

Tuesday, June 5

6:00-9:00 PM **Welcome Reception – Garden Room and Gazebo**
Martha Vogelsang, ESS President, University of Maryland Host Committee

Wednesday, June 6

8:00-8:15 AM **Welcome Address – Hunt & Valley Rooms**
Martha Vogelsang, ESS President, University of Maryland Host Committee

8:15-8:30 AM **Invited Speaker – Hunt & Valley Rooms**
Maryland Secretary of Agriculture – Welcome to Maryland Horse Country

POSTER PRESENTATIONS

Poster Session

Posters are to be set-up by 12:00 noon Wednesday, June 6, 2007 and will remain posted until 12:00 noon June 8, 2007. Authors should be present at their poster June 6 from 5:00-7:00 pm.

Chair: **Dr. Mark Arns, University of Arizona**
Assembly Area - Hunt/Valley

- 1 **Effect of dietary energy source and time of adaptation on glycemic and insulinemic responses to feeding in mature horses.** S. M. Coe*¹, A. M. Coe¹, and S. E. Pratt², ¹Otterbein College, Westerville, OH, ²North Carolina State University, Raleigh, NC.
- 2 **Effects on the equine colon ecosystem following an abrupt change from hay to haylage or silage.** S. Muhonen*¹, V. Julliand², J. E. Lindberg¹, J. Bertilsson¹, and A. Jansson¹, ¹Department of Animal Nutrition and Management, Swedish University of Agricultural Sciences, Uppsala, Sweden, ²ENESAD, Dijon, France.
- 3 **Effect of dietary energy source and time of adaptation on muscle glycogen concentrations in horses.** A. M. Coe*¹, S. M. Coe¹, and S. E. Pratt², ¹Otterbein College, Westerville, OH, ²North Carolina State University, Raleigh, NC.
- 4 **The effect of milk basic protein supplementation on bone metabolism in mature horses.** Y. Inoue*¹, M. Kobayashi², K. Ando², Y. Toba³, A. Serizawa⁴, and Y. Asai¹, ¹Equine Science Division, Hidaka Training and Research Center, Japan Racing Association, Urakawa-gun, Hokkaido, Japan, ²Blood Horse Training Center, Urakawa-gun, Hokkaido, Japan, ³Functional Products Business Development, Snow Brand Milk Products Co. Ltd., Shinjuku-ku, Tokyo, Japan, ⁴Technology and Research Institute, Snow Brand Milk Products Co. Ltd., Kawagoe-shi, Saitama, Japan.
- 5 **Evaluating the technique of using nitrogen retention as a response criterion for amino acid studies in the horse.** T. J. Antilley, G. D. Potter, P. G. Gibbs, B. D. Scott, E.M. Eller*, and L.D. Claborn, Texas A&M University, College Station, TX.
- 6 **Effect of organic minerals (amino acid binded minerals) supplementation on bone development in yearling horses.** H. Takakuwa*¹, Y. Inoue², Y. Hatano¹, M. Kobayashi³, K. Ando³, and Y. Asai², ¹R&D Centre, NOSAN Corporation, Tsukuba, Ibaraki, Japan, ²Hidaka Training and Research Centre, Urakawa-gun, Hokkaido, Japan, ³Blood Horse Training Center, Urakawa-gun, Hokkaido, Japan.
- 7 **Growth performance of Draft Cross weanlings fed forage based total mixed ration cubes versus traditional hay/grain rations.** S. L. Ralston*¹, H. Anderson², and R. Johnson³, ¹Rutgers, the State University of New Jersey, New Brunswick, NJ, ²Idleacres, Cokato, MN, ³Nutrena, Minnetonka, MN.
- 8 **Glycemic responses of mature mares to a reduced-starch concentrate.** B. D. Cassill*, S. H. Hayes, J. E. Ringler, C. J. Stine, K. C. Watson, and L. M. Lawrence, University of Kentucky, Lexington, KY.
- 9 **Effects of supra-dietary concentrations of *Saccharomyces cerevisiae* CBS 493-94 on growth and health of foals, around the weaning period.** J. Gobert*¹, G. Bertin², and V. Julliand¹, ¹ENESAD, Dijon, France, ²ALLTECH, Levallois-Perret, France.
- 10 **Clearance of omega-3 fatty acids from plasma and erythrocyte membranes following dietary fatty acid supplementation.** K. R. Vineyard*, L. K. Warren, and J. Kivipelto, Department of Animal Sciences, University of Florida, Gainesville, FL.
- 11 **Net joint moments and powers of the flat walk and fox trot of the Missouri Fox Trotter.** M. Nicodemus* and K. Slater, Mississippi State University, Mississippi State, MS.
- 12 **Comparisons of the Arabian Hunter and Country English Pleasure trot temoral variables.** M. Nicodemus* and K. Slater, Mississippi State University, Mississippi State, MS.
- 13 **Effect of a new electrolyte supplement on plasma tCO₂ concentration in standardbred horses subjected to a simulated race test.** J. G. Milizio¹, T. J. Caltablot¹, S. R. Malone*¹, R. W. Miller², and K. H. McKeever¹, ¹Equine Science Center, Department of Animal Science, Rutgers the State University of New Jersey, New Brunswick, NJ, ²Alpharma, Inc., Fort Lee, NJ.
- 14 **Linear and temporal kinematics of the walk in suckling and weanling warmblood foals.** S. F. Denham*, W. B. Staniar, and R. K. Splan, Virginia Polytechnic Institute and State University, Blacksburg, VA.
- 15 **Evaluation of indicators of weight carrying ability of light horses.** D. Powell*¹, K. Bennett-Wimbush¹, A. Peebles¹, and M. Duthie², ¹The Ohio State University Agriculture Technical Institute, Wooster, OH, ²Annisage, Medina, OH.

- 16 **Determination of critical LH concentration for ovulation induction in mares.** K. Doyle*, K. Kline, P. Dziuk, and J. Bahr, *University of Illinois, Urbana, IL.*
- 17 **Mare fertility following transport and separation from foal.** A. J. Cawdell-Smith¹, K. M. Burey¹, W. L. Bryden*¹, and N. R. Perkins², ¹*University of Queensland, Gatton, Qld, Australia,* ²*AusVet Animal Health Services, Toowoomba, Qld, Australia.*
- 18 **Investigation of the relationship of body temperature, serum estradiol, and serum progesterone to the onset of parturition in the mare.** S. C. Morgan¹, M. M. Vogelsang¹, M. C. Bowman*¹, B. D. Scott¹, E. M. Eller¹, P. G. Gibbs¹, K. Hinrichs², and K. Owen³, ¹*Department of Animal Science, Texas A&M University, College Station, TX,* ²*Department of Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX,* ³*Electronic ID, Inc., Cleburne, TX.*
- 19 **Comparison of biological responses to injections of estradiol benzoate in oil, estradiol benzoate in biodegradable microspheres, and estradiol cypionate in geldings.** D. L. Thompson, Jr.*¹, P. B. Mitcham¹, M. L. Runles¹, P. J. Burns², and R. M. Gilley³, ¹*School of Animal Sciences, Louisiana Agricultural Experiment Station, LSU Agricultural Center, Baton Rouge, LA,* ²*Burns BioSolutions, Lexington, KY,* ³*BioRelease Technologies, Birmingham, AL.*
- 20 **Rotational grazing of mixed grass/legume pasture in south central Missouri.** G. W. Webb*, S. P. Webb, and W. D. Walker, *Missouri State University, Springfield, MO.*
- 21 **Equine vocalization project (EVP): Mare-foal separation whinnies.** D. Browning*¹, J. Nadeau², P. Scheifele², and J. Dinger², ¹*Browning Biotech, Kingston, RI,* ²*Univ. of Connecticut, Storrs, CT.*
- 22 **Commercial trail riding industry's impact on the economy of south central Missouri.** K. E. Welker*, A. Rimal, and G. Webb, *Missouri State University, Springfield, MO.*
- 23 **Global positioning systems: A tool for quantifying distance, speed, and position in grazing horses.** C. C. Clingman*^{1,2}, W. B. Staniar^{1,2}, T. L. Smith^{1,2}, and B. J. McIntosh^{1,2}, ¹*Virginia Tech, Blacksburg, VA,* ²*Middleburg Agricultural Research and Extension Center, Middleburg, VA.*
- 24 **Feeding practices of hunter/jumper horses in the Midatlantic region of the United States.** P. M. Graham-Thiers*, *Virginia Intermont College, Bristol, VA.*
- 25 **Simultaneous measurement of neutrophil phagocytosis and oxidative burst activity by flow cytometric evaluation in equine whole blood.** K. R. Vineyard*¹, P. C. Crawford², and L. K. Warren¹, ¹*Department of Animal Sciences, University of Florida, Gainesville, FL,* ²*Department of Small Animal Clinical Sciences, University of Florida, Gainesville, FL.*
- 26 **Plasma concentrations of bone biochemical markers, insulin-like growth factor-I, leptin and metacarpal ultrasound speed in lusitano suckling foals: A preliminary study.** M. J. Fradinho*¹, L. Mateus¹, R. Agrícola², M. J. Correia³, M. J. C. Vila-Viçosa⁴, R. M. Caldeira¹, and G. Ferreira-Dias¹, ¹*CIISA, Faculdade de Medicina Veterinária, Lisbon, Portugal,* ²*Coudelaria Nacional, Fonte Boa, Portugal,* ³*Coudelaria de Alter, Alter do Chão, Portugal,* ⁴*Departamento de Medicina Veterinária, Universidade de Évora, Évora, Portugal.*
- 27 **Shackleford Banks wild ponies: A nutritional survey.** C. B. Bradshaw*¹, S. Stuska², and M. J. Yoder¹, ¹*North Carolina State University, Raleigh, NC,* ²*National Park Service, Cape Lookout National Sea Shore, Harkers Island, NC.*
- 28 **Creating a niche market in an undergraduate equine science program.** R. K. Splan* and E. A. Dunnington, *Virginia Polytechnic Institute and State University, Blacksburg, VA.*
- 29 **Defining the consumer profile of the adult horse enthusiast in Michigan.** C. Skelly*, K. Waite, M. ZumBrunnen, C. Geith, and M. Suvedi, *Michigan State University, East Lansing, MI.*
- 30 **Australian equine science symposium: An overview.** W. L. Bryden*¹, T. E. Broad^{2,1}, A. J. Cawdell-Smith¹, M. N. Sillence³, N. R. Perkins⁴, and D. R. Hodgson⁵, ¹*University of Queensland, Gatton, Qld, Australia,* ²*Atawhai, Nelson, New Zealand,* ³*Charles Sturt University, Wagga Wagga, NSW, Australia,* ⁴*AusVet Animal Health Services, Toowoomba, Qld, Australia,* ⁵*University of Sydney, Camden, NSW, Australia.*
- 31 **An applied approach to the study of equine anatomy.** C. Buckhout*, *Cazenovia College, Cazenovia, NY.*
- 32 **Appraisal of critical thinking skills in animal science students.** L. M. Morgan*, *Clemson University, Clemson, SC.*
- 33 **Educational value of two teaching approaches for improved knowledge of youth leaders and team coaches.** C. A. Cavinder*, P. G. Gibbs, and T. J. Antilley, *Texas A&M University, College Station, TX.*
- 34 **Measuring the impact of a horse judging short course.** R. A. Mowrey*, *North Carolina Cooperative Extension Service, North Carolina State University, Raleigh, NC.*
- 35 **Equine behavior and training manual needs assessment study.** L. M. McKenzie* and N. E. Jack, *University of Arkansas, Fayetteville, AR.*
- 36 **Preparing underrepresented equine science students for success.** J. Pendergraft*, *Sul Ross State University, Alpine, TX.*
- 37 **Direct economic impact of the Missouri Fox Trotter Show and Celebration in Douglas County, Missouri.** J. Deutsch, G. Webb*, and A. Rimal, *Missouri State University, Springfield, MO.*
- 38 **Evaluation of light horses grazing stockpiled tall fescue pasture.** S. M. Jones*, J. A. Jennings, M. S. Gadberry, D. Griffin, and D. Kratz, *University of Arkansas, Cooperative Extension Service, Little Rock, AR.*

SYMPOSIA AND ORAL SESSIONS

Nutrition

Graduate Competition

Chair: Dr. Steven Cooper,

Oklahoma State University

Hunt Ballroom

- 9:00 AM 39 **Nutritional effects on insulin sensitivity and glucose dynamics in pregnant and non-pregnant mares.** L. A. George*^{1,2}, W. B. Staniar^{1,2}, T. A. Cubitt^{1,2}, K. H. Treiber^{1,2}, P. A. Harris³, and R. J. Geor^{1,2}, ¹Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg, VA, ²Middleburg Agricultural Research and Extension Center, Middleburg, VA, ³Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom.
- 9:15 AM 40 **Insulin sensitivity and glucose dynamics in foals as influenced by age and maternal diet during gestation.** L. A. George*^{1,2}, W. B. Staniar^{1,2}, K. H. Treiber^{1,2}, P. A. Harris³, and R. J. Geor^{1,2}, ¹Virginia Tech, Blacksburg, VA, ²Middleburg Agricultural Research and Extension Center, Middleburg, VA, ³Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom.
- 9:30 AM 41 **Effects of direct-fed microbial supplementation on digestibility and fermentation end-products in horses fed low- and high-starch concentrates.** K. L. Swyers*¹, A. O. Burk¹, T. G. Hartsock¹, E. M. Ungerfeld¹, and J. L. Shelton², ¹University of Maryland, College Park, MD, ²Cargill Animal Nutrition, Innovation Center, Elk River, MN.
- 9:45 AM 42 **Effect of weight gain and diet on insulin sensitivity in thoroughbred geldings.** R. W. Quinn*¹, A. O. Burk¹, T. G. Hartsock¹, K. H. Treiber², and R. C. Boston³, ¹University of Maryland, College Park, MD, ²Virginia Polytechnic and State University, Blacksburg, VA, ³University of Pennsylvania, Kennett Square, PA.
- 10:00 AM 43 **Effect of n-3 pufas on markers of inflammation in arthritic horses.** D. R. Manhart*¹, B. D. Scott¹, E. M. Eller¹, C. M. Honnas², D. M. Hood³, J. A. Coverdale¹, and P. G. Gibbs¹, ¹Department of Animal Science, Texas A&M University, College Station, TX, ²Large Animal Veterinary Hospital, Texas A&M University, College Station, TX, ³Veterinary Physiology and Pharmacology Department, College of Veterinary Medicine, Texas A&M University, College Station, TX.
- 10:15 AM 44 **Effect of fish oil supplementation on neutrophil function and antibody production in yearling horses.** K. R. Vineyard*¹, L. K. Warren¹, S. K. Webel², and J. Kivipelto¹, ¹Department of Animal Sciences, University of Florida, Gainesville, FL, ²JBS United, Inc., Sheridan, IN.
- 10:30 AM **Break.**
- 10:45 AM 45 **Downregulation of cyclooxygenase-2 expression and prostaglandin-e2 expression production in equine chondrocytes and osteoblasts by avocado soybean unsaponifiables, glucosamine, and chondroitin sulfate.** A. Y. Au*^{1,2}, R. Y. Au¹, A. M. Rashmir-Raven³, and C. G. Frondoza^{1,4}, ¹Nutramax Laboratories, Inc., Edgewood, MD, ²Syracuse University, Syracuse, NY, ³Mississippi State University, Mississippi State, MS, ⁴Johns Hopkins University, Baltimore, MD.
- 11:00 AM 46 **Plant factors affecting preference of horses for cool season grasses.** K. Watson*, S. Smith, Jr., and L. Lawrence, University of Kentucky, Lexington, KY.
- 11:15 AM 47 **Effects of diet and weight gain on body condition score in mature thoroughbred geldings.** J. K. Suagee*, A. O. Burk, R. W. Quinn, T. G. Hartsock, E. D. Petersen, and L. W. Douglass, University of Maryland, College Park, MD.
- 11:30 AM 48 **In vitro inhibition of growth of Escherichia coli, Salmonella Typhimurium, and Clostridia perfringens using probiotics.** B. L. Darby*¹, G. L. Heusner¹, A. C. Murry, Jr.¹, A. Hinton, Jr.², M. H. Barton³, and R. A. Fayrer-Hosken³, ¹Department of Animal and Dairy Science, University of Georgia, Athens, GA, ²Poultry Processing Unit, Agricultural Research Service, USDA, Athens, GA, ³College of Veterinary Medicine, University of Georgia, Athens, GA.
- 11:45 AM 49 **Hydration status of horses during endurance exercise as affected by dietary fiber type.** H. S. Spooner*¹, B. D. Nielsen¹, P. A. Harris², A. D. Woodward¹, S. W. Eberhart³, and H. C. Schott II³, ¹Department of Animal Science, Michigan State University, East Lansing, MI, ²Equine Studies Group, WALTHAM Centre for Pet Nutrition, Leics, United Kingdom, ³Department of Large Animal Clinical Sciences, Michigan State University, East Lansing, MI.
- 12:00 PM **Lunch Break.**

Production and Management

Graduate Competition

Chair: Dr. Arno Lindner, Arbeitsgruppe Pferd

Salon A

- 9:00 AM 50 **Comparison of different management techniques on hay wastage in horses fed coastal bermudagrass round baled hay.** W. C. Golden*¹, K. R. Wilson¹, and M. L. McMillan², ¹Department of Animal and Food Sciences, Texas Tech University, Lubbock, TX, ²Department of Agricultural Sciences, Sam Houston State University, Huntsville, TX.
- 9:15 AM 51 **On farm composting of horse stall materials: Effect of carbon:nitrogen ratio and bedding type.** S. C. Dilling* and L. K. Warren, University of Florida, Gainesville, FL.
- 9:30 AM 52 **The effects of various co-composting materials on the decomposition of equine carcasses.** L. C. Brown*¹, L. A. Baker¹, B. W. Auvermann², K. B. Heflin², and J. L. Pipkin¹, ¹West Texas A&M University, Canyon, TX, ²Texas Cooperative Extension, Amarillo, TX.

- 9:45 AM 53 **Effects of Ractopamine HCl on physical and reproductive parameters in the horse.** R. D. Kriewald*¹, M. M. Vogelsang¹, B. D. Scott¹, P. G. Gibbs¹, E. M. Eller¹, J. A. Sterle¹, and R. L. Walzem², ¹*Department of Animal Science, Texas A&M University, College Station, TX*, ²*Department of Poultry Science, Texas A&M University, College Station, TX.*
- 10:00 AM 54 **Variation of cribbing frequency with altered feeding schedules.** W. H. Brown*¹, C. A. McCall¹, W. H. McElhenney², and T. R. Fenn¹, ¹*Auburn University, Auburn University, AL*, ²*Ceres Farm, Notasulga, AL.*
- 10:15 AM 55 **Synovial fluid and plasma insulin-like growth factor I (IGF-I) in growing Thoroughbred horses.** R. S. Cosden*^{1,2}, W. B. Staniar^{1,2}, J. A. Brown³, and P. A. Harris⁴, ¹*Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg, VA*, ²*Middleburg Agricultural Research and Extension Center, Middleburg, VA*, ³*Marion DuPont Scott Equine Medical Center, Virginia-Maryland Regional College of Veterinary Medicine, Leesburg, VA*, ⁴*Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom.*
- 10:30 AM **Break.**
- 10:45 AM 56 **Comparison of thoroughbred growth data to body weights predicted by the NRC.** J. E. Ringler* and L. M. Lawrence, *University of Kentucky, Lexington, KY.*
- 11:00 AM 57 **Standardized scoring systems and morphometric measurements to assess adiposity in horses and ponies.** R. A. Carter*^{1,2}, T. A. Cubitt^{1,2}, W. B. Staniar^{1,2}, P. A. Harris³, and R. J. Geor^{1,2}, ¹*Virginia Tech, Blacksburg, VA*, ²*Middleburg Agricultural Research and Extension Center, Middleburg, VA*, ³*Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom.*

Reproductive Physiology

Graduate Competition

Chair: **Dr. Don Thompson,**

Louisiana State University

Valley Ballroom

- 9:00 AM 58 **Glucose and insulin dynamics during the estrous cycle of Thoroughbred mares.** T. A. Cubitt*^{1,2}, L. A. George^{1,2}, W. B. Staniar^{1,2}, P. A. Harris³, and R. J. Geor^{1,2}, ¹*Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg, VA*, ²*Middleburg Agricultural Research and Extension Center, Middleburg, VA*, ³*Equine Studies Group, WALTHAM, Centre for Pet Nutrition, Melton Mowbray, United Kingdom.*
- 9:15 AM 59 **Characterization of equine umbilical cord blood-derived stem cells.** S. A. Reed* and S. E. Johnson, *University of Florida, Gainesville, FL.*
- 9:30 AM 60 **Superovulation in the mare: Evaluation of an eFSH 'step down' technique and ovulation inducing agents.** M. L. Patten*, D. J. Denniston, C. Magee, J. E. Bruemmer, P. M. McCue, and E. L. Squires, *Equine Reproduction Lab, Colorado State University, Fort Collins, CO.*
- 9:45 AM 61 **Immunohistochemical localization of the dopamine D2 receptor in ovarian tissues during anestrus and cyclicity.** D. T. Heath*, C. M. Welsh, K. L. Jones, and S. S. King, *Southern Illinois University, Carbondale, IL.*
- 10:00 AM 62 **Immunohistochemical identification of dopaminergic and adrenergic nerves in the equine ovary.** C. M. Welsh*, D. T. Heath, K. L. Jones, and S. S. King, *Southern Illinois University, Carbondale, IL.*
- 10:15 AM **Break.**

Undergraduate Competition

Chair: **Dr. Bill Schurg,**

University of Arizona

Salon C

- 9:00 AM 63 **The effects of b-carotene supplementation on vitamin levels of horses.** J. W. Lee* and C. A. Williams, *Department of Animal Sciences, School of Environmental and Biological Sciences, Rutgers, the State University of New Jersey, New Brunswick, NJ.*
- 9:15 AM 64 **The effects of a supplemental antioxidant mixture on exercising standardbred mares.** S. Cruz* and C. A. Williams, *Department of Animal Sciences, School of Environmental and Biological Sciences, Rutgers, the State University of New Jersey, New Brunswick, NJ.*
- 9:30 AM 65 **Effects of feeding distillers dried grains with solubles on growth and feed efficiency of weanling horses.** T. A. Bonoma*, A. C. Brogren, K. H. Kline, and K. M. Doyle, *Department of Animal Sciences, University of Illinois, Urbana, IL.*
- 9:45 AM 66 **Effect of dietary omega-3 fatty acid supplementation on vitamin E status and lipid peroxidation in growing horses.** S. White*, L. K. Warren, K. R. Vineyard, and J. Kivipelto, *University of Florida, Gainesville, FL.*
- 10:00 AM 67 **Effect of dietary capsaicin on immune function and health of horses.** S. N. Hardin*, L. B. Potts, J. W. Waggoner, and J. L. Turner, *New Mexico State University, Las Cruces, NM.*
- 10:15 AM 68 **Nitric oxide concentration in plasma and synovial fluid of intensely exercising horses.** J. R. DeWitt*, E. D. Lamprecht, and C. A. Williams, *Department of Animal Sciences, Equine Science Center, Rutgers, the State University of New Jersey, New Brunswick, NJ.*
- 10:30 AM **Break.**

- 10:45 AM 69 **Sucralfate® does not affect plasma total carbon dioxide concentration in horses subjected to a simulated race test.** T. J. Caltabilota*¹, J. G. Milizio¹, S. R. Malone¹, J. Kenney², and K. H. McKeever¹, ¹*Equine Science Center, Department of Animal Science, Rutgers the State University of New Jersey, New Brunswick, NJ*, ²*Kenney and Ketner, DVMs, L.L.C., Colts Neck, NJ*.
- 11:00 AM 70 **The effect of concentration on the motility of cooled stallion semen.** W. B. French*, J. D. LeClair, K. Hurley, P. D. Moffett, and J.E. Bruemmer, *Colorado State University, Fort Collins, CO*.

Exercise Physiology

Graduate Competition

Chair: **Dr. Joe Pagan,**
Kentucky Equine Research, Inc.
Valley Ballroom

- 10:45 AM 71 **Endurance training has little impact on mineral content of the third metacarpus in two-year-old Arabian horses.** A. D. Woodward*¹, B. D. Nielsen¹, H. S. Spooner¹, H. C. Schott II², P. A. Harris³, and D. S. Rosenstein², ¹*Department of Animal Science, Michigan State University, East Lansing, MI*, ²*Large Animal Clinical Science, Michigan State University, East Lansing, MI*, ³*Equine Studies Group, WALTHAM Centre for Pet Nutrition, Leics, United Kingdom*.
- 11:00 AM 72 **Proliferative effects of bovine mammary lymph node proteins on equine chondrocytes *in vitro*.** A. Reed*¹, L. Riggs², and S. Ellis¹, ¹*Clemson University, Clemson, SC*, ²*University of Georgia, Athens, GA*.
- 11:15 AM 73 **Validation of a three dimensional motion capture system for use in identifying characteristics of the running walk.** P. Roberson*, S. Zhang, and C. Kojima, *University of Tennessee, Knoxville, TN*.
- 11:30 AM 74 **Inflammatory responses to three modes of intense exercise in standardbred mares.** E. D. Lamprecht*, C. A. Bagnell, and C. A. Williams, *Department of Animal Sciences, Equine Science Center, Rutgers, the State University of New Jersey, New Brunswick, NJ*.

Teaching and Extension

Graduate Competition

Chair: **Dr. Gary Heusner, University of Georgia**
Salon A

- 11:30 AM 75 **The effect of a horse oriented curriculum on academic engagement in students with disabilities.** L. A. Bassette*, S. Templin, A. M. Beck, M. A. Russell, and C. M. Brady, *Purdue University, West Lafayette, IN*.
- 11:45 AM 76 **Economic and demographic survey of equine embryo transfer.** A. J. Love*, L. A. Baker, J. L. Pipkin, and T. L. Kieth, *Equine Industry Program, West Texas A&M University, Canyon, TX*.

Nutrition I

Chair: **Dr. Sara Ralston,**
Rutgers University Cook College
Hunt Ballroom

- 1:00 PM 77 **Comparison of hulless barley with crimped oats as carbohydrate sources in equine feeds.** W. B. Staniar*^{1,2}, W. E. Thomason¹, R. J. Geor^{1,2}, D. S. Kronfeld^{1,2}, and T. L. Smith², ¹*Virginia Tech, Blacksburg, VA*, ²*Middleburg Agricultural Research and Extension Center, Middleburg, VA*.
- 1:15 PM 78 **The effects of feed form on consumption time and glucose and insulin response to a concentrate meal.** M. Gordon*, M. Jerina, R. Raub, K. Davison, K. Young, and S. King, *Land O' Lakes, Purina Feed, St. Louis, MO*.
- 1:30 PM 79 **Circadian and seasonal fluctuations of glucose and insulin concentrations in grazing horses.** B. McIntosh*^{1,2}, D. Kronfeld^{1,2}, R. Geor^{1,2}, W. Staniar^{1,2}, A. Longland³, L. Gay^{1,2}, D. Ward⁴, and P. Harris⁵, ¹*Virginia Tech, Blacksburg, VA*, ²*Middleburg Agricultural Research and Extension Center, Middleburg, VA*, ³*Equine Nutrition Consultant, Aberystwyth, Wales, United Kingdom*, ⁴*Rutgers Agricultural Research and Extension Center, Bridgeton, NJ*, ⁵*Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom*.
- 1:45 PM 80 **Circadian and seasonal patterns in forage nonstructural carbohydrate content.** B. McIntosh*^{1,2}, D. Kronfeld^{1,2}, R. Geor^{1,2}, W. Staniar^{1,2}, J. Chatterton³, P. Harrison³, A. Longland⁴, O. Abaye¹, D. Ward⁵, and P. Harris⁶, ¹*Virginia Tech, Blacksburg, VA*, ²*Middleburg Agricultural Research and Extension Center, Middleburg, VA*, ³*USDA-ARS Forage and Range Research Laboratory, Utah State University, Logan, UT*, ⁴*Equine Nutrition Consultant, Aberystwyth, Wales, United Kingdom*, ⁵*Rutgers Agricultural Research and Extension Center, Bridgeton, NJ*, ⁶*Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom*.
- 2:00 PM 81 **Evaluation of inflammatory markers in yearlings fed various sources of polyunsaturated fatty acids.** T. N. Ross*¹, G. D. Potter¹, E. M. Eller¹, B. D. Scott¹, P. G. Gibbs¹, and H. W. Sampson², ¹*Department of Animal Science, Texas A&M University, College Station, TX*, ²*Department of Systems Biology & Translational Medicine, Texas A&M University, College Station, TX*.

2:15 PM 82 **The role of insulin resistance in carbohydrate-sensitive versus stress-induced laminitis.** R. M. Hoffman^{*1}, J. C. Haffner¹, H. Eiler², and K. Fecteau², ¹*School of Agribusiness and Agriscience, Middle Tennessee State University, Murfreesboro, TN*, ²*College of Veterinary Medicine, The University of Tennessee, Knoxville, TN*.

2:30 PM **Break.**

Production and Management I
Chair: **Dr. Randy Robbins, Hi Pro Feeds**
Valley Ballroom

1:00 PM 83 **Evaluation of composed horse manure as a slow-release fertilizer and soil amendment for Florida pastures.** S. C. Dilling^{*}, L. K. Warren, and A. S. Peters, *University of Florida, Gainesville, FL*.

1:15 PM 84 **Evaluation of a novel aspen and wheat pelleted horse bedding product.** J. Thorson^{*} and C. Hammer, *North Dakota State University, Fargo, ND*.

1:30 PM 85 **Characteristics of soil and newly established bahiagrass forage in response to soil incorporation of unprocessed or composted horse stall materials.** S. C. Dilling^{*}, L. K. Warren, and A. S. Peters, *University of Florida, Gainesville, FL*.

1:45 PM 86 **Evaluation of criteria for pre-laminitic metabolic syndrome.** R. A. Carter^{*1,2}, K. H. Treiber^{1,2}, P. A. Harris³, and R. J. Geor^{1,2}, ¹*Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg, VA*, ²*Middleburg Agricultural Research and Extension Center, Middleburg, VA*, ³*Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom*.

2:00 PM 87 **Oxidative stress and inflammatory markers in laminitis-prone ponies.** K. H. Treiber^{*1,2}, R. A. Carter^{1,2}, L. A. Gay^{1,2}, C. A. Williams³, and R. Geor^{1,2}, ¹*Virginia Tech, Blacksburg, VA*, ²*Middleburg Agricultural Research and Extension Center, Middleburg, VA*, ³*Rutgers, New Brunswick, NJ*.

2:15 PM 88 **Evaluation of 6-way rotational regimen on a previously documented fenbendazole-resistant farm.** H. A. Brady^{*1}, W.T. Nichols², L. B. Bailey¹, K. R. Wilson¹, and S. P. Jackson¹, ¹*Texas Tech University, Lubbock, TX*, ²*Intervet, Millsboro, DE*.

2:30 PM **Break.**

Teaching and Extension I
Chair: **Dr. Shea Porr,**
Virginia Cooperative Extension
Salon A

1:00 PM 89 **Students can gain more from colt classes than just horse training skills: A pilot study.** P. Evans^{*1}, L. Gagnon², D. Barnett³, and L. Sullivan¹, ¹*Utah State University, Logan, UT*, ²*Montana State University, Bozeman, MN*, ³*Murray State University, Murray, KY*.

1:15 PM 90 **The study of comparative equine behavior at the undergraduate level.** K. Bump^{*}, *Cazenovia College, Cazenovia, NY*.

1:30 PM 91 **Undergraduate horse industry study tour enhances experiential learning.** K. P. Anderson^{*}, *University of Nebraska, Lincoln, NE*.

1:45 PM 92 **Examining equine welfare issues and teaching natural horsemanship through observational experimentation.** S. S. King^{*}, *Southern Illinois University, Carbondale, IL*.

2:00 PM 93 **An assessment of the needs and perceptions of the Florida horse owner and the UF/IFAS Extension Adult Horse Program.** K. M. Wilson^{*1}, S. H. TenBroeck², and G. D. Israel², ¹*University of Maryland, College Park, MD*, ²*University of Florida, Gainesville, FL*.

2:15 PM 94 **Selected potential employers assessment of curriculum competencies taught in the D. E. King Equine Program at the University of Arkansas.** K. S. Jogan^{*}, D. R. Herring, and N. E. Jack, *University of Arkansas, Fayetteville, AR*.

2:30 PM **Break.**

Reproductive Physiology
Invited Speaker
Chair: **Dr. Don Thompson,**
Louisiana State University
Hunt Ballroom

3:00 PM Dr. Larry Johnson, Texas A & M University.

Thursday, June 7
SYMPOSIA AND ORAL SESSIONS

Production and Management

Invited Speaker

Chair: **Dr. Randy Robbins, Hi Pro Feeds**
Hunt Ballroom

8:00 AM Dr. Matthew Gibbons, Dakota Gold.

Nutrition II

Chair: **Dr. Burt Staniar, Middleburg Agricultural Research & Extension Center**
Hunt Ballroom

- 9:00 AM 95 **Relationships between diet, plasma and muscle amino acids in horses in maintenance and horses in early lactation.** P. M. Graham-Thiers*¹ and J. A. Wilson², ¹Virginia Intermont College, Bristol, VA, ²Berry College, Mount Berry, GA.
- 9:15 AM 96 **Relationships between diet, plasma and muscle amino acids in horses in maintenance and horses in weanling growth.** P. M. Graham-Thiers*¹ and J. A. Wilson², ¹Virginia Intermont College, Bristol, VA, ²Berry College, Mount Berry, GA.
- 9:30 AM 97 **Potassium-free electrolytes affect plasma calcium during exercise.** T. M. Hess*^{1,2}, J. E. Waldron³, K. H. Treiber¹, R. A. Carter¹, T. L. Smith¹, L. Gay¹, M. Sleeper⁴, P. A. Harris⁵, and D. S. Kronfeld¹, ¹Virginia Polytechnic Institute and State University, Blacksburg, VA, ²Universidade Federal Rural do Rio de Janeiro, Seropédica, RJ, Brazil, ³Rectortown Equine Center, Rectortown, VA, ⁴University of Pennsylvania, Philadelphia, PA, ⁵Equine Studies Group-WALTHAM Centre for Pet Nutrition, Melton Mowbray, United Kingdom.
- 9:45 AM 98 **Calcium digestibility in exercised yearling stallions fed calcium carbonate or calcium proteinate.** L. A. Baker¹, T. K. Moss*¹, J. L. Pipkin¹, and J. T. Haliburton², ¹Department of Agricultural Science, West Texas A&M University, Canyon, TX, ²Texas Veterinary Medical Diagnostic Laboratory, Amarillo, TX.

Production and Management II

Chair: **Dr. Judy Wilson, Berry College**
Valley Ballroom

- 9:00 AM 99 **Evaluation of electroporatic plasmid delivery for hormone production in horses.** W. A. Storer*¹, D. L. Thompson, Jr.¹, K. R. Bondioli¹, A. S. Khan², P. A. Brown², and R. Draghia-Alki², ¹School of Animal Sciences, Louisiana Agricultural Experiment Station, LSU Agricultural Center, Baton Rouge, LA, ²ADViSYS, Inc., Woodlands, TX.
- 9:15 AM 100 **Skeletal adaptations with the onset of training in thoroughbreds.** J. D. Pagan*, L. A. Lawrence, and D. Nash, Kentucky Equine Research, Inc., Versailles, KY.
- 9:30 AM 101 **Growth patterns in Lusitano foals: Evaluation from birth to weanling.** M. J. Fradinho*¹, R. Agrícola², M. J. Correia³, M. J. C. Vila-Viçosa⁴, M. F. Silva¹, G. Ferreira-Dias¹, and R. M. Caldeira¹, ¹CIISA, Faculdade de Medicina Veterinária, Lisboa, Portugal, ²Coudelaria Nacional, Fonte Boa, Portugal, ³Coudelaria de Alter, Alter do Chão, Portugal, ⁴Departamento de Medicina Veterinária, Universidade de Évora, Évora, Portugal.
- 9:45 AM 102 **The relationship between size at yearling sale, sale price and future racing performance in Kentucky Thoroughbreds.** C. G. Brown-Douglas*¹, J. D. Pagan¹, A. Koch², and S. Caddel², ¹Kentucky Equine Research, Versailles, KY, ²Farmers Feed Mill, Lexington, KY.
- 10:00 AM 103 **Effects of sire and growth rate on the incidence of radiographic abnormalities in Standardbred weanlings.** K. H. Kline*¹, E. W. Johnson¹, R. C. Avenatti¹, P. R. Kapraun², and K. L. Walker¹, ¹University of Illinois, Urbana, IL, ²Harvard Equine Practice, Harvard, IL.
- 10:15 AM 104 **Growth and conformation changes in warmblood horses from birth to two years of age.** R. K. Splan*, W. B. Staniar, and S. F. Denham, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Teaching and Extension II

Chair: **Dr. Jenifer Nadeau,**
University of Connecticut
Salon A

- 9:00 AM 105 **Profile of medal Maclay finalists at the Syracuse Invitational Sport Horse Tournament.** K. Bump*¹ and T. Williams², ¹Cazenovia College, cazenovia, NY, ²Morrisville State College, Morrisville, NY.
- 9:15 AM 106 **Can a university produced horse camp for children be considered a recruiting tool for animal science?** K. S. Jogan*, N. E. Jack, and D. R. Herring, University of Arkansas, Fayetteville, AR.
- 9:30 AM 107 **Impacts of an EHV-1 outbreak on teaching, research and extension programs: Is your college or university prepared?** J. Nadeau*¹, A. Sanchez², S. Bushmich¹, and J. Dinger¹, ¹University of Connecticut, Storrs, CT, ²Tufts University School of Veterinary Medicine, Grafton, MA.

- 9:45 AM 108 **Teaching undergraduate students events management through a hands on experience at a national level horse show.** A. M. Swinker*, *Penn State University, University Park, PA.*
- 10:00 AM 109 **New horse owners benefit from Equestrian Academy.** K. P. Anderson*, *University of Nebraska, Lincoln, NE.*
- 10:15 AM 110 **Leveraging equine expertise for an internet environment.** E. A. Greene*¹ and A. S. Griffin², ¹*University of Vermont, Burlington, VT,* ²*University of Kentucky, Lexington, KY.*

Nutrition

Invited Speaker

Chair: **Dr. Steven Cooper,**
Oklahoma State University
Hunt Ballroom

- 10:45 AM Dr. Mike Davis, Oklahoma State University.

Friday, June 8

Nutrition III

Chair: **Dr. Judy Reynolds,**
ADM Alliance Nutrition
Hunt Ballroom

- 9:00 AM 111 **Obligatory and fecal nitrogen losses in adult horses.** N. L. Trottier* and C. L. Wickens, *Michigan State University, East Lansing, MI.*
- 9:15 AM 112 **Effect of ingestion of endophyte infested fescue on post exercise recovery of horses.** G. W. Webb*, S. P. Webb, and R. A. Humes, *Missouri State University, Springfield, MO.*
- 9:30 AM 113 **Dietary experience changes feeding preferences in the domestic horse.** S. E. Redgate*¹, S. Hall², J. J. Cooper¹, P. Eady¹, and P. A. Harris², ¹*Animal Behaviour, Cognition and Welfare Group, University of Lincoln, Lincoln, United Kingdom,* ²*Equine Studies Group, WALTHAM Centre for Pet Nutrition, Leicestershire, United Kingdom.*
- 9:45 AM 114 **The effect of calcium carbonate and calcium proteinate on bone density in exercised yearling stallions.** A. Atwood*, L. Baker, J. Pipkin, and M. Meyers, *West Texas A&M University, Canyon, TX.*
- 10:00 AM 115 **Leptin receptor and neuropeptide Y in the medial basal hypothalamus of horses.** P. R. Buff*¹, P. J. Johnson², J. L. Casati³, B. A. Abel³, J. R. Turk³, D. H. Keisler⁴, N. T. Messer², and V. K. Ganjam^{2,3}, ¹*Department of Animal and Dairy Sciences, Mississippi State University, Mississippi State, MS,* ²*Department of Veterinary Medicine and Surgery, University of Missouri, Columbia, MO,* ³*Department of Biomedical Sciences, University of Missouri, Columbia, MO,* ⁴*Animal Sciences Unit, University of Missouri, Columbia, MO.*
- 10:15 AM 116 **Abrupt diet change alters body weight and abdominal circumference.** K. R. Franks*¹, H. S. Spooner¹, B. D. Nielsen¹, S. W. Eberhart², and H. C. Schott II², ¹*Department of Animal Science, Michigan State University, East Lansing, MI,* ²*Department of Large Animal Clinical Sciences, East Lansing, MI.*
- 10:30 AM 117 **Gastric ulcer syndrome in exercising horses fed different types of hay.** T. Lybbert*, P. Gibbs, N. Cohen, and D. Sigler, *Texas A&M University, College Station, TX.*

Reproductive Physiology I

Chair: **Dr. Sheryl King,**
Southern Illinois University
Valley Ballroom

- 9:00 AM 118 **Establishment of a link between processionary caterpillars and pregnancy loss in Australian mare.** A. J. Cawdell-Smith¹, K. H. Todhunter^{1,2}, S. Shini¹, N. R. Perkins³, and W. L. Bryden*¹, ¹*University of Queensland, Gatton, Qld, Australia,* ²*Tails and Scales Veterinary Services, The Junction, NSW, Australia,* ³*AusVet Animal Health Services, Toowoomba, Australia.*
- 9:15 AM 119 **Expression and localization of zonadhesin in different age stallions.** L. Bailey*¹, H. Brady¹, S. Tardif², L. Thompson¹, M. Arns³, and D. Hardy², ¹*Texas Tech University, Lubbock, TX,* ²*Texas Tech University Health Sciences Center, Lubbock, TX,* ³*University of Arizona, Tucson, AZ.*
- 9:30 AM 120 **Metabolic and reproductive effects of recombinant equine leptin on seasonally anovulatory mares.** P. B. Mitcham*¹, D. L. Thompson, Jr.¹, W. A. Storer¹, L. R. Gentry¹, R. A. Godke¹, and A. Gertler², ¹*School of Animal Sciences, LSU Agricultural Center, Baton Rouge, LA,* ²*The Hebrew University of Jerusalem, Rehovot, Israel.*
- 9:45 AM 121 **Breeding outcome of lactating mares with high vs. low plasma leptin concentrations.** N. K. Huff*, D. L. Thompson, Jr., L. R. Gentry, and C. G. Depew, *School of Animal Sciences, LSU Agricultural Center, Baton Rouge, LA.*
- 10:00 AM 122 **Search for polymorphism in exon 2 of the equine leptin gene.** N. K. Huff*, D. L. Thompson, Jr., and K. R. Bondioli, *School of Animal Sciences, LSU Agricultural Center, Baton Rouge, LA.*

10:15 AM 123 **Impact of body condition on plasma leptin and insulin-like growth factor-I concentrations in stallions and geldings.** T. N. Chancellor*¹, M. M. Vogelsang¹, B. D. Scott¹, D. D. Forest¹, and D. Kraemer², ¹*Department of Animal Science, Texas A&M University, College Station, TX*, ²*Department of Veterinary Physiology and Pharmacology, College Station, TX*.

10:30 AM **Break.**

Teaching and Extension III

Chair: **Dr. Elizabeth Greene,**

University of Vermont

Salon A

9:00 AM 124 **Equine management: Development of an educational program to increase environmental awareness and cost-share participation among horse enthusiasts.** G. Heusner*¹, H. Kuykendall², N. McGlohon¹, J. Wren², and T. Bass¹, ¹*University of Georgia, Athens, GA*, ²*Oconee River Resource Conservation and Development Council, Inc. and Natural Resources Conservation Service, Watkinsville, GA*.

9:15 AM 125 **Mid-Atlantic equine pasture initiative.** C. A. Williams*¹, D. Foulk¹, M. Westendorf¹, D. Kluchinski¹, R. Mickel¹, W. Bamka¹, W. Sciarappa¹, A. O. Burk², E. Petersen², D. Marshall³, D. Ludwig⁴, and P. Craig⁵, ¹*Rutgers Cooperative Extension, Rutgers, the State University of New Jersey, New Brunswick, NJ*, ²*Department of Animal and Avian Sciences, University of Maryland, College Park, MD*, ³*Department of Animal Science, University of Delaware, Newark, DE*, ⁴*USDA- NRCS, Lebanon, PA*, ⁵*Dauphin County Cooperative Extension, Pennsylvania State University, Dauphin, PA*.

9:30 AM 126 **Using internet-based conferencing technologies to address the emerging needs of extension clientele.** K. M. Wilson*, E. D. Petersen, A. O. Burk, and B. D. Paleg, *University of Maryland, College Park, MD*.

9:45 AM 127 **Outcome measurements of working cowhorse summer horsemanship clinics in Texas.** K. R. Wilson*¹ and C. S. Sharp², ¹*Department of Animal and Food Sciences, Texas Tech University, Lubbock, TX*, ²*Texas Cooperative Extension, Texas A&M University, College Station, TX*.

10:00 AM 128 **Developing and implementing exam review using game show format.** K. S. Jogan*¹, N. E. Jack¹, and M. K. Jogan², ¹*University of Arkansas, Fayetteville, AR*, ²*Albright College, Reading, PA*.

10:15 AM 129 **Stride length as a measure of learning in horsemanship students.** A. M. B. Brzezicki* and R. M. H. Hoffman, *Middle Tennessee State University, Murfreesboro, TN*.

10:30 AM **Break.**

10:45 AM 130 **Writing an effective equine science book for youth and horse owners.** J. T. Griffiths*, H. F. Hintz, D. E. Hogue, R. S. Cafarella, and G. J. Applebee, *Cornell University, Ithaca, NY*.

11:00 AM 131 **Registered bidder demographics of a student-managed university horse auction.** J. L. Reynolds, N. E. Jack*, and K. S. Jogan, *University of Arkansas, Fayetteville, AR*.

Exercise Physiology I

Chair: **Dr. Brian Nielsen,**

Michigan State University

Hunt Ballroom

10:45 AM 132 **Antioxidant status in horses competing in the Jersey Fresh CCI** and CCI*** three-day-event.** C. A. Williams*¹ and A. O. Burk², ¹*Department of Animal Science, Equine Science Center, Rutgers, the State University of New Jersey, New Brunswick, NJ*, ²*Department of Animal and Avian Sciences, University of Maryland, College Park, MD*.

11:00 AM 133 **Relation between resting heart rate and heart rate during exercise and recovery.** A. Lindner*¹, M. Esser¹, R. Lopez², and F. Boffi², ¹*Arbeitsgruppe Pferd, Juelich, Germany*, ²*Centro de Fisiología y Fisiopatología del Equino Deportivo, Facultad de Ciencias Veterinarias, Universidad Nacional de La Plata, La Plata, Argentina*.

11:15 AM 134 **The relationship between bucked shins, blood parameters and cannon bone measurements in thoroughbreds being prepared for two year olds in training sales.** J. D. Pagan*, L. A. Lawrence, and D. Nash, *Kentucky Equine Research, Inc., Versailles, KY*.

11:30 AM 135 **A sheep model: The effects of circular and linear exercise on macroscopic changes in articular cartilage.** K. L. Vernon*¹, L. Riggs², S. Ellis¹, J. A. Coverdale³, and J. Gibbons¹, ¹*Department of Animal and Veterinary Sciences, Clemson University, Clemson, SC*, ²*Large Animal Clinic, University of Georgia Veterinary School, Athens, GA*, ³*Department of Animal Science, Texas A & M University, College Station, TX*.

Reproductive Physiology II
Chair: **Dr. Gary Webb, Missouri State University**
Valley Ballroom

- 10:45 AM 136 **Moderate temperature shipment of equine semen using a DMSO jacketed container.** W. E. Day*^{1,3}, S. M. Husky¹, and G. W. Webb², ¹*Middle Tennessee State University Horse Science Center, Murfreesboro, TN*, ²*Missouri State University, Springfield, MO*, ³*Morrisville State College Equine Institute, Morrisville, NY*.
- 11:00 AM 137 **CD44 hyaluronon receptor in stallion spermatozoa.** N. A. Luszcz*, R. C. Bott, E. L. Squires, J. K. Graham, and J. E. Brummer, *Colorado State University, Fort Collins, CO*.