected Met for ruminants. H. Rulquin* <sup>1</sup> and J. Kowalczyck <sup>2</sup> , <sup>1</sup> UMRPL INRA, St Gilles, France, <sup>2</sup> IFZZ, Jablonna, Poland.
9:00		<b>BREAK</b>
9:15	1124	The effect of rumen protected methionine on milk production and milk composition in first lactation Holstein cows fed high protein diets. J. D. Ferguson* <sup>1</sup> , B. Veccharelli <sup>1</sup> , J. Beach <sup>1</sup> , and S. Takenaka <sup>2</sup> , <sup>1</sup> University of Pennsylvania, Kennett Square, <sup>2</sup> Nisso America, Inc. New York, NY.
9:30	1125	Effect of source of bypass protein and supplemental Alimet® and Lysine-HCL on lactation performance. J. H. Harrison* <sup>1</sup> , D. Davidson <sup>1</sup> , L. Johnson <sup>1</sup> , M. L. Swift <sup>2</sup> , M. von Keyserlingk <sup>2</sup> , M. Vazquez-Anon <sup>3</sup> , and W. Chalupa <sup>4</sup> , <sup>1</sup> Washington State University, Puyallup, <sup>2</sup> Agro Pacific Ind., Ltd., Chilliwack, B.C., Canada, <sup>3</sup> Novus, Int., St. Louis, <sup>4</sup> University of Pennsylvania, Kennett Square.
9:45	1126	Metabolism of 2-hydroxy-4-methylthio butanoic acid (HMB) in growing lambs. T.J. Wester <sup>1</sup> , M. Vazquez-Anon <sup>2</sup> , D. Parker <sup>2</sup> , J. Dibner <sup>2</sup> , A.G. Calder <sup>1</sup> , and G.E. Lobley* <sup>1</sup> , <sup>1</sup> Rowett Institute, Aberdeen, UK, <sup>2</sup> Novus International, St. Louis, MO.
10:00	1127	Synthesis of methionine (Met) from 2-hydroxy-4-methylthio butanoic acid (HMB) in growing lambs. T.J. Wester <sup>1</sup> , M. Vazquez-Anon <sup>2</sup> , D. Parker <sup>2</sup> , J. Dibner <sup>2</sup> , A.G. Calder <sup>1</sup> , and G.E. Lobley* <sup>1</sup> , <sup>1</sup> Rowett Institute, Aberdeen, UK, <sup>2</sup> Novus International, St. Louis, MO.
10:15	1128	Dipeptides or their amino acids administered to a perfused area of the skin in Angora goats. R. Puchala <sup>1</sup> , S.G. Pierzynowski <sup>2</sup> , T. Wulji <sup>1</sup> , A.L. Goetsch <sup>1</sup> , S.A. Soto-Navarro <sup>1</sup> , T. Sahl <sup>1</sup> , and M. Lachica <sup>3</sup> , <sup>1</sup> E (Kika) de la Garza Institute for Goat Research, Langston, OK, USA, <sup>2</sup> Lund University, Lund, Sweden, <sup>3</sup> Estacion Experimental del Zaidjn (CSIC), Armilla, Spain.
10:30	1129	Action of hydroxy methyl butanoic acid (HMB) on microbial growth and metabolism. B. K. Sloan* <sup>1</sup> , W. H. Hoover <sup>2</sup> , T. K. Miller Webster <sup>2</sup> , C. G. Schwab <sup>3</sup> , and N. L. Whitehouse <sup>3</sup> , <sup>1</sup> Aventis Animal Nutrition, Alpharetta, GA, <sup>2</sup> West Virginia University, Morgantown, <sup>3</sup> University of New Hampshire, Durham.
10:45	1130	Deoxyribonuclease activity in the ruminal bacteria <i>Selenomonas ruminantium</i> and <i>Streptococcus bovis</i> . S. F. Al-Khaldi, L. L. Durocher, and S. A. Martin*, University of Georgia, Athens.

# RUMINANT NUTRITION 9

## POSTER SESSION

### Forages, Fiber, and Intake

Wednesday, 8:00 a.m. - 5:00 p.m.  
Authors present: 8:00 a.m. - 10:00 a.m.  
Room: Exhibit Hall AB

Board No.	Abstract No.	
119	1131	The effects of cutting height on nutritive value of silage. A. García*, C. Velázquez, P. Marinho, K. Cresci, I. Garmendia, and J. Piaggio, Facultad de Veterinaria. Montevideo, Uruguay.
120	1132	Yield, chemical composition and ruminal degradability of <i>Brachiaria humidicola</i> (Rendle) Schweick at seven clipping stages under dry tropical conditions. J. Vergara-Lopez* and O. Araujo-Febres, La Universidad del Zulia, Facultad de Agronomía. Maracaibo, Venezuela.
121	1133	Effects of corn silage or high moisture corn supplementation on performance of beef heifers grazing high quality pastures. L. O. Abdelhadi* <sup>1,2</sup> , F. J. Santini <sup>1</sup> , G. A. Gagliostro <sup>1</sup> , and C. A. Cangiano, <sup>1</sup> Fac. Cs. Agrarias. UNMdP-INTA EEA Balcarce, <sup>2</sup> CONICET.
122	1134	Effects of corn silage or high moisture corn supplementation on ruminal pH and pasture digestion in beef heifers grazing high quality pastures. L. O. Abdelhadi* <sup>1,2</sup> , F. J. Santini <sup>1</sup> , C. A. Cangiano <sup>1</sup> , and G. A. Gagliostro <sup>1</sup> , <sup>1</sup> Fac. Cs. Agrarias. UNMdP-INTA EEA Balcarce, <sup>2</sup> CONICET.
123	1135	Rumen fermentation patterns of a range of forage diets. V. E. Brown* and R. E. Agnew, Agricultural Research Institute of Northern Ireland, Hillsborough, Co. Down.
124	1136	Ruminal parameters and digestibility in sheep fed with basal oat straw diet. H. G. Gonzalez* <sup>1</sup> , O. B. Ruiz <sup>1</sup> , M. L. De la Vega <sup>1</sup> , A. Correa <sup>2</sup> , F. J. Verdugo <sup>2</sup> , H. C. Hernandez <sup>3</sup> , L. E. Gerlach <sup>4</sup> , A. E. Orozco <sup>1</sup> , and E. E. Perez <sup>5</sup> , <sup>1</sup> Universidad Autónoma de Chihuahua, <sup>2</sup> Universidad Autónoma de Baja California, <sup>3</sup> Universidad Autónoma de Baja California Sur, <sup>4</sup> Universidad de Sonora, <sup>5</sup> Universidad Autónoma de Ciudad Juárez.
125	1137	Ruminal parameters and digestibility in steers fed with basal oat straw diet. H. G. Gonzalez* <sup>1</sup> , O. B. Ruiz <sup>1</sup> , M. L. De la Vega <sup>1</sup> , A. E. Orozco <sup>1</sup> , A. Correa <sup>2</sup> , A. P. Marquez <sup>2</sup> , L. E. Gerlach <sup>3</sup> , E. E. Perez <sup>4</sup> , and H. C. Hernandez <sup>5</sup> , <sup>1</sup> Universidad Autónoma de Chihuahua, <sup>2</sup> Universidad Autónoma de Baja California, <sup>3</sup> Universidad de Sonora, <sup>4</sup> Universidad Autónoma de Ciudad Juárez, <sup>5</sup> Universidad Autónoma de Baja California Sur, Mexico.
126	1138	Digestibility in steers fed with a basal oat straw diet and supplemented with alfalfa. H. C. Hernandez* <sup>1</sup> , M. L. De la Vega <sup>2</sup> , M. G. Ferreiro <sup>2</sup> , A. P. Marquez <sup>3</sup> , A. Correa <sup>3</sup> , H. G. Gonzalez <sup>3</sup> , and E. E. Perez <sup>4</sup> , <sup>1</sup> Universidad Autónoma de Baja California Sur, <sup>2</sup> Universidad Autónoma de Chihuahua, <sup>3</sup> Universidad Autónoma de Baja California, <sup>4</sup> Universidad Autónoma de Ciudad Juárez, Mexico.
127	1139	<i>In vivo</i> and <i>in vitro</i> digestibility and chemical composition of maize silage from a crop in three stages of maturity. M. Nomdedeu* <sup>1,2</sup> and O. N. Di Marco <sup>1</sup> , <sup>1</sup> Fac. Cs. Agrarias UNMdP-INTA EEA Balcarce, <sup>2</sup> CIC, Mexico.
128	1140	Corn silage supplementation of different chop length to dairy cows grazing temperate pasture. G.A. Pieroni*, D.H. Rearte, F.J. Santini, M. San Martín, and G. Eyherabide, Fac. Cs. Agrarias, UNMdP - EEA INTA Balcarce, Bs. As., Argentina.
129	1141	Effect of particle size, quality and quantity of alfalfa hay, and cow on selective consumption by dairy cattle. C. Leonardi* and L. E. Armentano, University of Wisconsin, Madison.
130	1142	The effect of processing corn silage prior to ensiling on particle size and production and digestibility characteristics of growing beef heifers. D.R. ZoBell* <sup>1</sup> , K.C. Olson <sup>1</sup> , R.D. Wiedmeier <sup>1</sup> , D. Sass <sup>2</sup> , K.J. Shinnars <sup>3</sup> , and T.A. McAllister <sup>4</sup> , <sup>1</sup> Utah State University, <sup>2</sup> Pioneer Hi-Bred, <sup>3</sup> University of Wisconsin, Madison, <sup>4</sup> Agriculture and Agri-Food Canada.
131	1143	Effect of feeding a corn hybrid selected for leafiness as silage or grain to lactating dairy cattle. P.W. Clark* <sup>1</sup> , S.C. Kelm <sup>1</sup> , and M.I. Endres <sup>2</sup> , <sup>1</sup> University of Wisconsin-River Falls, <sup>2</sup> Mycogen Seeds.
132	1144	Effect of feeding Roundup Ready® corn silage and grain on feed intake, milk production and milk composition in lactating dairy cattle. S. S. Donkin* <sup>1</sup> , J.C. Velez <sup>1</sup> , E. P. Stanisiewski <sup>2</sup> , and G. F. Hartnell <sup>2</sup> , <sup>1</sup> Purdue University, West Lafayette, IN, <sup>2</sup> Monsanto Company, St Louis, MO.

- 133 1145 Effects of corn silage hybrid and level of forage NDF on nutrient digestibility and duodenal fatty acid content of lactating cows. X. Qiu\*, M.L. Eastridge, and Z. Wang, The Ohio State University, Columbus.
- 134 1146 Feeding value of whole plant silage and crop residues from Bt or normal corns. K.S. Hendrix\*, A.T. Petty, and D.L. Lofgren, Purdue University, West Lafayette, IN.
- 135 1147 Effects of activated carbon on performance and apparent total tract nutrient digestibility of dairy cows fed poorly fermented corn silage. P.S. Erickson\*<sup>1</sup>, N.L. Whitehouse<sup>1</sup>, O.A. Ayangbile<sup>2</sup>, D.A. Spangler<sup>2</sup>, A. Gotlieb<sup>3</sup>, and C.G. Schwab<sup>1</sup>, <sup>1</sup>University of New Hampshire, Durham, NH, <sup>2</sup>Agri-King Inc., Fulton, IL, <sup>3</sup>University of Vermont, Burlington.
- 136 1148 Effects of replacing concentrate with soyhulls in diets of lactating cows. I. R. Ipharraguerre\*<sup>1</sup>, R. R. Ipharraguerre<sup>2</sup>, and J. H. Clark<sup>1</sup>, <sup>1</sup>University of Illinois, Urbana, <sup>2</sup>University of Buenos Aires, Argentina.
- 137 1149 Effect of urea molasses block storage time on intake and digestion of prairie hay by sheep. O. Araujo-Febres\*, J. A. Vergara, M. B. Lachmann, and A. E. Ortega, La Universidad del Zulia. Facultad de Agronomía. Maracaibo, Venezuela.
- 138 1150 Effect of substitution of alfalfa hay with clitoria hay (*Clitoria ternatea*) on apparent digestibility in sheep. A. Estrada\*, R. Barajas, J.F. Obregon, and E. Sanchez, Universidad Autonoma de Sinaloa.
- 139 1151 Influence of feed intake and forage level on nutrient utilization in the rumen of sheep. I. Varhegyi, H. Febel\*, and Sz. Huszar, Research Institute of Animal Breeding and Nutrition, Herceghalom, Hungary.
- 140 1152 Effect of a fibrolytic enzyme supplement (Fibrozyme) on intake and apparent digestibility of alfalfa and ryegrass fed to lambs. R.J. Pinos<sup>1</sup>, S. González<sup>1</sup>, G. Mendoza<sup>1</sup>, M. Cobo<sup>1</sup>, R. Bácena<sup>1</sup>, A. Hernández<sup>1</sup>, A. Martínez<sup>1</sup>, M. Ortega<sup>1</sup>, G. Hoyos<sup>2</sup>, and K. Jacques\*<sup>3</sup>, <sup>1</sup>Colegio de Postgraduados, Montecillo, México, <sup>2</sup>Alltech Mexico, Mexico City, <sup>3</sup>Alltech Inc., Nicholasville, KY.

## RUMINANT NUTRITION 10

### POSTER SESSION

#### Fat Digestion and Metabolism

Wednesday, 8:00 a.m. - 5:00 p.m.  
 Authors of even numbered boards present  
 8:00 a.m. - 10:00 a.m.  
 Authors of odd numbered boards present  
 9:00 a.m. - 11:00 a.m.  
 Room: Exhibit Hall AB

#### Board Abstract No. No.

- 141 1153 In vitro effects of common fatty acids on fermentation and protozoal numbers and activity in rumen fluid from cattle fed a barley-based diet. A. N. Hristov\*<sup>1</sup>, M. Ivan<sup>2</sup>, and T.A. McAllister<sup>2</sup>, <sup>1</sup>University of Idaho, Moscow, <sup>2</sup>Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, Canada.
- 142 1154 Immune response in feeder cattle fed different lipid sources. T.B. Farran\*<sup>1</sup>, J.S. Drouillard<sup>1</sup>, M.F. Spire<sup>1</sup>, D.A. Blasi<sup>1</sup>, C.M. Coetzer<sup>1</sup>, J.J. Sindt<sup>1</sup>, H.J. LaBrune, S. B. Hogge<sup>1</sup>, S.P. Montgomery<sup>1</sup>, J.E. Minton<sup>1</sup>, and T.H. Elsasser<sup>2</sup>, <sup>1</sup>Kansas State University, Manhattan, <sup>2</sup>USDA, Agricultural Research Service, Beltsville, MD.
- 143 1155 Effects of supplemental high-oleate and high-linoleate safflower seed on fatty acid profiles of adipose tissue, milk, and blood plasma of primiparous beef heifers. J.D. Bottger<sup>1</sup>, D.L. Hixon<sup>1</sup>, G.E. Moss<sup>1</sup>, B.W. Hess<sup>1</sup>, R.N. Funston<sup>2</sup>, and D.C. Rule\*<sup>1</sup>, <sup>1</sup>University of Wyoming, Laramie, <sup>2</sup>USDA-ARS, Miles City, MT.
- 144 1156 Effects of feeding calcium salts of CLA to finishing steers. K. J. Gassman\*, D. C. Beitz, F. C. Parrish, and A. Trenkle, Iowa State University, Ames.
- 145 1157 Effect of high oil corn or added corn oil on ruminal biohydrogenation and conjugated linoleic acid formation. L. R. Kennington\*<sup>1</sup>, S. K. Duckett<sup>1</sup>, J. G. Andrae<sup>1</sup>, C. W. Hunt<sup>1</sup>, F. N. Owens<sup>2</sup>, and G. T. Pritchard<sup>1</sup>, <sup>1</sup>University of Idaho, Moscow, <sup>2</sup>Optimum Quality Grains, L.L.C., Des Moines, IA.

- 146 1158 Dietary sunflower oil increases conjugated linoleic acid (CLA) concentration in beef. M. Griinari<sup>1</sup>, K. Hissa<sup>2</sup>, and E.-L. Ryhanen<sup>\*3</sup>, <sup>1</sup>University of Helsinki, <sup>2</sup>Suomen Rehu Oy, <sup>3</sup>MTT, Agric. Research Center.
- 147 1159 The influence of linoleamide on linoleic acid concentrations in ruminal in vitro cultures and in duodenal contents of sheep. T. C. Jenkins\*, Clemson University, Clemson, SC.
- 148 1160 Biohydrogenation of unsaturated fatty acids in continuous culture fermenters fed orchardgrass or clover with three levels of ground corn supplementation. J. J. Loo<sup>\*1</sup>, W. H. Hoover<sup>2</sup>, T. K. Miller-Webster<sup>2</sup>, C. E. Polan<sup>1</sup>, W. A. Wark<sup>1</sup>, and J. H. Herbein<sup>1</sup>, <sup>1</sup>Virginia Polytechnic Institute & State University, Blacksburg, <sup>2</sup>West Virginia University, Morgantown.
- 149 1161 Dietary milk fat depression and *trans*-18:1 and CLA isomer distribution in milk of lactating cows. L.S. Piperova<sup>\*1</sup>, B.B. Teter<sup>1</sup>, J. Sampugna<sup>1</sup>, M.P. Yurawecz<sup>2</sup>, I. Bruckental<sup>3</sup>, and R.A. Erdman<sup>1</sup>, <sup>1</sup>University of Maryland, College Park, <sup>2</sup>FDA, Washington D.C., <sup>3</sup>Volcani Institute, Bet Dagan, Israel.
- 150 1162 Comparison of *trans* octadecenoic isomer profiles in duodenal and milk lipids of cows fed different diets. L. Piperova, J. Sampugna, B. Teter\*, K. Kalscheur, and R. Erdman, University of Maryland, College Park.
- 151 1163 Effect of type and level of dietary fat on rumen fermentation and performance of dairy cows fed corn silage-based diets. S. G. Onetti\*, R. D. Shaver, and R. R. Grummer, University of Wisconsin, Madison.
- 152 1164 Influence of fat supplementation on rumen fermentation and performance of dairy cows receiving diets with different corn silage:alfalfa silage ratios. S. G. Onetti<sup>\*1</sup>, R. R. Grummer<sup>1</sup>, R. D. Shaver<sup>1</sup>, and D. L. Palmquist<sup>2</sup>, <sup>1</sup>University of Wisconsin, Madison, <sup>2</sup>The Ohio State University, Wooster.
- 153 1165 Effect of long chain fatty acids on lactation performance and reproductive tissues of Holstein cows. C.R. Staples<sup>\*1</sup>, M.C. Wiltbank<sup>2</sup>, R.R. Grummer<sup>2</sup>, J. Guenther<sup>2</sup>, R. Sartori<sup>2</sup>, F.J. Diaz<sup>2</sup>, S. Bertics<sup>2</sup>, R. Mattos<sup>1</sup>, and W.W. Thatcher<sup>1</sup>, <sup>1</sup>University of Florida, Gainesville, <sup>2</sup>University of Wisconsin, Madison.
- 154 1166 Effects of feeding calcium soaps or whole oilseeds on feed intake and lactation performances of dairy ewes. D. R. Osuna, R. Casals\*, E. Albanell, and G. Caja, Universitat Autònoma de Barcelona, Bellaterra, Spain.
- 155 1167 Milk composition in Holstein cows fed canola oil in various forms. E. Desilets\*, D. Pellerin, and P.Y. Chouinard, Laval University, QC, Canada.
- 156 1168 Production performance of Holstein cows fed canola oil in various forms. E. Desilets\*, D. Pellerin, and P.Y. Chouinard, Laval University, QC, Canada.
- 157 1169 The effect of abomasal infusion of conjugated linoleic acid on milk fat of lactating dairy cows. J.C. Thorson\*, R.A. Erdman, L.S. Piperova, B.B. Teter, J. Sampugna, and T.L. Auchtung, University of Maryland, College Park.
- 158 1170 Contribution of dietary roasted soybeans and milk components to the development of spontaneous oxidized milk flavor. J. S. Timmons\*, W. P. Weiss, D. L. Palmquist, and W. J. Harper, OARDC The Ohio State University, Wooster.
- 159 1171 Ruminal lipolysis and biohydrogenation of long-chain fatty acids. P. J. Moate\*, R. C. Boston, and W. Chalupa, University of Pennsylvania, Kennett Square.
- 160 1172 Ruminal production of long-chain fatty acids. P. J. Moate, R. C. Boston, and W. Chalupa, University of Pennsylvania, Kennett Square.
- 161 1173 Digestion of long-chain fatty acids in dairy cows. P. J. Moate\*, R. C. Boston, and W. Chalupa, University of Pennsylvania, Kennett Square.
- 162 1174 Effects of fat with high melting point on ruminal environment and forage digestion in grazing dairy cows. G.F. Schroeder<sup>\*1</sup> and G.A. Gagliostro<sup>2</sup>, <sup>1</sup>CONICET-Fac. Cs. Agrarias UNMdP, <sup>2</sup>INTA EEA Balcarce, Argentina.
- 163 1175 Effect of nonenzymatically browned sunflower seeds on ruminal fermentation and milk composition in dairy cows. R.J. Grant<sup>1</sup>, T.J. Klopfenstein<sup>1</sup>, K. Fanning<sup>\*1</sup>, and C. Wilson<sup>1</sup>, <sup>1</sup>University of Nebraska, Lincoln.

# UNDERGRADUATE AND GRADUATE EDUCATION 2

Chair: Doug Kenealy, Iowa State University, Ames

Wednesday, 8:15 a.m. - 11:00 a.m.

Room: 311

Time	Abstract Number	
8:15	1300	A tool for creating online programmed instruction lessons. D.M. Forsyth* and D.L. Lofgren, Purdue University, West Lafayette, IN.
8:30	1301	Problem-based learning in distance education. L.G. Griffiths*, S. L. Kitto, J. Pesek, E. Mackenzie, and K. Bauer, University of Delaware, Newark.
8:45	1302	Development of porcine myology manual on CD-ROM. S.J. Jones <sup>1</sup> , D.E. Burson <sup>1</sup> , and J. Bulter <sup>1</sup> , <sup>1</sup> University of Nebraska, Lincoln.
9:00	1303	The organization of the Texas College Equine Teaching Consortium. H.A. Brady*, Texas Tech University, Lubbock.
9:15	1304	Undergraduate program curricular challenges and future trends. G. R. Gallagher*, R. L. Gallagher, and B. D. Holder, Berry College, Mt. Berry, GA.
9:30	1305	Pigwatch: a group project for an introductory animal science laboratory. G. Apgar*, Southern Illinois University, Carbondale.
9:45	1306	Study abroad: A model program in New Zealand. L. G. Griffiths <sup>1</sup> , S. E. Truehart* <sup>1</sup> , and N. G. Gow <sup>2</sup> , <sup>1</sup> University of Delaware, Newark DE, <sup>2</sup> Lincoln University, Canterbury New Zealand.
10:00	1307	Using excel spreadsheet to teach feed formulation. Virote Pattarajinda*, Monchai Duanginda, and Mark Froetschel, University of Georgia, Athens.
10:15	1308	Usage of hands-on activities to enhance interest and facilitate learning in an undergraduate feeds and feeding course. B. A. Reiling* and J. H. Brendemuhl, University of Florida, Gainesville.
10:30	1309	Fostering student "active-based learning" in a senior level meat science course. E. P. Berg*, University of Missouri, Columbia.
10:45	1310	Experiences with increasing student responsibility for learning in a low enrollment course. G. E. Shook* and L. Tong, University of Wisconsin, Madison.

## ADSA DAIRY FOODS DIVISION BUSINESS MEETING

Chair: D. R. Henning, South Dakota State University, Brookings

Wednesday, 11:00 a.m. – 12:00 noon

Room: 318

# ADSA DAIRY PRODUCTION DIVISION BUSINESS MEETING

Chair: J. G. Linn, University of Minnesota, St. Paul

Wednesday, 11:00 a.m. – 12:00 noon  
Room: 320

## ANIMAL HEALTH 3

### POSTER SESSION

Chair: K. Hossner, Colorado State University,  
Ft. Collins

Wednesday, 8:00 a.m. - 5:00 p.m.  
Authors of even numbered boards present  
1:00 p.m. - 3:00 p.m.  
Authors of odd numbered boards present  
3:00 p.m. - 5:00 p.m.  
Room: Exhibit Hall AB

Board No.	Abstract No.	
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164	169	Canavanine-induced life-sparing effect less apparent for mice fed 15.7% protein diets. D.L. Brown*, Cornell University, Ithaca, NY.
165	170	Chlorfenapyr residues in milk and tissues in dairy cows following application of ear tags containing chlorfenapyr. K.L. Simkins <sup>1</sup> , C.A. Hirschlein <sup>1</sup> , and J.W. Higham <sup>2</sup> , <sup>1</sup> Fort Dodge Animal Health, Princeton, NJ, <sup>2</sup> American Cyanamid Company, Princeton, NJ.
166	171	Evaluation of a Lateral Flow Test Device for the determination of Immunoglobulin G (IgG) in Colostrum. J. K. McVicker <sup>1</sup> , G. C. Rouse <sup>1</sup> , D. M. Barrantes <sup>1</sup> , and T. E. Besser <sup>2</sup> , <sup>1</sup> Midland BioProducts Corporation, <sup>2</sup> Washington State University.
167	172	IS 900 PCR assay for detection of <i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i> from bulk tank milk. S. Pillai <sup>1</sup> , B. Jayarao <sup>1</sup> , D. Wolfgang <sup>1</sup> , D. Griswold <sup>1</sup> , L. Hutchinson <sup>1</sup> , C. Burns <sup>1</sup> , and R. Whitlock <sup>2</sup> , <sup>1</sup> Pennsylvania State University, University Park, <sup>2</sup> University of Pennsylvania, Kennett Square.
168	173	Inhibition of enterotoxigenic <i>Escherichia coli</i> adhesion to porcine small intestinal mucus receptor by <i>Enterococcus faecium</i> . L.Z. Jin* and X. Zhao, McGill University/Macdonald Campus, Quebec, Canada.
169	174	The immunological aspects of dystocia in cows and the newborn calves. R. Skrzypek* and I. Szelag, Agricultural University, Poznan, Poland.
170	175	A comparison of techniques to measure rumen pH in lactating dairy cattle. T. Duffield <sup>1</sup> , J. C. Plaizier <sup>1</sup> , R. Bagg <sup>2</sup> , G. Vessie <sup>2</sup> , P. Dick <sup>2</sup> , and B. W. McBride <sup>1</sup> , <sup>1</sup> University of Guelph, Guelph, Ontario, Canada, <sup>2</sup> Provel, Division of Eli Lilly Canada Inc., Ontario, Canada.
171	176	Blood Cholinesterase activity of beef cattle in humid tropical areas. V. Pardo <sup>1</sup> , K. Waliszewski <sup>2</sup> , M. Garcia <sup>2</sup> , N. Ibarra <sup>1</sup> , M. Rodriguez <sup>1</sup> , T. Betancourt <sup>1</sup> , and J. Alfaro <sup>1</sup> , <sup>1</sup> Universidad Veracruzana, Veracruz, Veracruz/Mexico, <sup>2</sup> Instituto Tecnológico de Veracruz, Veracruz, Veracruz/Mexico.
172	177	Blood Cholinesterase activity as an index of immunotoxicity of organophosphate pesticides in beef cattle. V. Pardo <sup>1</sup> , K. Waliszewski <sup>2</sup> , M. Garcia <sup>2</sup> , T. Sedas <sup>3</sup> , A. Moreno <sup>1</sup> , P. Cervantes <sup>1</sup> , T. Betancourt <sup>1</sup> , and J. Alfaro <sup>1</sup> , <sup>1</sup> Universidad Veracruzana, Veracruz, Veracruz/Mexico, <sup>2</sup> Instituto Tecnológico de Veracruz, Veracruz, Veracruz/Mexico, <sup>3</sup> Instituto Mexicano del Seguro Social, Veracruz, Veracruz/Mexico.



- 173 178 Effects of b-hydroxybutyrate, Non Esterified Fatty Acids, and Urea on Sardinian Sheep Lymphocyte Proliferation. N. Lacetera\*, U. Bernabucci, B. Ronchi, D. Scalia, O. Franci, and A. Nardone, Istituto di Zootecnia.
- 174 179 A trivalent vaccine for the treatment of chronic *Staphylococcus aureus* mastitis. P. Sears<sup>1</sup>, A.J. Guidry\*<sup>2</sup>, A. Fattom<sup>3</sup>, S. Shepherd<sup>3</sup>, and C.N. O'Brien<sup>2</sup>, <sup>1</sup>Michigan State University, East Lansing, <sup>2</sup>Immunology and Disease Resistance Laboratory, ARS, USDA, Beltsville, MD, <sup>3</sup>Nabi, Rockville.
- 175 180 Effect of recombinant bovine soluble CD14 on CD18 expression of polymorphonuclear neutrophils in whole blood stimulated with lipopolysaccharide. Y. Wang\*<sup>1</sup>, D. Zarlenga<sup>2</sup>, and M. J. Paape<sup>2</sup>, <sup>1</sup>University of Maryland, College Park, <sup>2</sup>IDRL, USDA/ARS, Beltsville, MD.
- 176 181 Hepatic metabolism of Ergot alkaloids in beef cattle by cytochrome P450. A. S. Moubarak\* and C. F. Rosenkrans, Jr., University of Arkansas, Fayetteville.
- 177 182 Metabolic responses of dairy cows to various subcutaneously administered dosages of glucagon. S. L. Oren, G. Bobe, B. N. Ametaj, A. F. Irlbeck, D. C. Beitz, and J. W. Young\*, Iowa State University, Ames.
- 178 183 Physiological responses of steers exposed to repeated sinusoidal heat challenge. M.J. Leonard\*<sup>1</sup>, D.E. Spiers<sup>1</sup>, G.L. Hahn<sup>2</sup>, K.J. Imhoff<sup>1</sup>, and L.E. McVicker<sup>1</sup>, <sup>1</sup>University of Missouri, Columbia, <sup>2</sup>USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE.
- 179 184 Vitamin E supplementation in receiving diets: Effects on animal performance, medical treatment costs, and serum cholesterol concentrations. J.N. Carter\*, D.R. Gill, T.C. Stovall, J.A. Shriver, B.A. Berry, W.T. Choat, A.W. Confer, R.A. Smith, and P.L. Claypool, Oklahoma State University, Stillwater.
- 180 185 A model of fescue toxicosis: effect of exposure time to endophyte-infected diet. P. A. Eichen\*, M. S. Eibs, D. E. Spiers, G. Rottinghaus, and K. Fritsche, University of Missouri, Columbia.
- 181 186 Effect of simulated dust on serum antioxidant status and lipid peroxidation of market stressed steer calves protected with or without prophylactic antibiotic. N. K. Chirase\*<sup>1</sup>, L. W. Greene<sup>1</sup>, J. Avampato<sup>1</sup>, C. W. Purdy<sup>2</sup>, E. F. Walborg, Jr.<sup>3</sup>, Y. Xu<sup>4</sup>, and J. E. Klaunig<sup>4</sup>, <sup>1</sup>Texas Agricultural Experiment Station, Amarillo, <sup>2</sup>USDA/ARS, Bushland, TX, <sup>3</sup>Dermigen, Inc., Smithville, TX, <sup>4</sup>Indiana University, Indianapolis.
- 182 187 Effect of dehydroepiandrosterone and dehydro-epiandrosterone-sulfate on lymphocyte function. S.C. Lozano\*<sup>1</sup>, T.H. Welsh, Jr.<sup>2</sup>, and J.C. Laurenz<sup>1</sup>, <sup>1</sup>Texas A&M University, Kingsville, <sup>2</sup>Texas A&M University, College Station.
- 183 188 Nitric Oxide Effects on Rats Fed an Endophyte-Infected Seed Diet. Hosam Al-Tamimi\*, Donald Spiers, and Mark Ellerseick, University of Missouri, Columbia.
- 184 189 Role of energy balance in the ability of lactating cows to respond to a intramammary infusion of endotoxin. K. H. Perkins, J. S. Liesman, and M. J. VandeHaar\*, Michigan State University, East Lansing.

## **BREEDING AND GENETICS 5**

### **MINI-SYMPOSIUM**

#### **Genetics of Carcass Merit**

Chair: D. H. Crews, AFFC Research Center, Lethbridge, Alberta

Wednesday, 1:00 p.m. - 5:00 p.m.

Room: 315

<b>Time</b>	<b>Abstract Number</b>	
1:00	236	<b>INVITED</b> Beef genetic evaluation programs for carcass traits: current situation and future possibilities. J. K. Bertrand* <sup>1</sup> , D. W. Moser <sup>2</sup> , and W. O. Herring <sup>3</sup> , <sup>1</sup> University of Georgia, Athens, <sup>2</sup> Kansas State University, Manhattan, <sup>3</sup> University of Missouri, Columbia.
1:45	237	Terminal sire value (TSV): a selection index targeted to improve growth and carcass traits. N. Caron* and R.A. Kemp, Lethbridge Research Centre, Agriculture & Agri-Food Canada.
2:00	238	Genetic correlations between yearling bull ultrasound measurements and finished steer carcass measurements. C.J.B. Devitt* and J.W. Wilton, University of Guelph, Ontario, Canada.

- 2:15 239 Associations among ultrasound measures of carcass yield from bulls and heifers and carcass traits of steers. D.H. Crews, Jr., C. Gallivan, P.K. Charagu, and R.A. Kemp\*, AAFC Research Centre, Lethbridge, Alberta.
- 2:30 240 Carcass expected progeny differences using real-time ultrasound measures from developing Angus heifers. D. E. Wilson\*, G. H. Rouse, C. L. Hays, and A. Hassen, Iowa State University, Ames.
- 2:45 **BREAK**
- 3:00 241 Breed Comparisons and Genetic Evaluation of Carcass Merit in *Bos indicus* x *Bos taurus* Breed Types in Australia. A. Reverter<sup>1</sup> and S. Newman<sup>\*2</sup>, <sup>1</sup>Animal Genetics and Breeding Unit, University of New England, <sup>2</sup>CRC for Cattle and Beef Quality, CSIRO Tropical Agriculture, Australia.
- 3:15 242 Effect of breed on carcass traits and fatty acid composition in longissimus muscle of finishing steers. L. F. Laborde\*, I. B. Mandell, J. J. Tosh, J. W. Wilton, and J. G. Buchanan-Smith, University of Guelph, Guelph, Ontario, Canada.
- 3:30 243 Comparison of Warner-Bratzler shears of F<sub>1</sub> *Bos indicus* x British steers produced by one Nellore and 15 Brahman Bulls. D. G. Riley\*, L. B. Hager, J. O. Sanders, R. K. Miller, and D. K. Lunt, Texas A&M University, College Station.
- 3:45 244 Heritability of Warner Bratzler shear force measures estimated from data on Simmental-sired calves. Z. Zhang<sup>\*1</sup>, E. J. Pollak<sup>1</sup>, R. L. Quaas<sup>1</sup>, M. E. Dikeman<sup>2</sup>, R. D. Green<sup>3</sup>, J. Taylor<sup>4</sup>, and S. Davis<sup>4</sup>, <sup>1</sup>Cornell University, Ithaca, NY, <sup>2</sup>Kansas State University, Manhattan, <sup>3</sup>Colorado State University, Fort Collins, <sup>4</sup>Texas A&M, College Station.
- 4:00 245 Genetic parameters for intramuscular fat from beef cattle slaughtered at different market weights and finishing regimes. D. J. Johnston<sup>\*1,2</sup>, A. Reverter<sup>1,2</sup>, and J. M. Thompson<sup>1,3</sup>, <sup>1</sup>The Cooperative Research Centre for the Cattle and Beef Industry, <sup>2</sup>Animal Genetics and Breeding Unit, University of New England, Armidale, Australia, <sup>3</sup>Department of Animal Science, University of New England, Armidale, Australia.
- 4:15 246 Genetic parameters for carcass traits in Simmental cattle at different slaughter end-points. B.C. Shanks<sup>\*1</sup>, M.W. Tess<sup>1</sup>, D.D. Kress<sup>1</sup>, B.E. Cunningham<sup>2</sup>, and P.J. Burfening<sup>1</sup>, <sup>1</sup>Montana State University, Bozeman, MT, <sup>2</sup>American Simmental Association, Bozeman.
- 4:30 247 Evaluation of genetic parameters and correlated responses for carcass traits in three lines of synthetic beef cattle. A. Hassen\*, R. L. Willham, and D. E. Wilson, Iowa State University, Ames.
- 4:45 248 Examination of Calpastatin mRNA and Protein to Determine Tenderness in Brangus Cattle. D.L. Wohlford<sup>\*1</sup>, S.M. Lonergan<sup>2</sup>, J. Wower<sup>1</sup>, W.H. McElhenney<sup>1</sup>, and L.A. Kriese-Anderson<sup>1</sup>, <sup>1</sup>Auburn University, Auburn, AL, <sup>2</sup>Iowa State University, Ames.

## **BREEDING AND GENETICS 6**

### **Genetic Evaluation of Dairy Cattle**

Chair: J. Keown, University of Nebraska, Lincoln

Wednesday, 1:00 p.m. – 4:45 p.m.

Room: 314

- | <b>Time</b> | <b>Abstract Number</b> |  |
|-------------|------------------------|--|
| 1:00        | 249                    | International genetic evaluation of dairy sires using individual performance records and herd clusters. K. A. Weigel*, R. Rekaya, and D. Gianola, University of Wisconsin, Madison.  |
| 1:15        | 250                    | Estimation of Sire Variance in International Genetic Evaluation Models with Genetic Groups. W.F. Fikse <sup>*1</sup> and P.G. Sullivan <sup>2</sup> , <sup>1</sup> Interbull Centre, Uppsala, Sweden, <sup>2</sup> Centre for Genetic Improvement of Livestock, University of Guelph, Canada.  |
| 1:30        | 251                    | Characterization of data and proposed edits for the national calving ease genetic evaluation. C.P. Van Tassell <sup>*1</sup> and C.G. Sattler <sup>2</sup> , <sup>1</sup> Animal Improvement Programs and Gene Evaluation and Mapping Laboratories, ARS, USDA, Beltsville, MD, <sup>2</sup> National Association of Animal Breeders, Columbia, MO. |
| 1:45        | 252                    | Prediction of Breeding Values for Finnish Dairy Cattle using random regression test day model. E.A. Mantysaari, I. Strandén, and M. Lidauer, Agricultural Research Center MTT, Jokioinen, Finland.   |
| 2:00        | 253                    | Heterogeneity of (co)variance components for Jersey type traits. N. Gengler <sup>*1,2</sup> , T. Dusseldorf <sup>2</sup> , G.R. Wiggans <sup>3</sup> , and J.R.  |

Wright<sup>3</sup>, <sup>1</sup>National Fund for Scientific Research, Brussels, Belgium, <sup>2</sup>Gembloux Agricultural University, Belgium, <sup>3</sup>Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

- 2:15 254 Reliability of progeny tests for reproductive traits computed from DHI data. J. S. Clay\*, B. T. McDaniel, and C. H. Brown, North Carolina State University, Raleigh.
- 2:30 255 Relationships of PTA productive life of AI Holstein bulls with changes in yield traits from first to second lactation. J.M. Abdallah\*, B.T. McDaniel<sup>1</sup>, and M.J. Tabbaa<sup>2</sup>, <sup>1</sup>North Carolina State University, Raleigh, <sup>2</sup>The University of Jordan, Amman, Jordan.
- 2:45 **BREAK**
- 3:00 256 Stability of yield evaluation for Holstein bulls in artificial-insemination service. R.L. Powell\*, H.D. Norman, and G.R. Wiggins, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.
- 3:15 257 A multivariate approach for analysing longevity in dairy cattle. B. L. Harris<sup>1</sup> and A. M. Winkelman<sup>1</sup>, <sup>1</sup>Livestock Improvement Corporation, Hamilton, New Zealand.
- 3:30 258 Genetic variations in milk somatic cell count in different age at calving within parity of Hungarian Holstein Friesian. A. Amin\*, Department of Animal Production, Faculty of Agriculture, Suez Canal University.
- 3:45 259 Routine genetic evaluation for functional longevity in dairy cattle populations in Switzerland. Natascha Vukasinovic\*<sup>1</sup>, Juerg Moll<sup>2</sup>, and Lucas Casanova<sup>2</sup>, <sup>1</sup>Utah State University, <sup>2</sup>Swiss Brown Cattle Breeders Association, Zug, Switzerland.
- 4:00 260 Approximate ETA for lifetime production based on genetic evaluations for lactational production and herd life. P.J. Boettcher<sup>1</sup> and F. Miglior\*<sup>2</sup>, <sup>1</sup>University of Guelph, Canada, <sup>2</sup>Canadian Dairy Network, Guelph, Canada.
- 4:15 261 Genetic parameters for three experimental feet and leg traits for Canadian Holsteins. P.J. Boettcher\*<sup>1</sup>, L.R. Schaeffer<sup>1</sup>, J. Fatehi<sup>1</sup>, and J.J. Shannon<sup>2</sup>, <sup>1</sup>University of Guelph, Canada, <sup>2</sup>Canadian Holstein Association, Brantford, Canada.
- 4:30 262 Estimation of variance components for cow and parity effects from test-day yields. J. Bormann\*<sup>1</sup>, G.R. Wiggins<sup>2</sup>, J.C. Philpot<sup>2</sup>, T. Druet<sup>1,3</sup> and N. Gengler<sup>1,3</sup>, <sup>1</sup>Gembloux Agricultural University, Belgium, <sup>2</sup>Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, <sup>3</sup>National Fund for Scientific Research, Belgium.

## CONTEMPORARY AND EMERGING ISSUES 4

Chair: D. S. Buchanan, Oklahoma State University, Stillwater

Wednesday, 1:00 p.m. - 3:00 p.m.

Room: 320

- | Time | Abstract Number |   |
|------|-----------------|---|
| 1:00 | 333             | Proposed new regional project on animal ethics. S. L. Davis* <sup>1</sup> , J. R. Males <sup>1</sup> , J. C. Swanson <sup>2</sup> , and K. K. Schillo <sup>3</sup> , <sup>1</sup> Oregon State University, Corvallis, <sup>2</sup> Kansas State University, Manhattan, <sup>3</sup> University of Kentucky, Lexington.                                  |
| 1:15 | 334             | The development and evaluation of Pennsylvania's Humane Society Police Officer Training Course: Animal Husbandry. B.L. Coe*, E.P. Yoder, and D.E. Evans, The Pennsylvania State University, University Park.  |
| 1:30 | 335             | ADDS, a modern program for delivery of knowledge to agriculture. J.M. Mattison* <sup>1</sup> , R.M. Kattnig <sup>2</sup> , B.R. Eastwood <sup>3</sup> , M.J. Joyce <sup>4</sup> , and M.B. Opperman <sup>1</sup> , <sup>1</sup> ADDS Center, <sup>2</sup> University of Arizona, <sup>3</sup> USDA-CSREES, <sup>4</sup> Wisconsin Milk Marketing Board. |
| 1:45 | 336             | Behavior of the Holstein dairy farming system in Brazil between 1980 and 1992. B. A. Waltrick* <sup>1</sup> , <sup>1</sup> Wageningen University Research Center, Animal Production Systems Group, The Netherlands.   |
| 2:00 | 337             | Dairy farm modernization in Wisconsin. J. Bewley*, R.W. Palmer, D.B. Jackson-Smith, and D.E. Hemken, University of Wisconsin, Madison.  |
| 2:15 | 338             | Hydrogen Sulfide concentrations downwind from agitated swine manure pits. C. L. Tengman* and R. N. Goodwin, National Pork Producers Council, Ames, IA.  |
| 2:30 | 339             | N- vs. P-based manure nutrient management: A field study of leaching losses of N and P. J.D. Toth*, Z. Dou, J.D. Ferguson, D.T. Galligan, and C.F. Ramberg, University of Pennsylvania, Kennett Square.   |

2:45 340 A new tool to help with sire selection. Anne Perkins\*<sup>2</sup>, Verne LaVoie<sup>1</sup>, and John Stellflug<sup>1</sup>, <sup>1</sup>USDA ARS US Sheep Experiment Station, Dubois, ID, <sup>2</sup>Carroll College, Helena MT.

## DAIRY FOODS 10

### SYMPOSIUM

#### Lactobacilli

Sponsored by *Kraft Foods, SKW Nature Products*  
Chair: R. Nauth, Nauth Consulting, Wheeling, IL

Wednesday, 1:15 p.m. - 4:00 p.m.  
Room: 310

Time	Abstract Number	
1:15		Symposium Introduction - R. Nauth, Nauth Consulting, Wheeling, IL
1:30	36	<b>INVITED</b> Therapeutic use of lactobacilli. Gregor Reid*, Lawson Research Institute, London, ON, Canada.
2:00	37	<b>INVITED</b> Metabolic diversity of lactobacilli. Byong H. Lee*, McGill University/Agriculture-Agri-Food Canada.
2:30		<b>BREAK</b>
2:45	38	<b>INVITED</b> Bacteriocins from <i>Lactobacillus</i> as future food preservatives. M.L. Chikindas*, J. Cleveland, and T.J. Montville, Rutgers, The State University of New Jersey, New Brunswick, NJ.
3:15	39	<b>INVITED</b> Effect of lactobacilli on cheese. K Nauth, Nauth Consulting Inc., Wheeling, IL.

## ADSA Foundation Scholar Award Recipient Lecture Dairy Foods Division

Chair: C. L. Hicks, University of Kentucky,  
Lexington.

Wednesday, 4:00 p.m. - 5:00 p.m.  
Room: 310

Speaker: K. J. Boor, Cornell University, Ithaca, NY.

**Title: Dairy Foods Quality and Safety Issues: Looking to the Future**

# DAIRY FOODS 11

## Milk Proteins, Enzymes, and Processing

Chair: M. Walsh, Utah State University, Logan

Wednesday, 1:00 p.m. - 4:00 p.m.

Room: 318

Time	Abstract Number	
1:00	417	Modification of buttermilk functionality with biosilicates. B.G. Fryksdale* and B. Jimenez-Flores, California Polytechnic State University, San Luis Obsipo, CA.
1:15	418	Effect of glycomacropptide and high pressure homogenization on the stability of milk protein emulsions. S Bhatia* and R.L. Richter, Texas A&M University, College Station.
1:30	419	Influence of pasteurization time/temperature and homgenization/pasteurization sequence on emulsion characteristics and influence of storage time. C. Bolling* <sup>1</sup> , S. E. Duncan <sup>1</sup> , T. Keenan <sup>1</sup> , W. N. Eigel <sup>1</sup> , K. Waterman <sup>1</sup> , and K. Kaylegian <sup>2</sup> , <sup>1</sup> Virginia Polytechnic Institute and State University, Blacksburg, <sup>2</sup> Wisconsin Center for Dairy Research, Madison.
1:45	420	Rheological properties of microfibrinous cellulose and its interaction with milk components. J.M. Angold* and R. Jimenez-Flores, Cal Poly State University, DPTC, San Luis Obispo, CA.
2:00	421	Effect of inulin on some rheological and physical properties of acid milk gels with inulin. G. Perez-Hernandez* and R.L. Richter, Texas A&M University, College Station.
2:15	422	Rheological and physical characterization of derivitized whey protein solutions. H.M. Hudson*, C.R. Daubert, and E.A. Foegeding, North Carolina State University, Raleigh.
2:30		<b>BREAK</b>
2:45	423	Tryptic hydrolysis of $\beta$ -lactoglobulin A, B, and C. H C Nilsson <sup>2</sup> , M A Paulsson <sup>2</sup> , C J Coker <sup>1</sup> , J P Hill <sup>1</sup> , and L K Creamer* <sup>1</sup> , <sup>1</sup> New Zealand Dairy Research Institute, Palmerston North, New Zealand, <sup>2</sup> Univesity of Lund, Lund, Sweden.
3:00	424	Binding of small amphipathic molecules to $\beta$ -lactoglobulin. L K Creamer* <sup>1</sup> , M Blair <sup>1</sup> , R Korte <sup>2</sup> , and G B Jameson <sup>2</sup> , <sup>1</sup> New Zealand Dairy Research Institute, Palmerston North, New Zealand, <sup>2</sup> Massey University, Palmerston North, New Zealand.
3:15	425	Effects of genetic variants on the rates of interaction of $\beta$ -lactoglobulin and $\kappa$ -casein. Y H Cho <sup>2</sup> , H Singh <sup>2</sup> , and L K Creamer* <sup>1</sup> , <sup>1</sup> New Zealand Dairy Research Institute, Palmerston North, New Zealand, <sup>2</sup> Massey University, Palmerston North, New Zealand.
3:30	426	The enzyme activities and milk performance in German Holsteins. L. Panicke* <sup>1</sup> , M. Schmidt <sup>2</sup> , J. Citek <sup>3</sup> , G. Erhardt <sup>4</sup> , V. Rehout <sup>3</sup> , and R. Staufenbiel <sup>5</sup> , <sup>1</sup> Research Institute for the Biology of Farm Animals, Dummerstorf, Germany, <sup>2</sup> PH Kielce, Poland, <sup>3</sup> Southbohemian University Ceske Budejovice, Dep.of Animal Breeding, Czech Republic, <sup>4</sup> University Giessen, Institut of Animal Breeding and Genetics, Germany, <sup>5</sup> Free University Berlin, Institute of Veterinary Physiology, Germany.
3:45	427	Heat coagulation of camel milk. Ali Metwalli, Fawzy Ibrahim*, and Karima Hassanein, Minia University, Minia, Egypt.

# DAIRY FOODS 12 AND GOAT SPECIES 3

## SYMPOSIUM

### Goats for Vegetation Management

Chair: J-M. Luginbuhl, North Carolina State University, Raleigh

Wednesday, 1:30 p.m. - 5:00 p.m.

Room: 316

## EXTENSION EDUCATION 2

### INFORMATION PROGRAMS

Chair: A. R. Williams, Mississippi State University, Mississippi State

Wednesday, 1:30 p.m.- 3:30 p.m.

Room: 319

Time	Abstract Number	
1:30	434	Beef Infobase: a new brand of information exchange. R.M. Kattnig <sup>*1</sup> , W.E. Kunkle <sup>2</sup> , T. Troxel <sup>3</sup> , and B.R. Eastwood <sup>4</sup> , <sup>1</sup> University of Arizona, Tucson, AZ, <sup>2</sup> University of Florida, Gainesville, <sup>3</sup> University of Arkansas, Fayetteville, <sup>4</sup> USDA-CSREES, Washington, DC.
1:45	435	Dairy InfoBase: promoting cooperation, division of responsibilities and national leadership in support of dairy education. B.R. Eastwood <sup>*1</sup> , M.F. Hutjens <sup>2</sup> , M.B. Opperman <sup>3</sup> , J.M. Mattison <sup>3</sup> , and M.J. Joyce <sup>4</sup> , <sup>1</sup> USDA-CSREES, <sup>2</sup> University of Illinois, <sup>3</sup> ADDs Center, <sup>4</sup> Wisconsin Milk Marketing Board.
2:00	436	Combining television and the internet for beef producer education. G. E. Selk <sup>*</sup> , S. L. Grussing, L. G. Burditt, and R. K. McClendon, Oklahoma Cooperative Extension Service, Stillwater.
2:15	437	Decision Model to Aid in the Retain/Replace decision for Open Breeding Stock for Beef Cattle Producers. K. H. Burdine <sup>*1</sup> , G. Ibendahl <sup>1</sup> , J. Anderson <sup>1</sup> , J. T. Johns <sup>1</sup> , and L. H. Anderson <sup>1</sup> , <sup>1</sup> University of Kentucky, Lexington.
2:30	438	Development and implementation of an interactive, hands-on summer day camp for urban youth. T. Radintz <sup>*1</sup> , A. DiCostanzo <sup>1</sup> , J. Reed-Boniface <sup>1</sup> , T. Ames <sup>1</sup> , and F.A. Ponce de Leon <sup>1</sup> , <sup>1</sup> University of Minnesota, St. Paul.
3:00	439	Evaluating the impact of management intensive grazing schools in central Missouri. M.A. Stewart <sup>*</sup> and J.K. Rogers, <sup>1</sup> University Outreach and Extension, University of Missouri, Columbia.
3:15	440	The Missouri Premier Beef Marketing Program: an integrated education approach to enhance economic and production efficiency for cow-calf producers. R. L. Larson <sup>*</sup> , K. C. Olson, and V. L. Pierce, University of Missouri, Columbia.

# EXTENSION EDUCATION 3

## DAIRY EDUCATION

Chair: G. E. Higginbotham, U. C. Cooperative  
Extension, Fresno

Wednesday, 3:45 p.m.- 4:45 p.m.  
Room: 319

Time	Abstract Number	
3:45	441	Dairy employer experiences with Hispanic workers in New York State. T.R. Maloney*, Cornell University, Ithaca.
4:00	442	HACCP at the Dairy Farm. J.K. Reneau* <sup>1</sup> and W.E. Coleman <sup>2</sup> , <sup>1</sup> University of Minnesota, St. Paul, <sup>2</sup> Dairy Consultant, Fargo, ND.
4:15	443	Differences between dairy nutritionists and veterinarians and the effect on educational strategies. G.R. Oetzel*, University of Wisconsin-Madison.
4:30	444	California dairy quality assurance program environmental stewardship certification process. D. Meyer* <sup>1</sup> , D. Wilson <sup>2</sup> , S. McGinnis <sup>2</sup> , M. Payne <sup>1</sup> , and G. Vesperat <sup>1</sup> , <sup>1</sup> University of California, Davis, <sup>2</sup> California Department of Food and Agriculture.

# FORAGES AND PASTURES 3

## POSTER SESSION

Wednesday, 8:00 a.m. - 5:00 p.m.  
Authors of even numbered boards present  
1:00 p.m. - 3:00 p.m.  
Authors of odd numbered boards present  
3:00 p.m. - 5:00 p.m.  
Room: Exhibit Hall AB

Board No.	Abstract No.	
185	481	Relationship between NDF and hay intake in horses: A review of published studies A. C. St. Lawrence*, R. J. Coleman, and L. M. Lawrence, University of Kentucky, Lexington.
186	482	Effects of residual and reapplied biosolids on forage and soil mineral concentrations in North Florida. M.E. Tiffany, L.R. McDowell*, G.A. O'Connor, H. Nguyen, F.G. Martin, and N.S. Wilkinson, University of Florida, Gainesville.
187	483	The interrelationship of solar radiation and leaf area on growth of Pennisetum purpureum cv Mott. T. Clavero* <sup>1</sup> , <sup>1</sup> La Universidad del Zulia.
188	484	Effects of fertilization on biomass production of Clitoria ternatea. T. Clavero* <sup>1</sup> , <sup>1</sup> La Universidad del Zulia.
189	485	Effect of intensity and harvest frequency on dry matter yield of Acacia mangium Willd. A. Rodriguez-Petit <sup>1</sup> , T. Clavero* <sup>2</sup> , and R. Razz <sup>2</sup> , <sup>1</sup> Centro de Transferencia de Tecnologia en Pastos y Forrajes, <sup>2</sup> La Universidad del Zulia.
190	486	<i>Flourensia cernua</i> extracts decrease intake of alfalfa pellets by sheep. R. E. Estell* <sup>1</sup> , M. R. Tellez <sup>2</sup> , E. L. Fredrickson <sup>1</sup> , D. M. Anderson <sup>1</sup> , K. M. Havstad <sup>1</sup> , and M. D. Remmenga <sup>3</sup> , <sup>1</sup> USDA/ARS Jornada Experimental Range, Las Cruces, NM, <sup>2</sup> USDA/ARS Natural Product Research Center, University, MS, <sup>3</sup> New Mexico State University, Las Cruces.
191	487	Introduction and cultivation of 5 grass varieties in Qinba mountain area. J. Luo*, S. H. Cao, X. F. Zhao, Q. Liu, and H. Y. Yang, Goat Research Institute of Northwest Agricultural University, Yangling, Shaanxi, China.
192	488	<i>Tripholium pratense</i> : Degradability and intestinal digestibility. M. de J. Marichal* <sup>1</sup> , M. Carriquiry, A.I. Trujillo, and L. Astigarraga, <sup>1</sup> Facultad de Agronomia, Universidad de la Republica.

- 193 489 Agronomic and nutritional evaluation of commercial corn hybrids in Brazil. A.H. Fonseca, M.N. Pereira\*, R.G. Von Pinho, and R.G.S. Bruno, Federal University of Lavras, Lavras, MG/Brazil.
- 194 490 Effect of dietary sugarcane concentration on heifer growth. P.C.S. Gallo, M.N. Pereira\*, and M.A.F. Andrade, Federal University of Lavras, Lavras, MG/Brazil.
- 195 491 Feed resources and dairy animal productivity in Gangetic Plains of India. S. P. Singh\*, C.S. Azad University of Agriculture & Technology, Kanpur India.
- 196 492 Influence of pasture sward height and concentrate supplementation on intake, digestibility and grazing time of lactating beef cows. O. J. Gekara\*, E. C. Prigge, W. B. Bryan, and E. L. Nestor, West Virginia University, Morgantown.
- 197 493 Degradability of nitrogen in overseeded oat, wheat, and rye forages harvested on five dates in the spring. W. K. Coblenz\*, K. P. Coffey, J. E. Turner, D. A. Scarbrough, J. S. Weyers, K. F. Harrison, L. B. Daniels, C. F. Rosenkrans, D. W. Kellogg, and D. S. Hubbell, University of Arkansas, Fayetteville.
- 198 494 Influence of supplemental protein degradability on nutrient utilization by beef cows on dormant, cool-season forage. M. Palmer\* and K.C. Olson, Utah State University, Logan.
- 199 495 Effect of supplemental energy source and degradable intake protein amount on performance of spring-calving cows winter grazing stockpiled bermudagrass. C.R. Johnson\*, D.L. Lalman, A.D. O'Neil, and J. Steele, Oklahoma State University, Stillwater.
- 200 496 Performance of stocker cattle grazing bermudagrass and winter annuals under rotational or continuous stocking. K.A. Cassida\*, C.B. Stewart, S.A. Gunter, and P.A. Beck, University of Arkansas, Hope.
- 201 497 Effects of Calendar Date and Summer Management on In Situ Nitrogen Degradation of Stockpiled Bermuda. D. A. Scarbrough\*, W. K. Coblenz, K. P. Coffey, J. E. Turner, G. V. Davis, and D. W. Kellogg, University of Arkansas, Fayetteville.
- 202 498 Dynamics of changes of feeding value and feed intake by sheep of two ryegrass species during primary spring growth. A. Ombabi, K.-H. Suedekum\*, and F. Taube, University of Kiel, Germany.
- 203 499 Effects of protein and energy supplements on changes in weight and body condition of gestating beef cows grazing bahiagrass during the fall. P. A. Davis\*<sup>1</sup> and W. E. Kunkle<sup>1</sup>, <sup>1</sup>University of Florida, Gainesville.
- 204 500 Effects of bypass sulfur amino acids on performance of growing cattle fed bermudagrass hay supplemented with molasses-based supplements. L. B. Davis\*, W. E. Kunkle, D. B. Bates, and B. A. Reiling, University of Florida, Gainesville.
- 205 501 Digestibility and ruminal parameters of endophyte-infected fescue at four stages of maturity in wethers. S. J. Paton\*, B. T. Larson, D. L. Harmon, N. D. Paton, C. J. Richards, and K. C. Swanson, University of Kentucky, Lexington.
- 206 502 Effect of stocking rate and season on performance of steers grazing endophyte infested tall fescue. M.A. Marsalis\*, J.C. Waller, and H.A. Fribourg, University of Tennessee, Knoxville.
- 207 503 The relationship between digestibility and steer daily gain in tall fescue and birdsfoot trefoil pastures. L. Wen\*, J. E. Williams, R. L. Kallenbach, C. Roberts, R. L. McGraw, P. R. Beuselink, J. F. Thompson, L. Gebrehiwot, H. Benedict, and E. Navarro, University of Missouri, Columbia.
- 207A 1312 An evaluation of the feeding value of bluegrass straw pellets for growing beef and dairy heifers. J.J. Michal\*, J.A. Jewett, K.A. Johnson, R.L. Kincaid, J.D. Cronrath, S.M. Smith, Washington State University, Pullman.



# GOAT SPECIES 3 AND DAIRY FOODS 12

## SYMPOSIUM

### Goats for Vegetation Management

Chair: J-M. Luginbuhl, North Carolina State University, Raleigh

Moderators: J. M. Dzakuma, Prairie View A&M University, Prairie View, TX, R. Merkel, Langston University, Langston, OK, and J-M. Luginbuhl, North Carolina State University, Raleigh

Wednesday, 1:30 p.m. - 5:00 p.m.  
Room: 316

Time	Abstract Number	
1:30	59	<b>INVITED</b> Historical perspectives of using goats for vegetation management around the world. H. A. Glimp* and H. S. Hussein, University of Nevada, Reno Reno, NV.
2:15	60	<b>INVITED</b> Recent perspectives in using goats for vegetation management in the USA. Part I. S. P. Hart*, E (Kika) de la Garza Institute for Goat Research, Langston University, Langston, OK.
3:00		<b>BREAK</b>
3:15	61	<b>INVITED</b> Recent perspectives of using goats for vegetation management in the USA. Part II. E. C. Prigge* and W. B. Bryan, West Virginia University, Morgantown, W.V.
4:00		Moderated discussion with plenary speakers
4:30		<b>General Discussion:</b> Challenges/Limitations of Using Goats for Vegetation Management: research needs and extension needs, and how to best meet these needs

# GROWTH AND DEVELOPMENT 4 AND PHYSIOLOGY 7

## JOINT MINI-SYMPOSIUM

### Appetite Regulation: Leptin and Beyond

Co-Chairs: K. L. Houseknecht, Pfizer Inc., Groton, CT and J. L. Sartin, Auburn University, Auburn, AL

Wednesday, 1:00 p.m. - 5:00 p.m.  
Room: Ballroom 1

Time	Abstract Number	
1:00		<b>INVITED</b> Overview of central targets for appetite regulation. R. L. Matteri, USDA/ARS, Columbia, MO.
1:45	68	<b>INVITED</b> Central action of leptin: effects on growth and reproductive performance. C.R. Barb* <sup>1</sup> , R.R. Kraeling <sup>1</sup> , and G.B. Rampacek <sup>2</sup> , <sup>1</sup> USDA, ARS, Athens, GA, <sup>2</sup> University of Georgia, Athens.
2:30		<b>INVITED</b> Appetite regulation during disease stress. R. W. Johnson, University of Illinois, Urbana.

- 3:15 69 Porcine melanocortin type 4 receptor: cDNA cloning and quantitation of size-related differences in gene expression in the young pig. C.J. Dyer\*<sup>1</sup>, J.A. Carroll<sup>1</sup>, K.J. Touchette<sup>2</sup>, G.L. Allee<sup>2</sup>, and R.L. Matteri<sup>1</sup>, <sup>1</sup>USDA Agricultural Research Service Animal Physiology Unit, Columbia, MO, <sup>2</sup>University of Missouri, Columbia.
- 3:30 70 Feed intake and serum GH, LH, and cortisol in ovariectomized (OVX) gilts after intravenous (iv) or intracerebroventricular (ICV) injection of urocortin (UCN) N. C. Whitley\*<sup>1</sup>, C. R. Barb<sup>2</sup>, R. R. Kraeling<sup>2</sup>, G. B. Rampacek<sup>3</sup>, J. B. Barrett<sup>2</sup>, and D. H. Keisler<sup>1</sup>, <sup>1</sup>University of Missouri, Columbia, <sup>2</sup>ARS-USDA, Athens, GA, <sup>3</sup>University of Georgia, Athens.
- 3:45 71 Effects of lipopolysaccharide (LPS) on appetite-regulating gene expression in neonatal pigs. R.L. Matteri\*, J.A. Carroll, and C.J. Dyer, Animal Physiology Research Unit, Agricultural Research Service, USDA.
- 4:00 72 Nutritional regulation of circulating leptin in growing lambs is influenced by sex. R.A. Ehrhardt\*<sup>1</sup>, R.M. Slepatis<sup>1</sup>, A.W. Bell<sup>1</sup>, D.J.R. Cherney<sup>1</sup>, M.E. Van Amburgh<sup>1</sup>, and Y.R. Boisclair<sup>1</sup>, <sup>1</sup>Cornell University, Ithaca, NY.
- 4:15 73 The effect of injecting LY355101, a leptin analog, on feed intake of finishing swine. A. J. Wuethrich\*<sup>1</sup>, D. L. Hancock<sup>1</sup>, M. L. Heiman<sup>2</sup>, J. D. Muegge<sup>1</sup>, J. L. Roth<sup>1</sup>, and D. B. Anderson<sup>1</sup>, <sup>1</sup>Elanco Animal Health, <sup>2</sup>Lilly Research Laboratories, Greenfield, IN.
- 4:30 74 Plasma leptin concentrations in dairy cows: II) Effect of feeding or postruminal infusion of canola oil. P.K. Chelikani\*<sup>1</sup>, J.D. Ambrose<sup>2</sup>, D.R. Glimm<sup>1</sup>, T.J. Kieffer<sup>1</sup>, and J.J. Kennelly<sup>1</sup>, <sup>1</sup>University of Alberta, Edmonton, Canada, <sup>2</sup>Alberta Agriculture, Food & Rural Development, Edmonton, Canada.
- 4:45 75 Effect of energy balance on the concentration of plasma leptin in early lactating dairy cows. S.S. Block\*<sup>1</sup>, W.R. Butler<sup>1</sup>, R.A. Ehrhardt<sup>1</sup>, A.W. Bell<sup>1</sup>, and Y.R. Boisclair<sup>1</sup>, <sup>1</sup>Cornell University, Ithaca, NY.

## HORSE SPECIES 3

### SYMPOSIUM

#### Horse Programs in Animal Science — A Curse or a Blessing?

Sponsored by *Bayer Animal Health*

Chair: B.D. Nielsen, Michigan State University, East Lansing

Wednesday, 1:00 p.m. - 4:30 p.m.

Room: 313

Time	Abstract Number	
1:00	81	<b>INVITED</b> Impact of adding an equine major: enrollment and cost effectiveness. David Ames*, Colorado State University, Fort Collins.
1:25		<b>INVITED</b> Developing a horse program to meet the needs of the industry. L.H. Kasten, University of Wisconsin-River Falls.
1:50		<b>INVITED</b> Changing needs in animal science extension: How horses fit. K. Malinoski, Rutgers University, New Brunswick, NJ
2:15		<b>BREAK</b>
2:30	82	<b>INVITED</b> The relevance and importance of the equine sciences in contemporary animal sciences curricula. G.D. Potter* and P.G. Gibbs, Texas A&M University, College Station, TX.
2:55	83	<b>INVITED</b> The importance of international equine programs to animal science departments and colleges of agriculture. John E. Shelle*, Michigan State University, East Lansing.
3:20	84	<b>INVITED</b> Equine programs, an administrator's perspective. D.R. Topliff*, West Texas A&M University, Canyon.
3:45		<b>DISCUSSION</b>

# MEAT SCIENCE AND MUSCLE BIOLOGY 4

## Beef Quality

Chair: E. Berg, University of Missouri, Columbia

Wednesday, 1:00 p.m. – 2:15 p.m.

Room: 311

Time	Abstract Number	
1:00	675	Supplemental vitamin D <sub>3</sub> improves beef tenderness. J. L. Montgomery <sup>*1</sup> , J. G. Gentry <sup>1</sup> , L. L. Behrends <sup>2</sup> , E. R. Behrends <sup>2</sup> , G. G. Hilton <sup>1</sup> , M. Galyean <sup>1</sup> , J. R. Blanton <sup>1</sup> , A. Barham <sup>1</sup> , B. Barham <sup>1</sup> , and M. F. Miller <sup>1</sup> , <sup>1</sup> Texas Tech University, Lubbock, <sup>2</sup> Colorado State University, Fort Collins.
1:15	676	Characterization of muscle degradation from vitamin D <sub>3</sub> supplementation of feedlot steers using a muscle cell culture system. J. L. Montgomery <sup>*1</sup> , K. J. Morrow <sup>1</sup> , and M. F. Miller <sup>1</sup> , <sup>1</sup> Texas Tech University, Lubbock.
1:30	677	Carcass and palatability traits of steer progeny of Hereford, Angus, Norwegian Red-Swedish Red and White, Friesian, and Wagyu sires. T. L. Wheeler <sup>*</sup> , L. V. Cundiff, S. D. Shackelford, and M. Koohmaraie, USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE.
1:45	678	The effect of Wagyu and Limousin genetics on factors associated with tenderness. P. S. Kuber <sup>*1</sup> , J. R. Busboom <sup>1</sup> , J. G. Nordyke <sup>1</sup> , S. K. Duckett <sup>2</sup> , P. S. Mir <sup>3</sup> , Z Mir <sup>3</sup> , J. D. Cronrath <sup>1</sup> , K. A. Johnson <sup>1</sup> , J. J. Reeves <sup>1</sup> , and C. T. Gaskins <sup>1</sup> , <sup>1</sup> Washington State University, Pullman, <sup>2</sup> University of Idaho, Moscow, <sup>3</sup> Agriculture and Agrifood Canada, Lethbridge, AB.
2:00	679	Anabolic Implants and Meat Tenderness. C.W. Wiltbank <sup>*1</sup> , E.W. Hawkins <sup>1</sup> , D.K. Lunt <sup>2</sup> , and T.E. McCullum <sup>2</sup> , <sup>1</sup> Brigham Young University, Provo, <sup>2</sup> Texas A&M University, College Station.

## MILK SYNTHESIS 3 POSTER SESSION

Wednesday, 8:00 a.m. - 5:00 p.m.

Authors of even numbered boards present

1:00 p.m. - 3:00 p.m.

Authors of odd numbered boards present

3:00 p.m. - 5:00 p.m.

Room: Exhibit Hall AB

Board No.	Abstract No.	
208	698	Compensatory nutrition regulation of b-casein gene expression in HC11 mammary epithelial cells. J.W. Schroeder <sup>*</sup> , W.K. Keller, and C.S. Park, North Dakota State University, Fargo.
209	699	Linoleic acid upregulates expression of mFABP and CD36 in bovine mammary cells. R.C. Gorewit <sup>*</sup> , Cornell University, Ithaca, NY.
210	700	Immunoreactive BRCA1 is localized in bovine mammary epithelium, milk and milk fat globule membranes. Y. Chung <sup>1</sup> , V.L. Spitsberg <sup>2</sup> , and R. C. Gorewit <sup>*1</sup> , <sup>1</sup> Cornell University, <sup>2</sup> BioVita Technologies.
211	701	Bovine mammary BRCA1 is differentially expressed through various physiological stages. Y. Chung and R.C. Gorewit <sup>*</sup> , Cornell University, Ithaca, NY.
212	702	Lipid synthesis by primary cultures of bovine mammary epithelial cells. E. Matitashvili <sup>*</sup> and D. Bauman, Cornell University, Ithaca, NY.
213	703	Effect of different isomers of C18:1 and C18:2 fatty acids on lipogenesis in bovine mammary epithelial cells. E. Matitashvili <sup>*</sup> and D. Bauman, Cornell University, Ithaca, NY.

- 214 704 Effects of Insulin and Insulin-like Growth Factor (IGF)-I on Casein and IGF-binding Protein Production in Primary Cultures of Bovine Mammary Cells. M. D. Hanigan<sup>\*1</sup>, F. Cheli<sup>2</sup>, J. C. Chow<sup>1</sup>, W. Y. Kim<sup>1</sup>, D. M. Carlson<sup>1</sup>, C. C. Calvert<sup>1</sup>, and R. L. Baldwin<sup>1</sup>, <sup>1</sup>University of California, Davis, <sup>2</sup>University of Milan, Italy.
- 215 705 An ultrasonographic method for estimating mammary cistern volume after different milking intervals in dairy cows. M. Ayadi<sup>1</sup>, G. Caja<sup>\*1</sup>, X. Such<sup>1</sup>, and C.H. Knight<sup>2</sup>, <sup>1</sup>Universitat Autònoma de Barcelona, Bellaterra, Spain, <sup>2</sup>Hannah Research Institute, Ayr, U. K.
- 216 706 Interbreed differences in cisternal and alveolar milk partitioning in the udder according to yield in dairy sheep. M. Rovai<sup>1</sup>, X. Such<sup>1</sup>, G. Caja<sup>\*1</sup>, and C.H. Knight<sup>2</sup>, <sup>1</sup>Universitat Autònoma de Barcelona, Bellaterra, Spain, <sup>2</sup>Hannah Research Institute, Ayr, U. K.
- 217 707 Postweaning changes in the porcine mammary gland parenchymal wet weight. J.A. Ford, Jr.\*<sup>1</sup>, S.W. Kim, and W.L. Hurley, University of Illinois, Urbana.
- 218 708 Milk composition in early lactation is affected by expression of a bovine  $\alpha$ -lactalbumin transgene in sows. M. S. Noble\*, G. T. Bleck, J. B. Cook, M. B. Wheeler, and W. L. Hurley, University of Illinois, Urbana.
- 219 709 Milk fatty acid composition and mammary lipid metabolism in Holstein cows fed protected or unprotected canola seeds. C. E. Ahnadi<sup>1</sup>, L. Delbecchi<sup>\*1</sup>, J. J. Kennelly<sup>2</sup>, and P. Lacasse<sup>1</sup>, <sup>1</sup>Dairy and Swine R&D Center, Lennoxville (QC), Canada, <sup>2</sup>University of Alberta, Edmonton (AB), Canada.
- 220 710 Influence of conjugated linoleic acid (CLA) enriched cheese on body composition. T. R. Dhiman<sup>\*1</sup>, I. S. MacQueen<sup>1</sup>, D. J. McMahon<sup>1</sup>, J. L. Walters<sup>1</sup>, and M. W. Pariza<sup>2</sup>, <sup>1</sup>Utah State University, Logan, <sup>2</sup>University of Wisconsin, Madison.
- 221 711 Mammary responses to short term close arterial infusions of selected amino acid profiles and acetate. N.G. Purdie<sup>\*1</sup>, D.R. Trout<sup>2</sup>, J.P. Cant<sup>2</sup>, and D.P. Poppi<sup>1</sup>, <sup>1</sup>The University of Queensland, Brisbane, Queensland, Australia., <sup>2</sup>University of Guelph, Ontario, Canada.
- 222 712 Mammary metabolism in cows fed graded supply of rumen-protected methionine (RPM) added to a methionine imbalanced diet. M.C. Thivierge<sup>\*1</sup>, R. Berthiaume<sup>2</sup>, J.F. Bernier<sup>1</sup>, and H. Lapierre<sup>2</sup>, <sup>1</sup>Université Laval, QC, Canada, <sup>2</sup>Dairy and Swine R & D Center, QC, Canada.
- 223 713 Effect of plasma insulin concentrations on milk protein yield in dairy cows. A. L'Esperance<sup>\*1</sup>, J.F. Bernier<sup>1</sup>, D.E. Bauman<sup>2</sup>, and P.Y. Chouinard<sup>1</sup>, <sup>1</sup>Laval University, QC, Canada, <sup>2</sup>Cornell University, Ithaca, NY.
- 224 714 Effect of plasma insulin concentrations on milk fatty acid profile in dairy cows. A. L'Esperance<sup>\*1</sup>, J.F. Bernier<sup>1</sup>, D.E. Bauman<sup>2</sup>, B.A. Corl<sup>2</sup>, and P.Y. Chouinard<sup>1</sup>, <sup>1</sup>Laval University, QC, Canada, <sup>2</sup>Cornell University, Ithaca, NY.
- 225 715 Feeding strategies aimed at regulating fatty acid synthesis in the dairy cow. N.S. Beswick and J.J. Kennelly\*, University of Alberta, Edmonton, AB, Canada.
- 226 716 Role of stage of lactation in the regulation of fatty acid synthesis in the dairy cow. N.S. Beswick and J.J. Kennelly\*, University of Alberta, Edmonton, AB, Canada.
- 227 717 The effect of abomasal amino acid imbalances on milk composition in lactating dairy cattle. T.L. Weekes\* and J.P. Cant, University of Guelph, Ontario, Canada.
- 228 718 The effect of long-term supplementation of conjugated linoleic acid (CLA) to dairy cows grazing tropical pasture. S. R. Medeiros<sup>1</sup>, D. E. Oliveira<sup>1</sup>, L.J.M. Aroeira<sup>2</sup>, M. McGuire<sup>3</sup>, D. E. Bauman<sup>4</sup>, and D.P.D. Lanna<sup>\*1</sup>, <sup>1</sup>ESALQ, São Paulo, Brazil, <sup>2</sup>CNPGL-EMBRAPA, Minas Gerais, Brazil, <sup>3</sup>University of Idaho, Moscow, ID, <sup>4</sup>Cornell University, Ithaca, NY.

# NONRUMINANT NUTRITION 7

## Ingredient Processing and Nutrient Utilization Estimates

Chair: P. Miller, University of Nebraska, Lincoln

Wednesday, 1:00 p.m - 3:15 p.m.

Room: 312

Time	Abstract Number	
1:00	780	Influence of heat-processing of cereals on performance of piglets. G.G. Mateos* <sup>1</sup> , E. Gómez <sup>2</sup> , R. Lázaro <sup>1</sup> , and P. Medel <sup>1</sup> , <sup>1</sup> Dpto Producción Animal, Universidad Politécnica de Madrid, <sup>2</sup> Centro de Pruebas de Porcino, Junta de Castilla y León.
1:15	781	Effects of expanding and pelleting diets for finishing pigs fed from wet/dry feeders. N. Amornthwaphat*, J. D. Hancock, K. C. Behnke, R. H. Hine, L. J. McKinney, C. W. Starkey, D. W. Dean, and D. J. Lee, Kansas State University, Manhattan.
1:30	782	Effects of soybean genotype and extrusion on digestibility of nutrients and intestinal morphology in nursery pigs. H. Cao*, J. D. Hancock, J. M. DeRouche, D. J. Lee, N Amornthwaphat, J. S. Park, R. H. Hines, and W. T. Schapaugh, Kansas State University, Manhattan.
1:45	783	Effects of feed- and food-quality sorghums on milling characteristics and growth performance in nursery pigs. C. L. Jones*, J. D. Hancock, C. M. Sowder, L. J. McKinney, D. W. Dean, D. J. Lee, J. S. Park, and N. Amornthwaphat, Kansas State University, Manhattan.
2:00	784	Comparative DE values of wheat, corn, soybean and their by-products in growing pigs and adult sows. J. Noblet* and G. Le Goff, INRA, Saint Gilles, France.
2:15	785	Apparent ileal amino acid digestibilities of corn distiller's dried grains with solubles produced from new ethanol plants in Minnesota and South Dakota. M. H. Whitney <sup>1</sup> , M. J. Spiehs* <sup>1</sup> , G. C. Shurson <sup>1</sup> , and S. K. Baidoo <sup>2</sup> , <sup>1</sup> University of Minnesota, St. Paul, MN, <sup>2</sup> University of Minnesota, Waseca, MN.
2:30	786	Determination of the metabolizable energy concentration of three corn hybrids fed to growing pigs. R.W. Fent*, S.D. Carter, B.W. Senne, and M.J. Rincker, Oklahoma State University, Stillwater.
2:45	787	A biochemical model of nutrient utilization in growing pigs. J. van Milgen* and J. Noblet, INRA, Saint-Gilles, France.
3:00	1232	Phytase addition to diets deficient in amino acids for grow-finish pigs. S. L. Johnston*, L. L. Southern, T. D. Bidner, and D. F. Coombs, Louisiana State University Agricultural Center, Baton Rouge, LA.

# NONRUMINANT NUTRITION 8

## SYMPOSIUM

### Back to the Basics: Defining and Exceeding Customers' Nutritional Needs

Sponsored by *Cargill Animal Nutrition,*  
*Pig Improvement Company*

Wednesday, 3:00 p.m. - 5:00 p.m.

Room: Ballroom 3

Time	
3:00	Introduction. Gary Allee, University of Missouri, Columbia.
3:10	<b>INVITED</b> Emerging nutritional technologies that may influence swine production. Dean Boyd, PIC, Inc., Franklin, KY.

- 3:40 **INVITED** Personal perspective: What are the real nutritional needs of today's swine industry? Ron Nimmo, Carroll Foods, Warsaw, NC.
- 4:00 **INVITED** Improving the implementation of nutritional research findings. Mike Tokach, Kansas State University, Manhattan.
- 4:20 **INVITED** Nutritional research lessons from the poultry industry. Jim Cox, AgriStats, Inc., Fort Wayne, IN.
- 4:40 **PANEL DISCUSSION**

## **PHYSIOLOGY 7 AND GROWTH AND DEVELOPMENT 4**

### **JOINT MINI-SYMPOSIUM**

#### **Appetite Regulation: Leptin and Beyond**

Co-Chairs: K. L. Houseknecht, Pfizer Inc., Groton, CT and J. L. Sartin, Auburn University, Auburn, AL

Wednesday, 1:00 p.m. - 5:00 p.m.

Room: Ballroom 1

## **PRODUCTION AND MANAGEMENT 6**

### **MINI-SYMPOSIUM**

#### **Anabolic Implants and Beef Carcass Quality**

Sponsored by *Schering-Plough Animal Health*

Chair: R. Cleale, Fort Dodge Animal Health  
Company, Princeton, NJ

Wednesday, 1:00 p.m. - 4:30 p.m.

Room: 307

<b>Time</b>	<b>Abstract Number</b>	
1:00	110	<b>INVITED</b> Optimizing Carcass Value and the Use of Anabolic Implants In Beef Cattle. T. H. Montgomery* and P. F. Dew, West Texas A&M University, Canyon.
1:40	111	<b>INVITED</b> Market Economics of Changing Beef Growth Promotant Regimes. S.R. Koontz*, Colorado State University, Fort Collins.
2:20		<b>DISCUSSION</b>
2:45		<b>BREAK</b>
3:00	112	Dose-titration of implants containing estradiol benzoate and trenbolone acetate in a long-acting formulation on weight gains by grazing steers and heifers. R. M. Cleale <sup>1</sup> , L. L. Smith <sup>2</sup> , N. Fattohi <sup>1</sup> , and A. N. Sinha <sup>1</sup> , <sup>1</sup> Fort Dodge Animal Health, Princeton, N.J., <sup>2</sup> L. L. Smith Research & Development, Lodi, WI.

- 3:15 113 Carryover effects of implants and monensin on feedlot performance and carcass characteristics. B.A. Gardner\*, F.N. Owens, J.T. Wagner, C.E. Walenciak, R.A. Ball, and D.R. Gill, Oklahoma State University, Stillwater.
- 3:30 114 Effects of implanting gestating *Bos indicus* cows with trenbolone acetate on weight gains and reproductive performance. T.A. Thrift\*<sup>1</sup>, G.E. Carstens<sup>2</sup>, D.A. Neuendorff<sup>1</sup>, A.W. Lewis<sup>1</sup>, W.J. Wilson<sup>1</sup>, and R.D. Randel<sup>1</sup>, <sup>1</sup>Texas A&M University-Overton, <sup>2</sup>Texas A&M University, College Station.
- 3:45 115 Effects of varying levels of anabolic implants in the initial growing phase on performance and carcass characteristics of Holstein steers. S. L. Fowler\*<sup>1</sup>, J. L. Beckett<sup>1</sup>, R. Brandt<sup>2</sup>, and J. Algeo<sup>3</sup>, <sup>1</sup>Cal Poly State University, <sup>2</sup>Hoechst-Roussel Agri-Vet Co., <sup>3</sup>Algeo Consulting.
- 4:00 116 Depletion of trenbolone acetate and estradiol benzoate from a coated SYNOVEX Plus long-acting implant in cattle. L.A. Kraft\*, E. Szewczyk, C.W. Stewart, M. Doherty, A.N. Sinha, and K.L. Simkins, Fort Dodge Animal Health, Princeton, NJ.
- 4:15 117 Comparison of carcass merit using serial real-time ultrasound measurements of bulls reared under two management programs. J.F. Baker\*<sup>1</sup>, R.C. Vann<sup>1</sup>, T.D. Pringle<sup>2</sup>, and J.L. Varnadoe<sup>1</sup>, <sup>1</sup>The University of Georgia, Tifton, <sup>2</sup>The University of Georgia, Athens.

## PRODUCTION AND MANAGEMENT 7

### Dairy Facilities Management

Co-Chairs: M. Gamroth, Oregon State University, Corvallis and M. Brouk, Kansas State University, Manhattan

Wednesday, 1:00 p.m. - 4:45 p.m.  
Room: 308

- | Time | Abstract Number |   |
|------|-----------------|---|
| 1:00 | 973             | Association between heat stress prepartum, body condition score and production parameters of Holstein cows. L. Avendano-Reyes <sup>1</sup> , J. W. Fuquay* <sup>2</sup> , R. B. Moore <sup>2</sup> , Z. Liu <sup>2</sup> , B. L. Clark <sup>2</sup> , and C. Vierhout <sup>3</sup> , <sup>1</sup> Instituto de Ciencias Agricolas, Universidad Autonoma de Baja California, <sup>2</sup> Mississippi State University, <sup>3</sup> Dairy Records Management Systems.   |
| 1:15 | 974             | Aassociation between heat stress prepartum, body condition score and reproduction parameters of Holstein cows. L. Avendano-Reyes <sup>1</sup> , J. W. Fuquay* <sup>2</sup> , R. B. Moore <sup>2</sup> , Z. Liu <sup>2</sup> , B. L. Clark <sup>2</sup> , and C. Vierhout <sup>3</sup> , <sup>1</sup> Instituto de Ciencias Agricolas, Universidad Autonoma de Baja California, <sup>2</sup> Mississippi State University, <sup>3</sup> Dairy Records Management Systems.  |
| 1:30 | 975             | Influence of environmental conditions on body temperature, dry matter intake, and milk yield for lactating cows from spring through summer in the southeast. J. W. West*, B. G. Mullinix, and J. K. Bernard, The University of Georgia, Tifton.   |
| 1:45 | 976             | A field study of dairy cow performance using different fan-cooling strategies. J.D. Sampson*, C. Bowe, J. Denbigh, M. Eilersieck, J.N. Spain, D. Spiers, and J. Zulovich, University of Missouri-Columbia.  |
| 2:00 | 977             | Effect on milk production of adding fans and sprinklers during hot weather on an Arkansas dairy farm. J. A Pennington* <sup>1</sup> , J. M Langston <sup>1</sup> , D. E. Kratz <sup>1</sup> , and M. C. Andrews <sup>2</sup> , <sup>1</sup> University of Arkansas Cooperative Extension Service, Little Rock, <sup>2</sup> University of Arkansas Cooperative Extension Service, Clinton.  |
| 2:15 | 978             | Effects of rbST on performance of Jersey cows in a thermal-stress environment. Z. Keister* <sup>1</sup> , K Moss <sup>2</sup> , R. Edling <sup>3</sup> , R. Collier <sup>1</sup> , and R. Ax <sup>1</sup> , <sup>1</sup> University of Arizona, Tucson, <sup>2</sup> Mountain Shadow Dairy, <sup>3</sup> Monsanto, Animal Agriculture.  |
| 2:30 | 979             | Productive and physiological response of Holstein steers under heat stress to an open space cooling system. A. Correa* <sup>1</sup> , V. M. Ya'ez <sup>1</sup> , A. P. Marquez <sup>1</sup> , F. J. Verdugo <sup>1</sup> , H. G. Gonzalez <sup>1</sup> , M. A. Tarazan <sup>2</sup> , D. V. Armstrong <sup>3</sup> , J. C. Reynoso <sup>4</sup> , R. Fregoso <sup>4</sup> , and Z. Astarabadi <sup>5</sup> , <sup>1</sup> Universidad Autonoma de Baja California, <sup>2</sup> Universidad de Sonora, <sup>3</sup> University of Arizona, <sup>4</sup> Corrales San Carlos, Mexicali, Mexico, <sup>5</sup> Open Space Cooling L. L. C. |
| 2:45 |                 | <b>BREAK</b>  |
| 3:00 | 980             | A comparison of freestall barns used by modernized Wisconsin dairy farms. J. Bewley*, R.W. Palmer, D.B. Jackson-Smith, and D.E. Hemken, University of Wisconsin, Madison, WI.   |
| 3:15 | 981             | A controlled study on the effect of free-stall alley surface and stall bedding on hoof and hock lesions in lactating Holstein dairy cattle. F.J. Vokey*, C.L. Guard, H.N. Erb, and D.M. Galton, Cornell University, Ithaca, NY.   |

- 3:30 982 Measuring water use in California dairy facilities. C. Batchelder<sup>1</sup>, I. Zallo<sup>2</sup>, B. Reed<sup>\*1</sup>, and D. Meyer<sup>2</sup>, <sup>1</sup>University of California Cooperative Extension, <sup>2</sup>Department of Animal Science, University of California, Davis.
- 3:45 983 Factors affecting the estimation of time spent on essential work routine elements in dairy parlors. N.R. St-Pierre\*, The Ohio State University, Columbus.
- 4:00 984 Manure sampling for improved nutrient management on animal farms. Z. Dou<sup>1</sup>, R. Allshouse<sup>\*1</sup>, J. Toth<sup>1</sup>, R. Boston<sup>1</sup>, and J. Ferguson<sup>1</sup>, <sup>1</sup>University of Pennsylvania, Kennett Square.
- 4:15 985 Implementation of innovative best management practices and a nutrient monitoring system to reduce nitrogen and phosphorus loading from dairy cattle production systems. G. M. Goodall<sup>\*1</sup>, M. A. Tomaszewski<sup>1</sup>, E. R. Jordan<sup>2</sup>, S. R. Stokes<sup>3</sup>, and L. W. Greene<sup>4</sup>, <sup>1</sup>Texas A&M University, College Station, <sup>2</sup>Texas A&M Research and Extension Center, Dallas,, <sup>3</sup>Texas A & M Research and Extension Center, Stephenville, <sup>4</sup>Texas A&M Research and Extension Center, Amarillo.
- 4:30 986 Management effects on nutrient loading and losses from dairy farms. C. A. Rotz<sup>\*1</sup>, A. N. Sharpley<sup>1</sup>, and L. D. Satter<sup>2</sup>, <sup>1</sup>USDA/ARS, University Park, PA, <sup>2</sup>USDA/ARS, Madison, WI.

# RUMINANT NUTRITION 11

## Protein and Amino Acids II

Chair: R. Kohn, University of Maryland,  
College Park

Wednesday, 1:00 p.m. - 3:45 p.m.  
Room: 309

### Abstract

Time Number

- 1:00 1176 Development and application of a mechanistic model to study substrate degradation, microbial synthesis and gas production. J. Dijkstra<sup>\*1</sup>, J. France<sup>2</sup>, M.S. Dhanoa<sup>3</sup>, and S. Lopez<sup>4</sup>, <sup>1</sup>Wageningen University, Netherlands, <sup>2</sup>The University of Reading, UK, <sup>3</sup>Institute of Grassland and Environmental Research, UK, <sup>4</sup>University of Leon, Spain.
- 1:15 1177 Challenging a model of dairy cattle metabolism to describe responses to dietary rumen undegradable protein content. M. Woodman\* and J. McNamara, Washington State University, Pullman.
- 1:30 1178 Comparison of predicted changes in duodenal flow of crude protein and amino acids caused by changing the diet fed to lactating dairy cows. H. G. Bateman, II<sup>\*1</sup>, J. H. Clark<sup>1</sup>, C. J. Peel<sup>2</sup>, R. A. Patton<sup>3</sup>, and C. G. Schwab<sup>4</sup>, <sup>1</sup>University of Illinois, Urbana, <sup>2</sup>Degussa-Hüls, Inc., Ridgefield Park, NJ, <sup>3</sup>Nittany Dairy Nutrition, Mifflinburg, PA, <sup>4</sup>University of New Hampshire, Durham.
- 1:45 1179 Estimating ruminal crude protein degradation with *in situ* and chemical fractionation procedures. S. Shannak, K.-H. Suedekum\*, and A. Susenbeth, University of Kiel, Germany.
- 2:00 1180 Assessment of the value of cannulated pigs for measuring intestinal protein digestibility of ruminal undegraded protein of canola meal. A. F. Mustafa, J. J. McKinnon\*, P. A. Thacker, and S. Y. Qiao, University of Saskatchewan, Saskatoon, Canada.
- 2:15 1181 Comparison of phospholipid phosphorus and purines as markers of microbial crude protein in duodenal digesta of cattle. R.A. Mass<sup>\*1</sup>, R.A. Drijber<sup>1</sup>, K.W. Creighton<sup>1</sup>, W.W. Stroup<sup>1</sup>, and T.J. Klopfenstein<sup>1</sup>, <sup>1</sup>University of Nebraska, Lincoln.
- 2:30 1182 Analytical evaluation of a low infusion dose of [<sup>15</sup>N<sup>15</sup>N]urea to determine urea production, gut entry rate and recycling in dairy cows. H. Lapierre<sup>\*1</sup>, E. Milne<sup>2</sup>, and G.E. Lobley<sup>2</sup>, <sup>1</sup>Dairy and Swine R&D Centre, Lennoxville, Quebec, Canada, <sup>2</sup>Rowett Research Institute, Aberdeen, Scotland, UK.
- 2:45 1183 Urea flux in beef steers: effects of forage species and fertilization. S. L. Archibeque\*, J. C. Burns, and G. B. Huntington, North Carolina State University, Raleigh.
- 3:00 1184 A pilot project to introduce the routine use of milk urea N analysis for diet evaluation. J.S. Jonker<sup>\*1</sup>, R.A. Kohn<sup>1</sup>, J. High<sup>2</sup>, and A. Grove<sup>3</sup>, <sup>1</sup>University of Maryland, College Park, <sup>2</sup>Lancaster Dairy Herd Improvement Association, Manheim, PA, <sup>3</sup>Maryland and Virginia Milk Producers Cooperative, West Reston, VA.
- 3:15 1185 Post-ruminal delivery of biologically active proteins using *Pichia pastoris*: definition of growth conditions. C. Strauss<sup>\*1</sup>, T. A. McAllister<sup>1</sup>, and L. B. Selinger<sup>2</sup>, <sup>1</sup>Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, <sup>2</sup>University of Lethbridge, Lethbridge, AB.



3:30 1313 Effect of protein level in prepartum diets on the performance of dairy cows during the periparturient period. A.F. Park, J.E. Shirley, E.C. Titgemeyer, M.J. Meyer, M.J. VanBaale, Kansas State University, Manhattan.

## RUMINANT NUTRITION 12

### Byproduct Utilization

Co-Chairs: M. Froetschel, University of Georgia, Athens and E. Lanka, Consolidated Nutrition, Madison, WI

Wednesday, 2:45 p.m. - 5:00 p.m.

Room: 311

Time	Abstract Number	
2:45	1186	Determining protein quality of a supplemental feed block based on whole cottonseed, broiler litter and molasses for growing cattle. D. Kumar*, M.A. Froetschel, H.E. Amos, C.A. McPeake, and M.Q. Lowder, The University of Georgia, Athens.
3:00	1187	Influence of broiler litter stacking method and monensin inclusion on performance and <i>Salmonella</i> shedding of growing calves. D. J. Capucille, M. H. Poore*, and G. M. Rogers, North Carolina State University, Raleigh.
3:15	1188	Determining the energetic value of whole cottonseed as compared to corn and cottonseed meal in a block supplement for growing cattle based on broiler litter and molasses. M. A. Froetschel*, H. E. Amos, D. Kumar, V. Pattarajinda, and C. A. McPeake, The University of Georgia, Athens.
3:30	1189	Use of concentrated separator by-product in receiving diets for beef steers. E. R. Loe*, M. L. Bauer, G. P. Lardy, and J. C. Caton, North Dakota State University, Fargo.
3:45	1190	Optimizing the digestion of soybean hulls by limit-fed cattle. A. M. Trater*, E. C. Titgemeyer, C. A. Loest, and B. D. Lambert, Kansas State University, Manhattan.
4:00	1191	Evaluation of various by-products for use in stocker cattle diets. D.L. Rankins, Jr.* and B.E. Gamble, Auburn University, Auburn, AL.
4:15	1192	In Vitro Mixed Ruminal Microorganism Fermentation of Whole Cottonseed Coated with Gelatinized Corn Starch and Urea. J. K. Bernard <sup>1</sup> , S. A. Martin <sup>2</sup> , and T. C. Wedegaertner <sup>3</sup> , <sup>1</sup> The University of Georgia, Tifton, <sup>2</sup> The University of Georgia, Athens, <sup>3</sup> Cotton Incorporated, Cary, NC.
4:30	1193	Nutritive evaluation of a food industry byproduct for feedlot cattle. A. S. Bertin*, H. W. Harpster, V. H. Baumer, J. W. Comerford, and E. H. Cash, The Pennsylvania State University, University Park.
4:45	1194	Palatability of byproduct feeds and their effect on ruminal pH and carcass characteristics for meat goats. J.A. Moore, M.H. Poore, J-M. Luginbuhl, and M.E. Joyner, North Carolina State University, Raleigh.

# RUMINANT NUTRITION 13

## Fat Digestion and Metabolism

Chair: S. Donkin, Purdue University,  
West Lafayette, IN

Wednesday, 4:00 p.m. - 5:00 p.m.  
Room: 320

Time	Abstract Number	
4:00	1195	Effects of solid passage rate, pH, and level of linoleic acid on the production of <i>cis</i> -9, <i>trans</i> -11-octadecadienoic acid (CLA) in continuous culture. X. Qiu <sup>*1</sup> , M.L. Eastridge <sup>1</sup> , K.E. Griswold <sup>2</sup> , and J.L. Firkins <sup>1</sup> , <sup>1</sup> The Ohio State University, Columbus, <sup>2</sup> Southern Illinois University, Carbondale.
4:15	1196	Concentrations of conjugated linoleic acid in beef carcasses are not increased by supplementing a high-corn diet with 5.0% soybean oil. A.D. Beaulieu <sup>*</sup> , J.K. Drackley, N.R. Merchen, and E.L. Falkenstein, University of Illinois, Urbana.
4:30	1197	Effects of supplemental safflower seeds on conjugated linoleic acid in blood plasma, adipose tissue, and milk of primiparous beef heifers. J.D. Bottger <sup>**1</sup> , D.L. Hixon <sup>1</sup> , B.W. Hess <sup>1</sup> , G.E. Moss <sup>1</sup> , R.N. Funston <sup>2</sup> , and D.C. Rule <sup>1</sup> , <sup>1</sup> University of Wyoming, Laramie, <sup>2</sup> USDA-ARS, Miles City, MT.
4:45	1198	Dry matter intake is decreased more by abomasal infusion of unsaturated free fatty acids than by unsaturated triglycerides. J. K. Drackley, S. Thire, N. B. Litherland <sup>*</sup> , and A. D. Beaulieu, University of Illinois, Urbana.

# SHEEP SPECIES 2

## SYMPOSIUM

### The Compelling Need for Value-Based Marketing

Chair: K. A. Leymaster, USDA-ARS,  
Clay Center, NE

Wednesday, 1:00 p.m. - 5:00 p.m.  
Room: 317

Time	Abstract Number	
1:00		<b>Opening Comments:</b> K. A. Leymaster, USDA-ARS, Clay Center, NE.
1:05		<b>INVITED</b> An example of value-based marketing of beef: U.S. Premium Beef. B. Bertelsen <sup>*</sup> , U.S. Premium Beef, Dodge City, KS.
1:50	126	<b>INVITED</b> A packing plant perspective of value-based marketing of lamb. B. J. May <sup>*</sup> , Angelo State University, San Angelo, TX.
2:20	127	<b>INVITED</b> Value-based lamb marketing systems in other countries. D. L. Thomas, University of Wisconsin, Madison.
2:50		<b>BREAK</b>
3:05	128	<b>INVITED</b> Genetic and nutritional effects on lamb flavor. S. K. Duckett <sup>**1</sup> and P. S. Kuber <sup>2</sup> , <sup>1</sup> University of Georgia, Athens, <sup>2</sup> Washington State University, Pullman.
3:35	129	<b>INVITED</b> Prediction of composition on the live animal and carcass. D.F. Waldron <sup>*</sup> , Texas Agricultural Experiment Station,

Texas A&M University System, College Station.

- 4:05 130 **INVITED EAAP SPEAKER** Use of sire referencing schemes to select for improved carcass composition. G Simm<sup>\*1</sup>, R M Lewis<sup>1</sup>, J E Collins<sup>2</sup>, and G Nieuwhof<sup>3</sup>, <sup>1</sup>SAC, UK, <sup>2</sup>Signet, UK, <sup>3</sup>Meat and Livestock Commission, UK.
- 4:50 **DISCUSSION**

## **UNDERGRADUATE AND GRADUATE EDUCATION 3**

### **ROUND TABLE DISCUSSION**

#### **What is “Balance” for an Animal or Dairy Scientist?**

Chair: P. Schoknecht, Rutgers University, New Brunswick, NJ

Wednesday, 1:00 p.m. - 2:30 p.m.  
Room: 301

#### **Description:**

A panel discussion by several ASAS and ADSA members about their experiences with obtaining “balance” in their profession. The Round Table will focus on balance between teaching, research, and service as well as balance between personal and professional lives. Session open to all meeting attendees.

#### **Panelists:**

Ronnie Green, Colorado State University, Ft. Collins.  
Bill Flowers, North Carolina State University, Raleigh.  
Don Kress, Montana State University, Bozeman.  
Janice Swanson, Kansas State University,  
Manhattan.  
Saundra TenBroeck, University of Florida, Gainesville.  
Fred Thrift, University of Kentucky, Lexington.

## **WOMEN AND MINORITY ISSUES IN ANIMAL AGRICULTURE AND INTERNATIONAL MEMBERS’ RECEPTION**

### **How Do We Fit into ADSA-ASAS?**

Co-Chairs: N. A. Irlbeck, Colorado State University, Ft. Collins and W. M. Knight, FDA, Silver Spring, MD

Wednesday, 4:00 p.m. - 6:00 p.m.  
Room: Ballroom 4

<b>Time</b>	<b>Abstract Number</b>	
4:00		<b>RECEPTION BEGINS</b>
4:30	1311	<b>INVITED</b> How do we fit into ADSA/ASAS: Internationals, minorities, women. W.A. Samuels*, Balchem Corporation.
5:00		<b>DISCUSSION WITH SPEAKER AND COMMENTS OF CO-CHAIRS</b>