

**Highlights and Special Requests for Abstracts from the Program Committee  
2007 Joint Meeting of ADSA PSA AMPA and ASAS  
San Antonio, Texas  
July 8-12, 2007**

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 2007 Joint ADSA PSA AMPA ASAS meeting, please check the web site <http://adsa.psa.ampa.asas.org/meetings/2007/>.

**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 San Antonio. The Southern Branch of ADSA is planning a symposium: "Keeping Dairying Going and Growing".

**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.psa.ampa.asas.org/meetings/2007/>) 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.

### **PSA Student Competition**

- The PSA Student Research Paper Certificates of Excellence winners will be selected by the PSA Program Committee Members.
- In special recognition of high-quality research papers presented by students at the Annual Meeting, the Program Committee for the Annual Meeting shall evaluate these papers for the purpose of awarding Certificates of Excellence. The awards shall be based on both the quality of research and excellence of presentation. Only one paper per author shall be eligible to compete for any given year. This paper will be so designated on the abstract form.

**ADSA Production Division** – The ADSA Production Division is planning a symposium on “Improving Production, Viability, and Reproduction of Dairy Cattle during Periods of Heat Stress”.

**Alpharma Beef Cattle Nutrition** – The topic of the Alpharma Beef Cattle Symposium is “Manipulation of Nutrient Synchrony”. This symposium will revisit the importance of nutrient synchrony for improving production efficiency of ruminants.

**ARPAS** – The American Registry of Professional Animal Scientist will have a symposium on "Current and Future On-Farm Auditing & Assessment." This symposium will evaluate the forces that are seeking more accountability by livestock producers in regards to animal welfare, safe food production and environmental stewardship; what accountability may be sought; who will do the auditing and assessment, plus who will train these professionals.

**Animal Behavior and Well-Being** – The Animal Behavior and Well-Being Committee has developed a symposium on "New Methodologies in Animal Well-Being Analysis." This symposium will highlight the roles of infomatics and modeling in the study of behavior and well-being. Examples of the application of several cutting edge methodologies in this field will be given to include the application of neural network analysis, identification of quantitative trait loci, video capture analysis, and mathematical modeling to the study of animal behavior and well-being.

**Bioethics** – The Bioethics Committee has planned two relate symposia. The topic of the symposia is on "The Ethics of Food Animal Production, Processing and Marketing." 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. Currently the food animal system (and other animal use systems) has not adequately addressed the issues presented to society by well-funded professional animal activist organizations. Some groups focus on welfare, some on abolition via welfare arguments. It is imperative, if an ethical and efficient food animal system is to exist in the future; members today understand the issues and respond effectively proactively and positively. The Bioethics symposium, session 1 and 2, provides the mechanism for this to happen.

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

The first symposium is on "New challenges and opportunities from automation of animal data recording." This symposium will discuss some of the near term technologies and also issues such as reliable electronic ID, uploading directly data from farm computers to central data base, statistical procedures (such as methods related to statistical process control and others) for smoothing day-to-day variability, possibilities for collecting/accessing reliable health indicator data, and use of the data for daily herd management decision-making.

The second symposium is on "Genome sequences and their applications to genetic evaluation." The last two years have seen the sequencing of the genomes from multiple livestock species. Chicken, Cattle, Pig and Horse are either sequenced or being sequenced. These genome sequences are being used to identify polymorphic markers such as SNPs and indels which can be used for marker assisted selection or to manage animal based on genotype. This will have a significant impact on how large scale animal agriculture is carried out in the future.

**Companion Animals** – The Companion Animals Committee has planned a symposium on "Pet Food Ingredients - Mining, Dredging, and Extrapolating Effective Nutrient Delivery". The objective of this symposium is to explore recent advances in our knowledge of the availability of nutrients in different classes of ingredients and to identify gaps in our knowledge to spur future research and discovery.

**Dairy Foods** – The ADSA Dairy Foods Division has planned three symposia.

The first symposium topic is on "The Dairy Management Inc. National Dairy Foods Research Center Program: Responding to Industry Needs for New Technologies, Products and Markets." Dairy Management Inc.–the organization responsible for increasing demand and sales for U.S.-produced dairy products on behalf of America's dairy producers–supports dairy research centers across the country to conduct and deliver leading-edge, innovative research and technologies that can be utilized by dairy, food and beverage manufacturers and suppliers. DMI and the Centers will present key research findings that will help processors in creating and introducing new and/or improved dairy products, ingredients, processes and packaging and foster collaboration among dairy scientists and the scientific community.

The second symposium topic is on "On the road from analysis and discovery of functional milk bioactives to new products and health outcomes." This symposium is of high interest and high impact as it highlights and discusses issues around the value chain for dairy and the translation of research of specific dairy components into production strategies and new product development. The aim of this symposium is to highlight research in the areas of analytics, production and clinical studies that use examples of current research into milk bioactive components. Each researcher will

highlight latest findings in their area and highlight an aspect of bringing milk bioactive products to practice/market.

The third symposium has been organized by the Milk Proteins and Enzymes Committee. The topic is on "Proteomics and Milk." The field of proteomics, especially in life sciences has advanced greatly in the last decade. We aim to present the current status of this important field, which also complements the advances in the field of 'genomics'. Biologically active molecules in milk will also be addressed.

**Extension and Education** – The Extension Education Committee has planned two symposia (session 1 & session 2) for the 2007 Joint meeting.

The first symposium topic is "Accountability Issues in Extension: Identifying, Measuring and Reporting Impacts." Extension programming is integral to successful Land Grant University efforts to address the needs of stakeholders in agriculture, and communities impacted by the type and size of animal agriculture. Accountability of Extension programs (Session 1) is a topic that has great significance at all levels due to increased scrutiny of programs when evaluating funding options. At the Federal level, a recent review of CSREES/PAS and national animal science programs was found deficient due to our inability to relate the impact of Extension programs throughout the nation due to insufficient data. State program evaluation also requires accountability and reliable data and success stories.

The second symposium topic is "Changing the Future of Food Animal Production." This symposium will focus on how we must adapt to changes in stakeholder demographics and how we can realize positive change in all size categories of clientele. Responsibilities include how we impact change in preparation or response to or preparation for emergency or controversial issues.

**Food Safety** – A symposium on "Current and Future *Salmonella* Challenges" has been planned by the Food Safety Committee. Due to the large volume of information on *Salmonella* and the continuous severity of its food safety problems, it is important to provide assessment of the problem with regard to the beef, dairy, swine, and poultry industries. Thus, this 2007 Joint Meeting offers an opportunity not only to provide that needed assessment but also to provide directions on how to aggressively address the problem.

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

The first symposium topic is "Understanding Diet Selection in Temperate Biodiverse Pasture Systems." This symposium will discuss contemporary interdisciplinary research that evaluates dietary selection, including preference and plant-herbivore interactions, to optimize utilization of biodiverse pasture systems.

The second symposium topic is "Tropical forages: Management and Environmental Issues Affecting Use Efficiency." Agricultural areas for crop production are extremely

limited in most Latin-American countries and future increases in animal production must come from intensification of grazing systems. Efficient use of emerging technologies will be required to meet the increased demands for high quality milk and meat. A holistic approach incorporating natural resources, animal production systems, economics and quality of meat and milk is required to understand the dynamics of animal production in the tropics. Scientific understanding and incorporation of the environment-soil-forage interaction in production is key to this process. The proposed symposium addresses these important issues.

**Goat Species** – The Goat species committee has planned a symposium on "Nutrient Requirements of Goats." Goat production is a growing activity with great economical expectations in the US and worldwide. The capability of goats to thrive under adverse conditions implies a potential for different regions and countries. Also, the ability of goats to harvest browse selectively, allows land restoration and complimentary exploitation with sheep and cattle. Therefore, there is a high and growing demand on updated information on nutrient requirements of goats, because the latest publication was done during 1981. This symposium will be an opportunity to discuss the new nutrient recommendations for goats and the areas that need improvement with research.

**Growth and Development** –The Growth and Development committee planning a symposium on "Transcriptional factors and cell mechanisms for regulation of growth and development with application to animal agriculture." The symposium covers emerging areas of investigation on the expression of genes associated with muscle formation, the transcriptional regulatory factors and micro RNAs, and then progresses to the cellular signaling mechanisms after the genes are expressed. The capstone talk of the symposium will interrelate the importance of the gene expression information to the applied aspects of domestic animal growth.

**Horse Species** – The Horse committee is planning a symposium on "Recent advances in Understanding Metabolic Disorders in Horses." There have been significant, cutting edge advances in the areas of the three proposed talks that are of vital interest to horse owners. The presentations will give the most up to date information available on the diagnosis and management of three of the "hottest" topics in the equine industry

**International Animal Agriculture** – The International Animal Agriculture Committee has planned a symposium on "Global Livestock and Poultry Issues." Issues related to livestock and poultry across the world vary widely from Africa in one extreme to North America, Europe, and a few other countries in the other extreme, with some countries in Latin America and Asia in the middle. This applies to aspects related to the role of animal source foods in human health and nutrition, income generation, environmental impact of livestock production, trade, etc. This symposium will address how these issues vary across countries.

**Meat Science and Muscle Biology** – The Meat Science and Muscle Biology Committee has planned two symposia that will address packaging and marinating. The

current need for the discussion of meat and poultry marinating and packaging is a very important area for research as well as public policy. Consumer interest, public policy debates and emerging technologies make this an area of importance for academia, industry and USDA

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

The first symposium is on “Lessons and Logistics of Application of Digestible Amino Acids in Diet Formulation.” Digestible amino acid values are considered by many to be the best measure of the amino acid value of ingredients. Unfortunately the amount of digestible amino acid data that is available, particularly for some ingredients, is not very large and so the application or extrapolation of the data may be suspect. For example, primary digestible amino acid coefficients published by the amino acid suppliers vary to some degree, in part due to the inherent differences in experimental methodologies. Commercial nutritionists, therefore, are finding it difficult to make the switch to using digestible amino acid values so that they can efficiently and effectively use alternative feed ingredients.

The second symposium topic is “Understanding Protein Synthesis and Degradation and Their Pathway Regulations for Improving Monogastric Production Efficiency and Product Quality.” Intracellular protein synthesis and degradation and their regulations are essential to understand or manipulate animal nutrition and metabolism at the basic levels. Improved whole body protein synthesis and reduced protein degradation rates would lead to improved productivity as well as enhanced efficiency of energy and nitrogen utilization. In addition, intracellular protein degradation processes especially the non-lysosomal  $Ca^{2+}$ -dependent protein degradation pathway is implicated in post-mortem muscular protein degradation and the control of meat flavor.

The third symposium topic is "Natural Phytobiotics for Health of Young Animals and Poultry: Mechanisms and Application." This symposium aims to (1) introduce recent advances in phytobiotics research including identification and mechanisms and also to (2) provide current and future application in animal and poultry production.

**Physiology and Endocrinology** – The Physiology and Endocrinology program committee has planned a symposium on “The role of omega-3 and -6 fatty acids in regulation of reproductive function.” During the past several years, demand for aids in reproductive function particularly for dairy cattle have created markets for a variety of products and commodities containing omega fatty acids. Research supporting diet supplementation with these acids as aids in reproductive performance is available, yet this research has not been consolidated and reported to the industry in a comprehensive fashion. A symposium for presentation of a comprehensive reporting on benefits, or detriment, of omega fatty acids on reproductive function would benefit scientists and industry personnel involved in all areas of livestock reproduction.

**Production, Management and Environment** – The Production, Management and Environment Committee will sponsor a symposium on “The evolving National Animal

Identification System.” The USDA has announced that there would be a national animal identification system to trace animal disease. The implementation of such a broad system has a number of challenges from data ownership, data management, application of technology in a wide range of species and production environments and general apprehension of any government program. When the program was first announced, the industry had more questions on the actual implementation than could be answered. This symposium will answer some of the previously unanswered questions and point to areas that will still require more study.

**Ruminant Nutrition** – The Ruminant Nutrition Committee will sponsor one symposium and two invited speakers.

The symposium is on "Opportunities to Improve Forage Utilization and Rumen Function." This symposium will provide current information that is needed by nutritional consultants, researchers, and extension specialists dealing with ruminant livestock consuming forage-based diets in a production setting. In addition, we anticipate concluding this symposium by tying together all of the information presented and recognizing the areas in need of further research.

The Ruminant Nutrition program committee has invited two speakers to open oral session presentations on such topics as "Maintaining Milk Components When Feeding Corn Milling Co-Products" and "Environmental Concerns with Feeding Corn Milling Co-Products in Feedlot Diets". ***The committee is encouraging abstract submissions on related topics to complete the sessions.***

**Sheep Species** – A symposium on “Biology and Management of Low-input Lambing Management in Easy-Care Systems” will be sponsored by the Sheep Committee. Sheep management is regarded as difficult and time-consuming primarily because of previous recommended practices for lambing management. Significant recent research and management developments indicate that lambing management could be much easier if farmers and scientists were aware of management procedures that would enhance maternal & lamb behavior for successful bonding at lambing time in easy-care systems. This symposium will address these issues by reviewing recent information about the biology of the ewe-lamb bond, genetics of lamb survival, an example from a successful sheep farmer, and an address about how to transition to an easier-care sheep management system.

**Swine Species** –The Swine Species Committee will sponsor a symposium on “Impact of Season on the Boar and Sow.” The topic of seasonal infertility and the manifestations of seasonal influences on reproductive performance of sows and boars are still not completely understood. The lost profit from decline in reproductive performance is a large impact in the swine industry. This is a problem which seems to be quite global other than tropical equatorial regions. The hog cycle has never been completely removed all though more management practices have been implemented to try and control the impact of lost production that occurs due to season. This symposium should

have a broad range of interest for anyone involved with the swine industry and appeal to international attendees as well.

**Teaching/Undergraduate and Graduate Education** – The symposium on “Shaping Animal Sciences Curricula for 2020” is sponsored by the Teaching/Undergraduate and Graduate Education Committee. The face of agriculture and of the animal sciences has changed dramatically over the past twenty years. Traditional animal sciences curricula may no longer meet the needs of our students or the industry. This symposium will examine animal sciences curricula from a historical perspective; consider changing demographics and enrollment trends; explore new and innovative strategies for educating students in the animal sciences; and consider future trends and directions. This symposium will identify challenges and propose strategies for successfully shaping the animal sciences curricula of the future.

**There are three additional teaching related symposia planned for the 2007 Meeting.**

The first teaching related symposium topic is “Enhancing the Undergraduate Learning Experience in Animal Agriculture, Through the Integration of Teaching and Research.” Enhancing the learning experience will improve the animal industry through the training of high quality people, by preparing students for graduate work, and for building a foundation for a life of inquiry. Recruiting students through strategies involving learning through inquiry has been shown to have been very effective in some places. The implementation of the Boyer Commission Recommendations in research-intensive universities could benefit from discussions of examples of how some universities have accomplished this.

The second teaching related symposium topic is “From Choosing a Graduate Program to Embarking on a Successful Career: A Guide for Livestock and Poultry Science Students.” As we move forward with strategic planning, there are several themes emerging in terms of needed membership services. In particular, graduate students are requesting symposia designed with the graduate students in mind. Specifically, requests are for formal programs for advice ranging from choosing graduate programs, navigating through graduate school, becoming effective teachers, early financial planning, to how to leave graduate school and embark on a successful career. This symposium will address these issues.

The third teaching related symposium is “Swine Teaching Symposium at the National ASAS Meeting.” This symposium will encourage continual improvement in the quality of learning experiences for students interested in careers in the pork industry. We also hope to foster sharing of swine teaching resources and philosophies and increase the number of students who enroll in a swine class in the USA.

**Triennial Growth Symposium** – The Triennial Growth Committee will sponsor a symposium on “Exploring the interface between growth biology and immunology.” In recent years scientists have discovered that some signaling hormones and cytokines



regulate both growth processes and immunology. Furthermore, we now know that growth tissues (adipose and muscle) express cytokines which regulate immune function and, furthermore, that immune cells secrete growth regulating hormones and cytokines. Understanding these relationships will provide the biological basis by which animal health and growth biology interact. This is a new area of research not previously presented in this symposium.

**Information Nutrition Symposium** – The topic for the 2007 Information Nutrition Symposium is “The Impact of Imprinting on Biological and Economic Performance of Animals.” This is a historical program to attract industry and academic scientists and determine critical areas of research and application. This year will be more special because the symposium will combine all the species represented in the combined annual meeting.