FROM THE DIRECTOR

Dr. Walter Bottje, Interim Director
Center of Excellence for Poultry Science

CHANGE

When Dr. Denton asked me to be the Interim Director of the Center of Excellence for Poultry Science (CEPS), I told him that he would be a tough act to follow. By all accounts, Dr. Denton’s energies, along with an outstanding faculty and staff, have molded CEPS into the best in the country. I am honored to be in my current position. I look forward to the inherent challenges to see that the program continues to grow and mature.

The donation by the Tyson Foundation made by John Tyson on December 14, 2001, represents a tremendous boost to our scholarship funds that will have a long-lasting impact on the undergraduate program in CEPS. This generous donation was especially fortuitous and in that it came at a time when there were predictions of budget shortfalls for the state (and therefore in all state programs) which in turn threatened reductions in scholarship opportunities for all students at the University of Arkansas.

The Meat and Poultry Magazine ranked the combined Animal and Poultry Science programs at the University of Arkansas at number five nationally. Part of the success in achieving such recognition can be attributed to excellence in contributions made by faculty and the quality of students in CEPS. In this regard, CEPS is proud to announce that three individuals will receive John W. White Awards at the Honors Convocation.

John Tyson donates $500K to poultry scholarship fund

FAYETTEVILLE, Ark. – John Tyson, chairman and CEO of Tyson Foods Inc. and a Steering Committee member of the University of Arkansas’ Campaign for the Twenty-First Century, gave a $500,000 boost from the Tyson Foundation to the Randal Tyson Memorial Endowed Scholarship/Fellowship Fund. A check presentation was held Dec. 14 at the Center for Excellence in Poultry Science on the University of Arkansas campus.

The Randal Tyson Memorial Scholarship was established by the Tyson family in 1993 and is designated toward juniors and seniors who are poultry science majors in the Dale Bumpers College of Agricultural, Food and Life Sciences. The scholarship is awarded by the poultry science department to applicants who demonstrate a strong academic background, leadership ability and professional potential in the poultry industry.

The poultry science department awarded $197,587 in scholarship dollars during the 2000-2001 fiscal year. Of that amount, 24 percent came from the Randal Tyson Memorial Scholarship/Fellowship Endowment Funds, the principal for which was $709,000 before today’s gift. The department provides awards and scholarships to a number of students annually from the Randal Tyson Memorial Scholarship/Fellowship Fund, and chooses one student each academic year as the recipient of a major scholarship. This academic year’s recipient is Jill Townsend, a senior poultry science major from Malvern, Ark. She will graduate in May 2002.

“We are so pleased that John Tyson chose to supplement generously the scholarship fund endowed in his uncle’s memory,” said UA Chancellor John A. White. “John Tyson is a proven leader in the corporate world, and continues to

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ABOVE - John Tyson, chairman and CEO of Tyson Foods, Inc., is shown presenting a $500,000 check to the University of Arkansas’ poultry science department for scholarships.
of the Dale Bumpers College of Agricultural, Food, and Life Sciences, April 11. These include Jill Townsend (Outstanding Student), Jason Emmert (Excellence in Teaching), and Robert Wideman, Jr. (Excellence in Research). Four graduate students receiving presentation awards at the Southern Poultry Science Society Annual Meetings in Atlanta in January were Matt Greenwood, Lisa Bielke, Jack Higgins, and Melissa Davidson. Carolyn Ojano-Dirain, also a grad student, took first place for a graduate oral presentation, and Niki Loupe, senior, received third place for an undergraduate oral presentation both made at the Gamma Sigma Delta presentation competition for the College in the Arkansas Union.

In closing, I would simply say again that I am looking forward to the challenges and rewards of my position as Interim Director of CEPS. I am also glad that Dr. Denton, the ‘Zen Master of CEPS’, will be just down the hall for the next two years.

John Tyson earned his bachelor’s in business administration from Southern Methodist University in 1975. The Tyson family has supported many projects and programs at the University including the Janelle Y. Hembree Alumni House building project, the University of Arkansas Press and the Randal Tyson Track Center. He is actively involved in the well being and education of children in Arkansas and is actively involved in Walden Woods, a nonprofit land conservation organization, founded to protect the famed retreat of author Henry David Thoreau.

Tyson said, “Tyson Foods and the Tyson Family believe in supporting education. The University of Arkansas poultry science department has been a good source of quality graduates, many of whom become employees of Tyson Foods. By increasing the Randal Tyson Memorial Scholarship Endowment, our desire was to provide more opportunities for a greater number of high-ability students with an interest in poultry science. These students will become the leaders of tomorrow in the industry.”
Animal and Poultry Science Departments ranked fifth in the nation by Meat & Egg Magazine

FAYETTEVILLE --- The University of Arkansas has been ranked among the 10 best meat and poultry-related programs in the nation by Meat and Poultry magazine.

The magazine, which is circulated throughout the United States and Canada, ranked the U of A fifth for the quality of its programs in poultry science and animal science. It also counted the contribution of the food science department for the quality of graduates entering the work force and problem-solving services to the industry.

Managing Editor Joel Crews said the rankings are based on objective factors and the reputation of the universities for high quality graduates and low-cost, problem-solving services.

U of A Vice President for Agriculture Milo Shult said the national ranking reflects major improvements 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.

James Denton was appointed in 1992 as the first head of the poultry science department and director of the Center of Excellence for Poultry Science. Keith Lusby was appointed animal science department head in 1995.

"Thanks to the leadership of Keith Lusby and James Denton and the dedication of our faculty, our animal agriculture programs have achieved national prominence in a short time," Shult said.

"These are comprehensive, statewide research, extension and academic programs with Division of Agriculture faculty and facilities in Fayetteville, at the Livestock and Forestry Branch Station near Batesville, at Southwest Research and Extension Center at Hope, and at a research and extension complex at Savoy, west of Fayetteville," Shult said. "Our Extension faculty, coordinated by section leaders Tom Troxel and Frank Jones, in Little Rock and every Arkansas county also play a major role."

Greg Weidemann, dean of Bumpers College of Agricultural, Food and Life Sciences and associate director of the Arkansas Agricultural Experiment Station, said, "We are thrilled that the meat and poultry industry has recognized the impact of our programs.

"This ranking is a tribute to the hard work of our faculty, staff and students and to the investment the Division of Agriculture has made in facilities throughout the state through the generous support of the animal industry, the state legislature and our congressional delegation."

Lusby said the ranking means the degrees earned by U of A graduates from Bumpers College are respected nationally.

"We’ve established a reputation for preparing professionals for the meat and poultry industry," Lusby said. "They also know our research and extension programs are providing low-cost solutions for industry and consumer needs.

"Cattle and swine producers and industries have supported our teaching and research programs over the years, and this ranking validates their faith in us," he said.

Denton said more than $32 million has been invested by USDA, state government and the poultry industry in UA poultry facilities over the past 10 years.

"We have tripled the number of faculty involved in poultry research to include poultry scientists, food scientists, biological and agriculture engineers and agricultural economists," Denton said.

"Because of these strategic contributions and expansions, we are able to provide the cutting-edge research necessary to keep our broiler, turkey and layer industries in positions of leadership in the global marketplace."

Animal and poultry science faculty numbers increased from 24 in 1990 to 41 in 2001. The increase in student enrollment from 1990 to 2001 is from 136 to 210 undergraduates and from 38 to 70 graduate students.

The Center of Excellence for Poultry Science was created with an infusion of federal, state and private funds to build the 112,000 square foot John W. Tyson Poultry Science Center, dedicated in 1995, a bio-secure poultry health laboratory, feed mill, pilot processing plant, broiler production houses and other facilities.

Virtually all research facilities for cattle have been rebuilt in the past five years, and a state-funded swine research and education unit was completed this month at Savoy. Two high-profile additions on North Garland Avenue were the Pauline Whitaker Animal Science Center in 1999, built with state, federal and private funds, and the Dorothy E. King Equine Pavilion in 2000, built with private funds.

A conference center and new research facilities were built at the Livestock and Forestry Substation near Batesville.

"Animal enterprises provide the livelihood for thousands of farm families and are a major employer in the manufacturing sector," Shult said. "They involve complex biological systems with environmental, social and economic dimensions. We are grateful for the recognition of the needs by state government and our congressional delegation."

The top 10 list, in order, includes Texas A&M, Iowa State, Kansas State, Colorado State, University of Arkansas, University of Nebraska, Virginia Tech, Pennsylvania State, Ohio State and Oklahoma State. Details on the rankings are provided on the http://www.meatpoultry.com website.
Poultry Graduate Student Association hosts 5th Annual Symposium at Center

Graduate students competed in January at the 5th Annual Poultry Science Graduate Association’s Symposium held at the Center of Excellence for Poultry Science. Students presented papers in their areas of research competing for the Thomas Sullivan Travel Award. Monies given out during this competition were used by graduate students to attend the Southern Poultry Science Society’s Annual Meeting in Atlanta just prior to the International Poultry Exposition.

Winners were, Lisa Bielke, Dr. Hargis’ graduate student, who received first place and $500 for her oral presentation, “Evaluation of an in vitro approach for selection of individual enteric bacteria for competitive exclusion use in poult.” Second place and $300 went to Jack Higgins, also Dr. Hargis’ graduate student, for his paper “Evaluation of bacteriophage treatment as a method to reduce culturable Salmonella in poultry carcass rinse water.” Third place went to Carolyn Ojano-Dirain, Dr. Waldroup’s graduate student, for her paper, “Evaluation of Methionine, Lysine and Threonine Needs of Broilers in Moderate Heat Stress”

MEMBERSHIP

Letters were mailed in March to all the Poultry Science graduates on our mailing list. We enclosed a postage-paid postcard for them to return with their suggestions for our annual meeting as well as a form for the non-members to join the Arkansas Alumni Association. We currently have 157 members and 475 on our mailing list. If you know of graduates that did not receive our letter, please send us their addresses so we can update our records and make contact with them.

By the time you read this, the Poultry Symposium held at the Northwest Arkansas Convention Center in Springdale may have already occurred. At the symposium, we will have information about joining our Poultry Science Alumni Group at the Center of Excellence booth. Also, we will have more information on our annual meeting.

Thanks for your assistance, and we hope to see your name soon on the roster for the alumni group if you’re not already a member.

If you need any assistance, please see my contact information below and I would be glad to assist you.

If you would like to contact Dr. Barton you may e-mail him at lbarton@uark.edu or call the front desk for a message at 479-575-4952.

Dr. Barton is an emeritus faculty member of the poultry science department and he served as an extension poultryman.
Poultry grad students take top honors in Atlanta

ATLANTA---Several graduate students from the Center of Excellence recently competed in an oral presentation competition at the Southern Poultry Science Society’s Annual meeting in Atlanta.

Four from the University of Arkansas took top honors in this competition. Lisa Bielke, master’s student of Dr. Billy Hargis, won first place for Most Outstanding Graduate Student Paper and Presentation in the Pathology division. Bielke is the daughter of Michael and Jodi Center of Tomball, Texas. She is a graduate of Texas A&M University. Bielke’s paper was entitled, “Approach for selection of individual enteric bacteria for competitive exclusion in poults.”

Melissa Davidson, master’s student of Dr. Dan Donoghue, took first place for Most outstanding Graduate Student Paper and Presentation in the Environment and Pathology division. Davidson is the daughter of Dennis and Georgia Davidson of Bryan, Texas. She is a graduate of Texas A&M University. Her paper was entitled, “Investigation of antibiotic transfer into eggs: Biologically active enrofloxacain detected in albument and yolk.”

Matthew Greenwood, master’s student of Dr. Park Waldroup, won first place for Most Outstanding Graduate Student Paper and Presentation in the Nutrition division. Greenwood is the son of Wayne and Vickie Greenwood of Rogersville, Missouri. He is a graduate of the University of Missouri-Columbia. His paper was entitled, “Utilization of avizyme 1502 in broiler diets with or without antibiotic supplementation.”

Jack Higgins, master’s student of Dr. Billy Hargis, won first place for Most Outstanding Graduate Student Paper and Presentation in the Processing and Products division. Higgins is the son of Florence and Robert Higgins of Sutherland Springs, Texas, and he is the husband of Stacy Higgins, who is also a graduate student of Dr. Hargis’. Higgins is a graduate of Texas A&M University. His paper was entitled, “Evaluation of bacteriophage treatment as a method to reduce salmonella in poultry carcass rinse.”

Congratulations to these graduate students who represented the Center very well in Atlanta.

Dr. Walter Bottje appointed Interim Director of CEPS

Dr. Bottje graduated with honors in 1976, receiving a B.S. degree in Zoology with a Chemistry minor from Eastern Illinois University. After receiving an M.S. from Southern Illinois University, he completed his Ph.D. at the University of Illinois prior to being hired at the University of Arkansas in 1985. Dr. Bottje has developed a research program focused on antioxidants and toxicology with an NIH grant he received in 1987.

In 1995, Dr. Bottje became the Associate Director of the Center of Excellence for Poultry Science (CEPS) with a 30% administrative appointment. He is currently serving as the Interim Department Head and Interim Director of the Center of Excellence for Poultry Science.

Dr. Bottje’s current research is focused on the role that mitochondria play in pulmonary hypertension syndrome in broilers. He recently received a USDA-NRI grant to investigate the role that mitochondria play in feed efficiency in broilers. In addition to his new administrative responsibilities, Dr. Bottje currently teaches a graduate course in gastrointestinal physiology.

The Center of Excellence faculty and staff welcome Dr. Bottje to his new role as Interim Director and Department Head of poultry science.
Program for North American Mobility in Higher Education

The program for North American Mobility in Higher Education is a jointly supported educational program administered through the auspices of the Canadian (HRDC), Mexican (SEP) and American (FIPSE) governments, and is a direct outgrowth of the North American Free Trade Agreement (NAFTA).

This program was entered into under a spirit of cooperation and partnership, as each country recognizes that they share similar visions and goals with respect to providing effective learning opportunities for their citizens.

The emphasis of the program is the development of educational alliances at the postsecondary level through the free exchange of students and faculty between participating university partners.

“Globalization in Education of Animal and Poultry Sciences” is the outgrowth of this program and is being organized by Dr. Billy Hargis and Dr. Lisa Newberry of the CEPS faculty.

Students participating in the program will be able to study in Canada, Mexico or America with professors in their area of interest. If you would like more information, please contact Lisa Newberry at lnewber@uark.edu.

Meetings and Int’l Expo in Atlanta another success

ATLANTA --- Once again faculty, staff and students from the Center attended the Southern Poultry Science Society’s Annual Meeting and the International Poultry Exposition in Atlanta during January. Students, who are nearing graduation, participated in interviews with several members of the poultry industry. The Center also hosted a booth on the trade show floor in the Georgia World Congress Center. Finally, several graduate students had opportunities to make oral and poster presentations during the scientific meetings. (See story page 5.)

ABOVE - Students from the U of A poultry science department attend a meeting of the U.S. Poultry Science Club in Atlanta.

ABOVE - Students from the U of A poultry science department attend a meeting of the U.S. Poultry Science Club in Atlanta.

ABOVE - Dr. Billy Hargis, right, speaks with a colleague following a presentation at the Southern Poultry Science Society’s Annual Meeting in Atlanta.

ABOVE - Dr. John Marcy (left) and Dr. Susan Watkins are shown working in the CEPS booth at the International Expo.
Vaccine improves control of the poultry disease coccidiosis

FAYETTEVILLE --- An old weapon is providing a new strategy for combating one of the most widespread problems in the poultry industry worldwide.

Coccidiosis, a disease caused by protozoan parasites called Eimeria, is one of the greatest causes of economic loss in the poultry industry, said David Chapman, parasitologist for the Arkansas Agricultural Experiment Station and CEPS faculty member. It can cause poor weight gain, poor growth performance and even death of broiler chickens. It does not affect humans.

Coccidiosis is treated by adding coccidiostats (not antibiotics) to the feed, Chapman said. "Over time, all such treatments lose effectiveness as the pathogens develop resistance to the drugs."

To find a more effective treatment, Chapman looked back to a time when vaccines were used to control coccidiosis in breeder birds. These early vaccines had to be administered by veterinarians who travelled from breeder house to breeder house. Drug additives were used in broiler houses because they were effective against early strains of Eimeria and easier to use than vaccines.

Coccidiostats kill Eimeria by disrupting specific biological functions of the pathogen. In contrast, vaccines deliver low, controlled doses of the pathogen that stimulate an immune response in the chickens without sparking the disease. Chapman said modern techniques allow vaccinations to be given in the hatchery, before the chicks are distributed to chicken farms.

"My interest was in some of those early vaccines, based on strains of Eimeria that were isolated in the 1950s, before modern drugs were used," he said. Because they haven't developed resistance to the coccidiostats, Chapman reasoned that vaccinating poultry with these early strains of Eimeria would result in populating poultry houses with drug-sensitive pathogens.

His trials, conducted in the poultry houses and labs of the University of Arkansas' Center of Excellence for Poultry Science, demonstrated that using the vaccinations in rotation with a coccidiostat improved control of the disease and lowered costs to the industry.

"We use the vaccine in the summer, when occurrence of coccidiosis tends to be low," Chapman said. "When we go back to using the drugs in winter, they are more effective in controlling the disease because the Eimeria present have no resistance to them."

He said USDA researchers have confirmed his results and poultry company representatives have told him they control the disease and save money by using the treatment rotations he developed.

"Coccidiosis is the most widespread disease in poultry," Chapman said. "You may not know it's there, but it's hurting your bottom line and, in severe cases, killing a lot of birds.

"We're not able to eliminate this disease, but we can control it effectively and economically."
Walter Bottje recently attended an Animal and Poultry Science Department Heads meeting in Orlando, FL. Bottje also attended the Poultry Federation’s spring meeting. Bottje will be giving the Center of Excellence for Poultry Science Update at the Annual Poultry Symposium April 9-10.

H. David Chapman was an invited speaker at a coccidiosis workshop in Panama City, Panama on February 8. While there, Chapman also gave a talk to Panama’s largest poultry integrator. Recently, Chapman’s research was profiled in the Life Science column, a weekly column released by the Agricultural Experiment Station, and in Cocciavorum, a magazine widely distributed to the poultry industry.

Billy Hargis gave an invited presentation, “Alternatives to antibiotic therapy for bacterial diseases control in poultry” at the XXIII International Seminar of AMEVE-Colombia in Santa Marta City on February 22.

William Huff and Annie Donoghue gave invited presentations at the National Turkey Federation’s Annual Meeting January 12-15. Huff spoke on “Bacteriophage: An alternative to antibiotics in animal production” and Donoghue’s presentation was entitled, “ARS Food safety research in Turkeys.”

James Denton attended the Technical Advisory Committee meeting at the Center on November 29. Denton attended the Food Safety Inspection Service/Ag Research Service (FSIS/ARS) annual conference in Williamsburg, PA, January 7, as a representative of the National Alliance for Food Safety (NAFS). In January, Denton presented the Center’s recruitment report to the Harold E. Ford Foundation’s Board of Directors in Atlanta. On January 23, Denton hosted three visitors from El Salvador that work for Avicola Salvadorena, which is part of the poultry industry. On February 11 - 13, Denton gave the keynote address at the Australian Poultry Science Symposium. Following the symposium, Denton and John Marcy, Jon Porter (adjunct) and Rich Linton (Purdue University, HACCP instructor) traveled to New Zealand where they were hosted by Tegel Foods and visited several offices and sites including; while at each location, the team from the Center put on workshops and gave instruction to Tegel’s employees.

Jason Emmert was named the John W. White Outstanding Teacher for Bumpers College of Agricultural, Food & Life Sciences. Emmert has also conducted numerous poultry judging workshops around the state during the month of February with the assistance of Jerry Wooley. The following are the sites that played host to the workshops; Batesville, Danville, Hot Springs, Fayetteville, Bentonville, Beebe, Marvell, Damascus, Fouke, Monticello, NEO in Miami, Oklahoma, Arkansas Tech University in Russellville, and Lake Hamilton. On April 19th, Emmert hosts the state contest at the U of A Pilot Processing Plant. Wooley conducted the Northeast District contest at ASU in Jonesboro as well as the Southeast District contest in Monticello. Both Emmert and Wooley are on the National FFA Poultry Career Development Event Committee. Competitions like these they have hosted prepare Arkansas students to compete in the National FFA contest later in the year.

Philip Moore gave an invited presentation, “The state of the art for manure management strategies on a watershed scale” at three locations in Brazil; Cordonica, Campinas and Rio de Janeiro. Moore also trained the Embrapa scientists in Cordonica on how to utilize rainfall simulators and automatic water samplers for conducting runoff studies on animal manure. Moore was also invited by the Canadian government in Alberta to review the research conducted by Alberta Agriculture to regulate manure and commercial phosphate fertilizers applied to agricultural lands. The meetings took place in Kananaskis in March.

Lisa Newberry gave an invited presentation at the World Poultry Congress in Atlanta entitled, “Infectious bursal disease: A virus for the new millennium and beyond.”

Casey Owens and Jason Emmert served as chairs for the processing and products session and nutrition session, respectively, at the recent Southern Poultry Scientists Society Annual Meeting in Atlanta. Several Center faculty also attended this meeting.

Robert Wideman, Jr., was recently named the John W. White Outstanding Researcher for Bumpers College of Agricultural, Food & Life Sciences. Wideman gave an invited presentation on the “Physiology of the avian gastrointestinal tract in relation to the symptoms and pathogenesis of ‘rapid transit’ in broilers” to the Mexican Poultry Industry on October 18-19 in Guadalajara, Celaya, and Mexico City. Wideman also served as seminar/group discussion leader while attending. Sponsor for the presentations was Novus International. Wideman also gave an invited presentation, “Update and training on techniques for selecting ascites-resistant broiler lines.” on October 30 for Hubbard ISA Technical Staff in Walpole, NH. Sponsor for this presentation was Hubbard ISA. Finally, Wideman gave the invited presentation “Recent research for selecting ascites-resistant broilers” on January 3 at the Nanjing Agricultural University, Nanjing China; on January 7 at the Shandong Agricultural University in Taian City China; on January 9 at the Yanggu Fengxiang Broiler Company in Yanggu County, Shandong Province China; and, on January 12 at the Veterinary General Bureau of Shandong Province, Jinan City China (Invited presentations were sponsored by People’s Democratic Republic of China) 2002.

Cain Cavitt, graduate student of Casey Owens, and Trey Pope, graduate student of Jason Emmert, both presented posters while Chris Fritts, Edgar Ovieodo-Rondon and Wenjun Pan, all graduate students of Park Waldroup’s, gave presentations at the recent Southern Poultry Science Society’s Annual Meeting in Atlanta.

Niki Loupe, senior, placed third at the recent Gamma Sigma Delta Oral Presentation Competition for her paper, “Reduced Amino Acid Levels Support Broiler Growth During the Grower Phase.”

Carolyn Ojano-Dirain, graduate student, placed third at the recent Poultry Science Graduate Association Symposium and placed first in the Gamma Sigma Delta Oral Presentation Competition for her paper, “Evaluation of lysine, methionine, and threonine needs of broilers three to six weeks of age raised under moderate temperature stress.” Co-author was faculty member Park Waldroup.

Edgar Ovieodo-Rondon, doctoral student of Park Waldroup’s, gave an invited presentation, “Mathematical models in poultry production and nutrition” at the XXIII International Seminar of AMEVE-Colombia in Santa Marta City on February 22.

Jill Townsend, senior, was named the John W. White Outstanding Student for Dale Bumpers College of Agricultural, Food & Life Sciences.

The Poultry Science Graduate Association (PSGA) has organized a series of workshops for career development. On, February 13, John Lea, Vice President of the Consumer Division of Tyson Foods Inc., gave a talk entitled “Employers expectations: A vision from Tyson Foods.” More workshops are scheduled throughout the rest of the year.

Mark Parcells
Merial, Inc. \ $379,433
Mark Parcells & Kung (UC Davis) Co PIs
USDA-NRI CGP \ $275,000