USDETC—Making a difference in dairy education by providing practical hands-on instructional training for the next generation of dairy professionals
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Area of Interest

Dr. Ahmadzadeh is interested in applied cattle reproduction research with an emphasis on fertility and management. His research has been focused on developing a systematic breeding program for dairy cattle to increase fertility rates and improving reproductive and economic advantages of artificial insemination on dairy farms. He is also interested in interaction between nutrition and reproduction.

Consortium Instruction

Dr. Amin discusses the role of reproductive management using data commonly available on a dairy. You will learn how to evaluate records in order to identify potential “short falls”. This modules emphasizes the importance of sound decision making that influence herd profitability.
Greg Bethard received his BS, MS, and Ph.D. degrees from Virginia Tech in dairy nutrition and management. He has served on faculty at New Mexico State University and North Carolina State University, and as a technical services specialist for Monsanto Dairy Business. Since 2000, Greg has operated G&R Dairy Consulting, Inc. with his wife Rachel. Greg has also served as CFO for the Pagel Family Businesses in Kewaunee, WI from 2014 to 2017. Currently Greg is a partner in High Plains Ponderosa Dairy in Plains KS and serves as General Manager, CEO, and CFO. Greg has published articles in the Journal of Dairy Science and written articles for various dairy industry magazines. He has also given presentations to dairy producers and allied industry around the globe.

**Area of Interest**

This module provides a basic understanding of DairyCOMP 305, a herd management program used by many dairy herds. Additionally, students will be shown how to create reports that are used to identify potential herd problem areas, as well as strengthens within the dairy.
Area of Interest

Michael J. Brouk was born November 15, 1962, in Franklin County, Missouri. He attended Linn R-2 Schools graduating in May 1981. Following high school graduation, he attended the University of Missouri-Columbia majoring in agronomy and dairy science and received the Bachelor of Science degree in Agriculture in May 1985. From 1976 to 1984, he was also an active partner in the family grain farm located in Osage County, Missouri. The University of Missouri-Columbia employed Mike as a Research Specialist for two years after he completed his undergraduate program. The research projects involved the utilization of dairy processing plant waste as a fertilizer for forage crops and as a protein and mineral supplement for livestock. He then began a Master of Science degree program under Dr. Ron Belyea at the University of Missouri-Columbia. The title of his thesis was "Chewing Behavior and Digestion of Alfalfa Forage." Following completion of his M.S. degree, Mike accepted a position with Cenex/Land O'Lakes in southwestern Minnesota. He worked as a Livestock Production Specialist developing nutrition and management programs for dairy and beef producers. After two years with LOL, he entered a doctoral program under the direction of Dr. David Schingoethe at South Dakota State University. His dissertation topic was "Net Energy of Lactation and Ruminal Degradability of Wet Corn Distillers Grains." Following completion of the Ph.D. in Animal Sciences he joined the teaching and research staff of South Dakota State University in January 1994. Mike was responsible for teaching undergraduate dairy management, nutrition, breeding and cattle evaluation courses as well as developing a dairy cattle nutrition research project. Mike returned to the University of Missouri-Columbia in August of 1996 as an Extension Specialist with Commercial Agriculture Program. He was responsible for developing state wide extension programs in the areas of dairy cattle nutrition, forage systems, replacement heifer development and dairy cattle management. He joined the faculty of Kansas State University in December of 1998 as a State Dairy Extension Specialist where he holds a 30% teaching and 70% extension appointment. His current responsibilities include development of programs in dairy cattle nutrition, management, cow comfort, replacement heifer development, dairy expansion and heat stress abatement. He is currently involved in several research projects evaluating various heat stress abatement methods in commercial dairy herds.

Consortium Instruction

Dr. Brouk discusses the use of precision technologies in dairy herd management such as the introduction of robotic milking. In addition, he will discuss heat stress and procedures and facilities' that are available to producers to reduce the impact of heat stress on production and productive life.
Dr. Devhow grew up on a small dairy farm in New York state and was active in 4-H, FFA and the Junior Holstein Club activities. His primary research is the improvement of dairy cow health and well being as they continue to be bred for higher levels of milk yield and milk production efficiency. His research has demonstrated that genetic selection for stable body weight and body condition can help maintain high levels of cow health in high yielding and efficient dairy cows. His research group have researched the use of dairy farm records as a potential source of health records for direct selection for disease resistance, and evaluated strengths and weaknesses of crossbreeding programs in regard to cow performance. His research group have developed evaluation methods that estimate and demonstrate genetic trends for individual dairy farms.

**Consortium Instruction**

Dr. DeChow discusses basis inheritance in dairy cattle breeding. Included are data collection methods, data flow, statistical modeling and sire evaluation techniques and ultimately the ability to interpret and use a sire summary for selecting a dairy sire. New conceptus in genetic evaluation are also discussed. Students, using a herd simulation program, will be able to see the impact of genetic selection on genetic improvement after several generation of selection.
Dr. Albert De Vries grew up on a dairy and swine farm in the central part of the Netherlands. He received his bachelor’s and master’s in Animal Science with a minor in agricultural economics from Wageningen University in the Netherlands in 1991. In 1995 he came to the United States to pursue a PhD in Animal Sciences at the University of Minnesota with a focus on dairy science, applied economics, operations research and statistics. After graduation in 2001 he accepted a faculty position at the University of Florida. He teaches two undergraduate dairy courses and advises dairy students. His research interests are in optimization of culling and replacement strategies, statistical process control, economics of reproduction, and precision dairy farming. In his extension role, De Vries works with allied industry and dairy producers on farm financial management and to apply the results of his research interests.

Consortium Instruction

Dr. De Vries covers advanced aspects of dairy herd evaluation and the economic impact they have to a dairy operation. Additionally, he discusses tools that could be useful for financial and herd management in dairy farms.
Area of Interest

Dr. Douphrate works in the areas of occupational safety management. His areas of interest includes prevention of work related injury and illness, occupational ergonomics and safety, safety management and leadership, Ergonomic assessment, Occupational health and safety leadership and management, Employment testing, Work disability, Worker performance and efficiency, worker physiology, agricultural injury and illness prevention.

Consortium Instruction

Dr. Douphrate discusses dairy work place safety issues. Successful completion of this module will result in the student receiving OSHA certification Students preform safety walk and provide recommendations to the dairy producer regarding workplace safety issues.
Lawrence (Larry) Fox originally hails from New York state where he was a dairy herd-manager following his graduation from Cornell University. His first faculty position was at the University of Hawaii, where his duties were Dairy Extension, research and teaching. For 33 years he has been on the Faculty of Washington State University and is currently Professor in the Departments of Veterinary Clinical Medicine and Animal Sciences. He was very active in teaching dairy production, advising the Dairy Club, co-coaching the Dairy Challenge team, and researching mastitis abatement strategies. For many years Larry has worked with students and youth in various educational projects at Hawaii, WSU and at Clovis, New Mexico.

His research program was designed to examine new methods of control of contagious and opportunistic mastitis pathogens. These efforts were principally directed at control of Staphylococcus sp. and Mycoplasma sp. mastitis. The focus was directed at the development and validation of strategies to control this disease through applied and basic research. Most recently the program is utilized biotechnologies to “Fingerprint” and speciate Staphylococcus sp. and Mycoplasma sp., to trace the pathogen from its reservoir to fomite to the host, the cow. The goal was to translate the improved understanding of the epidemiology of the diseases to improved strategies of control. Lastly, Dr. Fox has directed studies to examine the role of the immune system in mycoplasma bovine associated diseases. Such efforts lead to management strategies to improve immune competence to combat this disease complex.

Area of Interest

The focus of the Mammary Gland Health and Milking Management week at the Consortium will be how to maintain quality and quantity of the milk crop that exits the gland. Students will receive instruction in mammary gland anatomy, mammary gland physiology, mammary immunity, mastitis pathogens, milk quality measures, and milking system analysis. The thrust of didactic instruction will be to tie the basic with the applied such that the student will be able to answer the “why” it terms of how things work and the “how’ in terms of their application. In continuation, the experiential learning component will be geared to providing the student with a context as to how the basic information can be applied on the farm.
Area of Interest

Mike Hutjens was raised on a grade Holstein farm near Green Bay, Wisconsin. His bachelor, masters, and Ph.D. degrees were awarded from the University of Wisconsin, Madison.

From 1971 to 1979, Dr. Hutjens was extension dairy specialist at the University of Minnesota where he coached the national champion team in 1978 at the World Dairy Expo. Since 1979, he has been a member of the University of Illinois Animal Sciences Departments as extension dairy specialist. He speaks at 60 to 70 meetings at conferences in 46 states, 17 foreign countries, and nine Canadian provinces. Mike writes feed columns for Hoard's Dairyman and Dairy Today and hosts the Hoard's Dairy monthly webinars. Award recognitions include the Undergraduate Teaching Purina Award from the American Dairy Science Association, National DeLaval Extension Worker Award, ADSA, Applied Nutrition Award from ADSA, Outstanding Extramural Instructor (University award) in 1993 and 2000, and two citations from the Minnesota Board of Regents. Mike was president of the American Dairy Science Association. In 2008, he was select “Service Person of the Year” by World Dairy Expo. In 2009, he received the Award of Honor from ADSA and Fellow. He also received the “Eagle Award” from the IL Farm Bureau Association. In 2013, Dr. Hutjens received the national DHI Service Award.

He resides in Savoy, IL, with his wife, Carol and five children and seven grandchildren. Mike served six years in the U.S. Army Reserve Mike retired from the University of Illinois on Dec 31, 2010 and continues to teach part time.

Consortium Instruction

Dr. Hutjens covers basics of dairy cattle nutrition. His module covers topics including feed ingredients in dairy ration, feeding cattle in different phases of cow cycle, evaluating nutrition performance using body condition scores, manure scores, TMR evaluations. By the end of the session, students will be able to evaluate nutrition program at the dairy herd. He has authored a book for Hoard’s Dairymen entitled “Feeding Guide”. The book addresses the feeding factor and provide practical feeding guidelines and recommendations to increase the profitability of the dairy farm. The book is used as the resources for his lectures.
Bob James
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Professor Emeritus, Virginia Tech

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MS Virginia Tech University, Blacksburg
BS University of Delaware

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Area of Interest

Bob retired from the Virginia Tech Dairy Science Department in 2016. While at Virginia Tech his research with newborn calves demonstrated the relationship between early intestinal microbial populations and colostrum antibody absorption. His student’s research also led to development of equations to predict intake and protein requirements for growing post weaned dairy heifers. Later research led to development of a Jersey milk replacer and protocols for management of on farm pasteurizers for calf milk and management of calf autofeeders. While a faculty member at Virginia Tech he taught courses in dairy management, applied dairy cattle nutrition and dairy records and was advisor to the Virginia Tech Dairy Club.

He was the dairy extension project leader and organized the Virginia Tech Dairy Nutrition Cow College in cooperation with the Virginia State Feed Association. He was a founding member of the Professional Dairy Heifer Grower’s Association which later became the Professional Dairy Heifer Association. Prior to and after retirement he has consulted with calf ranches and dairies and made presentations in over 30 states in the U.S. and numerous countries on dairy cattle and dairy heifers nutrition and management.

In 2018, Bob joined GPS Dairy Consulting, LLC where he provides dairy calf consulting services to farms in the US and Australia.

Consortium Instruction

This module will provide an overview of dairy replacement management. Students will discuss the economics of replacements and the numbers game associated with replacement programs. He will discuss dry cow protocols, calving, colostrum management and pre-weaned calf nutrition. Others topics include weaning, older heifers and individual versus auto-feeders.
Area of Interest

Dr. Jones was born and raised on a beef farm in Maine. She began her studies at Purdue University studying agriculture economics and graduated with her B.S. in 2007. Following her graduation, she worked as a herd manager on a few different farms and in 2011 decided to attend graduate school for her M.S. degree at the University of Kentucky investigating the impact of two different types of freestall barns on cow comfort. After completing her M.S. she stayed at the University of Kentucky for her Ph.D. where she studied the use of precision dairy monitoring technologies to detect lameness, and the use of various foot bath solutions on preventing digital dermatitis in dairy cows. Dr. Jones is interested in the use of precision dairy technologies on dairy herds and understanding how they can be used to better manage cows.

Consortium Instruction

Dr. Jones will talk about the use of precision technologies in herd monitoring to be able to make better management decisions.
Bill Mahanna
Global Nutritional Sciences Manager
Pioneer

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University of Wisconsin, Madison

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Area of Interest

Bill Mahanna was raised on a Holstein dairy in Upstate New York, and been with Pioneer for 31 years and is currently the Global Nutritional Sciences Manager. He also serves as a collaborative, associate professor in the Animal Science Department at Iowa State University and a visiting professor at Bila Tserkva State Agrarian University in the Ukraine.

Prior to Pioneer, Bill was a tenured, associate professor of animal science at the University of Wisconsin-River Falls, where he taught courses in dairy nutrition and management and coached several nationally ranked dairy judging teams. Bill was honored for his teaching ability while at UW-River Falls by being selected by students as the Universities "Distinguished Teacher of the Year" in 1985 and by fellow faculty members as the "Outstanding Faculty Member in the College of Agriculture" in 1987.

Bill has worked with dairy producers across the United States, Canada, Europe, Japan and China and is known to many as a frequent speaker at producer and nutrition conferences. Bill has authored over 200 popular press articles including penning the “Dairy Bottom Line Nutrition” column in Feedstuffs Magazine from 2007 to 2015 and the “Field to Feed Bunk” column in Hoards Dairyman from 2010 to 2015. The American Dairy Science Association (ADSA) awarded Bill the 2014 Nutrition Professionals award for significant contributions to the field of applied dairy nutrition.

Consortium Instruction

The Global Nutritional Sciences Team which Bill leads also wrote the Pioneer Silage Zone Manual, 2nd Edition (2017) which encompasses plant, grow, harvest, store and feed aspects of corn, high-moisture corn and alfalfa silages. This manual will be the foundation of the forage topics covered by Bill in his lectures at the US Dairy Education and Training Consortium and include aspects of selecting, growing, harvesting, storing and feeding quality forage and high-moisture grain crops.
Area of Interest

Juan Pineiro was born in Argentina in northeast Patagonia region and helped his family on their cow calf-operation. His area of interest has been in the area of transition cow management, farm personnel training and dairy cattle reproduction. During graduate school he taught veterinary and graduate students about transition cow management with emphasis on reproductive performance of lactating cows. He also taught best calving management practices, including hands-on demonstration on dystocia management.

Consortium Instruction

Dr. Pineiro discusses management of dairy cow during the last part of the dry period and the first two weeks of lactation. This time referred to as the transition period and is considered “make or break” part of a cow’s lactation. He discusses metabolic diseases including milk fever, ketosis, fatty liver, and uterine disease. Students receive hands on experience of clinical evaluations in the freshly calved dairy cows.
Dr. Poock focuses on basic and applied aspects of reproduction management in dairy herds. Students learn concepts of reproduction in dairy cattle and get familiar with estrus synchronization programs in dairy herds. Students get hands on experience to perform, artificial insemination, pregnancy diagnosis, ultrasound of reproductive tracts and dissection, and bull evaluation.

**Area of Interest**

Dr. Scott Poock is an extension dairy veterinarian for the College of Veterinary Medicine at the University of Missouri-Columbia. He is also a member of the Commercial Agriculture Dairy Focus team where he provides expertise in the area of reproductive management. Dr. Poock was born and has lived in Wisconsin for the majority of his life. He was in the first class to graduates from the University of Wisconsin School of Veterinary Medicine in 1987. He practiced at the Birnamwood Veterinary Clinic (in Birnamwood, Wisconsin) for almost 19 years. His primary work was with dairy farms. He is board certified by the American Board of Veterinary Practitioners in both beef and dairy cattle practice.

**Consortium Instruction**

Dr. Poock focuses on basic and applied aspects of reproduction management in dairy herds. Students learn concepts of reproduction in dairy cattle and get familiar with estrus synchronization programs in dairy herds. Students get hands on experience to perform, artificial insemination, pregnancy diagnosis, ultrasound of reproductive tracts and dissection, and bull evaluation.
Area of Interest

Normand St-Pierre is Professor Emeritus of Animal Sciences at the Ohio State University and Director of Research and Technical Services for Perdue AgriBusiness. He grew up in Québec, Canada, where he received his B.S. degree in Animal Science and M.S. degree in Animal Nutrition, followed with a Ph.D. degree in Dairy Science in 1985 from The Ohio State University. After ten years in the private sector, he joined the Department of Animal Sciences at The Ohio State University in 1997, where he conducted research and extension programs in the areas of dairy farm management, nutrition and biometrics until his retirement in 2016. Dr. St. Pierre has published over 400 articles in various publications, including Journal of Dairy Science, Hoard’s Dairyman and Progressive Dairyman, and has received numerous awards for his research and extension work. When not around cows or cow people, you will likely find him riding or fixing one of his 12 bicycles or his beloved sailboat.

Consortium Instruction

The modules focuses on feeding the large herd. This includes logistics of inventory and inventory control to insure a consistent nutrient flow to the dairy herd.
Dr. Taylor covers milk chemistry and quality and the impact it has on producing the final milk product. During this module, students visit an artesian cheese plant and local yogurt producer.

**Consortium Instruction**

Dr. Taylor covers milk chemistry and quality and the impact it has on producing the final milk product. During this module, students visit an artesian cheese plant and local yogurt producer.

**Area of Interest**

Dr. Taylor’s primary research interests are in the utilization and mechanisms of food antimicrobials to inhibit bacterial foodborne pathogens. Natural food antimicrobials are diverse in their chemistry, spectrum of activity, sources, and applications within foods. Specifically, research is conducted to investigate and determine the manner by which food antimicrobials inhibit microbial pathogens. Additionally, research is conducted that seeks to overcome obstacles to the use of food antimicrobials in some product by the encapsulation of food antimicrobials. Dr. Taylor is currently participating and leading collaborative research projects with faculty in the Departments of Horticultural Sciences, Nutrition and Food Science, Poultry Science, and even Chemical Engineering, in addition to multi-institutional research projects with scientists from around the U.S.
Area of Interest

Marina A. G. von Keyserlingk received her BSc in agriculture and PhD in animal science from the University of British Columbia and her MSc in animal science from the University of Alberta. von Keyserlingk makes outstanding contributions to the advancement of dairy cattle welfare as professor and associate dean of graduate studies in the Faculty of Land and Food Systems in the Animal Welfare Program at the University of British Columbia. von Keyserlingk serves on several dairy cattle welfare advisory committees in North America and has made more than 200 extension presentations discussing cattle welfare across the world.

Her research areas are focused on links between behavior and nutrition, particularly in welfare related issues. Use of feeding behavior to predict animal health and productivity, specifically at the time of transition (when dairy cows are particularly susceptible to illness).

Consortium Instruction

Dr. von Keyserlingk discusses welfare aspects of dairy farms. This module focuses on addressing public concern about dairy cattle welfare, how welfare is perceived by public and recent research on how to mitigate the knowledge gap between farmers and consumers. This session covers on different aspects of dairy cattle welfare including lameness, calves, and transition period.
Dr. White will cover basic economic costs, as well as enterprise and partial budgets. Additionally, loan structure which includes operating debt versus term debt, loan term and timing of payments and loan amortization will be addressed. He will also include balance sheets and income statements, as well as cash flow budgeting. To determine financial well being, he will look at financial ratio analysis and investment analysis. This module is intended to provide the students with the basics of determining dairy profitability.

Alex White
Instructor
Department of Dairy Science
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Area of Interest

Alex grew up on a small beef farm in northeastern Maryland. He was very active in 4-H throughout his youth. His primary projects were beef, field crops, tractor operation, woodworking, and marksmanship. He was always interested in the business side of agriculture as well as the production aspects.

Alex has taught a wide variety of college courses at Ohio State, NC State, Ferrum College, and Virginia Tech for the past 25 years. Always an academic generalist, he was worked in several academic departments over his career. A majority of his career has been in the field of Agricultural Economics, but he taught personal financial management in the Department of Apparel, Housing & Resource Management for 5 years. Alex taught part-time in the Dairy Science department for 4 years before joining the faculty full-time in August 2016.

The courses he has taught are mainly related to the business and financial side of agriculture. He jokes that, “if it involves a dollar sign, he teaches it.” In the Dairy Science department he teaches Dairy Enterprise Management, Entrepreneurship in Animal Agriculture, and Advanced Dairy Management Evaluation (co-taught with Dr. Gonzalo Ferreira). He also teaches Personal Financial Planning for the university.

Consortium Instruction

Dr. White will cover basic economic costs, as well as enterprise and partial budgets. Additionally, loan structure which includes operating debt versus term debt, loan term and timing of payments and loan amortization will be addressed. He will also include balance sheets and income statements, as well as cash flow budgeting. To determine financial well being, he will look at financial ratio analysis and investment analysis. This module is intended to provide the students with the basics of determining dairy profitability.