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Dale Bumpers College of Agricultural, Food, and Life Sciences (University of Arkansas, Fayetteville). Center of Excellence for Poultry Science

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Education is a continuing process at the plants

By Dave Edmark, Communications Director for the Food Safety Consortium

Food processors view food safety education as a continuing effort that must be made available to all levels of employees. When representatives of three meat industry processors discussed their experiences during the Food Safety Consortium annual meeting in September in Fayetteville, Ark., they agreed that turnover in the plants makes the task a challenge.

“You’ll spend all this time and effort training 500 employees and you’re going to have to do it again in three to six months because a large percentage of them will have turned over,” said Billy Lloyd, regulatory liaison for Foodbrands America in Oklahoma City.

The responsibility does not apply only to hourly employees in the packing and production facilities. “Turnover is an extreme problem, not just with the hourly folks but with the management folks as well,” said Rick Roop, vice president for food safety and quality assurance at Tyson Foods in Springdale, Ark. “There are a lot of opportunities in today’s economy. The training has to be continuous.”

The numbers begin to add up when someone tries to tally the various categories of employees in the industry who need to be educated in food

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FROM THE DIRECTOR
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Consulting Group, a very important ‘next step’ in the HACCP implementation process. This workshop was very well attended and received many favorable comments. Simultaneously, the National Advisory Committee for Meat and Poultry Inspection was conducted in Washington, D.C., with representation by your Center Director. This continues to be a very vigorous forum for discussions regarding food safety issues including HACCP Phase II, antimicrobial resistance and drug residues in a HACCP environment.

The Poultry Center also co-sponsored the Poultry Processors Workshop, which featured several speakers addressing food safety research and regulatory issues, and hosted the morning session in the Tyson Building where our students prepared the traditional omelet breakfast. The Poultry Center also hosted the Ralston Purina Food Safety Symposium, which was co-sponsored by Wal-Mart, and Poultry Center faculty conducted the Principles and Applications of Cleaning and Sanitation Workshop for Tyson Foods personnel. The University of Arkansas Dean of the Bumpers College and the Poultry Center Director were also engaged in the deliberations of the National Alliance for Food Safety during the Annual Meeting, which was conducted in College Station. In addition, the Board of Directors of the International HACCP Alliance was conducted in Chicago with representation from the University of Arkansas by the Poultry Center Director on behalf of the Poultry Science Association.

We believe that we have maintained our identity as the Poultry Center, however, we continue to work aggressively to be engaged and doing our part in addressing these critical industry issues.

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safety. “To educate all the different levels that we’ve got to get to — the line worker, the food service worker, the high school kid who’s working at McDonald’s — there’s just so much education,” said Mike Windisch, corporate technical services manager for the Excel Corp. pork division in Wichita, Kan.

Windisch advised the FSC researchers that industry needs scientific data to help ensure that executives are making the right decisions. Industry must stick to the premise that food safety is science, he added.

“We’ve got to stay science-based,” Windisch said. “If I go strictly to a food safety program based on regulatory or consumer groups or whatever pressures there might be that day, I can’t look at myself in the mirror.”

Supervisory and management personnel are the people who should be involved in teaching the principles of Hazard Analysis and Critical Control Points systems to plant employees, Lloyd said. HACCP systems, the science-based food safety procedures that each plant is required to devise and implement, exist not just to accommodate regulations but to accomplish a purpose.

Roop said it is up to the companies to involve people at other firms, such as distributors and customers, in the aspects of HACCP and the ability to trace products. “It’s incumbent on us to educate our customers that the type of things that we’re doing in our operations is critical for their operations and the entire effort to protect the consumer.”

Roop also noted that video-tape presentations are most effective for training employees at the line worker level. “You bring in a group of folks during the workday and have a short training session.” The Internet is being used more often by management and may become more widely used by all levels of employees as training centers are established by companies.

European short course discussing modern poultry production held at Center of Excellence

Participants from nine different European countries attended a two-week short course on Modern Poultry Production at the Center of Excellence for Poultry Science Sept. 25 - Oct. 6.

The “students” came from Macedonia, Hungary, Bosnia, Romania and Estonia. Dr. Susan Watkins coordinated the course and enlisted the help of Drs. Dustan Clark, Frank Jones, Park Waldroup, Robert Wideman, Jr., H.L. Goodwin and Bill Huff. The course was designed with both lectures and hands-on projects for the participants in modern poultry production.

Participants during the two-week short course pose in the Center of Excellence atrium with Dr. Susan Watkins (center) before concluding their training.
After completing the 2000 annual meeting hosted by the University of Arkansas, the Food Safety Consortium Steering Committee decided to meet in 2001 at Iowa State University. The meeting will be held Sept. 16-18 (Sunday through Tuesday).

Kansas State University will host the meeting in 2002, completing the first round of the three-campus rotation of FSC annual meetings that began this year.

About 90 people attended the meeting in Fayetteville, Ark., which included a poster session and presentations by researchers on risk assessment, education, consumer issues, control and intervention strategies and sampling protocols and methodology. The meeting also included tours of UA facilities in poultry science and food science.

Plans for the 2001 meeting will take shape gradually, but consideration is being given to devoting the Tuesday morning session to a mini-conference featuring prominent speakers from the outside. A major topic in food safety would highlight the mini-conference as well as the main meeting. Other ideas being explored include keeping posters on display during the entire conference instead of for only the first evening and moving the keynote speaker’s address from the Monday luncheon to the Monday dinner.

In other business, the Steering Committee appointed a subcommittee to form a policy regarding the FSC’s relations with other nations in food safety exchange efforts. Subcommittee members are James Dickson and Colin Scanes, both of Iowa State, and James Denton of Arkansas.

Food Safety Consortium looks to 2001 meeting at Iowa State University

The University of Arkansas Department of Poultry Science received a donation in the amount of $15,473 from the U.S. Poultry and Egg Association’s Harold E. Ford Foundation surpassing last year’s record amount granted for recruiting by the association.

The Harold E. Ford Foundation, named for a former executive with the U.S. Poultry and Egg association, provides funds to poultry science departments to enable the department to develop an effective student recruiting strategy to recruit and retain top students and faculty members.

The UA Department of Poultry Sciences uses donations from the foundation to support projects such as the annual Poultry Science Youth Conference, field days, youth turkey and broiler shows, in-service programs and civic education programs.

UA Department of Poultry Science receives donation from Harold E. Ford Foundation

From left: Morrill Harriman with the Poultry Federation and Bill Lovette from Tyson Foods, Inc., present a check to Dr. James Denton, center director.
New poultry science faculty joins Center

R. Keith Bramwell

Dr. R. Keith Bramwell has joined the University of Arkansas’ Poultry Science Department in the Bumpers College of Agricultural, Food and Life Sciences. Bramwell received his B.S. in Animal Science from Brigham Young University and his M.S. and Ph.D. in Poultry Science from the University of Georgia.

Following his graduation, Bramwell undertook a post-doctoral study at the Animal Reproduction and Biotechnology Laboratory at Colorado State University. Most recently Bramwell was an Extension Poultry Scientist at the University of Georgia-Tifton campus.

Bramwell’s main area of research and study are focused on the many factors that influence fertility and embryonic mortality in broiler breeders. Specifically, Bramwell has been involved with studies on the effects of breeder flock age on the decline in fertility and sperm-egg interaction, hatchability and the associated increases in early embryonic mortality from a commercial perspective.

Other areas of interest are related to hatching egg handling and storage and the effects on hatchability and embryo livability. His work in Arkansas will continue to focus on these areas of the poultry industry and others as they relate to reproduction and hatchery management.

UA Poultry Science faculty assist with Career Development Event at National FFA Convention

University of Arkansas Poultry Science Department faculty Jason Emmert and David Andrews (emeritus) assisted with the preparation of the National FFA Poultry Evaluation Career Development Event (CDE), which took place during the 73rd National FFA convention held Oct. 25-28, in Louisville, Ky.

Students attending the convention participated in CDE’s in their particular area of interest. The purpose of the CDE’s is to help students develop technical knowledge, judgement, reasoning and sportsmanship, and stimulate interest in agricultural careers.

The National Poultry Evaluation CDE is a competitive activity that tests the student’s knowledge and ability to select top quality poultry and poultry products needed for successful production and marketing.

Event participants must complete a written exam and team activity, which in this case was developed by Emmert, evaluate classes of live birds for egg and meat production, evaluate quality of eggs, and evaluate and identify parts and products. Each team competed at local and state levels for the privilege of representing their home state at the National FFA Convention. A total of 34 states sent teams to the poultry event.

Winners for the national event were announced at the annual awards banquet and were as follows: first place went to the team from San Antonio, Tex.; second place went to the team from Anderson, Missouri; and, third place went to the team from Springdale, Ark.

This year’s event was sponsored by Tyson Foods, Inc., and Aventis Animal Nutrition.

Emmert and Andrews are both members of the national committee that develops and implements the poultry CDE and have been involved with the contest for several years.

“These events really help students hone skills in decision-making, problem solving and team-building,” Emmert said. “The convention setting also exposes them to the possibilities in higher education and the diverse opportunities available in the poultry industry. I’m proud to be a part of this educational process.”

Others assisting Emmert and Andrews with their part of the poultry CDE were Erin Johnson, poultry science major from the U of A now working for Townsend’s in Batesville, and Jerry Wooley, an Extension poultry specialist associated with the UA poultry faculty based out of Little Rock.

The FFA National Convention hosts nearly 50,000 members, guests and advisors making it the country’s largest annual youth gathering.

FFA is a national youth organization of 453,902 student members preparing for leadership and careers in the science, business and technology of agriculture with 7,220 local chapters in all 50 states, Puerto Rico and the Virgin Islands.
The University of Arkansas Poultry Science Department in the Bumpers College of Agricultural, Food and Life Sciences hosted the Junior Market Broiler Show at the Arkansas State Fair Oct. 7. One-hundred and sixty youth from all over the state of Arkansas participated in the annual event.

Grand Champion (first place) went to Luke Foster of Paragould. Foster is the 9-year-old son of Stan and Judy Foster and is in fourth grade at Green County Tech Intermediate. He is also a member of the Greene County 4-H Club.

For winning Grand Champion, Foster participated in the Arkansas Livestock Sale Oct. 14, and received $4,000 for his pen of broilers from The Poultry Federation, with donations from Cobb-Vantress, Tyson, Pilgrim’s Industries, Butterball Turkey Co., Ross Breeders, Con-Agra Poultry of El Dorado, Con-Agra Frozen Foods of Batesville, Townsend’s, Del Mesa Farms, Wayne Poultry and Hubbard Farms.

Reserve Grand Champion (second place) went to Christopher Blackstead of Royal. Blackstead is the 13-year-old son of Steve and Evelyn Blackstead. He is an eighth grader who is homeschooled and is a member of the Ragweed Valley 4-H Club. Blackstead also participated in the livestock sale and received $3,100 for his pen of broilers. This amount was paid by Volume Services, which handles the food concessions at the Arkansas State Fair.

Third place went to Matthew Stark of Newport. He received $2,000 for his pen of broilers at the sale. Fourth place and $1,950 went to Patricia Drake of Sheridan. Fifth place went to Seth Moore of Southside, who received $1,450 at the sale, and sixth place went to Jeffrey Melson of Gassville. Melson took home $1,400 from the sale.

Each year the University of Arkansas Poultry Science Club, in cooperation with the Cooperative Extension Service, distributes birds to youth interested in participating in the show. This year the birds were donated by Cobb-Vantress. The U of A Poultry Science Club banded the birds Aug. 18 and the Extension Service distributed them from Conway. Each Arkansas youth was given 30 birds for a small entry fee.

Participants cared for the birds and returned with their best three birds to the Arkansas State Fair Junior Market Broiler Show.

Birds were judged on the basis of conformation, including structure and overall skeletal balance; fleshing, which is the amount of meat or muscling present; finish, which is the light layer of fat present just under the skin; and uniformity, which compares all three of birds in the first three categories.

Jimmy Cawley of Bryan, Texas, judged the event. He has previous experience judging at the Houston Broiler Show.

Jason Emmert, Jerry Wooley and Gary Davis of the U of A poultry science faculty and staff organized the U of A student volunteers and ran the show for the Arkansas State Fair.

“It’s an educational activity that the entire family tends to get involved in,” said Davis, undergraduate recruiter for the department. “Besides learning the actual project material, the student learns about career and educational opportunities in poultry. It also gives the youth early exposure to higher education and the U of A.”

Wooley said the seventh through 33rd place winners from the Junior Market Broiler Show also received money from the livestock sale ranging from $100 to $200 with the additional premiums being paid by The Poultry Federation.

Dr. Casey Owens got hooked on poultry science during high school. She was involved with FFA poultry judging for three years and also raised broilers her senior year and showed them at the Houston Broiler Show.

Once she visited the poultry science department at Texas A&M during the state poultry judging contest, she was hooked.

“The poultry science department involvement in judging contests and Houston Livestock Show served as great recruiting events; it worked, they recruited me!” said Owens.

Owens’ is relatively new to the UA poultry science department, she joined this past spring. The main focus of her research is studying the effects of preslaughter environmental conditions and processing techniques on muscle metabolism and meat quality of poultry. Her current work focuses on the prevention, development and improvement of PSE meat in turkey and chickens.

“I would say the end product, the food, is one of the most important parts in the overall scheme of poultry production. There are many aspects in production that can affect the conversion of muscle to meat,” Owens said, “my field of research focuses on the resultant meat quality from this conversion.”

Luke Foster (right) shown with Jacob Wooley, won Grand Champion at a recent Junior Market Broiler Show.

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The following are the results from the National Collegiate Poultry Judging Contest held at the University of Arkansas campus November 6 and 7. Dr. Jason Emmert and Gary Davis coordinated the annual event. Here are the winners:

**Production Category:**

Tied for 3rd Place (production)
- Richard Smallpage - Louisiana State University
- Brian Thompson - Louisiana State University
- Chris Page - Mississippi State University
- Beth Souder - Ohio State University
- Chad Burkett - University of Arkansas
- Tanya Hanson - University of Wisconsin - River Falls
- Jeff Davis - West Virginia University

Tied for 2nd Place (production)
- Amber Cunningham - Kansas State University
- Nikki Schmidt - Kansas State University
- John Paul Gniadi - Louisiana State University
- Jimmy Rushing - Mississippi State University
- Caitlin Boon - North Carolina State University
- Danyelle Dauch - Ohio State University
- Diana Jarrett - Oklahoma State University
- Stephen Swagerty - Oklahoma State University
- Brandon Upton - Oklahoma State University
- Tim Peters - University of Arkansas
- Larry Marquette - University of Wisconsin - River Falls
- Megan Schaefer - University of Wisconsin - River Falls

Tied for 1st Place (production)
- Becky Baker - Kansas State University
- Michael Gibson - Kansas State University
- Rodney Johnson - Mississippi State University
- Alex Silliman - North Carolina State University
- Lyn Semple - Ohio State University
- Brian Albert - Texas A&M University
- Jack Higgins - Texas A&M University
- Kyle Schultze - Texas A&M University
- Darrell Walter - Texas A&M University
- Aaron Helmick - West Virginia University

Team Score in Production: 1st place - Texas A&M University; 2nd place - Kansas State University; 3rd place (tie) Oklahoma State University, Ohio State University and Mississippi State University.

**Breed Selection Category:**

Tied for 3rd Place (breed selection)
- Amber Cunningham - Kansas State University
- Michael Gibson - Kansas State University
- Jimmy Rushing - Mississippi State University
- Stephen Swagerty - Oklahoma State University

Tied for 2nd Place (breed selection)
- Chris Page - Mississippi State University
- Lyn Semple - Ohio State University

Tied for 1st Place (breed selection)
- Amelia Speaks - North Carolina State University
- Kyle Schultze - Texas A&M University
- Chad Burkett - University of Arkansas

Team Score in Breed Selection: 1st place - Texas A&M University; 2nd place (tie) - Kansas State University, University of Arkansas, North Carolina State University and Mississippi State University; 3rd place - Ohio State University.

**Market Products Category:**

3rd Place (market products)
- Amber Cunningham - Kansas State University

2nd Place (market products)
- Becky Baker - Kansas State University

1st Place (market products)
- Kyle Schultze - Texas A&M University

Team Score in Market Products: 1st place - Kansas State University; 2nd place - Texas A&M University; 3rd place - Oklahoma State University.

**Overall Individual Rankings (Top Ten)**

#10 - Jason Chester - North Carolina State University
# 9 - Larry Marquette - University of Wisconsin - River Falls
# 8 - Jimmy Rushing - Mississippi State University
# 7 - Lyn Semple - Ohio State University
# 6 (tie) - Michael Gibson - Kansas State University
# 5 - Amber Cunningham - Kansas State University
# 4 - Darrell Walter - Texas A&M University
# 3 - (tie) Brian Albert - Texas A&M University
# 2 - Aaron Helmick - West Virginia University
# 1 - Kyle Schultze - Texas A&M University

**Overall Team Rankings**

First Place - Texas A&M University; Second Place - Kansas State University; Third Place (tie) - North Carolina State University and Ohio State University
Poultry veterinarians work on table top emergency disease scenario (EDS)

Dr. Dustan Clark and several other poultry veterinarians have been working on a table top emergency disease scenario (EDS). This unique group is discussing what should take place in the unlikely event of an outbreak of a deadly poultry disease (such as avian influenza, variant new castle disease or another disease along those lines).

Currently, there are no plans in place should a catastrophic outbreak occur. One of the questions these veterinarians will be discussing is the possibility of a quarantined area so that no birds could move in or out of the contaminated area and further spread the disease.

Other questions they will discuss include the availability of simple equipment needed to handle the containment of the outbreak; number of spray rigs on hand to disinfect vehicles entering and exiting the quarantine area; and, how would birds be fed if the company feed mill is located outside of the quarantined sector?

The next meeting of the veterinarians will take place Dec. 13.

The next Short Course on Modern Poultry Production is scheduled for January 2001 at the Center

Dr. Frank Jones is coordinating the next Short Course on Modern Poultry Production to take place January 3 - 12, at the Center of Excellence for Poultry Science.

Participants will receive training, materials, local transportation, laboratory materials and housing for the tuition price of $1600.

The objective of the short course is to acquaint participants with the structure and function of the modern U.S. poultry industry. The course will also provide participants with practical knowledge regarding management and care of modern commercial poultry.

Topics during the short course include basic avian anatomy and physiology, poultry industry structure and operation, recognizing healthy birds inside and out, broiler breeder management, commercial egg production, incubation and hatchery management, broiler housing and management, an overview of nutrition, modern feed manufacturing techniques, sanitation and biosecurity, disease recognition and control, insects that affect poultry, mycotoxin recognition and prevention, coccidiosis recognition and control, commercial poultry processing techniques, food safety and the economics of decision-making.

Contact information:

Dr. Frank T. Jones, Short Course Coordinator
Center of Excellence for Poultry Science
POSC 0-204
University of Arkansas
Fayetteville, AR 72701
Dr. James Denton attended the Annual Nutrition Conference held at the Fayetteville Clarion and Center of Excellence Sept. 12 - 14, and gave the “Welcome” and “Center of Excellence for Poultry Science Update.” Other invited speakers from the poultry department were Dr. Park Waldroup with his presentation “Reducing Phosphorus Excretion through Diet Manipulation,” Dr. Craig Coon with his presentation “Amino Acid Requirements for Broiler Breeders,” Dr. H.L. Goodwin with his presentation “Utilizing Future Markets to Add Margin to Returns from Feed Ingredients,” and Dr. Susan Watkins with her presentation “Water Quality: What Do We Really Know.” Approximately 100 people attended the annual event sponsored by Church & Dwight.

Dr. Denton served on the Steering Committee and also moderated the industry panel for the Food Safety Consortium annual meeting Sept. 17-19, at the Clarion Inn in Fayetteville. Other poultry faculty speaking at the meeting were Dr. John Marcy on “Operation Food Safety” and Dr. Yanbin Li presented three sessions, “A Quantitative Risk Assessment Model for Salmonella and Campylobacter in Raw Poultry Products,” “Predictive Microbial Models for HACCP Analysis in Processing and Distribution Systems for Poultry Products” and “Biosensors for Rapid Detection of Pathogenic Bacteria in Poultry and Meat Products.”

Dr. Denton chaired the Review Team for the Poultry Science Departmental Review at North Carolina State in Raleigh, North Carolina, Oct. 8-12.

Dr. Denton attended and moderated the Food Safety Symposium at the U.S. Animal Health Association’s annual meeting in Birmingham, Alabama, Oct. 18 - 21.

On October 27, Dr. Denton attended The Poultry Federation’s Board of Director’s meeting in Mountain Home and presented a revised Broiler Income Study, which is in the process of being produced as a Staff Report from the Poultry Science Department.

Dr. Denton attended the National Advisory Committee meeting for Meat and Poultry Inspection in Washington D.C., Oct. 30 - Nov. 1.

On Thursday, Nov. 2, Dr. Denton gave the “Welcome” and “National Food Safety Legislative Update” at the Poultry Processors workshop held at the Center of Excellence and the Clarion Inn. Dr. John Marcy presided over Thursday’s events and also helped coordinate the event.

Dr. Marcy also hosted the recent In-Depth Verification Workshop held at the Center of Excellence Oct. 30 & 31. Approximately 63 people from national poultry companies attended this event, which provided information on sanitation, workplace issues, Hazardous Analysis and Critical Control Points (HACCP), labeling, marketing and inspection. HACCP Consulting Group L.L.C., sponsored the event.

Dr. H. David Chapman attended several international meetings in June and July in Brazil. He also gave invited presentations at the 5th International Poultry Seminar in Cartagena, Columbia on Sept. 13, the Poultry Veterinarian Conference in Durango, Colorado on Sept. 29, and the 2nd Annual Aveca Convention in Chapala, Mexico on Oct. 27.

Dr. Chapman was appointed to the Bumpers College of Agricultural, Food and Life Sciences Promotion and Tenure Committee.

Dr. Susan Watkins coordinated a European Short Course, Sept. 25 - Oct. 6, at the Center of Excellence. Nine participants from Macedonia, Hungary, Bosnia, Romania and Estonia in Europe attended the two-week course and were instructed in several areas of Modern Poultry Production. Speakers for the event included Dr. Watkins, Dr. Dustan Clark, Dr. Park Waldroup, Dr. Frank Jones, Dr. Robert Wideman, Jr., Dr. H.L. Goodwin and Dr. Bill Huff.

Dr. Watkins gave an invited presentation at the AMEEVA in Cologne, Argentina, Sept. 4-10. She was also an invited speaker at the U.S Poultry and Egg Poultry Symposium in Birmingham, Alabama, Sept. 18 - 21.

Dr. Watkins was invited Nov. 4-12 to La Cartuca South America, Chile. She was assisting with broiler nutrition at a Chilean breeder farm.

Dr. Jason Emmert, along with Jerry Wooley and Dr. David Andrews (Emeritus) helped organize and put on the Poultry Career Development Event at the National FFA Convention in Louisville, Kentucky, Oct. 25 - 28.

In September of this year, Dr. Janice Balog’s proposal “Targeting the Molecular Etiology of Ascites in Broilers: Characterization of Gene Expression and Function with the Disease” was awarded funding by the Agricultural Research Service Headquarters of the 2001 Postdoctoral Research Associate Program. She will receive $80,000 in funding for a two-year postdoctoral appointment.

Dr. Annie Donoghue gave an invited presentation “Assisted Reproductive Technologies Role in the Challenges of Avian Conservation” as part of the Reproductive and Integrated Conservation Science Symposium in London Nov. 9-10.

Student Notes

Four poultry science students submitted an Undergraduate Research Proposal to Bumpers College of Agricultural, Food and Life Sciences and received money for their projects: Jill Townsend received $500 for her project. Her research co-author and faculty sponsor is Dr. Jason Emmert. Bobbi Devor, received $1,000 for her project. Her research co-author and faculty sponsor is Dr. Dan Donoghue. Kelly Shaffer, received $1,000 for her project. Her research co-author and faculty sponsor is Dr. John Kirby. Finally, Lynne Gardner received $1,000 for her project. Her research co-author and faculty sponsor is Dr. Mark Parcells.

Congratulations to all of these students and their faculty sponsors.

Grants Awarded

The following have been awarded:

- H. David Chapman, Butterball, $40,248
- H. David Chapman, American Scientific, $96,186
- Jason Emmert, Aventis, $10,002
- Jason Emmert, Aventis, $13, 910
- John Kirby, Cobb-Vantress, $54,720
- Yanbin Li, USDA Food Safety, $123,200
- Yanbin Li, USDA, $15,000
- John Marcy, USDA, $16,200
- Michael Slavik, USDA Food Safety, $66,000
- Park Waldroup, Elanco, $24,500
- Park Waldroup, Roche Vitamins, $10,500
- Susan Watkins, Church & Dwight, $6,000
- Susan Watkins, BUTA, $8040
- Robert Wideman, Jr., Church & Dwight, $5,000
- Michael Slavik, USDA Food Safety, $66,000
- Park Waldroup, Elanco, $24,500
- Park Waldroup, Roche Vitamins, $10,500
- Susan Watkins, Church & Dwight, $6,000
- Susan Watkins, BUTA, $8040
- Robert Wideman, Jr., Church & Dwight, $5,000

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