2007 in
The College of Agriculture and Life Sciences

Like most years, 2007 was a time of accomplishment and change in the College of Agriculture and Life Sciences. Following is a look back, focusing on noteworthy events of 2007.

ACCOLADES

Klaenhammer wins Holladay Medal
Dr. Todd R. Klaenhammer, Distinguished University Professor and William Neal Reynolds Professor of Food Science, was one of four N.C. State University faculty members awarded the 2007 Alexander Quarles Holladay Medal for Excellence. The NCSU Board of Trustees presented the medals May 10 during the university's Honors Baccalaureate and Celebration of Academic Excellence. The Holladay Medal is the highest honor bestowed on a faculty member by the trustees and the university.

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Mackay wins Gardner Award
Dr. Trudy F. C. Mackay, William Neal Reynolds and Distinguished University Professor of Genetics, was honored with the O. Max Gardner Award, the highest faculty award presented by the UNC Board of Governors. The award is presented each year to one faculty member from the UNC system's 16 campuses recognized as having "made the greatest contribution to the welfare of the human race." Mackay studies the genetic and environmental factors affecting variation in quantitative, or complex, traits. Her groundbreaking work in the study of quantitative trait loci, or the locations in the genome where variations occur, largely focuses on the model organism Drosophila melanogaster, the fruit fly.

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Four named Reynolds Professors
Four faculty members were named William Neal Reynolds Professors, one of the highest distinctions available to N.C. State faculty members. The four newest Reynolds professors are Dr. Rick Brandenburg, professor of entomology and a North Carolina Cooperative Extension entomologist; Dr. Margaret Daub, professor and head, Department of Plant Biology; Dr. Walter Thurman, professor of agricultural and resource economics; and Dr. Michael Schulman, professor of sociology and anthropology.

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Faculty elected AAAS Fellows
Four College of Agriculture and Life Sciences faculty members were among seven N.C. State University scientists elected Fellows of the American Association for the Advancement of Science (AAAS). Dr. Robert R.H. Anholt, professor of zoology and genetics; Dr. Gregory Gibson, William Neal Reynolds Professor of Genetics; Dr. Coby Schal, Blanton J. Whitmire Professor of Entomology; and Dr. Marie Davidian, William
Neal Reynolds Professor of Statistics, were elected. They were among 449 scientists honored by AAAS.

**Werner named Raulston Professor**

In April, Dr. Dennis Werner, professor in the Department of Horticultural Science and Director of the J.C. Raulston Arboretum, was named J.C. Raulston Distinguished Professor. This professorship was established in 1998 by C.D. and Meredith Spangler in honor of the late J.C. Raulston. Dr. Werner is a professor in the Department of Horticultural Science and serves as Director of the J.C. Raulston Arboretum.

**Rose wins NSF grant**

Dr. Bob Rose, assistant professor of Biochemistry, was chosen to receive a prestigious Faculty Early Career Development Program grant from the National Science Foundation. Like most grants, a five-year, $770,000 award is designed to fund work that will expand the body of scientific knowledge. But the Early Career Development Program award is different from many other grants in one regard: It is designed to enhance science education as well as fund research. Rose is using the funding to establish a teaching laboratory that will be the site of a molecular biology techniques course designed primarily for high school science teachers who are pursuing master’s degrees.

**Patisaul Among the ONES**

Dr. Heather Patisaul, assistant professor of Zoology, was one of seven researchers nationwide to receive a 2007 National Institute of Environmental Health Science (NIEHS), Outstanding New Environmental Sciences (ONES) program grant. The ONES program identifies outstanding scientists in the early stages of their careers who intend to make a commitment to research in NIEHS mission areas. Patisaul plans to use the five-year, $3.5 million grant to study the mechanisms by which common endocrine active compounds, such as bisphenol A and genistein, may impact the endocrine system and potentially advance puberty.
Awards for Excellence
College staff members were honored in April with 2007 Awards for Excellence. Award winners were Julia C. Brooks, CALS Alumni and Friends Society; Tom E. Mease, Cooperative Extension; Dee Ann Cooper, Department of Soil Science; Michael E. Adcock, Department of Biological and Agricultural Engineering; Kimberly J. Hutchison, Department of Soil Science; Pam Brylowe, Jones County, Cooperative Extension; and Patricia Buddin, CALS Career Services. In May, the group was again recognized among other college/unit winners at the University Awards for Excellence Luncheon at the McKimmon Center.

Turfgrass program rated best
The College’s turfgrass program is the nation's best, said a leading international magazine for golf course superintendents. TurfNet the Magazine in its July 2007 issue praised the program's "wealth of resources . . . diverse and talented faculty, research money and grants, facilities and quality of curriculum." The magazine rated 40 turfgrass programs across the nation.

ADMINISTRATIVE CHANGES
Leath leaves NCARS for UNC System
In July, Dr. Steven Leath, College associate dean and director of the North Carolina Agricultural Research Service, assumed a new position as vice president for research of the University of North Carolina system. With Leath’s departure, Dr. Sylvia Blankenship began service as interim director of the N.C. Agricultural Research Service, while Dr. Steve Lommel became the College’s interim associate dean for research.

Kirby heads Agricultural Institute
Dr. Barbara M. Kirby was named director of the Agricultural Institute, succeeding Dr. John Cornwell, who retired. Kirby continues in her role as the College's associate director of Academic Programs. The Agricultural Institute is the United States' largest associate-degree-granting program at a four-year institution offering agricultural degrees.

Smith heads Crop Science
Dr. W. David Smith was named head of the Department of Crop Science. Dr. Smith had served as Interim Department Head since July 2006. He joined the department in 1981 as Extension Specialist and was named a Philip Morris Professor in 2000.

Monks joins NCARS
Dr. David Monks, professor of Horticultural Science, was named Assistant Director of the North Carolina Agriculture Research. Dr. Monks joined the Horticultural Science faculty in 1989. He served as Department Extension Leader from 1999 to 2003 and as Assistant Department Head beginning in 2003.
EVENTS

CEFS hosts Petrini lecture
Building and supporting a local food system in North Carolina was the theme in May as the Center for Environmental Farming Systems (CEFS) hosted Carlo Petrini at its inaugural lecture on sustainable agriculture. Petrini is founder of Slow Food International, a movement that promotes local food systems and encourages relationships between growers, chefs and consumers. Petrini, who lives in Italy, visited N.C. State and the Triangle area as part of a six-stop tour of the United States.
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Ballington hosts blueberry breeders
Most of the world's blueberry breeders were in Castle Hayne the first weekend in June. That's when Dr. Jim Ballington, professor of horticultural science and long-time blueberry breeder, and his assistant, Terry Bland, hosted the second Blueberry Breeders' Weekend. The N.C. State University blueberry breeding program was chosen for the event because of the breadth of genetic diversity in the program. All but two American breeders attended, along with breeders from Australia, New Zealand and Chile.
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CALS speeds networking
The College's first Speed Networking event was held in March at the Talley Student Center. The event was sponsored by the Career Services office, the CALS Alumni and Friends Society and the student REACH Team (Recognizing Educational Aspirations and Career Horizons), a new organization that promotes Career Services programs, workshops, special events and services to students. A room in Talley Student Center was set with four long tables, representing four industries: pre-health, pre-vet, research and development, and sales and marketing. At each table were six industry representatives and six students. At the end of each four-minute interval, the students exited one interview and started another.
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4-H promotes citizenship
A summer conference with the purpose of expanding leadership, citizenship and volunteerism among the state's 4-H teen leaders accomplished that goal and more in June in Raleigh. During the conference, called "4-H Citizenship N.C. Focus: A Capital Experience," more than 122 young people and 35 adults attended workshops, forums and panel discussions; made legislative visits and interacted with state legislators; conducted
their own simulation of a House Judiciary Committee meeting and state legislative session; and heard from N.C. Rep. Dan Blue, First Lady Mary Easley and state Agriculture Commissioner Steve Troxler.

**4-H Gala focuses on motorsports**
From the racetrack to the classroom, motorsports took center stage at the 4-H Gala on June 11 at Ballantyne Resort in Charlotte. The gala drew about 350 attendees and raised $250,000 to support North Carolina 4-H. These funds will help make possible need-based camperships, educational scholarships, awards and incentives, innovative grants, training and development, and cutting-edge programs. Rick Hendrick, chairman and CEO of Hendrick Motorsports and a former 4-H'er, received the 4-H Lifetime Achievement Award at the event. And Dr. T. Carlton Blalock, former North Carolina State 4-H Leader, was celebrated for being named the 2006 National 4-H Laureate.

**Extension focuses on training**
North Carolinians will see Cooperative Extension programming more focused on high-priority local needs as a result of an ambitious three-part training program for agents. In May and June, more than 600 Extension employees from across the state participated in one-day training sessions conducted in each of the state's seven Extension districts. The training focused on program planning and conducting environmental scans. In August district level training focused on designing and implementing educational programs. A session on program evaluation, the last of the three-part Program Development Institute training, was in November.

**PROGRAMS**

**Program confers first degree**
A year after it was officially approved and opened to students, a joint parenting education program between N.C. State University and UNC-Greensboro awarded its first degree in the spring. Stephanie Jones is the first graduate to earn a master of science degree in human development and family studies, with a concentration in family life and parent education. At N.C. State, the degree is offered through the Department of 4-H Youth Development and Family and Consumer Sciences. In 2008, Jones will help administer a new graduate certificate in program development for family life education. The 12-hour graduate certificate includes three required courses and one elective course. The certificate will be offered for the first time in 2008.
Food Science offers new degrees
The Department of Food Science began offering a new bachelor of science degree program in bioprocessing science in 2007. The bioprocessing science curriculum is thought to be the only such course of study in the nation. In the winter of 2006, the department began offered another new bachelor’s degree program, this one in nutrition science. The department also received approval for a name change in 2007, from Department of Food Science to Department of Food, Bioprocessing and Nutrition Sciences. The change is effective Jan. 1, 2008.

Program focuses on agricultural sciences
The first students enrolled in the new bachelor of science in agricultural sciences program in fall 2007. The new degree program is designed to meet a growing need in agriculture for professionals with a broad range of knowledge and experience in agricultural sciences.

Fall 2007 Enrollment
Total enrollment in the College of Agriculture and Life Sciences enrollment for the Fall 2007 semester was 5,323, up from 5,124 for 2006. The total includes 374 students enrolled in the Agricultural Institute, 4,104 students enrolled in the 4-year undergraduate program, and 845 students enrolled in graduate-level programs. Graduate student enrollment included 42 students enrolled through distance education programs.

Plant breeding center moves forward
The College moved forward in 2007 with efforts to establish the Center for Plant Breeding and Applied Plant Genomics. The center will focus attention and resources on plant breeding at a time when resources tend to flow to molecular genetics and all its permutations, from genomics to proteomics and metabolomics.

FACILITIES

Ground broken on N.C. Research Campus
A groundbreaking ceremony was held April 18 in Kannapolis for a 100,000 square-foot building that will house the N.C. State Fruit and Vegetable Science Institute. The institute is expected to be an integral part of the Research Campus, which is being developed by David Murdock, owner of Dole Food Co. Murdock envisions reshaping Kannapolis, a down-on-its-luck textile mill town, into a 21st century research center, where the focus will be vegetable and fruit improvement and food safety and nutrition. College of Agriculture and Life Sciences faculty and staff housed at Kannapolis are expected to play a central role in shaping Murdock’s vision. Completion of the building that will house the institute is expected in 2008.
Lake Wheeler Road facilities dedicated
The J. Edward Booth Field Learning Laboratory and the Rollin Johnson and T&J Panel Soils and On-Site Wastewater Classroom, both at the Lake Wheeler Road Training Facility, were dedicated in April. The new lab building and classroom within will be used for College of Agriculture and Life Sciences programs. The facilities were made possible through the respective contributions of J. Edward Booth, a Chatham County farmer who participated in pioneering wastewater research projects in that county, and Tim Johnson, Iredell County owner of T&J Panel, Inc. and developer of the advanced wastewater treatment technology, the T&J Panel Treatment System. The building will act as a hub for the hands-on field training and demonstrations that focus on a range of environmental uses of land that are conducted throughout the Lake Wheeler Road Field Laboratory.

Animal and Poultry Complex completed
The final round of inspections of the Animal and Poultry Research and Teaching Complex at the Lake Wheeler Road Field Laboratory was completed and the College received approval to occupy and use the buildings. The complex provides space for swine nutrition research, while poultry teaching flocks are housed in one of the two poultry buildings.

4-H Camps Receive Legislative Funding
On July 31, Governor Easley signed the budget bill that included $7.5 million for the North Carolina 4-H Camping System. This much-needed investment is being used for repair, renovation and construction projects at 4-H camps throughout the state and is a significant step toward a long-range need of $34 million to upgrade these facilities.

W.T. “Bill” Fike Crops Garden Dedicated
The W.T. “Bill” Fike Crops Garden at the Lake Wheeler Road Field Lab in Raleigh was dedicated in September. Many former students in the Agronomy program attended the program honoring Dr. Fike’s many years of teaching. The crops garden contains plots of corn, cotton, peanuts, pumpkins, soybeans, switch grass, sorghum, squash, sweet potatoes, and tobacco. The dedication was held in conjunction with an Agronomy Reunion.

SELECTED RESEARCH HIGHLIGHTS
Genetic Protection for Tall Fescue
Researchers showed that inserting a gene from a bacterial virus into tall fescue grass makes the grass resistant to two of its biggest enemies. The T4 lysozyme gene, found in bacteriophages, or bacterial viruses, conferred high resistance to gray leaf spot disease in six of 13 experimental grasses. Three of the six resistant grasses also showed high resistance to brown patch disease. The two diseases are arguably the most important – and severe – fungal diseases affecting tall fescue grass. The finding has the potential for wide applications in engineering resistance to a variety of fungal diseases in not only tall fescue grass – the most widely planted turfgrass in North Carolina and a commonly
The collaborative research involved four faculty members: Dr. Ron Qu in the Department of Crop Science, Drs. H. David Shew and Lane Tredway from the Department of Plant Pathology, and Dr. Eric Miller, in the Department of Microbiology. The research was mainly performed by Dr. Shujie Dong, a post-doctoral researcher who was a graduate student of Qu’s, with assistance from two other scientists in Qu’s lab – Drs. Jianli Lu and Elumalai Sivamani. It was reported in the February edition of *Transgenic Research*. 

**Research Explores Nicotine Resistance**

Research shed light on the genetic mechanism involved in resistance to nicotine. Using fruit flies, a research team led by Dr. Greg Gibson, William Neal Reynolds Professor of Genetics, and his graduate student Gisele Passador-Gurgel, found that regulation of levels of an enzyme - ornithine amino transferase - plays an important role in establishing how long flies can tolerate nicotine. The amount of enzyme seems to do two things - it influences flies' ability to strip away toxins, and it helps establish how much the drug stimulates them. Working with Dr. Nigel Deighton, director of the Metabolomics and Proteomics Laboratory, researchers found evidence that the enzyme may act by affecting the levels of the neurotransmitters glutamate and GABA, the inhibitory neurotransmitter, in the brain. The study was published in the February edition of *Nature Genetics*. 

**Research sheds light on alcohol sensitivity**

Research identified genes in fruit flies that change as the alcohol sensitivity of the flies changes. A research team made up of Dr. Tatiana Morozova, a post-doctoral researcher in zoology; Dr. Trudy Mackay, William Neal Reynolds Professor of Genetics; and Dr. Robert Anholt, professor of zoology and genetics, genetically modified fruit flies to be either extremely sensitive or extremely resistant to alcohol. The researchers then examined the genetic makeup of the flies, noting genetic changes. A number of the genes identified are similar to genes found in humans, suggesting they may be good targets to study human predisposal to alcoholism. The research was reported in the November issue of *Genome Biology*. 

**GIVING**

**College nears Achieve! goal**

During the year, the College passed the $265 million mark in fund raising for the university’s $1 billion Achieve! Fund-raising effort. The College is nearing its Achieve! goal of $275 million. The campaign continues until June 2008.

**Private Support Sets New Record!**

Total private support from all sources for the College totaled $55.9 million in 2006-07. The total was a record for CALS and a record for any fund raising entity in the history of NC State.

**N.C. Agricultural and Life Sciences Research Foundation Launched**
In May founding documents were ratified at the inaugural meeting of the Board of Directors of the N.C. Agricultural and Life Sciences Research Foundation. The foundation will support the North Carolina Agricultural Research Service and research in the College.

Garden Gala raises $80,000
The annual Gala in the Garden at the JC Raulston Arboretum at NC State University was the arboretum’s best fund raiser to date, pulling in almost $80,000.

Endowment honors Kamprath
Dr. Eugene J. Kamprath, professor emeritus of soil science, was honored with the establishment of the Eugene J. Kamprath Soil Science Scholarship Endowment in the North Carolina Agricultural Foundation, Inc. The endowment was created to recognize Kamprath's leadership in the Department of Soil Science and in the international community of soil scientists. It will provide perpetual support for soil science research and teaching in the College, as well as funding for graduate fellowship awards and undergraduate scholarships in the Department of Soil Science.

Turner Endowment supports FCS
In honor and in celebration of her retirement, friends, family and colleagues of Frances Turner, Cooperative Extension family and consumer sciences agent in Wake County, established the Frances Turner Family and Consumer Sciences Endowment to support Wake County FCS programs. Turner retired Jan. 1 after working 27 years for North Carolina Cooperative Extension's Wake County center. She served a total of 31 years, 8 months with Cooperative Extension.

Johnson Nursery Scholarship Endowment
The Johnson Nursery Scholarship Endowment was established by Johnson Nursery Corp., Mrs. Marian Ritchie Johnson and the late Dr. George Johnson, Jr. The scholarship is intended to assist and encourage students toward a career in the nursery industry. David R. Johnson, owner of Johnson Nursery in Willard, was raised in Chapel Hill and educated at Duke University, but took nursery management classes from the late J.C. Raulston at N.C. State University. His association with Raulston, horticultural scientist and namesake of N.C. State's nationally renowned arboretum, helped him realize his vision to found his own nursery - which he did, on farmland once owned by his grandfather.
Students establish endowment
Student members of the Agribusiness/NAMA Club established a new scholarship endowment. The endowment agreement was signed March 20 in the Nelson Hall office of Dr. Jon A. Brandt, head of the CALS Department of Agricultural and Resource Economics.
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Turfgrass Scholarship Endowment
Members of Durham's Hope Valley Country Club and the family of Robert Lee (Bob) Mashburn, Jr. created the Bob Mashburn Turfgrass Scholarship Endowment. The endowment honors the life of Mashburn, who was golf course superintendent at Hope Valley, and will support students planning careers as golf course superintendents. It will provide scholarships for undergraduate or Agricultural Institute students enrolled in the College's turfgrass program.
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Faculty honored for resource development
The College presented its 2007 Resource Development Awards in April during the annual joint luncheon of the N.C. Agricultural, Dairy and Tobacco foundations. The awards recognize faculty, retired faculty and staff members, as well as student organizations for outstanding efforts in raising funds in support of College programs. Dr. Mike Hoover, soil science professor and Extension specialist, was honored with the Faculty Resource Development Award. Dr. Ken Barker, professor emeritus of plant pathology, and Dr. Tom Monaco, professor emeritus of horticultural science, each received the Retired Faculty Resource Development Award. And Pam "P.J." Warrick of the CALS Academic Programs office received the Staff Resource Development Award. The student organization award winner was the Crop Science Graduate Student Association, represented by Magen Starr Eller, club president, and adviser Dr. Randy Wells, crop science professor and director of graduate programs.
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Wake students benefit from endowment
The Wake County Farm Bureau Agricultural Scholarship Endowment was established in June. The endowment will provide scholarships to Wake County students studying agriculture or agribusiness.
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Scholarships for Horticultural Science students
The John H. Harris Horticultural Scholarship Endowment was created in July. Harris of Raleigh is a 1937 graduate of N.C. State in landscape architecture and retired faculty member in the College's Department of Horticultural Science. The endowment will be funded through proceeds from the sale of land that Harris has donated to the College. It will provide scholarships for CALS undergraduate students and Agricultural Institute students studying horticultural science.
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**A professorship in Animal Science**

An endowed professorship will be established in the Department of Animal Science, thanks to the generosity of former Extension swine specialist Ray Woodard and his wife, Ellen. The J. Ray Woodard Professorship will be the first endowed professorship in the department. Woodard, who served the College and North Carolina Cooperative Extension for 31 years, retired in 1980. He pioneered many programs in swine genetics.

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**Land gifts worth more than $20 million**

The College received four donations of land valued collectively at more than $20 million. Located in Brunswick, Chatham and New Hanover counties, the land will be used for education and conservation. Two gifts in Brunswick County will provide outdoor learning laboratories for the study of such topics as beachfront erosion, wetlands ecology and dune renourishment. Bacon Island, donated by development company Holden Beach Enterprises, is a 36.31-acre island valued at $14.3 million. Located in Holden Beach, the land is part of the Regional Environmental Education Consortium, an endowment supporting coastal ecology Extension agents who will develop research-based educational programs in coastal communities. Also in Brunswick County is Palmetto Creek of the Carolinas. Bert and Kimberly Exum of Wilmington donated this 16.5-acre site in the Palmetto Creek development, located in Supply. Valued at $1.5 million, the land is also part of the Regional Environmental Education Consortium. Just up the coast in Wilmington, the College has new opportunities for coastal environmental research and Extension work, thanks to a gift of land from Mayfaire LLC, a New Hanover County development company. The 6.92-acre site, valued at $3 million, is located in the Mayfaire III development. It, too, is part of the Regional Environmental Education Consortium. A gift in Chatham County will enable learning and conservation opportunities along the Jordan Lake watershed. Brothers Holland and Alan Gaines, owners of The Legacy at Jordan Lake, LLC, a property development company in Chapel Hill, donated nearly 11 acres. Valued at $1.5 million, the land will be used as an environmental learning laboratory by the College’s Agricultural Education Program, the North Carolina Agricultural Foundation, the North Carolina FFA Association and Chatham County Schools.

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**Cooperative Extension endowments**

The three foundations that raise private support for Cooperative Extension met in April to celebrate the signing of 12 new endowments, several of which are products of the new "Campaign for Counties." The North Carolina Cooperative Extension Foundation, the 4-H Development Fund and the Family and Consumer Sciences Foundation are all involved in the campaign. The 12 new endowments are:

- Dr. Russell and Mrs. Connie King CES Program Endowment for the Northeast Region
- Alamance County CES Program Enhancement Fund
- Person County Cattleman's Association Scholarship in Memory of Rocky Carver
- North Carolina Cooperative Extension State Advisory Council Endowment
• Wilson County Extension and Community Association Lois Rainwater Educational Scholarship Endowment
• Frances Turner Family and Consumer Sciences Program Endowment
• Dr. T. Carlton and Mrs. Cornelia Blalock 4-H Leadership Endowment
• Georgia Wade and Louis Marvin Butts and Sarah Ann Butts Sasser 4-H Endowment
• Cumberland County 4-H Program Endowment (supported by a gift and pledge by Cumberland County Farm Bureau)
• Cumberland County 4-H Enhancement Fund
• Memorial Fund of the North Carolina 4-H Volunteer Leaders' Association
• Stokes County 4-H Program Endowment.

IN MEMORIUM

Dr. Dean W. Colvard died June 28 at the age of 93. Dr. Colvard was the first chancellor of UNC-Charlotte and president of Mississippi State University. But before holding those two posts, Dr. Colvard served as dean of the College of Agriculture and Life Sciences from 1953 to 1960. Born July 10, 1913, in Ashe County and raised on a mountain livestock farm, he became one of the most important leaders in higher education in the College, the state and the nation. N.C. State Chancellor James Oblinger described Colvard as "a man of extraordinary vision and leadership. He left a strong legacy during his time at N.C. State, most noticeably as dean, but also as superintendent, professor of animal science and department head - and then later in his role as a university benefactor and friend."

Dr. John William Wilcut, professor of crop science, died Aug. 24 of cancer. He was 52. Dr. Wilcut joined the College of Agriculture and Life Sciences faculty in 1994 and developed a comprehensive research program that integrated herbicide/crop physiology, weed biology/ecology and weed management, producing weed management systems that maintained and improved crop quality and profitability while enhancing environmental quality. He received numerous awards, including Outstanding Educator from the Southern Weed Science Society and the Outstanding Faculty Member Award given by Agronomy Club in the Department of Crop Science. He was honored in 2006 with the Weed Science Society of America’s Outstanding Teacher Award.