2007 Joint ADSA PSA AMPA ASAS Meeting Symposia

ADSA Production Division: Improving Production, Viability, and Reproduction of Dairy Cattle during Periods of Heat Stress

- Introduction, R. Pearson, Virginia Polytechnic Institute and State University
- Feeding programs that meet the challenges of heat stress. J. N. Spain* and D.E. Spiers, University of Missouri, Columbia.
- What we have learned about the genes involved in the response to heat stress. R. J. Collier* and R. P. Rhoads, University of Arizona.

ADSA Southern Branch: Keeping Dairying Going and Growing

- Introductions and Welcome. W. M. Graves, University of Georgia, Athens.
- Problems associated with a dairy expansion effort. J. F. Keown*, University of Nebraska, Lincoln.
- Southern Section Honors Award. J. K. Bernard*, University of Georgia, Tifton.
- Southern Section Graduate Student Paper Competition Awards. C. C. Williams*, Louisiana State University, Baton Rouge.

Alpharma Beef Cattle Nutrition Symposium: Manipulation of Nutrient Synchrony

- Introduction. C. R. Krehbiel, Oklahoma State University.
- Nitrogen recycling and the nitrogen economy of ruminants – asynchronous symbiosis. C. K. Reynolds* and N. B. Kristensen, The University of Reading, England, University of Aarhus, Denmark.
- Opportunities to enhance performance and efficiency through nutrient synchrony in forage-fed ruminants. M. J. Hersom*, University of Florida, Gainesville.
- Opportunities to enhance performance and efficiency through nutrient synchrony in concentrate-fed ruminants. N. A. Cole*, USDA-ARS-CPRL, Bushland, TX.


- Utilizing neural network analysis in animal behavior studies. W. B. Roush*, USDA-ARS Poultry Research Unit, Mississippi State, MS.
- Mathematical modeling and analysis of use of space. M. C. Christman*, C. P. Miller, and I. Estevez, Texas Tech University, Lubbock, USDA Livestock Issues Research Unit, Lubbock, TX.

ARPAS: Current and Future On-Farm Auditing & Assessment

- Animal welfare assessment and auditing. S. E. Curtis*, University of Illinois, Urbana.
- Auditing and assessing nutrient management for water quality. A. L. Sutton*, Purdue University, West Lafayette, IN.
- Auditing and assessing nutrient management for air quality. N. A. Cole*, R. W. Todd, B. Auvermann, and D. B. Parker, USDA-ARS-CPRL, Bushland, TX, Texas Agricultural Experiment Station, Amarillo, West Texas A&M University, Canyon.
- Training and certification of animal auditors. A. K. Baysinger*, Farmland Foods, Bruning, NE.
- Roundtable Discussion.
Bioethics: The Ethics of Food Animal Production, Processing and Marketing

- Changing social dynamics and questions of ethics. W. Jamison*, Dordt College, Sioux Center, IA.
- Ethical aspects of regulating production. J. C. Swanson*, Kansas State University, Manhattan.

Bioethics: The Ethics of Food

- The ethics of food: do we clarify or obfuscate reality to influence perceptions of food animal production? C. C. Croney*1 and R. D. Reynnells2, 1Oregon State University, Corvallis, 2US Department of Agriculture, Cooperative State Research, Washington, DC.
- What would the world be like without animals for food, fiber, and labor? Are we morally obligated to do without them? S. L. Davis*, Oregon State University, Corvallis.
- Ethics and the role of academics, scientists and veterinarians in the formation of public attitudes and societal decisions. W. R. Stricklin*, University of Maryland, College Park.
- Production, processing and marketing: an advocate’s view of ethical issues. K. Laughlin*, Humane Farm Animal Care, Herdon, VA.
- Production, processing and marketing: an integrated industry’s view of ethical issues. C. Klippen*, Klippen & Associates, LLC, Audubon, PA.

Breeding & Genetics: New Challenges and Opportunities from Automation of Animal Data Recording

- Introduction – Automation and Animal Data Recording. M. Faust1 and F. Miglior2, 1ABS Global, 2Agriculture and Agri-Food Canada.
- Current and near term technologies for automated recording of animal data for precision dairy farming. G. Katz*1, A. Araz1, N. Pinsky1, I. Halachmi2, Z. Schmilovitz2, E. Aizinbud1,2, and E. Maltz2, 1SAE Afimilk, Kibbutz Afikim, Israel, 2Institute of Agricultural Engineering, Agricultural Research Organization - The Volcani Center, Bet Dagan, Israel.
- Thriving in a declining market – the new service paradigm for DHI’s. N. Petreny*, CanWest Dairy Herd Improvement, Guelph, Ontario, Canada.
- Harnessing automatic data collection to enhance genetic improvement programs. G. R. Wiggans*1, M. A. Faust2, and F. Miglior3,4, 1Agricultural Research Service, USDA, Beltsville, MD, 2ABS Global, Inc., Deforest, WI, 3Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 4Canadian Dairy Network, Guelph, ON, Canada.
- Panel Discussion.

Companion Animals: Pet Food Ingredients – Mining, Dredging, and Extrapolating Effective Nutrient Delivery

- Proteins: Advances in rendering animal and marine products. C. R. Hamilton* and D. Kirstein, Darling International Inc., Irving, TX.
- Fatty acids: Approaches to prevent or modify nutrient damage from oxidation. R. G. Brannan*, Ohio University, Athens.
- Minerals: Effect of form on requirements and bioavailability. L. L. Southern*, LSU Agricultural Center, Baton Rouge, LA.
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Contemporary & Emerging Issues: Human Health and Economic Ramifications of Livestock and Poultry Diseases

- Avian H5N1: still an animal virus? F. C. Leung*, The University of Hong Kong, Hong Kong, HK-SAR, China.
- Scenario and economic analysis of a hypothetical link between MAP and Crohn's disease. H. Groenendaal* and F. Z. Zagmutt, Vose Consulting, Boulder, CO.
- Tuberculosis: a re-emerging disease at the interface of domestic animals and wildlife. M. V. Palmer*, National Animal Disease Center, ARS, USDA, Ames, IA.

Dairy Foods/Milk Protein & Enzymes: Proteomics and Milk

- Recent developments in proteomics: Implications for dairy protein research. P. Qi*, USDA-ARS-ERRC, Wyndmoor, PA.
- Instrumentation and Technology of Proteomics today. Mi. Salemi* and B. Phinney, University of California-Davis.
- Proteomics and the mammary gland and mammary cell. J. McManaman*, University of Colorado, Ft. Collins.
- Discussion.


- Manufacture and application of casein concentrates. L. E. Metzger*, South Dakota State University, Brookings.
- Improving the quality of low fat cheese. D. J. McMahon*, Western Dairy Center, Nutrition & Food Sciences Dept., Utah State University, Logan, UT.
- Process techniques to enhance the utilization of whey ingredients. J. A. Lucey*¹, S. Damodaran¹, and K. Smith², ¹University of Wisconsin, Madison, ²Wisconsin Center for Dairy Research, Madison.
- Breaking the 21 to 28 day shelf-life barrier on refrigerated HTST pasteurized milk. D. M. Barbano* and K. J. Boor, Cornell University, Northeast Dairy Foods Research Center, Department of Food Science, Ithaca, NY.
- Specialized Starter Cultures for Enhancing the Properties of Pasteurized Hispanic-Style Cheeses. D. Van Hekken*, USDA/ARS/ERRS, Dairy Processing and Products Research Unit, Wyndmoor, PA.
- Discussion.

Dairy Foods: On the road from analysis and discovery of functional milk bioactives to new products and health outcomes

- An approach to capturing and translating the biological activities and health outcomes of milk components. S. L. Freeman*, University of California, Davis.
- The glycome and the glycoproteome of milk. C. Lebrilla*, B. German, D. Mills, and S. Freeman, University of California, Davis.
- Production and use of high CLA foods in human health. D. E. Bauman*¹, C. Tyburczy¹, A. M. O'Donnell¹, and A. L. Lock², ¹Cornell University, Ithaca, NY, ²University of Vermont, Burlington.
- Sources and characteristics of milk fat globule membranes. R. E. Ward*, Utah State University, Logan.
- Whey protein changes glucose and lipid metabolism and its implications for weight management in the clinics. S. Karakas, University of California, Davis.
- Discussion.
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Distillers Grains Symposium
- Market confusion of the varying nutrient contents of distillers feed products. L. Forester, ADM.
- How to utilize distillers grains based on nutrient content. C. Parsons, University of Illinois, Urbana.
- Environmental impacts (beneficial and detrimental) of feeding distillers grains relative to other feedstuffs. T. Klopfenstein, University of Nebraska, Lincoln.
- Overview of the ethanol industry, current energy environment and energy bill. B. Dineen*, Renewable Fuels Association.
- Total energy picture and ethanol: Petroleum interation. TBA.
- Environmental impact of renewable fuels and sustainable agriculture. D. Walters*, University of Nebraska, Lincoln.
- Results of RFA/AFIA task force study evaluating analytical methods of distillers grains for precision, replicability and "in-use" methodology compliance. R. Sellers*, AFIA, Arlington, VA.
- Corn: Ethanol – Supply and demand outlook. TBA.

Food Safety: Current and Future Salmonella Challenges
- Introduction. H. S. Hussein*, University of Nevada, Reno.
- ASAS Early Career Achievement Award: Gastrointestinal microbial ecology and the safety of our food supply as related to Salmonella. T. R. Callaway*, T. S. Edrington, J. A. Byrd, R. C. Anderson, R. B. Harvey, K. J. Genovese, J. L. McReynolds, and D. J. Nisbet, Food and Feed Safety Research Unit, College Station, TX.
- Current and future Salmonella challenges: Background, serotypes, pathogenicity, and drug resistance. S. L. Foley*, Marshfield Clinic Research Foundation, Marshfield, WI.
- Current and future Salmonella challenges: Prevalence in swine and poultry and potential pathogenicity of their isolates. S. L. Foley*, Marshfield Clinic Research Foundation, Marshfield, WI.

Forages & Pastures: Understanding Diet Selection in Temperate Biodiverse Pasture Systems
- Genetic control of dietary choice in farm animals: A combination of nature and nurture. R. M. Lewis*1 and G. C. Emmans*2, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Scottish Agricultural College, Edinburgh, Scotland, UK.
- Learning and dietary choice. J. J. Villaiba*, Utah State University, Logan.
- Forage factors and dietary choice. D. F. Chapman*1, A. J. Parsons*2, J. Hill*1, and K. Venning*1, 1University of Melbourne, Melbourne, Victoria, Australia, 2AgResearch, Palmerston North, New Zealand.
- New approaches to grazing effects on pasture composition and productivity. E. A. Laca*, Plant Sciences, University of California, Davis.
- Discussion.

Forages & Pastures: Tropical forages: Management and Environmental Issues Affecting Use Efficiency
- Programming grazing, irrigation and fertilization cycles based on physiological and environmental data for tropical grasses. J. Rodriguez-Abis*1 and E. Gutierrez-Ornelas2, 1Raesa Mexico, Queretaro, Mexico, 2Universidad Autonova de Nuevo Leon, Marin, Nuevo Leon, Mexico.
- Agroforestry livestock feeding systems in tropical America. T. Clavero*1 and J. Iglesias2, 1Facultad de Agronomia, Universidad del Zulia, Maracaibo, Zulia, Venezuela, 2Estacion Experimental Indio Hatuey, Matanzas, Cuba.
- Use of limpograss (Hemarthria altissima) in cow-calf grazing systems in southern Florida. J. D. Arthington*, University of Florida-IFAS, Range Cattle Research and Education Center, Ona.
- Managing tropical forages: production, environmental benefits and risks. B. C. Pengelly* and J. G. McIvor, Agricultural Landscapes, CSIRO Sustainable Ecosystems, St Lucia, Qld, Australia.
- Discussion.
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Goat Species: Nutrient Requirements of Goats
- Vitamin requirements of goats. B. W. Hess*, University of Wyoming, Laramie.
- Revised guidelines for mineral requirements of goats. S. G. Solaiman*, Tuskegee University, Tuskegee, AL.

Growth & Development: Transcriptional factors and cell mechanisms for regulation of growth and development with application to animal agriculture
- The role of microRNAs in muscle development. T. P. L. Smith*1, T. G. McDaneld1, M. E. Doumit2, L. K. Matukumalli3, T. S. Sonstegard3, L. L. Coutinho4, and R. T. Wiedmann5, 1USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 2Michigan State University, East Lansing, 3USDA, ARS, Bovine Functional Genomics Laboratory, Beltsville, MD, 4University of Sao Paulo, Brazil.
- Cellular and molecular regulation of muscle growth and development in meat animals. W. R. Dayton*, M. E. White, and M. R. Hathaway, University of Minnesota, St Paul.
- Application of cellular mechanisms to growth and development of food producing animals. B. J. Johnson*, Kansas State University, Manhattan.

Horse: Recent advances in Understanding Metabolic Disorders in Horses
- The impact of variability in pasture forages on horse metabolism. B. McIntosh*1,2, D. Kronfeld1, R. Geor1, W. Staniar1, P. Harris3, and D. Ward4, 1Virginia Polytechnic and State University, Blacksburg, 2Blue Seal Feeds Inc., Londonderry, NH, 3WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom, 4Rutgers University, Bridgeton, NJ.
- Advances in diagnosis and management of equine polysaccharide storage myopathy (PSSM). M. E. McCue*, S. J. Valberg, and J. R. Mickelson, University of Minnesota, St Paul.

Informal Nutrition Symposium: The Impact of Imprinting on Biological and Economic Performance of Animals
- Symbolism for the advisor and the mentor - remembering Dr. David Sklan. M. Sifri*, ADM Alliance Nutrition, Inc., Quincy, IL.
- Embryonic and neonatal (parinatal) imprinting: (a team presentation): 1. Introductions, definitions and overview. P. R. Ferket*, North Carolina State University, Raleigh.
- Oral immune tolerance in birds and mammals: the digestive tract development determines the strategy. A. Friedman*, Hebrew University of Jerusalem, Rehovot, Israel.
- Microbial imprinting in gut development and health. J. Dibner*, Novus International, St. Charles, MO.
- Discussions, conclusions, messages and recommendations. W. Guenter*1 and M. E. Cook2, 1University of Manitoba, Canada, 2University of Wisconsin, Madison.
International Animal Agriculture: Global Livestock and Poultry Issues

- Factors affecting milk price and revenues of dairy farms in the central region of Thailand. J. A. Rhone*1, R Ward1, S Koonawoottririron2, and M. A. Elzo1, 1University of Florida, Gainesville, 2Kasetsart University, Bangkok, Thailand.
- Factors affecting bacterial score and bulk tank somatic cell count of dairy farms in the central region of Thailand. J. A. Rhone*1, S. Koonawoottririron2, and M. A. Elzo1, 1University of Florida, Gainesville, 2Kasetsart University, Bangkok, Thailand.
- Effects of supplementing finger millet straw with concentrates differing in partitioning factor on microbial biomass synthesis in crossbred dairy cows. W. Jackson*1, S. Sudha2, U. Krishnamoorthy2, R. Bhaskaran2, and P. Robinson1, 1University of California, Davis, 2Karnataka Veterinary, Animal & Fisheries Sciences University, Bangalore, Karnataka, India.
- Livestock, livelihoods and the environment in developing countries. A. Freeman*1, and J. Dijkman2, 1International Livestock Research Institute, Kenya, 2FAO Pro-Poor Livestock Initiative.
- Role of livestock in human health and nutrition in developing countries. T. F. Randolph*1, E. Schelling2, and J. Zinsstag2, 1International Livestock Research Institute, Kenya, 2Swiss Tropical Institute, Switzerland.
- Poultry. TBA.

Joint National Extension Workshop: Accountability Issues in Extension: Identifying, Measuring and Reporting Impacts

- Accountability for administrators—impacts with impact. B. D. Moser*, The Ohio State University, Columbus, OH.
- How to lessen the pain of reporting: multiple uses for the same information. J. Carey, Texas A&M University, College Station.
- What information do I need to keep Extension funded? J. C. Wade*, National Association of State Colleges and Land Grant Universities, Washington, DC.
- How plans of work and annual reports are used at the federal level. S. K. Stout*, Cooperative State Research Education Extension Service.
- Discussion.

Joint ASAS/ADSA/PSA Extension Workshop: Changing the Future of Food Animal Production

- Introduction to the symposium: the lengthening chain of change. R. E. Stup*, The Pennsylvania State University, University Park.
- Change management—how to get organizations to change. M. Hemenover, Avenues For Change, St. Louis, MO.
- Extension’s responsibility in responding to emergency and controversial issues. J. F. Ort*, North Carolina State University, Raleigh.
- Discussion.

Meat Science & Muscle Biology: Meat Packaging and Shelf Life

- Overview of meat life cycle from harvest to consumer. R. D. Huffman*1 and J. C. Brooks2, 1American Meat Institute Foundation, Washington, DC, 2Texas Tech University, Lubbock.
- Defining spoilage: What is shelf life and how is it determined? T. L. Brown1, S. L. Jaax1, M. M. Brashears2, and S. J. Eilert*1, 1Cargill Meat Solutions, Wichita, KS, 2Texas Tech University, Lubbock.
- Is there a link between food safety and food spoilage? J. C. Brooks*, M. M. Brashears, and M. F. Miller, Texas Tech University, Lubbock.
Meat Science & Muscle Biology: Meat Marination
- Impact of functional ingredients on food safety. S. R. McKee*, C. Z. Alvarado², and J. W. Bowers¹,
  ¹Auburn University, Auburn, ²Texas Tech University, Lubbock.
- Impact of marination and deboning time on poultry meat tenderness. C. M. Owens*, University of Arkansas, Fayetteville.
- Characterizing the safety and quality of fresh beef cuts subjected to deep muscle marination. M. M. Brashears*, J. C. Brooks, and M. F. Miller, Texas Tech University, Lubbock.
- Spices and seasonings in marinades. L. Windecker*, Griffith Laboratories, Alsip, IL.

Non-ruminant Nutrition: Lessons and Logistics of Application of Digestible Amino Acids in Diet Formulation
- Amino acid digestibility measurements of feedstuffs – Lessons from poultry studies. V. Ravindran*¹ and W. L. Bryden², ¹Massey University, Palmerston North, New Zealand, ²University of Queensland, Gatton, Australia.
- Methodology for endogenous flow estimates for standardization of digestible amino acids. S. A. Adedokun*¹, O. Adeola¹, C. M. Parsons², M. S. Liburn¹, and T. J. Applegate¹, ¹Purdue University, West Lafayette, IN, ²University of Illinois, Urbana/Champaign, ³The Ohio State University, OARDC Wooster.
- Ileal digestibility of amino acids: Lessons from pig studies. O. Adeola*, Purdue University, West Lafayette, IN.
- Digestible amino acid formulation of poultry feeds; practical considerations. D. J. Burnham*, Aviagen, Inc, Huntsville, AL.

Non-ruminant Nutrition: Understanding Protein Synthesis and Degradation and Their Pathway Regulations for Improving Monogastric Production Efficiency & Product Quality
- Postnatal ontogeny of skeletal muscle protein synthesis in pigs. T. A. Davis*, A. Suryawan, R. A. Orellana, and M. L. Fiorotto, USDA/ARS Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX.
- Measuring in vivo intracellular protein degradation rates in animal systems. W. G. Bergen*, Auburn University, Auburn, AL.
- The mTOR-signaling pathway in regulating metabolism and growth. X. Yang*, C. Yang, A. Farberman, C. F. M. de Lange, J. France, and M. Z. Fan, University of Guelph, Guelph, Ontario, Canada.

Non-ruminant Nutrition: Natural Phytobiotics for Health of Young Animals: Mechanisms and Application
- Introduction. S. W. Kim, Texas Tech University, Lubbock.
- Natural phytobiotics for health of young piglets and poultry: Mechanisms and application. W. Windisch*¹ and A. Kroismayr¹, ¹University of Natural Ressources and Applied Life Sciences, Vienna, Austria, ²BIOMIN GmbH, Herzogenburg, Austria.
- The use of bioactive herbal saccharides in China. X. Piao*¹, S. Yuan¹, S. W. Kim², D. Li¹, and D. Ou¹, ¹China Agriculture University, Beijing, China, ²Texas Tech University, Lubbock.
- Effect of a phytogenic feed additive on reproduction performance of sows. A. Kroismayr*¹, C. Hsun², M. Racousier³, and T. Steiner³, ¹University of Natural Resources and Applied Life Sciences, Vienna, Austria, ²BIOMIN America Inc, San Antonio, Texas, ³Universidad Mayor, Santiago, Chile, ⁴BIOMIN GmbH, Herzogenburg, Austria.
- Effects of phytobiotics on nursery pig performance. R. C. Sulabo*¹, J. Y. Jacela¹, J. M. DeRouchey¹, M. D. Tokach¹, F. Neher², R. D. Goodband¹, S. S. Dritz¹, and J. L. Nelssen¹, ¹Kansas State University, Manhattan, ²Biomin Inc., San Antonio, TX.
- Dietary supplementation with Acanthopanax Senticosus extracts enhances the digestion and absorption of dietary protein and amino acids in weaned pigs. F. G. Yin*¹, X. F. Kong¹, Y. L. Yin¹, H. J. Liu¹, F. F. Xing¹, Q. H. He¹, T. J. Li¹, R. L. Huang¹, P. Zhang¹, and G. Y. Wu¹², ¹Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, Hunan, China, ²Texas A&M University, College Station.
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Physiology & Endocrinology: Role of Lipids and Fatty Acids in Regulation of Reproductive Function

- The role of omega-3 and -6 fatty acids in regulation of reproductive function in horses. E. L. Squires*, Colorado State University, Fort Collins.
- Addition of protected fat in ewes with different corporal condition on superovulation and conception rate. P. Molina1, T. Sánchez1, O. Mejía2, J. Nuñez2, E. García3, O. D. Montañez-Valdez4, J. Cordero1, J. Peralta1, M. E. Ortega1, R. Nieto2, E. Mendoza1, and R. Avila1, 1Colegio de Postgraduados, Montecillo, Estado de México, México, 2Facultad de Medicina Veterinaria y Zootecnia, UNAM, Tres Marias, Municipio de Huitzilac, México, 3Centro Universitario de la Costa Sur de la Universidad de Guadalajara, Autlán, Jalisco, México, 4Centro Universitario del Sur de la Universidad de Guadalajara, Ciudad Guzmán, Jalisco, México, 5Instituto Tecnológico Agropecuario No.6, Huejutla, Hidalgo, México.
- Dietary omega-3 and omega-6 fatty acids and reproduction in dairy cattle. L. Badinga* and C. Caldari-Torres, University of Florida, Gainesville.
- Reproductive function in dairy cows fed a lipid encapsulated conjugated linoleic acid supplement. G. E. Mann*1, A. L. Lock2, D. E. Bauman3, and N. R. Kendall1, 1University of Nottingham, Sutton Bonington, Loughborough, UK, 2University of Vermont, Burlington, 3Cornell University, Ithaca, NY.
- Dietary lipids and reproduction in beef cattle. R. N. Funston*, University of Nebraska, West Central Research and Extension Center, North Platte.
- The role of dietary omega-3 and omega-6 fatty acids in swine reproduction. S. K. Webel*, J. D. Spencer, and A. M. Gaines, JBS United, Inc., Sheridan, IN.

Poultry-Breeding and Hatchery: Semen Evaluation and Fertility Determination in Poultry

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

Production, Management & Environment: The Evolving National Animal Identification System

- Introductions. J. Paterson, Montana State University, Bozeman.
- Update on the National Animal Identification System. N. Hammerschmidt*, Holstein Association, Brattleboro, VT.
- Issues surrounding existing and potentially disruptive RFID technologies for the identification of food producing animals. D. A. Blasi*, Kansas State University, Manhattan.

Ruminant Nutrition: Corn Milling Co-Products - Dairy (start of an abstract session)

- Introduction to Corn Milling Co-Products (Dairy). P. Kononoff, University of Nebraska, Lincoln.
- Maintaining milk components when feeding co-products of corn ethanol production. L. Armentano*, University of Wisconsin, Madison.

Ruminant Nutrition: Corn Milling Co-Products - Beef (start of an abstract session)

- Introduction to Corn Milling Co-Products (Beef). S. Gunter, University of Arkansas.
- Environmental concerns with feeding corn milling co-products in feedlot diets. T. J. Klopfenstein* and G. E. Erickson, University of Nebraska, Lincoln.
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Ruminant Nutrition: Opportunities to Improve Forage Utilization and Rumen Function

- Introduction to Symposium. D. Bohnert, Oregon State University.
- The role of ionophores in improving utilization of forage and forage-based diets. V. Fellner*, North Carolina State University, Raleigh.
- Lactating dairy cow responses to yeast products. P. H. Robinson*¹ and L. J. Erasmus², ¹University of California, Davis, ²University of Pretoria, Pretoria, South Africa.
- Enzymes to improve forage utilization by ruminants: What's on the horizon. K. A. Beauchemin* and J. -S. Eun, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada.

Sheep: Biology and Management of Low-input Lambing Management in Easy-Care Systems

- Genetic and physiological effects on maternal behavior and lamb survival. C. M. Dwyer*, SAC, Edinburgh, UK.
- Management of maternal-offspring behaviour to improve lamb survival in low input systems. J. Everett-Hincks* and K. Dodds, AgResearch, Invermay Agricultural Centre, Mosgiel, Otago, New Zealand.
- Pasture lambing prolific sheep. J. W. McNally*, Tamarack Lamb & Wool, Hinckley, MN.
- What does it mean to be locally adapted and who cares, anyway? F. D. Provenza*, Utah State University, Logan.

Swine Species: Impact of Season on the Boar and Sow

- Nutritional regimes that may reduce infertility influences of season. O. Peltoniemi*, University of Helsinki, Finland.
- Immunology of heat stress and summer infertility. J. Crenshaw*, APC, Inc., Ankeny, IA.
- Heat stress and management ways to handle heat stress. TBA.

Triennial Growth Symposium: Exploring the interface between growth biology and immunology

- Introduction. N. E. Forsberg*, Oregon State University, Corvallis.
- Welcome from the Sponsors. K. Purser¹ and M. Mirando², ¹Prince-Agri Products, ²USDA-CSREES-NRI.
- Brain-immune-periphery cross talk: Shared signals that link pathogen sensing and growth biology. J. L. Burton*, Michigan State University, East Lansing.
- Integrating the immune system with the regulation of growth and efficiency. M. Spurlock*, Iowa State University, Ames.
- Interleukin-15: A cytokine which modulates fat:lean body composition. L. S. Quinn*¹,², ¹University of Washington, Seattle, ²VA Puget Sound Health Care System, Seattle, WA.
- Regulation of muscle growth by pathogen associated molecules. R. A. Frost* and C. H. Lang, Pennsylvania State University, Hershey.
- Insulin resistance by TNF-alpha in skeletal muscle and fat. M. Lorenzo*, S. Fernandez-Veledo, R. Vilabedmar, L. Garcia-Guerra, and I. Nieto-Vazquez, Biochemistry Department, Pharmacy Faculty, Complutense University, 28040-Madrid, Spain.
- Prolinflammatory changes in adipose tissue: Effects of diet-induced obesity. D. K. Brake, H. Wu, C. M. Ballantyne, and C. W. Smith*, Baylor College of Medicine, Houston, TX.
- Critical control points in the impact of proinflammatory immune response on growth and metabolism. T. H. Elsasser*¹, S. Kahl², and J. L. Sartin², ¹USDA-ARS-Growth Bio Lab, Beltsville, MD, ²Auburn University, Auburn, AL.
- Bi-directional communication: Growth and immunity in domestic animals. J. A. Carroll*, USDA-ARS Livestock Issues Research Unit, Lubbock, TX.

World’s Poultry Science Association Lecture

- Impact on the world poultry industry of the global shift to biofuels. P. Aho, Poultry Perspective, Storrs, CT.
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Teaching Related Symposia
Enhancing the Undergraduate Learning Experience in Animal Agriculture, Through the Integration of Teaching and Research
- Enhancing learning through inquiry. B. Wuetherick*, University of Alberta, Edmonton, Alberta, Canada.
- Why should we integrate our teaching and research? C. Colbeck*, Pennsylvania State University, University Park.
- Integrating research and teaching in an introductory course setting: There's a heifer in your tank. F. E. Robinson*, N. J. Wolanski, B. Wuetherick, and S. Varnhagen, University of Alberta, Edmonton, AB, Canada.
- Integrating research and teaching in a senior course setting. W. L. Hurley*, University of Illinois, Urbana.
- Teaching opportunities for graduate students: Who benefits? N. J. Wolanski* and F. E. Robinson, University of Alberta, Edmonton, Alberta, Canada.
- Researching teaching. C. K. Varnhagen*, University of Alberta, Edmonton, Alberta, Canada.

From Choosing a Graduate Program to Embarking on a Successful Career: A Guide for Livestock and Poultry Science Students
- Choosing a graduate program. D. R. Notter*, Virginia Polytechnic Institute and State University, Blacksburg.
- Opportunities outside of the lab, international experience, networking, and professional societies? J. S. Radcliffe*, Purdue University, West Lafayette, IN.
- The defense is scheduled, now what? A job? S. R. Jordan*, AgriTech Placement LLC.

Swine Undergraduate Teaching Symposium
- Introduction.
- Regionalization of swine teaching efforts. D. J. Meisinger*, US Pork Center of Excellence, Ames, IA.
- Discussion: Create a Library or Depository of Teaching Resources?
- Panel Discussion - W.L. Flowers, R.D. Goodband and T.J. Safranski.
  - Student perceptions of and enrollment in swine management courses at North Carolina State University. W. L. Flowers*, North Carolina State University, Raleigh.
  - A survey of student demographics enrolled in a distance education swine production class. R. D. Goodband* and B. C. Minshal, Kansas State University, Manhattan.
  - Teaching swine production as a capstone experience in the writing intensive curriculum. T. J. Safranski*, University of Missouri, Columbia.

Shaping Animal Sciences Curricula for 2020
- Animal sciences curricula: A historical perspective. J. A. Sterle*, Texas A&M University, College Station.
- Curricular trends: Shifts in traditional animal sciences courses and degree programs. J. C. Swanson* and D. A. Nichols, Kansas State University, Manhattan.
- Thinking outside of the box: Incorporating innovative experiential & inquiry-based learning opportunities. J. N. Spain*, University of Missouri, Columbia.
- Thinking outside the box: Linkages with agencies and educational opportunities for undergraduates and graduate students. M. A. Ottinger*, University of Maryland, College Park.
Visual Learning in Animal Science

- Introductory Remarks.
- The role of the NSF/National Science Digital Library in the dissemination of science, technology, engineering and mathematics information and in support of innovations in teaching and learning. L. Salisbury*1,2, 1University of Arkansas Libraries, Fayetteville, 2National Science Digital Library.
- The importance of images to the pork industry. D. J. Meisinger*, US Pork Center of Excellence, Ames, IA.
- ASAS operational structure for the animal science image gallery. M. C. Wulster-Radcliffe*, American Society of Animal Science, Savoy, IL.
  - The OSU Breeds of Livestock Library. D. S. Buchanan*, Oklahoma State University, Stillwater.
  - Images for animal breeding, archives, extension, and poultry. D. S. Buchanan*1, G. E. Dahl2, J. B. Hess3, and G. K. McConne4, 1Oklahoma State University, Stillwater, 2University of Florida, Gainesville, 3Auburn University, Auburn, AL, 4National Agricultural Library, Beltsville, MD.