What's a DASEE?

DASEE (pronounced: Daisy) is an acronym for Dairy and Animal Science Electronic Executive Summaries. They are a product of a collaboration between ADSA and ASAS to provide timely, useful, information to knowledgeable professionals working in industries related to animal agriculture. Each DASEE focuses on a topic of current interest in one of six interest areas: dairy foods, dairy production, large animal health, large animal nutrition, beef production, and swine production.

DASEE issues pull together short news stories relevant to the audience, one peer-reviewed study or review from the Journal of Dairy Science or the Journal of Animal Science on the issue topic, several extension or practice-oriented articles or guidelines, a few questions to promote further inquiry, and a discussion area for readers to exchange ideas and information. As each DASEE is released, subscribers will receive an email message outlining the contents with "click-through" links to the DASEE web site. Currently, pilot issues are being produced, and anyone is invited to subscribe at no cost for the remainder of 2000 (if successful, this will be launched as a paid subscription service in early 2001).

Take a look at a sample Dairy Production DASEE on Johne's Disease by clicking here and/or a Dairy Foods DASEE on Probiotics by clicking here. If you would like a free pilot subscription to this service, send an email to Kent Williamson (kentw@assochq.org) indicating which editions you want to receive (dairy foods, dairy production, large animal health, large animal nutrition, beef production, or swine production). Feel free to offer suggestions for "focus topics" in future issues or other ideas to improve this new service.

ADSA Member Needs Survey

Where are we headed? You decide...

The ADSA Board and Foundation Trustees authorized creation of a member needs assessment survey at our recent meetings in Baltimore. Your responses to the online survey form will form the basis for multi-year planning, and can lead to the development of useful new member benefits. The questionnaire contains only 25 items and can be filled out and submitted in less than 15 minutes (click here for the online form). Please take the time now to weigh in with your ideas and opinions. Our goal is to have a report available to the membership in early 2001, so
we need to hear from you no later than November 15. Thanks for taking the time to build a brighter future for ADSA!

**Probiotics Discover Conference A Success**

Nearly 100 registrants participated in the fourth DISCOVER Conference on Food Animal Agriculture September 10 - 13, 2000 at Abe Martin Lodge near Nashville, Indiana. "Probiotics for Food Animals" focused on the use of probiotics, or direct fed microbials, to improve various aspects of growth and performance of livestock and poultry as well as control of undesirable microorganisms that might enter the food supply from animal sources. Preliminary data indicate the diversity of the audience for this cutting-edge meeting: 58% of attendees work in the private sector, 27% work in academe, and 10% work for a government agency. Nearly half characterize themselves as "researchers", while 28% provide technical service and 14% are extension/education specialists.

While other conferences have addressed probiotics and human nutrition, this conference was unique in focusing on probiotic use in livestock. In-depth discussions among participants and speakers during and after conference sessions allowed all to gain a better understanding of factors that can result in the successful uses of probiotics in the food animal industry. Among the sessions most highly rated by attendees were a panel discussion entitled "An Introduction to Direct Fed Microbials" and an evening session on "Regulatory/Legal Concerns". In keeping with the Discover Conference commitment to uninhibited scientific exchange, no proceedings from the meeting are available. Preliminary plans are being laid for Discover conferences in 2001, so watch for announcements about new developments in this popular seminar series later this year.

**News/Grants/Meeting Schedule/Member Achievements**

**International Dairy Focus: China**

*Chinese Dairy Production to Increase by 15% Annually Over Next 5 Years*

China's consumption of dairy products, especially of liquid milk, will surge in the next five years when the annual growth rate is expected to be 15 percent.

According to China Dairy Products Industrial Association, dairy production worldwide totaled 564 million tons last year. The world's average per capita consumption was 94 kilograms (207 pounds). Per capita consumption of dairy products in Asia was more than 40 kilograms (88 pounds), while in China, it was less than seven kilograms (15 pounds), reported the Sept. 13 issue of Zhongguo Shang Bao (Business Daily).

On the one hand, some dairy products are overstocked due to surplus production, poor solubility and displeasing taste. By contrast, most dairy enterprises are not automated, and
some have a hard time meeting market demand in terms of product variety and quality, the article said.

The government predicts that in five years, 50 percent of dairy enterprises will have mechanized milking. In addition, some enterprises will have computerized production procedures. Machines will package milk powder using nitrogen-filled seals, and most sterilization systems will be automated. Instant milk powder will be the predominant dairy product on the market.

Urban dairy producers will focus on producing liquid dairy products. It is estimated that by 2005, liquid milk production will reach 2 million tons nationwide. Dairy bases will emphasize milk powder production but will also produce freshness-preserved milk according to market demand. It is predicted that by 2005, national dairy production will reach 800,000 tons annually, the article reported.

For more information on agriculture in China, visit: http://www.farmchina.com

(Source: Chinaonline)

National Conference on Animal Production Food Safety

During the first week of September, the Animal Production and Food Safety conference was held as a follow-up to one held 5 years ago. Government sponsors were USDA and FDA, and the conference was administered by FASS.

Professional and industry sponsors included 23 entities including the Center for Science in the Public Interest. The Center's Dr. Crawford was asked to summarize the Conference; his remarks follow:

In 1995, many of you gathered to lend your wisdom to the difficult problem of Animal Production Food Safety. In thanking FDA and USDA for convening this conference, we have to express a debt of gratitude to all who have been instrumental in the impressive progress in food safety that has characterized the past 5 years. Perhaps most notable is the spirit of partnership that brought 30 distinct organizations to co-sponsor this meeting.

In listening to the comments of the 12 break-out session facilitators and in visiting a number of them during their deliberations, several recurrent themes have appeared. In effect, these seem to be the categorical conclusions of this very important conference.

• Producers want to know what are the criteria on which pre-harvest food safety can be judged and will it be profitable. In other words how are they to know when they are succeeding and will the money invested in on-the-farm food safety yield a return.
• Whether stated, inferred or implied, every safety assurance and quality control program cries out for third party auditing. Evaluation of the system's integrity and functionality can only be accomplished by a competent, independent third party audit.

• There is a great imperative for international congruence. Countries that import from or export to the United States have to be both informed and involved in food and nutrition policy development as it is being developed. Likewise, relevant international organizations such as FAO, WTO and WHO as well as reference scientific bodies such as Codex Alimentarius, OIE and the International Plant Protection Convention must be party to and a resource for these kinds of policy developments.

• The specific food safety concern that was mentioned most during this conference seemed to me to be antibiotic resistance. This is certainly a change from 5 years ago and represents a concern everyone here seems eager to contain and control.

• The necessity for reliable analytical methodology was major. Since 1995, laboratory methods have improved exponentially so much so that we may have moved into a laboratory verification mentality. Gone are the 1960s when few chemical contaminants could be reliably tested for and also gone are the 1980s when microbiological tests took too long. Virtually every major step in improving animal production food safety mentioned here in St. Louis involved some verification step. This is as it should be but we should recognize the incipient mood of "if you can't test for it, it is not there."

• In 1995 and all other years since its inception, there was a crisis over the availability of government funding for the Food Animal Residue Avoidance Database (FARAD). Similarly, a clear and emphatic message that was reiterated throughout this conference was that FARAD is an invaluable tool in the continuing efforts to control chemical residues in food. In short, FARAD must not be allowed to diminish or disappear for lack of funding.

In a conference such as this it is also important to hear what is not said. As we talked about setting up a pre-harvest food safety system and we again endorsed HACCP in the slaughtering and processing plants, we also gave lip service to systematic food safety for the transport, wholesale and retail segments of the human food delivery infrastructure. In passing, some mention was made once again of consumer education along the lines of "HACCP in the home." What was not remarked upon, was how hopelessly disconnected all of these disparate systems are and how a failure at any given point can only be amplified up the line.

In short, when it comes to human food safety, we are not there yet. Having fun in the plant with HACCP is useless if the food is contaminated upstream and even HACCP cannot systematize safety into all the food all the time when it is employed at only one discrete point. Unless we construct a system that inextricably links all the steps in food production to a thoroughgoing food safety plan that concentrates on reducing human disease rather than just counting pathogens, I think we will be back here in 5 years wondering what went wrong. I firmly believe the system that will take us beyond HACCP will turn out to be Food Safety Objectives. It is the only one I know that focuses on the
real problem human disease incidence as well as being the one system that embraces all aspects of food production and involves all health and food professionals in the effort.

New Food Tag Codes Animal Treatment

WASHINGTON (AP) - Starting Wednesday, the government will allow farmers to display a seal on meat and dairy products to attest that they treat their cattle and chickens humanely.

But the voluntary standards are so stringent that few farmers initially can meet them. To qualify for the 'Free Farmed" seal, farms would have to eliminate cages for laying hens and stop using forced molting, the withdrawal of food and water to increase egg production. Dairy cattle would have to have access to pastures.

Standards designed to improve farm conditions for broiler chickens and beef cattle also are in the package. Rules for hog farms are being written.

The American Humane Association developed the standards and set up a new organization, Farm Animal Services, to inspect farms that want to use the label. The Agriculture Department is to monitor the inspection process.

"If you want to improve the lives of farm animals, look for this label," said Adele Douglas, executive director of Farm Animal Services. "If your grocery store doesn't have it, ask the manager why not. The more consumer demand there is, producers will respond to that and the animals will be helped."

Products with the label initially will be available primarily in natural food stores and upscale supermarkets. A handful of farms have been approved for the program so far: an egg producer in Wisconsin, a group of dairy farms in northern California, cattle producers that supply a Montana processor.

The new program comes after McDonald's Corp. began last month forcing suppliers to improve the handling of animals in slaughterhouses and implement humane standards on egg farms. Although McDonald's continued to allow hens to be caged, its standards require the birds be given more room, and the rules also will ban forced molting.

"There are many production situations nowadays where animals are kept in close confinement and are not able to present many of their normal behaviors," said Joy Mench, director of the Center for Animal Welfare at the University of California, Davis. "In many cases they may not be able to turn around or lie down."

"Free Farmed" doesn't mean the animals are necessarily free-ranging. Chickens still could be kept indoors. However, the standards include minimum space requirements for both cattle and chickens.
Farms that raise broiler chickens will not be allowed to feed them antibiotics to stimulate growth. Meters will have to be installed on water lines. Cattle ranches would have to provide adequate windbreaks and shade, and the use of antibiotics as a growth stimulant also would be barred.

The seal will bear the words 'Free Farmed' and 'American Humane Association Monitored.' The program is based on a British system developed by the Royal Society for the Prevention of Cruelty to Animals.

Supporters of the program say that the U.S. market will initially be limited, but they expect it to grow as consumers become aware of it. "A large portion of the American people are very concerned about the social concerns of animal husbandry," said John Brunnquell, president of Egg Innovations of Port Washington, Wis., the only egg producer now approved for the program.

Farm groups say that growers already treat animals well, because it's in their interest to ensure the animals stay in good health. Industry groups also have voluntary animal-welfare standards for producers to follow.

"A cow that's well cared for is going to be a much better part of your dairy farm," said Chris Galen, a spokesman for the National Milk Producers Federation.

On the Net: AHA: http://www.americanhumane.org

**Humane Treatment of Live Animals Used in Research, Testing, and Teaching**

USDA Animal and Plant Health Inspection Service Extends the Comment Period to November 7 on the Agency's July 10 Proposed Amendments to the Animal Welfare regulations to promote the humane treatment of live animals used in research, testing, and teaching and to improve the quality of information that APHIS reports to Congress concerning animal pain and distress - APHIS is considering adding a definition for the term "distress" and to replace or modify the system used to classify animal pain and distress - APHIS Contact: Dr. Jodie Kulpa at (301) 734-7833 - APHIS August 21 Federal Register: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=00-21173-filed

**Control of Feedlot Odors and Bacteria**

USDA Agricultural Research Service reports on the results of research involving the addition of substances, including the essential oils carvacrol and thymol, to feedlot manure which result in reduced emissions of global warming gases, reduced levels of pathogenic bacteria, and reduced offensive odors - ARS notes that carvacrol and thymol are constituents of oregano oil. They can also be found in thyme and many other common herbal plants. Commercially, the compounds are synthetically produced and are often minor ingredients in foods and personal care products. In a September 12 news release, ARS researchers reported that these essential oils
can reduce the populations of fecal bacteria such as Escherichia coli in slurries. Now the scientists are taking their research to manure in the feedlot to test the essential oils against the potentially deadly bacteria E. coli O157:H7 and other pathogens - ARS Contact: Vincent Varel, ARS Meat Animal Research Center in Clay Center, Nebraska at (402) 762-4207; fax: (402) 762-4209, e-mail: varel@email.marc.usda.gov - A copy of the ARS news release is posted at the following www site:http://www.ars.usda.gov/is/pr/2000/000912.htm

Use of E-Mail to Submit Information to FDA Agencies


Control of Discharges from Concentrated Animal Feeding Operations - EPA Seeks Public Comments by October 20 on a "Proposed National Pollutant Discharge Elimination System (NPDES) General Permit For Discharges From Concentrated Animal Feeding Operations in Arizona" - A public hearing on the proposed permit is set for October 12 in Phoenix - EPA Contact: Shirin Tolle at (415) 744-1898 or Jacques Landy at (415) 744-1922 - An electronic copy of the draft permit should be posted at the following EPA www site: http://www.epa.gov/region09/water/npdes/index.html

(permit link located under section heading Draft NPDES permits)

National Advisory Committee on Microbiological Criteria for Foods

USDA FSIS, in cooperation with FDA, announces that the Charter of the Committee has been renewed, a copy of the charter for which is posted on the FSIS homepage at http://www.fsis.usda.gov under mission and activities - FSIS notes that the Committee will be charged with advising and providing recommendations to the Secretaries on the development of microbiological criteria by which the safety and wholesomeness of food can be assessed, including criteria for microorganisms that indicate whether foods have been adequately and appropriately processed - Contact: Dr. Carol Maczka, USDA, Food Safety and Inspection Service at (202) 690-6540
BSE Control Draft Report Issued by the UK Food Standards Agency

The report concludes that "... The evidence is that the current controls, which are based on a precautionary approach, are working. But, because of the high level of uncertainty, the review suggests that the current approach be retained in the immediate future subject to emerging scientific knowledge." - An electronic copy of the report upon which comments are sought until the end of October is posted at the following www site:http://www.bsereview.org.uk

Effectiveness of New Animal Drugs

FDA Office of Information Resources Management Seeks Public Comments by October 16 on Extension of an Existing Information Collection Request, Titled: "Substantial Evidence of Effectiveness of New Animal Drugs--21 CFR Part 514," which addresses reporting requirements necessary to meet the substantial evidence standard to demonstrate the safety and effectiveness of a new animal drug - FDA Contact: Denver Presley at 301-827-1472 - FDA notes that "Substantial evidence is the standard that a sponsor must meet to demonstrate the effectiveness of a new animal drug for its intended uses under the conditions of use suggested in its proposed labeling. It is defined as evidence consisting of one or more adequate and well-controlled studies, such as a study in a target species, study in laboratory animals, field study, bioequivalence study, or an in vitro study, on the basis of which it could fairly and reasonably be concluded by qualified experts that the new animal drug will have the effect it purports or is represented to have under the conditions of use prescribed, recommended, or suggested in the labeling or proposed labeling thereof. The provisions of Sec. 514.4(a) provide the agency with greater flexibility to make case-specific scientific determinations regarding the number and types of adequate and well-controlled studies that will provide, in an efficient manner, substantial evidence that a new animal drug is effective." - FDA Contact: Denver Presley at 301-827-1472 - FDA August 16 Federal Register: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=00-20720-filed

Grant Opportunities

POSTDOCTORAL FELLOWSHIP OPPORTUNITIES AT IFPRI

IFPRI is now accepting applications for three one-year postdoctoral fellowships for the year 2001. The fellowships are designed to generate sustained capacity to undertake food and agricultural policy research in developing countries. Applications will be accepted until October 30, 2000. For information on eligibility and application procedures, go to: http://www.ifpri.org/position/pdfellow.htm For more information, contact Suresh Babu at S.Babu@cgiar.org.

AJCC Research Foundation--2001 Competitive Research Grants

Sponsored by the American Jersey Cattle Association
The AJCC Research Foundation sponsors competitive research grants annually to fund projects addressing significant issues for the Jersey breed and Jersey milk producers. Since its inception the Foundation's competitive grants program has provided partial or full funding for worthy projects annually. Awards averaged $4,900 per project over the past five years. Priorities for 2001 research funding include:

- Nutrition of high-producing Jerseys
- Factors affecting yield of products manufactured from Jersey milk;
- Factors affecting net income, longevity, and lifetime profit;
- Breeding plans to optimize genetic gain while maintaining genetic diversity;
- Biological and economic efficiencies of Jerseys; and
- Factors affecting management of Jersey calves;

Submission Deadline is December 1, 2000. For full details, visit http://www.usjersey.com or email cwolfe@usjersey.com. You can also call Cari W. Wolfe at 614-861-3636, send a fax to 614-861-8040, or write to American Jersey Cattle Association, 6486 Main Street, Reynoldsburg, OH 43068-2362 USA.

POSITION VACANCY

UNIVERSITY OF WISCONSIN-MADISON

Co-Director of the Babcock Institute for International Dairy Research and Development
And
International Coordinator in the Departments of Animal Sciences & Dairy Science

The University of Wisconsin-Madison seeks one Academic Staff member to serve as both Co-Director of the Babcock Institute for International Dairy Research and Development and also as International Program Coordinator in the Departments of Animal Sciences and Dairy Science.

The Babcock Institute was established in 1991 to foster mutually beneficial ties between the U.S. dairy industry and dairy industries around the world through 1) Education and training programs; 2) World market and trade analysis; 3) Research collaboration and scientific exchange. The Institute currently has an annual budget of approximately $500,000. For further details, see the Institute's website at http://babcock.cals.wisc.edu.

The successful applicant will have training and experience in the biophysical sciences and will share Institute leadership responsibility with the other Co-Director, a senior agricultural economist. The two Co-Directors are supported by a full-time Associate Director and other staff members.

Leadership of the Babcock Institute requires (1) developing annual proposals and budgets for core funding and seeking additional project funding; (2) creating and responding to opportunities to serve the dairy industry; (3) developing and maintaining strategic partnerships
with U.S. and foreign firms, cooperatives and associations as well as with state, national, and international public organizations; (4) stimulating and supporting disciplinary and interdisciplinary faculty research and teaching contributions to the Institute's mission; and (5) working with partner organizations and with the faculty and the Institute staff on research, teaching and outreach programs. The Institute is currently in a growth phase, and thus the new Co-Director will be expected to develop new funding sources and new partnerships.

The successful applicant will contribute to the Animal Sciences and Dairy Science Departments' international missions by working with faculty to (1) establish linkages with appropriate international and domestic research institutions, (2) obtain external funding, and (3) develop and help implement applied research/outreach programs; 4) develop guest lectures and course modules emphasizing international agriculture, (5) coordinate study abroad and international internships, and (6) develop course materials for international outreach education with emphasis on distance learning and web-based materials.

A period of evaluation will be required

Degree and area of specialization: Ph.D. or M.S. in biophysical sciences required.

Minimum number of years and type of relevant work experience: 3-5 years appropriate experience in animal sciences or related disciplines required. International experience in teaching, research, or outreach concerning animal agriculture, preferably including environmental issues. Experience in interdisciplinary projects. Fluency in English is required; knowledge of at least one other language is desirable.

Appointment type: Academic Staff

Department(s): AG&LSC / INTL AG PRGS-ADM / DAIRY SCI / ANIMAL SCI

Full time salary rate: MINIMUM $50,000 ANNUAL (12 months) Depending on Qualifications.

Term: This is a renewable appointment.

Appointment percent: 100%

Anticipated begin date: NOVEMBER 01, 2000.

Number of positions: 1

To insure consideration, application must be received by: OCTOBER, 2000

HOW TO APPLY: Send resume, three references, and cover letter to
NOTE: Unless confidentiality is requested in writing, information regarding the names of applicants must be released upon request. Finalists cannot be guaranteed confidentiality.

UW-Madison is an equal opportunity/affirmative action employer

**Member Achievements**

Dr Douglas B. Emmons, ADSA Fellow and Emeritus Research Scientist, Food Research Program, Southern Crop Protection and Food Research Centre, Agriculture and Agri-Food Canada, received the prestigious IDF Award from the International Dairy Federation in Brussels, Belgium on September 19, 2000.

Virginia H. Holsinger, a retired chemist formerly with the Agricultural Research Service (ARS), was inducted into the ARS Science Hall of Fame on September 13. Holsinger's research achievements during her 41-year career at ARS led to increased use of milk products. She was also honored for her efforts in developing nutritious formulations for international food donation programs. She served as head of the Dairy Products Research Unit at the ARS Eastern Regional Research Center in Wyndmoor, Pa., from 1985 until her retirement in October 1999.

"Virginia Holsinger is a true humanitarian," said ARS Administrator Floyd P. Horn. "Her role in developing new and improved products for emergency feeding rations under the Food For Peace program, part of the U.S. Agency for International Development, has helped feed needy children and families around the world."

Dr. Todd Klaenhammer, William Neal Reynolds Professor in the Food Science Department at North Carolina State University was lauded as a distinguished professional member of IFT, having excelled in research and teaching and having shown visionary leadership in defining the national research agenda for food science and technology.

**Upcoming Meetings**

3rd annual International Dairy Short Course for Dairy Herd Management, October 1 - 3, 2000, The Babcock Institute, Madison, Wisconsin Phone: 608-265-4169; http://babcock.cals.wisc.edu

4th Annual Dairy Cleaning and Sanitation Short Course, Oct. 3 - 4, Cal Poly Dairy Products Technology Center, San Luis Obispo, CA; Phone: 805-756-6097
IDFT Expo 2000--International Trade Fair and Technical Seminar on Dairy & Food Technology; October 3 - 6, Pragati Maidan, New Delhi, India phone: 91-11-4633881; email: tafcon@def2.vsnl.net.in web: http://www.tafcon.com

World Dairy Expo, October 4-8, 2000, Madison, Wisconsin 608-224-6455 web site: http://www.world-dairy-expo.com

Senior Executive Briefing by MilkPEP Board on strategic marketing opportunities for fluid milk, Oct. 9, 2000, Westin St. Francis Hotel, San Francisco, CA; Phone: 202-220-3509 web: tboyle@idfa.org

Professional Dairy Heifer Growers--The PDHGA Southeast Region will hold two field days this fall. Leesburg, Georgia will be the site of the October 31 field day at the Phil Sumners farm, Pentahope Farms. The second field day will be in Statesville, North Carolina on November 1 at the County Extension Office with a tour of a new heifer facility at the Barry Meyers farm. For information, phone Brenda Carlson at 217-356-3182 or go to http://www.pdhga.org

UI Pork Industry Conference on Antibiotic Use in Livestock Production, Oct. 16 - 17, 2000, Holiday Inn, Urbana, IL phone: 217-333-0013;
web: http://www.ansci.uiuc.edu/antibiotic/program2.html

Food Safety Objectives: Public Health, HACCP and Science
December 4-5, 2000 Georgetown University, Washington DC, USA
Contact: Phillipa Orme, FSO 2000 Conference Secretariat
12 Church Street, West Hanney, Wantage, Oxon OX12 0LN, UK
Tel: +44-1235-868811
Fax: +44-1235-868811
E-mail: p.orme@dial.pipex.com

Innovative Technologies for Planning Animal Feeding Operations Conference, December 4 - 6, 2000, at the Renaissance Denver Hotel, 3801 Quebec St., Denver, CO 80207-1629, Phone 303-399-7500 http://www.highplainspilot.com

Plant & Animal Genome IX Conference January 13 - 17, 2001
Town & Country Convention Center San Diego, California Phone: 1-212-643-1750 (extension 20)
Internet e-mail address: pag@scherago.com

NRAES Conference on Milking Systems and Parlors: Planning and Managing for Quality Milk and Profitability, January 30 - February 1 Harrisburg, PA; Phone: 607-255-7654; web site: http://www.nraes.org

Ice Cream Technology Conference, March 7 - 9, 2001 Doubletree La Posada Resort, Scottsdale, AZ; phone: 202-737-4332; web site: http://www.idfa.org

Food Safety Summit and Expo, April 17 - 18, 2001 Marriott Wardman Park, Washington, DC; 800-746-9646; web: http://www.foodsafetysummit.com

14th Annual J.R. Brunner Protein Symposium, May 24 - 25, 2001, Michigan State University, Kellogg Hotel and Conference Center, East Lansing, MI phone: Dr. Zeynep Ustunol at 517-355-0285; email: ustunol@pilot.msu.edu

Contact: Sarah Wilkinson, NIZO Dairy Conference Secretariat Elsevier Science, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK
Tel: +44-1865-843691
Fax: +44-1865-843958
E-mail: sm.wilkinson@elsevier.co.uk

IX World Conference on Animal Production, October 26 - 31, 2003, Porto Allegre, Brazil
Information is available at conference web site: www.waap.it/9thworld.htm or by contacting Leonard S. Bull, Vice President of WAAP for North America at leonard_bull@ncsu.edu.