something to crow about

center of excellence for poultry science university of arkansas annual report 2003-2004





UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

The Center of Excellence for Poultry Science 1260 W. Maple • Fayetteville, AR 72701 WEB: www.uark.edu/depts/posc

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dr. walter g. bottje

center of excellence for poultry science, director

o the friends and family of the Center of Excellence for Poultry Science. It is with great honor and privilege I present this annual report to you. The title this year "Something to Crow About" has never been more appropriate. I trust as you

look through the pages and see just some of the highlights of the 2003-2004 fiscal year, you will get an appreciation for how truly excellent our faculty, staff and students really are.

One of the biggest accomplishments during this time period was the construction and opening of the new University of Arkansas Broiler Breeder Research Farm. Thanks to a very generous donation by Cobb-Vantress, Inc., and their parent company, Tyson Foods, Inc., this much-needed facility became a reality with its dedication in September 2003 and the placing of the first flock in January 2004. We are hoping in the coming year to expand our service of this facility to reach all of the poultry industry.

Our students, both graduate and undergraduate, continue to dazzle at national meetings and presentation competitions. We have included a few of these award in the following pages. When I see their accomplishments, I know it's because of many factors, which include recruitment of top-notch students, continued excellence in our teaching programs, and facilities for cutting-edge research. We know our resources are second-to-none, and for this we are truly thankful as we close another chapter in the success story of the Center of Excellence for Poultry Science.

We have chosen a slightly different format for this year's report. There were highlights that weren't included, but we tried to choose a variety of items in order to give you a grasp of the tremendous scope of our programs. Hopefully we have accomplished this in these few pages that follow.

Enjoy! I know I have enjoyed this past year and am very optimistic and excited about the coming year.

Sincerely,

Watter Betye

Walter G. Bottje Center of Excellence for Poultry Science, Director Department of Poultry Science, Department Head

Cobb-Vantress/Tyson Foods Finances New Broiler Breeder Facility



DEDICATION - From left, Dr. Walter Bottje, Center Director, Leland Tollett of Tyson Foods, Inc., and James Bell, president of Cobb-Vantress, Inc. hold up the new plaque at the broiler breeder farm dedication.

A gift of \$844,793 from Tyson Foods subsidiary, Cobb-Vantress, Inc., in Siloam Springs, was used for construction of a broiler breeder research facility at the University of Arkansas Division of Agriculture research complex near Savoy, west of Fayetteville. The facility is to be used by the U of A's Center of Excellence for Poultry Science (CEPS) for research and extension programs on the genetics and management of broiler breeding stock.

Walter Bottje, CEPS director, said the broiler breeder research unit "is a piece of the puzzle we needed to complete our program. No other university has a research facility like this." The unit cost nearly \$1 million fully equipped,

and includes a pullet house for rearing young hens, two production houses, an egg collection room, a shower-in/shower-out bio-security facility, a conference room and a farm manager's residence.



FIRST DELIVERY - Workers at the new University of Arkansas Broiler Breeder Farm welcome a Cobb-Vantress, Inc., truck bringing the first flock of birds to be housed on the farm in January 2004.

James Denton named Fellow of PSA

Former poultry center director, department head and current faculty member Dr. James Denton of the University of Arkansas poultry science department was given the prestigious "Fellow" title by the Poultry Science Association (PSA) at its annual meeting in Madison, Wisconsin, on July 9, 2003.

The title of Fellow is granted for professional distinction and contributions to the field of poultry science without concern to longevity. A unanimous vote by the Board of Directors of PSA is required to elect any nominee as Fellow.

"Being recognized by a group of people with whom I have worked and respect a great deal is both gratifying and humbling, especially when I think of the people who have been honored previously with this title," Denton said. "Working with outstanding faculty and the incredible poultry industry as a whole has been a



treasured experience and has contributed immeasurably to my receiving this honor."

Denton joined the UA poultry science department as center director and department head in 1992, providing leadership for the first new poultry science department to be established in over 40 years. Denton provided oversight during the capital campaign and construction of the 112,000-square-foot research and teaching center, which houses the Center of Excellence for Poultry Science (CEPS).

Under Denton's continued leadership, facilities of the CEPS have expanded to include a Feed Mill, Poultry Health Research Laboratory and Pilot Processing Plant. Also during his tenure, faculty numbers in the department have increased from 12 to 32 and undergraduate enrollment has tripled. In January 2002, Denton stepped down as department head and joined the poultry science faculty in a move toward full retirement from the department in January 2004.

Denton continues to serve as an Emeritus faculty member working quarter-time.

Poultry Science Youth Conference held at Center of Excellence for Poultry Science



WORKING AS A TEAM - Dr. H.L. Goodwin, far left, works with students at Harps Food Store in Fayetteville as they do a store assessment in order to complete a product development project during the Poultry Science Youth Conference held at the University of Arkansas.

Twenty-seven high school students from around the state experienced college life firsthand at the University of Arkansas while attending the eighth annual Poultry Science Youth Conference sponsored by the Center of Excellence for Poultry Science at the University of Arkansas July 13-16.

The conference is designed to foster interest in the poultry industry, the University of Arkansas and the UA poultry science department through hands-on experiences, tours, and industry presentations.

Conference participants were organized into groups, and each group developed a new product using poultry as one of the ingredients. The product had to be packaged, priced, cooked, marketed and then finally presented to the whole group. Students played the roles of marketer, product manager and researcher.

Recreational activities during the week included a cookout at Devil's Den State Park, dinners at Cool Water Village in Fayetteville and Jose's on Dickson Street, and putt-putt golf and go-cart riding at Lokomotion Family Fun Park.

Student groups gave their final product presentations before faculty members and parents during a closing ceremony in the Leland Tollett Auditorium in the Poultry Science Building.

Sponsors of the conference were the Farm Bureau, Harold E. Ford Foundation and the Center of Excellence for Poultry Science.

Next year's conference will again be held in July. For information, e-mail Gary Davis, poultry science undergraduate recruiter, at gddavis@uark.edu. All students completing the 10th and 11th grades are invited to attend. Space is limited.

Department receives over \$13,000 from Harold E. Ford Foundation

The University of Arkansas Department of Poultry Science received a donation in the amount of \$13,009 from the Southeastern Poultry and Egg Association Harold E. Ford Foundation on Oct. 23, 2003. Southeastern Poultry and Egg representative and UA alumnus James Bell, president of Cobb-Vantress, Inc., presented the check to Walter Bottje, department head of the Center of Excellence for Poultry Science.

The Harold E. Ford Foundation, named for a former executive with the U.S. Poultry and Egg association, provides funds to train and educate students for the advancement of the poultry industry. This support enables the department to develop an effective student recruiting strategy to recruit and retain top students and faculty members.

The UA Department of Poultry Science uses donations from the foundation to support projects such as the annual Poultry Science Youth Conference, the youth broiler show at the Arkansas State Fair, in-service programs



DELIVERING THE FUNDS - James Bell (right) president of Cobb-Vantress, Inc., and a UA alumnus ('76) presents a check for over \$13,000 to Walter Bottje, director of the Center of Excellence for Poultry Science, on behalf of the Southeastern Poultry and Egg Harold E. Ford Foundation. Funds are to be used in recruitment of students to the poultry program at the University of Arkansas. Bell was very excited to be involved in donating funds to support his alma mater.

and civic education programs. Last year a portion of the funds were used to produce a new recruitment video, something the department uses at programs all across the state. In 2003-2004, a portion of the funds were earmarked to produce a very special recruitment tool, an interactive CD. A similar CD for recruitment patterened off of our departmental CD is being developed by Dale Bumpers College of Agricultural, Food and Life Sciences.

"The support the Harold E. Ford Foundation provides for our department is outstanding. We're so thankful for their generosity and foresight. This gift will impact our students as well as the future of the poultry industry," said Bottje.

The Harold E. Ford Foundation was founded in 1995 and has disbursed over \$846,000 to poultry science departments across the nation.

UA Poultry Director and Graduate Students receive National Recognition and Honors at PSA

Walter Bottje, director of the Center of Excellence for Poultry Science, and three poultry science graduate students took top honors at the Poultry Science Association's annual meeting in Madison, Wisconsin.

The Center of Excellence is part of the Arkansas Agricultural Experiment Station and the Dale Bumpers College of Agricultural, Food and Life Sciences at the University of Arkansas.

Bottje was awarded the National Chicken Council Broiler Research Award and \$2,500 during an awards banquet July 9. The NCC award is given for distinctive research work that has a strong economic impact on the broiler industry. Bottje's research focuses on the role that mitochondria plays in feed efficiency and in pulmonary hypertension syndrome in broilers, a very costly disease to the poultry industry.

"It is truly an honor to be recognized by the PSA for my research. This award would not have been possible without the assistance of many talented students, supportive colleagues, including our former director James Denton, and especially my wife Sari," said Bottje.

UA poultry science graduate students winning awards at PSA were Lisa Bielke, Kim Coles and Preety Sharma.

Bielke won the Outstanding Graduate Student Paper award for her manuscript, "Determination of Salmonella Host Range of Selected Bacteriophages which exhibit Increased Host Specificity." Her major professor is Billy Hargis, director of the U of A poultry health lab.

Coles won an Outstanding Graduate Student Paper award for her paper, "Effects of Aeration and Storage Temperature on Campylobacter Concentrations in Chicken Semen." Coles' major professor is physiologist Dan Donoghue.

Sharma received the Student Certificate of Excellence for Presentation in the genetics section with her manuscript, "Association of Variant Alleles of Uncoupling Protein with Feed Efficiency in Broiler Chickens." Sharma's major professor is molecular geneticist Ron Okimoto.

Grad Student Kerri Guenther takes Top Honors for Disease Research

University of Arkansas poultry science graduate student Kerri Guenther of San Antonio, Texas, recently won The B.S. Pomeroy Award and \$200 at the 54th Annual North Central Avian Disease Conference held Sept. 21-23 in Cleveland, Ohio.

This award is given in recognition of student achievement in avian disease research. Guenther's presentation was titled "Evaluation of the immunological and histological effects of sequentially passaged hemorrhagic enteritis virus vaccine stocks on susceptible turkeys." The Pomeroy Award is the only award given to students at this particular conference.

"Kerri was very deserving of this award. She worked hard, did terrific research and nailed her presentation," said Lisa Newberry, research assistant professor of avian disease at the U of A. "The other universities are much larger and have better-funded programs. The superiority of her research and presentation won out in the end." Other universities with students participating in the presentation competition included Ohio State, Minnesota and Purdue.



WINNER - U of A doctoral student Kerri Guenther, shown here in the Poultry Health Laboratory on campus, recently won The B.S. Pomeroy Award for avian research. The plaque she received at the conference is displayed in the background.

Newberry also said that students were required to defend their research and findings against a host of experts in avian research during a formal question and answer period. "Kerri fielded every one of their questions with certainty and ease," said Newberry.

One other U of A graduate student, Sumanth Putta of India, also presented his research "In vitro characterization of histone expression in MSB-1 cells in the presence or absence of chicken infectious anemia virus" during the conference.

The Department of Poultry Science hosts a total of 43 poultry science and 13 cell and molecular biology students in its graduate program.

UA Judging Team Takes 2nd Place Nationally



WINNING TROPHIES - The University of Arkansas Poultry Judging team took 2nd place nationally during the 38th National Collegiate Poultry Judging Contest.

The University of Arkansas Department of Poultry Science judging team took second place, just 15 points behind the leader out of a possible 4000, at the 38th Annual National Collegiate Poultry Judging Contest Nov. 2-4, 2003, on the UA campus. Members of the team were Jana Cornelison, Russ Harding, Britney Jackson and Drew Parker. Nine schools from across the country participated in the event.

Team scores as well as individual scores are tabulated and the following are the results of the competition: Texas A & M University (TAMU) first place; University of Arkansas (UA), second place; Louisiana State University (LSU), third place; Kansas State University (KSU), fourth place; and Mississippi State University (MSU) fifth place.

Top 10 individuals for high score were: Cheyenne Campbell, TAMU, first place; Jayme Mair, TAMU, second place; Britney Jackson, UA, third place; Drew Parker, UA, fourth place;

Jana Cornelison, UA, fifth place; Christine Grabouski, TAMU, sixth place; Kelly Dobbeleare, KSU, seventh place; Michael Applewhite, MSU, eighth place; Jamie Ducote, LSU, ninth place; and Jennifer Dowden, LSU, tenth place.

The nine teams that participated were: Kansas State University, Louisiana State University, Mississippi State University, North Carolina State University, Oklahoma State University, Texas A&M University, the University of Arkansas, Virginia Tech University and Western Virginia University.

Sponsors for the event were The Poultry Federation, Butterball Turkey, Cal-Maine Foods, Inc., Cargill, Inc., George's, Inc., Green Forest Egg Co., Peterson Farms, Inc., Simmons Foods, and Tyson Foods, Inc. Special assistance to the contest was also provided by The Poultry Improvement Committee.

Short Course on Modern Poultry Production held at Center of Excellence

Participants from around the world attended the University of Arkansas Division of Agriculture's International Short Course on Modern Poultry Production at the Center of Excellence for Poultry Science in September. The week-long program of concentrated study, hands-on exercises and tours of poultry companies in the area was held on the University of Arkansas campus.

"The Division of Agriculture began the short course in 2000 to help provide a wider audience with a 'big picture' overview of the commercial poultry industry," said Frank Jones, Cooperative Extension Poultry Section Leader. "This course provides participants with the 'mental framework' necessary to understand both where information fits within the industry and how the various parts of the industry are connected."

Most participants in the short course are allied industry technical representatives, poultry industry representatives, who want to gain a broader knowledge of poultry production



SHORT COURSE- From left, Doug Archer, assistant hatchery manager for George's Inc., explains to Eugene Rodberg (hidden), senior marketing manager for DSM Nutritional Products, Inc.; Traci Sayer, laboratory manager for Anitox, and Gilbert Weber, Global Technical Services, the operation of an Inovoject® system, which injects chicks with vaccines prior to hatching, during one of the sessions of the short course.

methods, and international poultry producers. This year the international participants came from England, Uganda and Switzerland. In the past three years there have been participants from 10 countries worldwide.

"The short course is truly a team effort," said Jones. "We employ several techniques to teach participants about the industry including lecture, demonstration, hands-on exercises and field trips to commercial poultry facilities in operation. The lectures, demonstrations and exercises are conducted by UA poultry faculty, which in my opinion are some of the most qualified in the world, while the tours are made possible by industry cooperators."

Some of the hands-on workshops include the following: industry structure; anatomy and physiology of the chicken; breeders and breeder management; hatchery management; broiler production; processing; further processing; food safety and economics of decision-making.

Ozark Poultry Producers Symposium held at University of Arkansas



NETWORKING - Participants and exhibitors visit in front of the Farm Credit Services booth during a break at the Ozark Poultry Producer Symposium. Hundreds were on hand to partiicipate in this annual event designed specifically for growers.

The Ozark Poultry Producer Symposium took place on Tuesday, Oct. 7, 2003 at the Pauline Whitaker Animal Science Center on the University of Arkansas campus. This symposium is an annual event and is open to growers, poultry producers and the poultry industry as a whole.

Of note during the symposium was a session titled "National Resources Conservation Services (NRCS) Assistance to Growers." The speaker for this talk was Glenn Carpenter, who is a representative of the national animal husbandry program for the USDA.

"This was a tremendous opportunity for growers to have access to someone nationally recognized in animal husbandry," said Susan Watkins, extension poultry specialist and organizer of the event. "This type of opportunity doesn't occur very often and we're delighted Glenn made himself available for our conference."

Other topics of interest during the one-

day symposium were: 1) Do your birds have enough water and how can you tell? 2) The new environmental laws for Arkansas 3) Getting the most out of brooding 4) Preparing for winter production 5) On-farm biosecurity: Why it is important to you and the industry? 6) Litter treatment options for improving flock health and the environment, and 7) Drinking water sanitation: Making it work on your farm.

Wideman named Associate Director of the Center of Excellence for Poultry Science

Milo Shult, University of Arkansas vice president for Agriculture, announced the appointment of Robert (Bob) Wideman, Jr., as Associate Director of the U of A Division of Agriculture's Center of Excellence for Poultry Science.

Wideman is a professor of physiology in Dale Bumpers College of Agricultural, Food and Life Sciences. He joined the U of A in 1993 as the newlyestablished Arkansas Poultry Federation Chair.

Wideman received his B.S. in biology from the University of Delaware in 1971 and his M.S. and Ph.D. degrees in regulatory biology from the University of Connecticut in1974 and 1978, respectively.

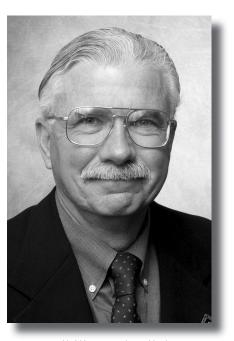
"While it is an honor to be asked to serve in the capacity of Associate Director, I also feel it is a duty and

an obligation," Wideman said. "As a faculty member, it is my responsibility to do all that I can to assist (director) Walter Bottje in making our Center the best in the nation. I do not take the position lightly, but instead see it as a challenge to expand my focus beyond my own research and laboratory functions in order to promote the center as a whole."

Earlier in 2003, Wideman was appointed by U.S. Secretary of Agriculture Ann Veneman to serve on the Research, Education, and Economics Task Force. This task force was formed in order to evaluate the merits of establishing one or more national institutes focused on disciplines important to the progress of food and agricultural research.

Wideman is currently serving on several committees in the department and college including the Curriculum Committee, the Poultry Science Promotion and Tenure Committee, the Poultry Science Graduate Admissions Committee, the Farm Energy and Utilities Committee and the Farm Policy Committee. He is also serving as a section editor of physiology and reproduction for the Journal of Poultry Science, a position that requires him to review and edit about 50 manuscripts annually for publication in the scientific journal.

"Dr. Wideman epitomizes one who has embraced the land-grant mission in teaching, research and extension. He is recognized as one of the premier poultry scientists in the world, is an outstanding teacher, and has helped solve major problems in the poultry industry. His role as associate director will be instrumental in guiding us into our second decade as a Center of Excellence." said Walter Bottje.



Faculty awarded \$250,000 to Develop New Poultry Curriculum



NEW CURRICULUM - From left, Christine Alvarado, Jason Emmert, Shelly McKee and Casey Owens work on content for the new poultry curriculum they are developing with funds from a USDA Higher Education Challenge Grant.

Two University of Arkansas poultry science faculty members have received a USDA Higher Education Challenge Grant for \$250,000 to develop new poultry curriculum for students.

Project director Casey Owens, assistant professor of poultry products and fellow faculty member Jason Emmert, associate professor of nutrition, are collaborating on the project with Christine Alvarado, assistant professor at Texas Tech University; Shelly McKee, assistant professor at Auburn University; and Sacit "Sarge" Bilgili, also a professor at Auburn.

"Poultry product quality, safety and technology are leading areas of interest in the poultry industry. Ensuring the quality and safety of their products is a top priority for poultry processors. The goal of our project is to create a modular, multi-media poultry products, processing and food safety curriculum that addresses these concerns and truly prepares students for a career in the poultry industry," said Owens.

When finished, the multi-disciplinary team will have produced several CD/DVD modules that can be used by faculty members to teach poultry products and food safety courses, with each faculty member providing expertise in their respective areas. Web-based and printed materials will also be developed primarily to support laboratory and undergraduate research activities.

"While there is some up-front expense to producing electronic teaching materials, updating and maintaining the information once it's established is minimal," said Emmert.

"Not only will we be offering the latest technology to our students and increasing their understanding, but we have assembled an incredible team of poultry scientists who are experts in their respective fields. By not limiting ourselves to one institution, we have expanded the field of expertise and will be making that knowledge available to all students. It's a very collegial atmosphere and we're excited about the outcome and how it will affect the future of poultry instruction in our nation," said Owens.

The project is set to be complete in November of 2006.

Other collaborators include H.L. Goodwin, associate professor and extension economist at the U of A; Mindy Brashears, assistant professor in animal science at Texas Tech; and Ann Shortridge, instructional designer at the U of A. There will also be much consultation done with individuals in key areas in the poultry industry.

Poultry Department launches Interactive CD aimed at Recruitment

"After watching and listening to my own teenagers, it became obvious to me that we in higher education are marketing to a very different generation. It was just time for us to take a closer look and evaluate how we were communicating with this computer-savvy generation, " said Karen Eskew, communication specialist for the department.

After researching a wide variety of recruitment tools and enlisting the input of the undergraduate recruiter Gary Davis, "our department head Walter Bottje realized that it had become necessary to make an investment in technology in order to capture students' attention and ultimately convey our message to them. We discussed different methods and that's how the idea for the interactive CD was horm" acid Eslaw



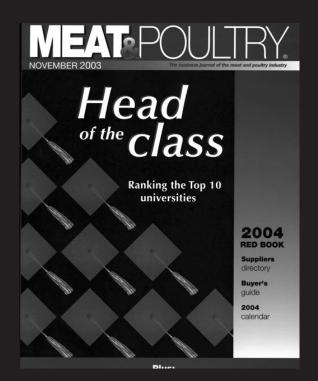
new interactive poultry CD that was produced as an aid to the recruitment program in poultry science.

idea for the interactive CD was born," said Eskew. One important aspect of the poultry science CD, which is available for PC users to load on their computer, is the ability to "surf" through the departmental information without hindrance from slow dial-up Internet providers.

"Much of our target market lives in rural areas where high-speed Internet access is just not available. We've set up our CD to behave like a web site --something these students are familiar with-- without the frustration of a slow or intermittent connection," said Eskew. "It's truly amazing what can be done these days. We've even included a 3D model of our 110,000-squarefoot building to emphasize the tremendous scope of our department and give students in other parts of the country a 'feel' for how large the poultry industry in Arkansas really is."

Eskew is quick to point out that she had to enlist the expertise of a New Media Designer, Aaron Bartlett (recent JBU graduate) in order to complete the project. "I earned my degree over 15 years ago, we barely had computers in my communication and journalism classes. While I have taken several courses on web design and development and am comfortable maintaining our departmental web site and doing graphic design, I certainly was not capable of completing such a technology-heavy project on my own. Instead, I contracted with a digital media major who had just graduated from college," said Eskew. Funds to offset the cost of the poultry CD came from a generous donation by the Harold E. Ford Foundation to the department last fall. Annual funds given by this foundation are specifically earmarked for recruitment and retention.

Poultry Program ranked 1st in the Nation; Combined Animal & Poultry Science ranked 4th



RANKINGS - Meat and Poultry® magazine ranked the poultry science department first in the nation for poultry programs in their November 2003 issue.

The University of Arkansas has been ranked fourth among the 10 best meat and poultry-related programs in the nation by Meat and Poultry® magazine. The magazine ranked the UA No. 1 nationally in poultry processing education, research and extension.

The order is a move up from the fifth place rank awarded the U of A for the last two years. The university has been in the top half of the top 10 in each of the three years the magazine has been ranking meat and poultry programs.

Meat and Poultry magazine, which is circulated throughout the United States and Canada, ranked the U of A fourth for the quality of its programs in poultry science and animal science. It also counted the contribution of the food science, biological and agricultural engineering, and agricultural economics and agribusiness departments for the quality of graduates entering the work force and problem-solving services to the industry.

"M and P continues to strive to publish a truly representative ranking of the best educational options in the country for students seeking a career in the meat and poultry industry," said managing editor Joel Crews. The ranking was based on a survey of more than 40 universities offering meat and/or poultry-related programs.

"Not surprisingly, many of the names on this year's top 10 list were part of the past two year's lists, proving the point that hard-earned excellence isn't fleeting," Crews said.

U of A Vice President for Agriculture Milo Shult said the national ranking reflects major advances in statewide Division of Agriculture animal science and poultry science programs since 1992, when the two departments were created by dividing the former department of animal and poultry science.

"Our animal agriculture programs have achieved national prominence in a short time, thanks to able leadership and a dedicated faculty," Shult said.

EDITOR'S NOTE: Just prior to press time on this Annual Report, the combined programs were ranked 3rd overall in the latest edition of Meat & Poultry, moving up from their number four ranking last year.

Three Grad Students win at Southern Poultry Science Society's Annual Meeting

Three graduate students from the Department of Poultry Science at the University of Arkansas recently competed and won at the Southern Poultry Science Society Annual Meeting held in Atlanta Jan. 26-27, 2004.

Although she was unable to attend, Lisa Bielke, a Ph.D. student of Billy Hargis' from Tomball, Texas, received the Alltech Student Manuscript Award for her paper, "Approach for selection of individual enteric bacteria for competitive exclusion in poults." This paper was presented last year making her eligible to win this prestigious award during this year's meeting. Only one Alltech award is given out each year and the candidate must have won previously in their respective section in order to be considered.

Anne Fanatico, a Ph.D. student from Fayetteville, won the Most Outstanding Graduate Research Paper and Presentation for the Processing/Products section. Her paper, "Comparison of broiler meat quality among alternative slow-growing breeds and a commercial breed grown with or without outdoor access," was co-



PRESENTATION WINNERS- From left, Anne Fanatico and Carol Ojano-Dirain show off their Certificate of Achievements for winning "Most Outstanding Graduate Research Paper and Presentation" awards for their respective categories, which were processing/products and physiology.

authored with faculty members Casey Owens, Jason Emmert and J.F. Meullenet; research associate Padma Pillai; and former Ph.D. student Cain Cavitt now working for Tyson Foods, Inc.

Carol Ojano-Dirain, a Ph.D. student from Pamplona in Cagayan, Philippines, also took an award for Most Outstanding Graduate Research Paper and Presentation in the Physiology section. Her paper, "Assessment of respiratory chain complex activities and protein banding pattern in duodenal mitochondria in broiler breeder males with low and high feed efficiency," was co-authored by her major professor Walter Bottje, research assistant professors Muhammad Iqbal and Neil Pumford, master's student Kentu Lassiter, undergraduate student Nicholas Tinsley and two Cobb-Vantress, Inc., employees Mark Cooper and Terry Wing.

Tyson Foods establishes Food Safety Chair in honor of Buddy Wray



WRAY CHAIR ANNOUNCED- From left, Buddy Wray looks on at UA Chancellor John White announces a new chair in his honor, which was made possible by John Tyson (far right) and Tyson Foods, Inc.

Tyson Foods Inc., the world's largest protein producer, has established an endowed chair at the University of Arkansas Dale Bumpers College of Agricultural, Food and Life Sciences.

Named for the retired President and COO of Tyson Foods, the Donald "Buddy" Wray Chair in Food Safety will support areas key to Arkansas' economy including food processing and poultry processing. Research sponsored through this endowment will help ensure the quality of future processes and products. The chair holder

will provide the additional faculty capacity needed to bring the university's food microbiology program to national and international prominence.

UA Chancellor John A. White said: "We are extremely grateful to Tyson Foods for their ongoing support of the Bumpers College. Endowing and naming a chair for Buddy Wray not only honors him, but it also honors us by permanently associating his name with the University of Arkansas. The Wray Chair in Food Safety will enable us to attract and keep outstanding educators and researchers. Tyson Foods' participation in the Campaign for the Twenty-First Century fuels our vision of a nationally competitive, student-centered research university serving Arkansas and the world."

Greg Weidemann, dean of the Dale Bumpers College of Agricultural, Food and Life Sciences, said: "Tyson Foods has been a generous supporter of Bumpers College programs over the years, and we are grateful for their continued support. Research in food safety is critical to the future of the food industry and we are pleased that Tyson Foods is making this investment to improve our research capacity in food safety. We're excited about finding an excellent candidate to be the first holder of the Wray Chair."

The U of A is the lead institution in the USDA-funded Food Safety Consortium, which is providing grant support for 13 food safety research projects this year involving 11 UA faculty scientists. Wray has served as an industry adviser to the Food Safety Consortium.

John Tyson, chairman and CEO of Tyson Foods, and chairman of the Campaign for the Twenty-First Century Corporate and Foundation Committee, said: "Tyson Foods is proud to be able to support the University of Arkansas by endowing this chair in the critically important discipline of food safety. We're also extremely pleased this endowment will honor Buddy Wray, who, as part of the Tyson Foods family, spent his career devoted to the excellence for which our brand has become known."

UA Poultry Science Department raises over \$20,000 with Scholarship Golf Tournament

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Twenty-eight teams enjoyed a day of golf and raised over \$20,000 for poultry science scholarships during the University of Arkansas Fifth Annual Poultry Science Scholarship Golf Tournament April 27, 2004, at the Valley View Golf and Country Club in Farmington.

The format for the tournament was a four-person scramble with a shotgun start. An awards presentation was held in the clubhouse immediately following conclusion of play for each flight.

First place winners in the morning flight were Ted Burnett, Larry Butler, Sean Davison and Perry Webb of Food Processing Equipment Company (FPEC) with a score of 57. Second place winners in flight one were Gerald Barrett, Steve Bartlett, Wayne Britt and Glenn Canup of 4-State Poultry Supply with a score of 60. Third



GOLFING FOR A GOOD CAUSE: From left, Rick Barrows, Shaun Penny, Hex Bisbee and Scott Barrows of Multi-Craft Contractors stop for a moment to pose for the camera at the 5th Annual U of A Poultry Science Scholarship Golf Tournament.

Place in flight one went to Bill Brunner, Gerald Jones, Rob Wilson and Windell Wood of Jones Motorcars with a score of 61. Warren Carter of the Farm Bureau took home a prize for closest to the pin on hole 16, Windell Wood won an award for having the longest drive on hole 9 and Glenn Canup took first place in the morning putting contest.

First place winners in the afternoon flight were Mark Cook, Mark Cox, Steve Dixon and Mark Meyers of Aerotech with a score of 59. Second place winners were Jody Edwards, Butch Gladden, John Gladden and Doug Quillen of Twin Rivers Group with a score of 60. Third place winners were Vic Smith, Mark Sullivan, Syd Tatum and Ben Thompson of Alpharma also with a score of 60. (Ties were broken with a score card playoff.) Closest to the pin was Syd Tatum, longest drive winner was Stan Barnhill of Barnhill Poultry and the afternoon putting contest winner was Rick Barrows of Multi Craft Contractors.

Major sponsors for the tournament were Alternative Design, FPEC, O.K. Industries, Safe Foods, Corp., and Zero Mountain. Jones Motorcars of Fayetteville provided the car for the hole-in-one prize, Harps Food Stores provided snacks and the Arkansas Farm Bureau donated the items in the goodie bags passed out to participants.

The event will once again take place prior to the Poultry Federation's producers symposium in April. For more information, contact Diana Bisbee at (479) 575-2025.

The Center of Excellence for Poultry Science Annual Report 2003-04

Inaugural Poultry 101 Class takes place on the U of A Campus



POULTRY 101- Casey Owens, far left, shows participants of the Poultry 101 class how to properly cut up a carcass. This was the inaugural class of the new Poultry 101 course. It was held on the University of Arkansas campus. This particular session was held at the Pilot Processing Plant.

University of Arkansas Department of Poultry Science faculty member Casey Owens along with Shelly McKee of Auburn University and Christine Alvarado of Texas Tech University conducted their very first Poultry 101 course at the University of Arkansas campus May 4-6.

The poultry course, which was instigated by the American Meat Science Association (AMSA), is designed to give participants an overview of the poultry industry and its various market segments.

"There was a large need for a poultry course similar to ones AMSA had already started in the swine and beef industries," Dr. Owens said. "Shelly, Christine and I each had different areas of expertise and our respective universities had different resources critical to the success of the course. By combining our resources, we have

provided participants with the very best comprehensive poultry course available."

To take advantage of these resources, Owens, McKee and Alvarado felt it would be best to offer the class three times per year and rotate the host location of the course to take place at each of their universities.

Topics included in the class were the history of the poultry industry, market segments, growout and nutrition fundamentals, processing, quality issues, further processing, food safety, emerging issues and international issues.

Companies that sent employees to participate in the inaugural class were Tyson Foods, Inc.; O.K. Foods; Pilgrim's Pride; Outback Steakhouse; Land 'O Frost; Cobb-Vantress, Inc.; Taco Cabana; and, the American Meat Science Association.

Sponsors for the event were Budenheim, Kerry Ingredients, FMC FoodTech, Meyn America, LLC., and Meat & Poultry Magazine. The meal sponsor was the Con-Agra Food Ingredient Division.

If you would like further information, please contact Casey Owens by e-mailing her at the following address: cmowens@uark.edu or by calling her at (479) 575-4952.

Faculty Member tapped for Special Assignment from United Soybean Board

University of Arkansas Department of Poultry Science extension faculty member H.L.Goodwin, Jr., was asked by the United Soybean Board to serve on a special team charged with supporting the soybean industry.

The newly-formed Livestock Initiative Leadership Team is made up of a cross-sectional group of individuals from leading soybean states.

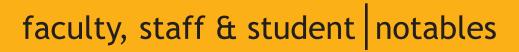
Their three-pronged mission is to 1) help identify ways to increase efficiency in production 2) help formulate policies on international trade and 3) enhance the image and increase the financial support for the industry by identifying ways industries can capture lobbying dollars, produce communication pieces and serve the state organizations by assisting in site evaluations and addressing environmental and water quality issues.

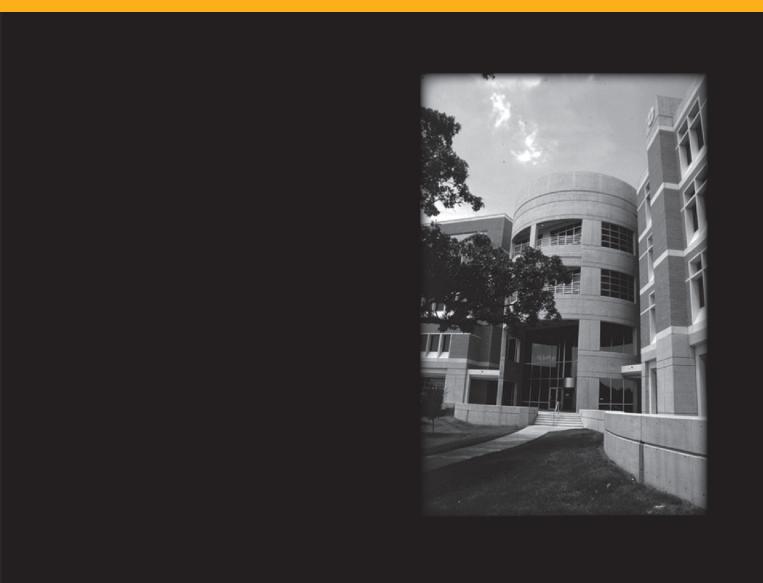


Dr. Goodwin's background is in poultry economy and the impact of economic decisions on industries associated with agriculture. Since the soybean industry contributes nearly 54% of animal feed through soybean meal, cooperating with the United Soybean Board and finding ways to help reduce expenses fits perfectly into Dr. Goodwin's overall mission with the Center of Excellence for Poultry Science.

The Livestock Initiative Leadership Team will meet approximately four times per year to discuss various ways to support the industry and further their mission in aiding the livestock industry.

"I'm very honored to have been selected for this assignment," Dr. Goodwin said. "I look forward to helping problem-solve issues related to the animal industry through this service."





chronological overview:

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FALL 2003 - David Chapman was invited to speak about coccidiosis control at the Poultry Production and Health Seminar meeting in Memphis on Sept. 17.

The following are activities that James Denton has participated in over the past quarter: Denton served as Chairman of the National Alliance for Food Safety Operations Committee in meeting July 23. Denton also served on the IFT Task Force on Mentoring for development of strategy and implementation plan for mentoring within the Institute of Food Technologists. He served as Chairman of the Board of Directors for the National Alliance for Food Safety (NAFS) in Annual Meeting on Aug. 8, Operations Committee and Center Directors Meeting and the NAFS Mini-Symposium on Aug. 9, in New Orleans. Denton served as President of the Poultry Science Association (PSA) Foundation Board of Trustees during the preparation of the PSA Foundation Brochure. Denton served as Chairman of the Food Safety and Quality Program Steering Committee on Aug. 27. Denton gave an invited presentation, which was a summary of the U of A's Food Safety Research and Education Program in a meeting with the Battelle Memorial Institute and the UA Medical Sciences in Little Rock on Oct. 3. Denton served as the Moderator for the Retail Food Industry Food Safety Symposium held in conjunction with the Food Safety Consortium (FSC) in Fayetteville, on Oct. 14. He also served on the Steering Committee for the FSC. Finally, Denton gave an invited presentation at the National Food Safety Update for the Arkansas Poultry Processors Workshop on Oct. 16.

Dan Donoghue, Gerry Huff and **Billy Hargis** gave presentations at the Food Safety Consortium's Annual Meeting in Fayetteville Oct. 12-14.

Jason Emmert was inducted into the University

of Arkansas Teaching Academy on Nov. 12 at the Fayetteville Country Club.

Brian Haggard was honored this summer at the American Society of Agricultural Engineers Annual Meeting in Las Vegas as an outstanding technical reviewer for the soil and water division of Transactions of the American Society of Agricultural Engineers. **Haggard** also gave an invited presentation at the same meeting titled "BMP Effectiveness: Response of Aquatic Systems." **Haggard** gave an invited presentation at the Arkansas Water Resources Center annual research conference titled "Phosphorus Release from Stream Sediments: Effect of Chemical Amendments."

Billy Hargis presented at the International Food Technologists' Food Safety and Education Conference in Orlando Nov. 4-6.

William Huff was invited to attend the Elanco Animal Health Meeting, in order to introduce the concept that bacteriophage can be used to prevent and treat animal diseases, and to reduce foodborne pathogen contamination of agricultural products Oct. 27-28, 2003, Indianapolis, IN.

John Marcy conducted two HACCP workshops for Poultry in Indiana plus participated in the 2nd Poultry HACCP roundtable at Purdue University. Marcy and Jon Porter (adjunct professor) conducted three HACCP workshops for OK Foods in Fort Smith. In addition, Marcy, Porter, along with Rich Linton from Purdue University, conducted a HACCP workshop at the U of A, which included USDA and FSIS Consumer Safety Officers. Marcy and Rong Murphy (BAEG) conducted a three-day Thermal Process Validation Workshop in cooperation with the American Meat Institute Foundation. Marcy and Dale Fredell of Ecolab conducted a Principles of Cleaning and Sanitation workshop at the U of A. Finally, Marcy conducted

the 4-H Day at the Arkansas State Fair that had 35 kids cooking poultry. Chicken was provided by George's Inc., and turkey was provided by Cargill Turkey Products.

Philip Moore, Jr. was invited to attend the Third International Conference on Air Pollution From Agricultural Operations and to participate as an invited panelist Oct 13-15 in Raleigh, N.C. **Moore** was also invited to speak in South Korea at Daegu University at an international animal waste conference Nov. 21.

Lisa Newberry presented two papers at the American Association of Laboratory Animal Scientists meeting in Seattle, Wash., on Oct. 11-16.

Susan Watkins coordinated the second annual Ozark Producer Symposium at Whitaker Animal Science Arena in Oct. Watkins was also an invited speaker for the following events: The Southern Region Extension Water Quality Conference, Ruidoso, N.M.; The Annual Turkey Committee Meeting sponsored by The Poultry Federation at Eureka Springs in Sept.; The 2003 Poultry Production and Health Seminar sponsored by U.S. Poultry and Egg in Memphis in Sept.; The Alabama Broiler Workshop in Auburn in Oct.; The 27th Annual North Carolina Turkey Industry Days and Poultry Supervisors' Short Course in Raleigh; The Cobb-Vantress International Short Course in Sept.; The Delmarva Breeder, Hatchery and Grow-Out Conference in Delmar, M.D.; Two Pilgrim's Pride Grower meetings, one in Hope and one in Mt. Pleasant, Texas; and The 2003 Virginia Poultry Health and Management Seminar in Roanoke, V.A.

Dan Donoghue gave the invited presentation, "Therapeutic or prophylactic antibiotic administration in breeder hens and its potential effect on competitive exclusion cultures in chicks" at the ANECA XXVIII National Meeting in Vera Cruz, Mexico and he gave the invited presentation "Competitive exclusion cultures consisting of lactic acid bacteria plus organic acid treatment may reduce Campylobacter colonization in turkeys" at the CHRO 2003 International Meeting on Campylobacter, in Arhus, Denmark.

WINTER/SPRING 2004 - Jason Emmert and Jerry Wooley were busy putting on poultry judging workshops and contests at the following locations in Arkansas; Danville, Springdale, Damascus, Batesville, U of A-Fayetteville, ASU-Beebe, Arkansas Tech University, Lake Hamilton in Hot Springs, U of A Monticello, Camden-Fairview, and Arkansas State University. Two contests at Northeast Oklahoma Community College and Eastern Oklahoma State College are for competition and Dr. Andrews, emeritus faculty, will be conducting those. Gary Davis was also involved in the Danville and Fayetteville judging events.

John Marcy was elected to serve as the Center Director for the National Alliance for Food Safety and Security (NAFSS) Center for Education and Outreach. Marcy was also appointed the Chair, Designate for the Institute of Food Technologists' Continuing Technical Education Committee. The Institute sponsors approximately 30 one- and twoday programs throughout the year for food professionals.

Casey Owens gave an invited talk "Live production effects on PSE development" at the Sixth Latin American Conference on Poultry Processing and Product Quality in Queretaro, Mexico Feb. 13.

Susan Watkins gave invited presentations during the past few months at the 2004 Perry County Poultry Production meeting; the Annual

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International Pheasant Management Seminar in Janesville, Wisconsin; the Midwest Poultry Federation Convention in Minneapolis; and the Louisiana Broiler Symposium in Shreveport. Watkins also coordinated the Turkey Enteritis Workshop in February at the Shewmaker Small Business Center in Rogers. On hand were 65 attendees and featured UA speakers were **Lisa Newberry, David Chapman** and Dayton Steelman. The event was sponsored by ELANCO, Jones-Hamilton and WYNCO. Watkins attended the final part of the Extension Service First Leadership Training Class in Washington, D.C., March 22-26. She has also been named the Director of The National Egg Quality School, which will be held May 17-20 in Atlanta.

Diana Bisbee was given the Outstanding Professional Support Award by the Dale Bumpers College of Agricultural, Food & Life Sciences during the Honors Convocation held April 15th.

Marianne Benton, accountant in the Department of Poultry Science, was recently notified that she passed her Certified Internal Auditor (CIA) exam.

SUMMER 2004 - Walter Bottje gave an invited presentation "Unraveling Feed Efficiency: A mitochondrial perspective" at the Breeders Roundtable May 5-6, in St. Louis.

David Chapman was the key speaker at the European Coccidiosis Discussion Group Meeting in Weybridge, United Kingdom on June 21st.

Cindy Cisar, post-doc with the Poultry Production & Product Safety Research Unit has accepted an Assistant Professor position in the biology department at Northeastern State University in Tahlequah, OK. Cisar will be conducting research on microbial source tracking; the identification of sources of fecal pollution in water. **Dustan Clark** arranged for USDA APHIS to shoot special biosecurity films and videos using the U of A poultry farms as the backdrop. **Clark** has been instrumental in helping control poultry disease in the state.

Ann Donoghue gave an invited talk on "Bacteriophage and Probiotics: Their role in the control of Salmonella in poultry" at the Fifth Asian Pacific Poultry Health Conference, Surfers Paradise, Australia, April 21-23th. Co-authors were Bill Huff, Billy Hargis, Memo Tellez and Dan Donoghue. Ann Donoghue also presented an overview of the ARS research programs ongoing within the Center of Excellence for Poultry Science at the Breeders Roundtable Annual Meeting in St. Louis in May. Donoghue is also presenting ongoing research to the National Turkey Federation at their Leadership Conference in Washington D.C. In July.

Dan Donoghue gave an invited talk on "Competitive exclusion as a means of controlling Campylobacter in poultry" at the Fifth Asian Pacific Poultry Health Conference, Surfers Paradise, Australia, April 21-23th. Co-authors were Billy Hargis, Memo Tellez and Ann Donoghue. Dan Donoghue also gave an invited talk on "Risks and benefits of using veterinary drugs in poultry" at the Seminario Internacional AMEVEA Peru in Lima, Peru, April 14-16th.

Gisela Erf gave an invited presentation in Istanbul, Turkey on June 8th titled: "Antiflammatory and immunoregulatory effects of vitamin E in poultry." This paper was presented during a pre-symposium at the World Poultry Congress sponsored by DSM Nutritional Products.

Karen Eskew won three national awards for producing the POSC CD (first place); the scholarship golf tournament brochure (first place) and the 2003

cultural Alumni and Development Association.

Brian Haggard conducted a rainfall simulation and water quality sampling for children at the Jones Center for Families in Springdale on June 30th. This event was part of an educational field days that Haggard has conducted for the past few summers.

Nahed Kotrola (Auburn University) and John Marcy conducted a sanitation workshop at Auburn University for Meat and Poultry Processors with Ecolab. Marcy, Rong Murphy and Laura Fenton - Director of Food Safety for Advance Foods, Enid, OK, conducted two Food Safety Workshops in the People's Republic of China in Beijing and for the largest meat company in China, The Shineway Group in Luohe. Marcy also gave a presentation on Operation Food Safety at the University of Arkansas Cooperative Extension 21st Century Family Conference in Little Rock. Additionally, Marcy and Melissa Davidson, his graduate student, have been funded to work on the antimicrobial properties of isothiocyanate in poultry products by Newly-Weds Foods of Chicago, IL, and the U of A Institute of Food Science and Engineering. Finally, Dale Fredell of Ecolab and Marcy conducted the first of two Principles and Applications of Cleaning and Sanitation workshops scheduled for 2004.

For more information, please look at the following web site: http://www.uark.edu~extens/ santdates.html

The United Egg Producers (UEP) has named **Philip Moore** to a scientific panel of experts with experience in air emissions from layer facilities and/or environmental policy/regulatory background. The panels' mission will be to: a) assist the industry in defining the environmental issues it faces, b) serve as a clearinghouse for the industry regarding conducted research on the subject matter, and c) assist the industry in finding solutions to air emissions from layer operations in the future.

Casey Owens was an invited speaker at the American Meat Science Association's 57th Reciprocal Meat Conference June 20-23 in Lexington, Kentucky. Owen's presentation was titled "Tenderness Evaluation in Poultry Meat."

Mark Parcells was the keynote speaker at the 7th International Marek's Disease Symposium July 10-14 in Oxford, United Kingdom.

Susan Watkins was an invited speaker for the Poultry Litter and Renewable Resource Seminar sponsored by the EPA Region 6 in Fayetteville on May 5th. **Watkins** also was an invited speaker at the North Atlantic Poultry Health and Management Conference in Harrisburg, Penn., on May 11-12 and at the Propane Education and Research Council Meeting in Naples, FL. June 10-11th, and at the AG Forte Grower's Meeting in Sioux Falls, South Dakota on June 29th. Additionally, **Watkins** served on the U.S. Poultry and Egg Production and Health Planning Committee; helped coordinate the River Valley Poultry Symposium on May 27th; and served as the Director of the National Egg Quality School May 17-20th in Atlanta, GA, where 52 participants attended from around the world.

STUDENT NOTABLES:

Two poultry science students served as College Ambassadors for Dale Bumpers College of Agricultural, Food & Life Sciences. They are **Fauna Ganson** and **Destiny Sikes**.

Three graduate students from the Department of Poultry Science at the University of Arkansas competed and won at the Southern Poultry Science

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Society Annual Meeting held in Atlanta Jan. 26-27. Anne Fanatico, a Ph.D. student of Casey Owens and Jason Emmert from Fayetteville, won the Most Outstanding Graduate Research Paper and Presentation for the Processing/Products section. Carol Ojano-Dirain, a Ph.D. student of Walter Bottje from Pamplona in Cagayan, Philippines, also took an award for Most Outstanding Graduate Research Paper and Presentation in the Physiology section. Although she was unable to attend, Lisa Bielke, a Ph.D. student of Billy Hargis' from Tomball, Texas, received the Alltech Student Manuscript Award for her paper. This paper was presented last year making her eligible to win this prestigious award during this year's meeting.

Carol Ojano-Dirain also took second place presenting the same paper from Atlanta in the Gamma Sigma Delta presentation competition in February.

Eric Wright was awarded the John W. White Student Award of Excellence by Dale Bumpers College of Agricultural, Food & Life Sciences at the Honors Convocation held in April.

Jana Cornelison was one of only six students chosen nationally to participate in the first hatchery shortcourse offered by Aviagen for students. It was a three-day intensive training program held in Talledega, Alabama.

Lori Beth Hill, a poultry science major, won the Miss National Park Pageant and competed in the Miss Arkansas Pageant in Hot Springs.

The following students were named outstanding senior and graduate students for poultry science for the school year 2003-2004: Outstanding Senior - Eric Wright from Quitman, AR; Outstanding Master's Student - Robin Jarquin from Nicaragua; and Outstanding Ph.D. Student - Lisa Bielke from Tomball, TX.



SHORT COURSE— Jana Cornelison (2nd from right) is shown with fellow short course students in front of Aviagen's offices in Alabama.

UA STUDENT ONE OF FIVE CHOSEN NATIONALLY TO ATTEND COURSE

TALLEDEGA, AL.— As happens with many college graduates, Jana Cornelison of Hindsville thought she wanted to attend graduate school, but hadn't completely made up her mind. After earning one of five spots nationally at the Aviagen Short Course held in Talladega this summer, her decision became final. She's going to the University of Arkansas graduate school this fall and continuing her studies in poultry science.

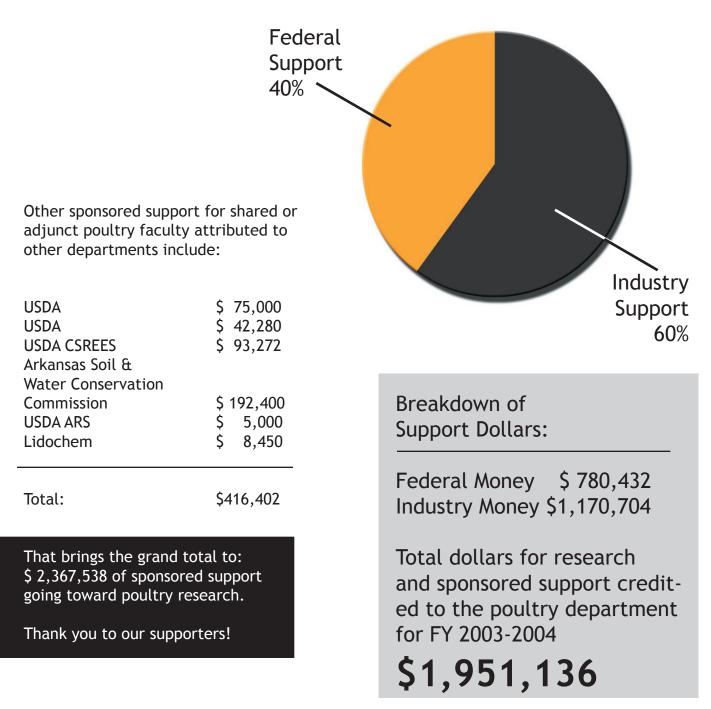
"I had already considered going to graduate school in poultry breeding and genetics, but after attending the short course and gaining first-hand knowledge of the breeder industry, my interest for further education in this area was confirmed," Cornelison said. Cornelison learned of the short course through one of her professors at the U of A, Susan Watkins. The other students chosen were from Mississippi State, Penn State, and Virginia Tech.

"Jana is going to be a valuable asset as a graduate student this fall. I'm delighted that she took advantage of this opportunity. I'm equally thankful that Aviagen made such a worthwhile investment in a poultry science student," Watkins said.





Sponsored Support Dollars: \$1,951,136







Degrees Conferred: Poultry Science Graduate and Undergraduate Students

Undergraduates receiving degrees:

August 2003

Kara Holmes Hugh Lumpkin Leslie Rose

December 2003

Bobbi Devor Rachel Griesse Daniel Hinton Abby Keener Benjamin Outlaw Sean Schader Harry Spurlick Daniel Webber May 2004 Mark Alston Olivia Bowen Jana Cornelison Fauna Ganson Bethany Hall Russell Harding Adrian Hubbard Robert Hubbard Brittany Jackson Scott Jordan Matthew McKinnon Julie Townsend Eric Wright Graduate students completing their degrees:

August 2003 Murali Deabkahtuni Rahul Gundelly

December 2003

Sudha Kakarla Hilary Pavlidis Thilakar Rathinam Martha Reyes Christine Shamblin Valerie Carney Christine Fritts Carl Gilbert Philip Maynard

May 2004

Melissa Davidson John Holliman Debra LaBounty Sumanth Putta Christopher Sartor Leslie Cain Cavitt Jon Prigge

Poultry Science Students participating in the 03-04 Dale Bumpers College of Agricultural, Food and Life Science Honors Program (and their advisors):

Ashley Cox (Dr. Erf) Rachel Griesse (Dr. Erf) Drew Horton (Dr. Erf) Ross Wolfenden (Dr. Erf) Nichole Avery (Dr. Kirby) Kristin Batemen (Dr. Kirby) Fauna Ganson (Dr. Kirby) Amanda Rowland (Dr. Kirby) Emily Rowland (Dr. Kirby) Eric Wright (Dr. Parcells)

Poultry Science Scholarship Recipients: Fall 2003 - Spring 2004

Undergraduate Students receiving Poultry Science Scholarships

Name of Student; Scholarship Contributor

Luke Adams; Randal Tyson Memorial Mark Alston; Tom Edmiston Oscar Antillon; Feed Mfg. & Randal Tyson Jenna Atha; Randal Tyson & Henry B. Shreve Nichole Avery; Randal Tyson Memorial Kristin Bateman; Allied & Randal Tyson Olivia Bowen; Allied & Randal Tyson Margaret Bowman; Feed Mfg. & Randal Tyson Valerie Brewer; Randal Tyson Memorial Jason Clenney; Randal Tyson Memorial Jana Cornelison; Allied & Randal Tyson Ashley Cox; Allied & Randal Tyson Melissa Drake; Feed Mfg. & Randal Tyson Alison Drumwright; Harris & Randal Tyson Heather Franklin; Feed Mfg. & Randal Tyson Fauna Ganson; James Whitmore Shereen Ghori; Feed Mfg. & Randal Tyson Rachel Griesse; Allied & Randal Tyson Bethany Hall; Darryle & Peggy Greene Russell Harding; Allied Industries Rachel Harger; Randal Tyson Memorial Savannah Henderson; Talmadge Nelson Beth Hill; Randal Tyson Memorial Zach Hollowell; Randal Tyson Memorial Drew Horton; Hubbard Adriane Hubbard; Feed Mfg. & Randal Tyson

Britney Jackson; Allied & Randal Tyson Scott Jordan; Allied Industries April Keeter; Allied & Randal Tyson Austin Lasater; Randal Tyson Memorial LeAnn Layman; Hubbard Matt McKinnon; Allied Industries Mark Morgan; Randal Tyson Memorial Drew Parker; Allied & Randal Tyson Adam Penn; Randal Tyson Memorial Melanie Roller; Randal Tyson Memorial Amanda Rowland; Randal Tyson Memorial Emily Rowland; Allied & Randal Tyson Tara Shasteen; Allied & Randal Tyson Destiny Sikes; Allied & Randal Tyson Sarah Sossamon; Allied & Randal Tyson Ashley Swaffar; Randal Tyson Memorial Sidney Swonger; Richard Forsythe Neda Tilley; Randal Tyson Memorial Julie Townsend; Feed Mfg. & Randal Tyson Jarrod VanBrunt; Ed Stephenson Mindy Waddell; Allied & Randal Tyson Joshua Whitlow; Randal Tyson Memorial Austin Williams; Feed Mfg. & Randal Tyson Eric Wright; Hubbard Michael Yates; Randal Tyson Memorial

Thank you so much for the support that made it possible for these above mentioned students to attend the University of Arkansas and major in Poultry Science!

Total Scholarship Money Distributed Fall 03/Spring 04: \$131,775.00

Publications & Contact Information

books & book chapters	6
refereed journal articles	63
non-refereed articles	99
proceedings	2
invited presentations	31
other presentations	58

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