

**Highlights and Special Requests for Abstracts from the Program Committee
2008 Joint Meeting of ADSA and ASAS
Indianapolis, Indiana
July 7-11, 2008**

The following program highlights are in the final stages of planning. As you will see in reading through the summary, many outstanding symposia, workshops, and invited talks are planned.

NOTE: Due to an increase in no shows for posters and oral sessions, the Program Committee will begin monitoring the presenters that fail to appear for their presentation.

Posters -- We will again provide a 2-hour daily time block for the posters. The time block for the posters will be 7:30 am to 9:30 am; this time block ensures that it will not conflict with symposia or oral sessions. The posters will be required to be up by 7:30 am and remain posted until 5:30 pm the day of presentation.

Call for Abstracts

To build an outstanding program, your participation through abstract submission is essential. The foundation of our annual meeting is the science that each one of us brings with the oral and poster abstracts submitted. There are a few special topics for which Program Committees are requesting abstracts from the membership to enhance symposia or oral sessions. These special calls for abstracts are denoted in ***bold italic lettering***. For additional information on the 2008 Joint ADSA ASAS meeting, please check the web site <http://adsa.asas.org/meetings/2008/>.

Program Areas

ADSA Southern Branch and the Northeast Branch/Section of ADSA and ASAS -- Business meetings and normal annual meeting activities of these Branches/Sections will be incorporated into the meeting in Indianapolis. The Southern Branch of ADSA is planning a symposium: "Responding to Hot Topics in Dairy Management".

Graduate Student Paper Contests—ADSA Dairy Foods and Production Division (National), Northeast ADSA/ASAS Branch/Section, Southern ADSA Branch, and ADSA Production Division Graduate Poster -- Both the Dairy Foods and Production Division of ADSA strongly encourage graduate students to submit abstracts for the national competitions. Not only do the winners receive outstanding recognition and have something to add to their resume, there is money to be made, too. Check the web site (<http://adsa.asas.org/meetings/2008/>) for graduate student competition rules and information. The ADSA Production Division students can present their paper a second time as a poster in the appropriate session if they so desire, in addition to the special competition session early in the week.

ADSA Production Division – The ADSA Production Division is planning a symposium on “Dairy replacement Heifers: Cost effective strategies from weaning to calving”.

Alpharma Beef Cattle Nutrition and Beef Species– The Beef Species committee and the Alpharma Beef Cattle Nutrition Committee are jointly sponsoring a symposium this year on “Diversion of corn to fuel.”

ARPAS – The American Registry of Professional Animal Scientist will have a symposium on "Livestock Pharmaceuticals: The Past, The Present, The ..." Livestock pharmaceuticals are critical issues in animal agriculture today. There are many external forces seeking more accountability by livestock producers in regards to animal welfare, safe food production and their impacts on humans and the environment. With this symposium we hope to evaluate these external forces and determine what accountability may be sought in the future.

Animal Behavior and Well-Being – The Animal Behavior and Well-Being Committee has developed a symposium on "Animal Welfare Standards--Who Decides and How?" The symposium will provide a global perspective on approaches to animal welfare policy with specific discussion of the European experience as well as current pressures for legislation in the US.

Animal Health – The Animal Health Committee will be showcasing 6 invited speakers throughout their sessions in Indianapolis. Topics include: the effect of stress on animal health & disease resistance; neonatal health and disease resistance; advances in respiratory disease research; metabolic diseases; and Wildlife threat for disease transmission to domestic livestock.

ASAS Graduate Student Symposium – The ASAS Graduate Student Symposium Committee will offer a symposium on “Academia, Industry, Government, or None of the Above: Graduation is coming, what next?” In the recent ASAS member survey, graduate students indicated that they would like ASAS to do more with career development. In response to this, a Graduate Student Symposium was developed this past meeting in San Antonio. The symposium was both well received and well attended. The proposed symposium will expand on the topics of the past meeting and incorporate talks that will provide useful career development information to graduate students and faculty members who train graduate students. Additionally, we will outline ways for graduate students to become more involved in ASAS in an attempt to advertise programs being developed such as the new career feature at the meetings, and increase participation in such items as Graduate Student Director nominations.

Beef Species– The Beef Species committee has developed a symposium on “Beef Cattle Genetic Evaluation: Clearing the Water in the Beef Cattle Gene Pool.” The purpose of this symposium is to review the advancements that have been made in genetic evaluations and to take an in-depth look at fully exploiting our future potential.

Bioethics – The Bioethics Committee has planned two symposia.

The topic of the first symposia is "Value of Bioethics Leadership for Food Animal Agriculture." Societal change is driven by ethical arguments. Science and innovation indicate what is possible in food animal production, processing and marketing. Ethical considerations define what ought to be done. It is imperative, if the food animal system is to exist in the future; our members understand the issues and are able to respond proactively and positively.

The topic of the second symposia is "How do we integrate bioethics into our food animal system?" Paul Thompson stated that animal producers and scientists, with a few notable exceptions, have not done anything wrong in terms of ethics. Clearly, however, as indicated by the controversial issues facing animal industries today, the old model no longer works. Thompson stated that a "new professional ethic" is needed and challenged animal scientists. This symposium addresses how far we have come, where we might go, and how to communicate that to the public as we go.

Breeding and Genetics – The Breeding and Genetics Committee has planned two symposia.

The first symposium is on "Genome Wide Selection ... Faster Genetic Progress vs. Higher Rate of Homozygosity." This symposia will provide a discussion of the advantages of genome-wide selection as well as looking at some of the potential hazards it could create, such as computing challenges for huge amount of molecular data, increased homozygosity, reduction of genetic variance, and the absence of being proven in field data as of yet.

The second symposium is on "Training of Future Animal Breeders." Within Animal and Dairy Science, the discipline of Breeding and Genetics has changed more over the past 20 years than any other discipline. Not only has there been a shift in training due to advances in the field, but there has also been a shift in training styles due to diminished faculty numbers. Graduate training is now no longer focused solely in brick and mortar classrooms and labs confined to a single campus as it once was. Instead, alternative teaching techniques and delivery systems are being developed in order to train students as completely and diversely as possible.

Cell Biology Symposium – The Cell Biology Symposium Committee will offer a symposium on "The Role of MicroRNA on Cell Function." This symposium will focus on cutting-edge research involving the role of micro-RNA in cell function.

Companion Animals – The Companion Animals Committee has planned two symposia.

The first symposium is on "Exotic Animal Nutrition - Securing Their Future Through Comparative Research." With over 100 million people visiting zoos annually, and US companion-animal populations extending to well over 350 million, human-animal interactions are changing and presenting a substantial challenge to develop comparative nutrition programs and research, in order to preserve and protect species around the world. Knowledge gained from domestic species is key to understanding and developing nutrition programs for exotic species. The objectives of this symposium will be to explore the comparative relationships that exist between domestic and exotic

species. In addition, understanding the immense knowledge gaps and future needs in this area are necessary to ensure futures for exotic species.

The second symposium is on “Perceptions and Implications of Companion Animals in Research and Teaching – Domestically and Globally.” With less than 1.4% of the US population working in food animal production, the mentality of our society is changing rapidly. A quote given by the keynote speaker at the July 2007 ASAS Annual meeting indicated that 84% of the families in the US considered the family pet as a part of their family. This viewpoint change associated with companion animals - from “animal” to “family” – also changes public perception and opinion. This public perception change is quite clearly illustrated in the melamine scare we had just a few short months ago. Those perception changes are also mirrored in the research, academia and industry representation associated with companion animals. Research techniques that were commonplace no longer are funded due to the concern of public opinion. Companion animal courses and examples are now included in many traditional animal science departments that a few short years ago did not consider anything beyond food animals. Industries are now catering to the emotional needs of families and how they need to care for their family friend. Perception trends in the United States toward companion animals have progressed at a different rate than the rest of the world and industry. Therefore with the differences across the continents a successful companion animal company develops marketing strategies based on the country they are targeting.

Contemporary and Emerging Issues – The Contemporary and Emerging Issues committee has developed a symposium on “Healthfulness of Dairy and Meat Products.” There have recently been a number of articles claiming that consumption of milk and dairy products is the basis for many chronic diseases in humans including most types of cancer (particularly prostate and breast cancer), cardiovascular diseases and osteoporosis. These reports are often based on selection of limited data from specific papers as well as junk science. This symposium is intended to objectively present current scientific literature on these topics.

Dairy Foods – The ADSA Dairy Foods Division has planned three symposia. The first symposium topic is on “Changes and Challenges of Probiotics in Dairy Products.” Metchinkoff promoted probiotics as a way to improve health and prolong the quality of life. Probiotics have had increasing acceptance worldwide over a number of years. They have had explosive growth in North America especially during the two years. The purpose of this symposium is to examine the history, applications, mode of action(s), and regulation of probiotics..

The second symposium topic is on “Emerging non-thermal food processing technologies - Their potential in dairy systems.” Gone are the days when dairy companies could rely exclusively on sales of milk and commodities, such as cheese, powder and butter, to thrive. In the 21st century, innovation in the dairy industry will be essential in enhancing international competitiveness in a truly global market. Such innovation will also be critical in meeting consumer demands for ‘miracle foods’ that are not only safe and nutritious, but also natural, economical to manufacture, convenient, great tasting, environmentally-friendly, and enhance health and well-being – quite a challenge! In meeting these challenges, dairy scientists and technologists must look

beyond the norm and the traditional, often to new and novel approaches that when adapted and applied in dairy systems will result in innovation together with consumer acceptability. Several emerging non-thermal processing technologies, including high pressure, power ultrasonics, pulsed electric field, ultraviolet light, cool plasma, and others, many from outside the dairy and food industries, are creating an impact in food processing around the world.

The third symposium topic is on “Advances in Low-fat Cheese Research.” This symposium will provide an overview of the latest in research from a multi-university, multi-disciplinary, collaborative effort to develop good-tasting low-fat natural and process cheese for today’s health-conscious consumers.

Extension and Education – The Extension Education Committee has planned two symposia for the 2008 Joint meeting.

The first symposium topic is “From 40 acres and a mule to today: Historical perspective of Extension programming.” A lot has changed in the Extension system. The symposium will cover some history, especially of delivery methods, ending with coverage of a new delivery method of great interest among administrators.

The second symposium topic is “Has the Land Grant College left the Farm?” A challenge for Extension educators has always been to stay on the cutting edge of research that is applicable to production audiences they serve. This has become increasingly challenging as less applied research is conducted on campus and more is contradicted by industry with no motivation to publish in peer reviewed journals. This symposium sets up some of the reasons for the change and then how some people or organizations have successfully handled it.

Food Safety – A symposium on “Assuring Food Safety in a Globalized Market” has been planned by the Food Safety Committee. Over the past decade, the production and distribution of food has changed dramatically. Today’s consumers are often unaware of the origin of their foods. This symposium will discuss issues associated with importation of foods and animal feeds.

Forages and Pastures – The Forages and Pastures program committee has planned two symposia.

The first symposium topic is “Forage-based systems for beef and dairy cattle production: Regional challenges and opportunities.” The dynamics of agricultural production, product use, and marketing are changing and the challenges and opportunities for forage-based beef and dairy production systems are changing. This symposium will address these challenges and opportunities in various regions of the country and suggest focus areas for research and management.

The second symposium topic is “Fiber fermentation: Influence of supplemental nonstructural carbohydrates.” As genetics and management enhance production potential, energy needs to support production increase. However, interactions in the rumen can reduce fiber degradation and energy supply. This symposium is intended to review these interactions, discuss management approaches and suggest areas of further investigation.

Growth and Development – The Growth and Development committee are planning a symposium on "The Molecular Basis for Feed Efficiency." The area of residual feed intake has been of interest for several years, particularly from the quantitative genetics perspective. This symposium will focus on the molecular aspects of this area.

Horse Species – The Horse committee is planning a symposium on "Celebrating a Century of Progress in Equine Science." This symposium outlines a program where the leading experts in three areas of equine science will review the history (from 1908) and provide an outlook on the future of equine science. ***The Horse Species committee would like to encourage ASAS "equine" members to submit abstracts for the 2008 Joint Meeting and ASAS Centennial.***

Equine Science Society Program – In coordination with the Horse Species the Equine Science Society "Horse Genome Toolbox for Animal Science Applications." This symposium will teach animal scientists with an equine emphasis how to better understand and utilize the publicly available horse genome sequence released in February of 2007. To date, most studies utilizing equine genomics have been conducted by veterinarians studying hereditary traits, especially those involved in equine disease. However, more research is needed to investigate the interaction between gene expression and regulation and equine nutrition, behavior, reproduction, and exercise physiology. The proposed workshop will focus on two main areas 1) how to find and retrieve information from the horse genome, and 2) how to understand basic functional genomics techniques. ***The committee is encouraging abstracts that focus on applications of functional equine genomics be submitted to the 2008 Joint Meeting.***

International Animal Agriculture – The International Animal Agriculture Committee has planned a symposium on "Welfare in animal production: From science to practice." Animal welfare has become an increasingly important issue due to the fact that citizens in many parts of the world demand that animals are treated as humanely as possible. This symposium will focus on strategies to improve animal welfare in various species and around the world.

Lactation Biology – Please see Triennial Lactation Symposium

Meat Science and Muscle Biology – In addition to co-sponsoring the Alpha Beef Cattle Nutrition Symposium the Meat Science and Muscle Biology Committee has planned a symposium on "Postmortem Changes in myofibrillar protein and the associated contribution to meat quality." The U.S. livestock and poultry meat industries produce beef, pork, and poultry meat valued at approximately \$60,000,000,000 each year. One of the primary considerations for growth and profitability in meat production industries in the global market is to produce the most lean muscle tissue for conversion to meat at the least cost. Excellent animal scientists have conducted a significant amount of work over the years to improve production efficiency and define production factors that can influence meat composition and quality. Considerable progress has been made in this arena considering that livestock production costs in the United States are among the lowest in the world. However, consistent production of meat that satisfies

quality specifications is still a significant problem in our industry. Inconsistent water-holding capacity, tenderness and sensory properties of beef, pork and poultry meat cost the livestock and poultry industry several hundred million dollars each year. There is considerable evidence that a great deal of variation in meat quality is explained by postmortem changes in myofibrillar protein. There is also evidence that calpain proteinases catalyze these changes. The proposed symposium will explore developments in this area and how these developments contribute to variation in meat quality.

Mixed Models Workshop – The Mixed Models Workshop will be offered again at the 2008 Joint meeting. This workshop will cover:

1. Introduction to mixed model analysis
2. Repeated measures analysis
3. Mixed model analysis of categorical data
4. Growth curve modeling using random regression, nonlinear and spline models.
5. Power and sample size determinations for comparing alternative designs for continuous and categorical data.

Nonruminant Nutrition – The Nonruminant Nutrition committee has planned three symposia.

The first symposium is on “Oxidative Stress and the Use of Antioxidants for nonruminant animals.” This symposium aims to discuss oxidative stress of pigs and how it can affect the potential growth and health of pigs, and to provide up-to-date knowledge on mechanisms of how and what types of antioxidants reduce oxidative stress of pigs for enhancing growth performance, health, and reproductive performance. The second symposium topic is “Which Energy System for Pigs?” Energy is the most fundamental of the dietary needs, because it drives all processes in the body. Unfortunately, the limited accuracy and precision of our systems for measuring the needs and supply of dietary energy limit the precision of our diet formulations. These limitations ultimately influence the efficiency and profitability of pork production. The results of a large multi-institutional research program on energy systems will be available for the 2008 ASAS meeting. This symposium will use the results of this research program to advance the discussion of potentially improved energy systems. The third symposium topic is “Mineral Absorption: What is known?.” Increasing environmental pressures have pushed the animal agriculture industry to try and produce animals more and more efficiently to improve the efficiency of dietary nutrient utilization and therefore decrease excretion. Major improvements have been made in this area through nutrition, such as the use of phytase in nonruminant diets. However, our basic understanding of how nutrients are absorbed and how these processes are regulated is still limited. Therefore, a symposium is needed, where the current knowledge regarding the mechanisms involved in nutrient absorption is discussed and the potential future applications of this basic knowledge are proposed.

Physiology and Endocrinology – The Physiology and Endocrinology program committee has planned a symposium on “Emerging Concepts on Dietary Components that Influence the Physiology and Endocrinology of Domestic Farm Animals.” In

livestock enterprises, feed represents the greatest percentage of the total cost of production. With an increasing proportion of harvested feedstuffs being diverted to alternative uses such as ethanol and bio-diesel production, the cost of animal feed is escalating, and there is an even greater need for a sound understanding of how various dietary constituents can either positively (e.g., dietary antioxidants) or negatively (e.g., mycotoxins) impact growth and reproductive performance. A basic understanding of how these dietary factors impact the physiology and endocrinology of livestock species is paramount to the development of applied feeding strategies for maintaining profitable livestock production in the face of rising feed costs.

Ruminant Nutrition – The Ruminant Nutrition Committee will sponsor two symposia. The first symposium is on "Glycerin as a feed for ruminants." The recent growth of the U.S. biodiesel industry has provided an economic stimulus for domestic agriculture and has also resulted in an increasing availability of ruminant feed co-products, most commonly glycerin. Over the next ten years, the supply of feed co-products will grow rapidly, but their use in ruminant feeding systems is uncertain. Although many beef nutritionists routinely include glycerin in feedlot diets, inclusion levels of these products is usually conservative because of a lack of credible research. Current predictions of future biodiesel plant output suggest that there be greater pressure to increase the inclusion of this feedstuff in the diet of ruminants. Despite being a good source of energy, there are concerns over its interaction with the nitrogen requirement and possible contaminants.

The second symposium is to be co-sponsored by the **Production, Management & Environment** committee and is on "Designing field studies to evaluate nutrition effects on production, reproduction and health of dairy cows." Field trials are commonly used to evaluate nutrition effects on production, reproduction and health of dairy cows. However, there are numerous pitfalls associated with incorrect statistical design and analysis. This symposium will first review the limitations of these field trials and second present suggestions for appropriate designs.

Small Ruminant – A symposium on "The US Goat Meat Industry and Recent Sheep and Goat Activities at the National Research Council of The National Academies" will be sponsored by the new formed Small Ruminant Committee. The NRC of The National Academies has had recent activity with small ruminants. The Committee on the Nutrient Requirements of Small Ruminants completed their work in 2007 with publication of Nutrient Requirements of Small Ruminants: Sheep, Goats, Cervids, and New World Camelids. The Committee on the Economic Development and Current Status of the Sheep Industry in the United States is in the process of writing its final report which is due out in January 2008. It is important that results of these two committees be brought to the scientific community while the information is fresh. The Goat Species Section had a Goat Nutrient Requirements symposium at the 2007 annual meeting that presented the new Goat NRC requirements. The new NRC sheep requirements have not been presented. The two proposed presentations on NRC Nutrient Requirements of Small Ruminants will go into more detail, with information on the models used in development of the new requirements, than the Goat Species symposium in 2007.

Swine Species –The Swine Species Committee will sponsor a symposium on “Intestinal Barrier Function.” This symposium is a follow-up to the 2007 intestinal barrier functions impact on seasonal infertility symposium. The symposium will have two basic researchers to give a solid basis for the science of what is being discovered and two applied scientists giving their perspective of how the knowledge of this science is being applied in the field of swine and livestock production.

Teaching/Undergraduate and Graduate Education – The symposium on “The Changing Student and Influence of Technology on Learning” is sponsored by the Teaching/Undergraduate and Graduate Education Committee. Students are always changing, bringing new experiences that are very different from instructors. For example the current students have always used computers and expect to do everything with them. In contrast, most instructors come from a time when computers were not common and certainly do not expect them to be used as an active participant in the classroom.

Triennial Lactation Symposium – The Triennial Lactation Committee and the Lactation Biology Committee will co-sponsor a symposium on “8th International workshop on the Biology of Lactation in Farm Animals and Lactation Biology Symposium.” The workshop offers scientists from around the world access to a unique, interactive opportunity to dialogue on the latest developments in lactation with a specific emphasis on farm animal species. The proposed themes for this workshop focus on new ideas related to immune biology and control and on manipulation of colostrogenesis to improve neonatal health and nutrition.