

PROCEEDINGS

2009

20TH ANNUAL FLORIDA RUMINANT NUTRITION SYMPOSIUM

**February 10 & 11, 2009
Best Western Gateway Grand Hotel
Gainesville, Florida**

**Department of Animal Sciences
University of Florida
Institute of Food and Agricultural Sciences
Gainesville, Florida 32611**

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20TH ANNUAL FLORIDA RUMINANT NUTRITION SYMPOSIUM
Best Western Gateway Grand Hotel, Gainesville, FL
Department of Animal Sciences
University of Florida, IFAS

Tuesday, February 10, 2009

a.m.

9:30 Registration

11:45 Buffet Lunch

p.m.

1:00 Welcome

1:05 Managing Milk Fat Depression: Interactions of Ionophores, Fat Supplements, and other Risk Factors – Dr. Tom Jenkins

1:45 Using Dietary Additives to Manipulate Rumen Fermentation and Improve Nutrient Utilization and Animal Performance – Dr. Gbola Adesogan

2:25 The Strategic Use of Ruminally Protected Amino Acids in Dairy Nutrition – Dr. Robert Patton

3:05 Refreshment Break

3:35 Relationship Between Nutrition and Reproduction in Beef Cows – Dr. Cliff Lamb

4:15 Influences of Fatty Acid Supplementation on Reproduction of Grazing Beef Cows – Dr. Bret Hess

4:55 Feeding n-6 and n-3 Fatty Acids to Dairy Cows: Effects on Immunity, Fertility and Lactation – Dr. Flavio Silvestre

5:45 Welcome Reception

Wednesday, February 11, 2009

a.m.

7:00 Morning Refreshments

8:00 Early Life Management and Long-Term Productivity of Dairy Calves – Dr. Mike Van Amburgh

8:40 Nutritional Regulation of Precocious Puberty in Beef Heifers – Dr. Michael Day

9:20 Feed-Restriction Programs for Growing Heifers – Dr. Al Kertz

10:00 Refreshment Break

10:30 Nutritional Control of Feed Intake in Dairy Cattle – Dr. Mike Allen

11:10 Feeding Ruminally-Protected Choline to Transition Dairy Cows – Dr. Jose Santos

11:50 Dismiss

Additional copies of these proceedings are available at \$15 per copy. Make checks payable to: Florida Ruminant Nutrition Symposium.

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Symposium Speakers

Guest

Mike Allen, Michigan State University, East Lansing, MI
Michael Day, The Ohio State University, Columbus, OH
Bret Hess, University of Wyoming, Laramie, WY
Tom Jenkins, Clemson University, Clemson, SC
Al Kertz, Andhil Nutrition, St. Louis, MO
Robert Patton, Nittany Dairy Nutrition Inc., Mifflinburg, PA
Mike Van Amburgh, Cornell University, Ithaca, NY

University of Florida Department of Animal Sciences

Gbola Adesogan, Associate Professor
Cliff Lamb, UF, North Florida Research & Education Center, Quincy, FL
Jose Santos, Associate Professor
Flavio Silvestre, Research Associate

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20th Annual Florida Ruminant Nutrition Symposium

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Dr. Tom Jenkins attended Penn State University for his B.S. and M.S. degrees, and received a Ph.D. at Cornell University. Dr. Jenkins taught at The Ohio State University for a few years, and then moved to Clemson University in 1986 where he is now Professor in the Department of Animal & Veterinary Sciences. Dr. Jenkins received the AFIA Nutrition Research Award presented by the American Dairy Science Association in 1999 and the Godley-Snell award for excellence in agricultural research by Clemson University in 2005. Dr. Jenkins has given more than 100 invited lectures across 8 countries, and has authored or co-authored more than 250 publications including book chapters, journal articles, abstracts for scientific meetings, and patents.



Dr. Gbola Adesogan obtained his B.S. in 1988 in Agriculture with honors in Animal Science at the University of Ibadan, Nigeria. He subsequently obtained M.S. (with distinction) and Ph.D. degrees in Animal and Forage Science at the University of Reading, UK in 1991 and 1996, respectively. He was employed as an Assistant Professor of Animal Nutrition at the University of Wales, UK in 1995. He moved to the University of Florida in 2001 as an Assistant Professor of Ruminant Nutrition at the Department of Animal Sciences, and he became an Associate Professor in 2005. He holds a 40% teaching 60% research assignment. His research interests include using feed additives to improve forage quality and animal performance, using legumes to enhance the sustainability of animal production, and using plant nutraceuticals to improve animal health and performance. In 2007, he was awarded the American Dairy Science Association Pioneer Hi-Bred International Inc. Forage Award for significant contributions in forage production, storage and utilization.



Dr. Robert Patton is a technical consultant in dairy management and nutrition. He has worked extensively in Mexico and Australia as well as the U.S. and other countries. He earned B.S. and M.S. degrees at Penn State and a Ph.D. at Michigan State focusing on ruminant nutrition. He has been a dairy farmer, a state extension specialist, a college instructor of dairy herd management, a technical specialist for Monsanto and a product manager for Degussa. He has co-authored the Spartan I and AminoCow ration evaluator programs, written several published articles and conducted research trials on farms and at universities.



Dr. Cliff Lamb is an Associate Professor at the University of Florida. He graduated with B.S. in Animal Science from Middle Tennessee State University and in 1992. He received his M.S and Ph.D. at Kansas State University. In 1998, Dr Lamb became a Beef Specialist/Assistant Professor at the University of Minnesota. He was promoted to Associate Professor in 2003 until moving to the University of Florida in 2008. His primary research efforts focus on applied reproductive physiology in beef cattle emphasizing efficient reproductive management systems for replacement heifers and postpartum cows. In addition to research and extension, Dr. Lamb coordinates the beef research facilities at the North Florida Research and Education Center in Marianna, FL.



Dr. Bret W. Hess received his B.S. and M.S. degrees from the University of Nevada in 1991 and 1993. In 1996, he earned a Ph.D. in ruminant nutrition from the University of Missouri-Columbia. Hess joined the Department of Animal Science at the University of Wyoming and was promoted to Professor in 2008. His research focuses on nutritional management to improve livestock production. He has authored or co-authored 5 peer-reviewed invited papers, 72 refereed journal articles, and 4 peer-reviewed extension articles. He received the 2003 Western Section of the American Society of Animal Science Young Scientist Award. Hess also served as president of the Colorado/Wyoming/Western Nebraska/Western Kansas Area Chapter of the American Registry of Professional Animal Scientists and is currently serving as Western Director of the American Society of Animal Science. He received the American Society of Animal Science Early Career Award in 2007.



Dr. Flávio T. Silvestre received his D.V.M. degree from the Federal University of Minas Gerais in Brazil in 1997. Flávio was in dairy veterinary practice for 3 years in Brazil and then moved to Florida to participate in the University of Florida International Dairy Farm Fellow program at North Florida Holsteins Farm in Bell from early 2000 to March 2001. He then returned to academia and received his M.S. (2003) and Ph.D. (2008) degrees in the Department of Animal Sciences at the University of Florida in Animal Molecular and Cellular Biology. The emphasis of his research has been on hormonal methods and nutraceutical approaches to regulation of postpartum immunity and fertility of dairy cows.



Dr. Mike Van Amburgh is an Associate Professor in the Department of Animal Science at Cornell University where he has a dual appointment in teaching and research. He teaches multiple courses and works extensively with the Dairy Fellows Program, advises approximately 50 students and is the advisor for the Cornell Dairy Science Club. The focus of Mike's research program for the last 10 years has been the nutrient requirements of dairy calves and heifers and aspects of endocrine control of developmental functions such as mammary development and puberty. Other areas of interest are whole animal and ruminal nitrogen metabolism and regulation of milk protein and the interaction between forage and feed chemistry, rumen function and nutrient supply. He currently leads the development of the Cornell Net Carbohydrate and Protein System.



Dr. Mike L. Day is currently a Professor in the Department of Animal Sciences at The Ohio State University in Columbus, OH. He received his B.Sc. degree in animal husbandry from the University of Missouri in Columbia, in 1980. Then Mike moved to Lincoln, NE, where he received his M.S. (1982) and Ph.D. (1985) degrees in reproductive endocrinology at the University of Nebraska. He joined the Department of Animal Sciences at The Ohio State University in 1985. Dr. Day has had a very productive career and has made significant contributions in the areas of reproductive management of beef cattle and in the understanding of the nutritional and endocrine mechanisms underlying initiation of cyclicity in prepubertal heifers. He has been the president of the American Society of Animal Science Midwestern Section and has received several awards for his research and teaching contributions.



Dr. Al Kertz is the founder and principal of ANDHIL LLC, a U.S. and International dairy consulting business located in St. Louis, MO. He received B.S. and M.S. degrees in dairy science/nutrition from the University of Missouri, and the Ph.D. from Cornell University in the growth and development of cattle. While with the U.S. and International Purina companies, he worked in a multitude of roles in research and development, field research and technical service, and nutritional consulting. Since founding ANDHIL LLC, he has made 33 invitational presentations and has had international clients in Mexico, Canada, Brazil, Spain, France, South Korea, China, and Turkey in addition to U.S. clients. He is

a regular columnist for *Feedstuffs* on calves and heifer topics and writes periodic columns for *Hoard's Dairyman* in the same topic area. He serves on the editorial board of *The Professional Animal Scientist* journal and is an *ad hoc* reviewer for the *Journal of Dairy Science* as well. Al maintains active membership in a number of animal, dairy, and nutrition scientific societies, and currently serves on the Board of Directors of the American Dairy Science Association, from which he received the 2006 Applied Dairy Nutrition Award.



Dr. Mike Allen is a Professor of Dairy Nutrition at Michigan State University, where he has been a member of the faculty since 1987. Dr. Allen received the B.S. in 1977 from Cornell University. He returned to Cornell and received the M.S. (1982) and Ph.D. (1986) degrees in Animal Science/Nutrition. At Michigan State University, he has an extension and research appointments and his interests include the effects of feeds on energy intake and partitioning and improving forage utilization. He is author or co-author of over 500 research and extension publications and he has presented over 200 invited talks at conferences throughout the US and a dozen other

countries.



Dr. José E. P. Santos earned the D.V.M. degree from São Paulo State University in Brazil in 1992. After working in private practice for 1 year, José came to the University of Arizona to study ruminant nutrition, where he earned the M.S. degree in 1995 and the Ph.D. degree in 1997. José completed a residency in Dairy Production Medicine at the University of California, Davis in 2000 and then joined the faculty in the Department of Population Health and Reproduction of the School of Veterinary Medicine where he conducted research and clinics from 2000 to 2007 in Tulare, CA. In 2008, José joined the Department of Animal Sciences

at the University of Florida as an Associate Professor with research and extension activities in dairy nutrition and reproduction. In 2005, he was awarded the Young Scientist Award by the American Dairy Science Association. His primary research efforts focus on the interface between nutrition and reproduction of dairy cows and methods to improve postpartum health and fertility.