International Poultry Scientific Forum

The annual International Poultry Scientific Forum of the Southern Poultry Science Society (SPSS) and the Southern Conference on Avian Diseases (SCAD) were held Jan. 14-15 in Atlanta, Georgia, directly preceding the 54th meeting of the International Poultry Exposition (Jan. 16-18) at the Georgia World Congress Center. The meetings were co-sponsored by the U.S. Poultry and Egg Association. Association President Don Dalton invited all members of the industry to attend. He indicated that revenue from the exposition is spent on educational, research, and promotional programs in conjunction with a variety of organizations to benefit the industry. There were nearly 19,000 participants from 50 states, Puerto Rico, and 88 countries. These included 939 exhibitors with the latest in products and services for the industry (Watt Poultry). The next exposition will be held in Atlanta, Jan. 22-24, 2003.

The International Poultry Scientific Forum was made up of SPSS research findings from universities, research institutions, regulatory agencies, and environmental agencies from around the world. All were geared toward poultry production, nutrition, processing, further processing, and waste management. All the SCAD presentations were in the field of poultry diseases. There were 243 papers and posters presented.

Poultry Litter, Management, Processing Research

Litter

A paper on Mississippi litter production assessment indicated a need for alternatives to spreading litter on land because there is no accurate method to predict seasonal output. All respondents used pine shavings as litter. The majority (45%) indicated that their litter was used for up to two years before complete clean out. Only 3% cleaned out after every flock. Litter is spread in spring (31%), fall (6%), and summer (4%), but no litter is land-applied in winter. Most respondents (36%) have nutrient management plans in place and a great number of them (34%) use their litter on their own land. They also sell some, give some away, and trade some of the litter. No new disposal pits are being built for dead bird disposal, but if these already exist, they are still being used.

Work done at the University of Arkansas on litter amendment with Poultry Guard indicates that it reduces the pH of litter enough to affect the growth and survival of Salmonella. Poultry Guard was tested at 25, 50, 100, and 150 pounds per 1,000 square feet. Treatment of litter with 150 pounds per 1,000 square feet was more effective and longer lasting.

Management

Work done at the University of Georgia determined that water consumption is directly related to the amount of feed consumed but also is a reflection of conditions in the house. Spikes in water consumption are an indication of a management problem or the actual quality of the water. When the water has a high chlorine concentration, for example, birds will not drink. It is a good idea to keep an eye on the amount of water consumed in order to be able to detect and correct problems before they get out of hand.

Work conducted at the University of Arkansas includes the use of a commercial broiler growth model (OmniPro, Novus Inc., St. Louis, Mo.) to estimate protein and amino acid requirements according to sex. Data indicate that the nutrient levels predicted by the growth model support
College Student Career Program

This program on Jan. 16, included interviews with major poultry and allied companies. James Young of Tyson Foods gave the lecture at the opening session on "Transition from Academics to Industry." This event benefits both college students and the industry by matching potential employees with companies that need them. Companies receive student resumes and conduct on-site interviews. This event was co-sponsored by Elanco Animal Health and the U. S. Poultry and Egg Association. Interviews continued on Thursday and Friday.

Processing

Work conducted at the University of California at Davis indicates that when using ozonated water to chill birds only one-third of the amount of water used for chilling results in birds with lower bacterial counts. These birds were commercially acceptable. Chill water was also purified by ultra filtration to reduce total bacterial levels and all pathogens in order to be recycled. This system saves both water and electricity.

Most of the other papers and posters reflected research topics of interest to the poultry industry: feeding strategies and the use of phytase to reduce phosphorus excretion; Salmonella and Campylobacter in broiler houses, retail chicken and reproductive tracts of broiler breeders; use of recycled litter and litter amendments; effect of management on layers; and egg quality. Many nutrition papers dealt with amino acid requirements in poultry diets. Other papers dealt with the causes and identification of pale, soft exudative meat, and eimeria infections. By far the majority of the papers dealing with disease focused on poultry viruses such as avian leukosis, infectious bronchitis, New Castle disease, avian influenza, and duck hepatitis viruses.

Poultry Industry Educational Programs

Some of the important concerns for the poultry industry were covered.

The Future of Antibiotics in Poultry Production

Dr. Dennis Wages of NCSU talked about “What Does Science Say?” He indicated that despite the fact that certain antibiotics have been banned for use in agriculture, there is no definitive proof of the relation between antibiotic use and microbial drug resistance. He said that we do not have any proof that antibiotic resistance transfers from animals to humans. He said the future called for reproducible scientific evidence, with all evidence evaluated and each product or drug evaluated on its own merit.

Dr. John Smith of Fieldale Farms under the same broad topic focused on “What Happens Without Them?” He indicated that if there is a loss of chemicals for use in hatcheries (growth promoters, antibiotics, etc.) there will be more severe disease outbreaks because increased reliance on older, less-potent drugs may result in higher doses and longer treatment periods. This may lead to increased toxicity, adverse reactions, and suffering of birds.

Dr. Smith said there would be an increased pressure to prevent disease, which is very good but also very expensive. There would be increased early mortality in hatcheries with associated management changes on farms. Changes might include using more deeper, newer litter, using more gas and power, and using more and better vaccines. There would be increased downtime for all measures like increased litter use and chemical use to clean houses.

He indicated that the losses in chemical use and growth promoters will lead to increases in feed conversion ratios, enteric diseases, treatment costs, and production costs that will be passed on to consumers. Food safety will not necessarily improve, and antibiotic resistance in hospitals will not decrease.

Loss of ionophores will lead to increases in feed conversion ratios, which will necessitate increased acreage for crops to replace the lost feed efficiency.

His summary was that the ultimate financial burden on the industry would be passed on to consumers without the guarantee that anything would change or improve.
Successful Litter Handling

Mike Ferguson discussed the Perdue-AgriRecycle pellet plant in Laurel, Delaware. It is a 100 x 630-foot facility with a capacity of 88,000 tons of finished product per year. The plant has long-term contracts of up to 10 years with contract producers for all or part of their litter, which is cleaned out and transported at no cost to the producers. The company works with all the integrators on the Eastern Shore of Delmarva (Tyson, Allens, Mountaire, and Perdue).

They work five days a week, averaging nine to 10 truckloads per day. The litter is blended in two vats depending on moisture content (less than or equal to 15% and more than or equal to 20%). After the process the resulting pellet has about 60% organic matter, a pH of 6.5, and an NPK of 3-4-3. It is pasteurized, weed-free, and easy to handle and apply. It is shipped all over the country. The finished product warehouse has a capacity of 7,000 tons.

The process and building are environmentally friendly in that the whole building is under negative air pressure. Air in the building is changed 10 times every hour. Scrubbers remove particulates and odors from the raw and finished material areas. A Regenerative Thermal Oxidizer eliminates dust and odor before emission to the exterior.

Tim Maupin of Cargill Turkeys Inc. (and a West Virginia University graduate) gave an overview of the Cargill and Harmony Products Inc.

The plant, a 60,000-square-foot building in an industrial park, has a capacity of 55,000 tons of litter per year. It converts litter, plant sludge, and raw ingredients into fertilizer.

Harmony Transport picks up material within a 30-mile radius of the plant and pays producers $5 per ton of litter. It opened in April 2001 and now works with 28 contract producers (about 50% each of chickens and turkeys) for a total of 12,000 tons of litter. Litter from 100 producers will take it to full capacity.

The Importance of Dust, Ammonia, and Odor Control

Dr. Henry Tyrrell, USDA National Program Leader-Animal Nutrition, talked about changes in livestock production due to society’s demands. He indicated that changes need to be made using properly formulated regulations. He said nutrients from animal production have value, and they need to be captured as assets rather than viewed as liabilities.

Ammonia plays a key role in atmospheric chemical processes by reacting with sulfuric and nitric acids to form oxides, which are of concern to human health, and ammonium sulfates and nitrates, which are pollutants. Ammonia also forms particulates that can travel long distances. He indicated that according to the EPA ammonia inventory, 43.4% of atmospheric ammonia comes from cattle; poultry with 26.7% is a close second.

Dr. Tyrrell said that research efforts are needed to address ammonia emissions from livestock.

Other topics addressed included the vulnerability of the poultry industry to bioterrorism, innovations in poultry housing and equipment, egg production and processing, automated catching and hauling, and animal welfare.

Washington Update

Food Safety Inspection Service Continues with HACCP Inspection Models Project (HIMP)
The General Accounting Office (GAO) has published a report questioning the validity of FSIS’s hazard analysis critical control points (HACCP) inspection models project for poultry and hog slaughter plants. The GAO questioned the validity of data because plants were not selected at random, there is no control group, methodology does not take seasonal changes and plant modifications into consideration. GAO concludes that due to these parameters, the data generated may not be indicative of how all chicken plants inspections systems will perform. The HIMP system is currently being tested in 25 plants that slaughter chickens, turkeys and hogs. Under Secretary for Food Safety, Dr. Elsa Murano indicates that this pilot program is being evaluated and that expansions will include more plants and changes will strengthen the program (Meat & Poultry, Feb. 2002).

FSIS Delays Retained Water Rules
The FSIS deadline for the rule pertaining to the amount of water that can be retained by raw, single-ingredient poultry products has been changed from January 9, 2002 to January 9, 2003. The new rule will not allow water retention in meat and poultry products unless it cannot be avoided as a result of processing. The water content of such products will have to be included on the label. This delay was as a result of a petition from trade associations representing the meat and poultry industries that requested an extension until August 2004. (Meat & Poultry, Feb. 2002).
The SCAD keynote speaker was Dr. Mike Doyle, director of the Center for Food Safety, Griffin, Georgia. His topic was “Challenges Associated with Assuring Food is Safe from Intentional Biological Contamination.”

Dr. Doyle indicated that this concern was based on four reasons: the centralization of food processing plants; the increased need for fresh, minimally processed foods; the increased importation of foods and the Food and Drug Agency’s (FDA’s) inability to inspect every single lot; and the increased numbers of immigrant workers whose integrity cannot be assured.

Dr. Doyle outlined some of the factors that would influence a specific challenge, including pathogens used, their virulence, their survivability in the specific food, the scope of food distribution, food consumption profiles, types of susceptible populations, and the type and effectiveness of microbial inactivation treatments the foods are subjected to before consumption. Examples were given of each factor, some of the important ones being virulence of the organisms used, foods that are wildly distributed, and susceptibility of children, the elderly and immuno-compromised groups. Minimally processed ready-to-eat foods are of concern because they are not heated before being eaten.

Some of the safeguards suggested were effective hazard analysis critical control point (HACCP) systems, with at least one critical control point (CCP) to kill large populations of most pathogens, and security measures to prevent intentional recontamination or sabotage to override safety measures. He also indicated that well-qualified and trustworthy people only should be employed for safety-sensitive positions.

In his concluding remarks, Dr. Doyle indicated that 100% safety is not easy, but CCPs to inactivate high levels of biological contaminants is a good start. He also noted that most pathogens are killed by heat so all food should be well cooked before consumption.

Kudos to Poultry from the Center for Science in the Public Interest

The Center for Science in the Public Interest has published a list of foods responsible for food-borne disease outbreaks. The list was compiled from data between 1990 and 2001, of 1,600 disease outbreaks affecting over 70,000 people. Poultry meat came in last on a list that featured seafood; 340 outbreaks with 5133 cases, eggs; 271 outbreaks and 10,827 cases, fruits and vegetable; 148 outbreaks with 9,413 cases, beef; 134 outbreaks with 6,089 cases, and poultry meat; 79 outbreaks with 4,279 cases (Poultry, Dec/Jan. 2002).
Industry Update

Feed
U. S. feed industry officials indicate that the scare of chloramphenicol in farm-raised shrimp in China should not be a concern in this country because feed manufacturers here use ocean-raised fish, mostly from the Gulf of Mexico and South America. The fish meal from the Orient comes from ocean fish and not shrimp (Watt Poultry).

The American Feed industry Association, with input from FDA’s Center for Veterinary medicine, the Animal Health Institute, and the National Renderers’ Association has issued a “Guide to Biosecurity Awareness.” It details measures that can be taken by feed companies to protect their facilities and products from bioterrorism (Watt Poultry).

U. S. Poultry and Egg Association
New officers for the U. S. Poultry and Egg Association were named at the IPE in Atlanta. Ralph Simmons, of Nacogdoches, Texas, director of live production and expansion coordinator for Pilgrim’s Pride Corporation, is the new chairman. Vice chairman is Jack Klempf, president of Dixie Egg Co. Bill Lovette, president of Tyson’s Food Service Group, is the new treasurer, and Norman Robinson, senior director of live production with Gold Kist, Atlanta, is the new secretary (Watt Poultry).

“We want to make absolutely sure if there is any question, that we are in no way, shape or form contributing to antibiotic resistance in humans…”

Co-Permitting
The NCC has taken issue with the EPA’s decision to hold both producers and integrators responsible for manure/litter produced on farms and for overall environmental stewardship. The NCC indicates that if integrators are going to be held responsible for the environmental performance of farms they do not own, companies may be forced to raise more chickens on company-owned farms. This would result in some independent producers going out of business.

NCC also takes issue with EPA’s proposal to regulate application of manure and litter, citing the fact that Congress indicates that land application of manure does not convert a farm into a Combined Animal Feeding Operation (World Poultry, Vol. 17. No. 12).

Antibiotics
Three poultry companies, Perdue Farms, Tyson Foods, and Foster Farms, have voluntarily been reducing the amount of antibiotics fed to chickens for both growth and disease treatment. These three companies produce a third of the nation’s chicken annually. Foster Farms uses antibiotics only to treat sick birds. Perdue Farms does not use antibiotics similar to those used for humans. Tyson Foods does the same as Perdue and uses only two antibiotics to treat sick birds. Both Perdue and Foster Farms treat less than 1 percent of their chickens for diseases.

They are also turning away from an antibiotic related to Cipro (used to treat the anthrax bacillus) (The New York Times).

The National Chicken Council (NCC) indicates that the industry has always used antibiotics in a responsible manner. In November 2001, the NCC, the American Feed Industry Association, the Animal Health Institute, the National Cattlemen’s Beef Association, and the National Pork Producers’ Council protested an activists’ campaign against agricultural drug use. The NCC and other animal groups indicate that antibiotic use contributes to safe food and that they are in favor of common-sense use of drugs. They called on the government to increase surveillance measures (Watt Poultry).

The companies’ decision to cut back on antibiotic use is based in part on the fact that although there is no definite scientifically based link to the increase in clinical microbial antibiotic drug resistance they want to make sure there is no overuse. According to Dr. Hang Engster of Perdue Farms, “We want to make absolutely sure if there is any question, that we are in no way, shape or form contributing to antibiotic resistance in humans. We want to make sure there is no overuse.”

Dr. Margaret Mellon of the Union of Concerned Scientists indicates that with fewer antibiotics being used there will be less pressure on pathogens to become resistant (if indeed that is where they getting their resistance).
This cutback in antibiotic use has been going on for more than four years (The New York Times).

Pending Lawsuits against Poultry Industry—
Sierra Club to Sue Poultry Farms and Tyson
The Sierra Club is alleging that four poultry farms in Kentucky growing chickens for Tyson Foods are more factories than farms due to their sizes (two of the farms have 24 and 16 houses, respectively). The environmental group is suing the farms and Tyson Foods because they allege that they are generating more than 100 pounds of ammonia per day and need a permit to do so under the federal Superfund Law. The attorney for the Sierra Club also says the farms should report the amount of dust produced per year. Tyson Foods says there are no comprehensive studies to scientifically measure the amount of ammonia produced from the operations (Watt Poultry).

The city of Tulsa, Oklahoma, and the Tulsa Metropolitan Utility Authority have filed a lawsuit against six poultry producers for alleged pollution and degradation of lakes. They claim that nutrients from litter spread on land in the watershed is causing pollution and death of the lakes. The companies involved are Tyson Foods, Cobb-Vantress, Peterson Farms, Simmons Foods, Cargill, and George’s. Susan Savage, Tulsa’s mayor, indicates that the lakes are dying and the cost of their cleanup (up to $4 million so far) should be borne by the poultry producers. Morrill Harman, executive vice president of the Poultry Federation, Little Rock, Ark., indicated in the Daily Oklahoman newspaper that the industry had suggested a process of mediation in order to avoid litigation. The mayor and other parties, however, were not interested in cooperating but were prepared to take the matter to court.

Homeowners in Tulsa have recently been taking aim at animal agriculture. A suit against Simmons Foods by landowners was settled out of court. Landowners in the Grand Lake region recently filed suit against Tyson Foods (Meat & Poultry, January 2002).

Even Religious Groups…
Monks in the Saint-Remy monastery in Rochefort, in south Belgium, who produce Rochefort beers, are worried about the quality of spring water used to make the beers. There are plans to expand a nearby poultry farm and the monks are concerned that the spring water will be contaminated by poultry farm droppings. They have asked Liege University to study the permeability of the land around the monastery (FSNet List Serve, University of Guelph).

AI in Pennsylvania
An outbreak of AI that occurred in Union and Juniata Counties in Pennsylvania appears to be under control. The original six farms affected are under quarantine. Though this particular strain is not as pathogenic and may not be as fatal to birds, precaution should still be taken by all personnel in poultry and allied industries. Biosecurity measures (like disinfection of trucks and use of disposable coveralls and boot

Egg Market
Although there is a healthy demand for eggs, the U. S. egg industry is facing a supply problem that has led to lower farm and terminal market prices. The reason is a lack of adequate markets for fowl (so they are kept longer) and the fact that the industry has put more layers in flocks, making the flock sizes larger. This has led to an increase in number of eggs laid by flocks. Also breakers are not using as many eggs from mainstream farms because they have their own farms and also use co-operatives.

More eggs on the market has resulted in lower farm prices (more than 20 cents lower since 1996) and wholesale prices (USDA projects 62-67 cents per dozen this year as opposed to 67.8 cents per dozen last year in eastern markets).

The United Egg Products (UEP) is encouraging a voluntary flock reduction strategy, although they indicate that flocks will still be larger than what is needed to keep the business profitable. Smaller companies could be forced out of business (Feedstuffs Vol. 74. No. 2).

Litter
The National Chicken Council, the National Turkey Federation, and the U. S. Poultry and Egg Association have petitioned the U.S. Environmental Protection Agency to regulate dry litter separately from wet manure because of lower environmental risk and acknowledged advantages of dry litter technologies (Watt Poultry).

An ARS scientist, Eton Codling (Beltsville, Md.), has determined that the ash that results from burning litter for electricity is a good fertilizer. His research showed that plants grown in soil with litter ash (which is high in phosphorus) had higher levels of phosphorus in plant tissue, indicating that phosphorus in the ash is readily taken up by plants. Litter ash is not readily soluble, so using litter in this manner may not only reduce the amount applied to land, but also may reduce the amount of phosphorus entering the soil and water (Feedstuffs Vol. 74. No. 2).

An organic product called Mistral was introduced by Olmix of France at the V1V Europe 2001 held in Denmark. It absorbs moisture from litter and traps ammonia thereby improving litter conditions and the overall conditions in the house. Preliminary field trials at the University of Leeds have shown positive results. For more information, send an e-mail to olmix@wanadoo.fr (World Poultry Vol. 17 No. 12).

Layer Lighting Program Software
Lohmann Tierzucht has developed a software program for layers under natural daylight that is currently being tested for expanded use by its customers. The software calculates the optimum lighting after input of hatching date, specific breeder recommendations, and geographical position of the house (Watt Poultry).
Upcoming Meetings and Workshops

- March 7-8. Livestock and Poultry Odor Workshop. Cabela’s Owatonna, Minn. Contact Barb Oliver at 612-625-7024; www.bae.umn.edu
- March 22. Colorado Whole Farm Nutrient Management Conference. Best Western Regency Inn, Greeley, Colo. Contact Rich Hergert at 970-352-1821
- March 27-28. 49th Maryland Nutrition Conference for Feed Manufacturers. Holiday Inn Select, N. Baltimore, Md. Contact Patricia McMullen at 301-1392; www.umd.edu/MNC

For a more complete listing of upcoming meetings, visit our web site.

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*Poultry Voice* is published quarterly to provide those interested in the poultry industry with pertinent production information from industry, academia, and federal and state governments to help ensure economic production of poultry in a manner that sustains the environment. *Poultry Voice* is sponsored by the West Virginia Extension Service.

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