

# Finding Her Passion

**Journeys Abroad Prompt Auburn Animal Sciences/Pre-vet Senior To Change Courses**

by WENDY REED



**CHANGE IN COURSE** Katie Brennan will graduate from Auburn University and the College of Agriculture this December with a bachelor's degree in animal sciences/pre-vet, following the path of her sister, Emily, who graduated with that same degree in May 2012. Like her sister, the younger Brennan came to Auburn to pursue a long-held career goal of becoming a veterinarian, but after a couple of study abroad experiences and a lot of soul searching, she realized that her future lay, not in keeping animals healthy, but in improving the health of and quality of life for underserved women and girls in the U.S. and abroad. Above, Brennan shares the story of how she found her passion with an audience of faculty, staff, students and community members during Auburn's TEDx event in March 2013. She was the only Auburn student invited to speak at the event.

possible by a study abroad allowance that Auburn's Presidential Scholarship recipients are allotted.

The animal sciences/pre-vet major gained valuable experience in veterinary medicine in her work at the clinic, but it was conversations she had with a Scottish physician who was volunteering in Thailand—conversations about the search to discover one's true passion in life—that she benefited from the most. For the first time, she allowed herself to question whether the career path she had followed all her life was the right one.

Of course, considering the time and energy she'd directed toward gaining acceptance into vet school, it seemed unwise to switch course and aim instead for medical school. But still . . .

"I was confused; I felt like I was breaking a promise I'd made with the world," Brennan says. "But my experiences on the tours to Haiti and Thailand and the way the book 'Half the Sky' affected me, I finally realized that what I wanted most in life was to be a doctor in order to better, or in some cases save, the lives of women worldwide."

She returned to Auburn for fall semester 2012 a changed young woman with a new goal and set to work making up for lost time. She requested and was granted permission to begin shadowing Auburn University Medical Clinic physician Suzanne Graham-Hooker, and with assistance from animal sciences associate professor Dale Coleman, began working in reproductive research.

"The faculty in the College of Ag are just amazing," Brennan says. "They all have an open-door policy, and they're always so supportive."

*(continued on page 2)*

**K**ATIE BRENNAN WAS ON an island off the coast of Thailand when she started second guessing herself.

For 16 of her 19 years, Brennan had been so sure of her future, never wavering from her dream of becoming a veterinarian. Now here she was, approaching her junior year as an animal sciences/pre-vet major in Auburn University's College of Agriculture, and she was in doubt.

Brennan, a native of Jacksonville, Fla., had grown up nurturing dogs, cats, hamsters, turtles and even the occasional injured squirrel and as a

young child had begun envisioning a life spent caring for animals. Family and friends, who knew that Brennan also excelled in math and science, strongly supported her vision, and her destiny as a veterinarian appeared certain.

Brennan graduated from high school in 2010, and when Auburn University awarded her a full-tuition Presidential Scholarship, she packed her bags and headed to the Loveliest Village on the Plain, where her sister, Emily, was a junior on the pre-vet track in the College of Ag's Department of Animal Sciences.

The younger Brennan chose that same degree path and began her freshman year of college with the goal of completing her bachelor's degree as quickly as possible. For five straight semesters, she took a minimum of 17 hours per term and maintained good grades, despite three tough bouts with mononucleosis.

As a freshman, Brennan also had been selected to be a part of Auburn's Honors College, an enhanced curriculum that offers qualified students

the chance to study any topic in any discipline in a small, student-centered teaching environment that provides close interaction between students and teachers. It was in an Honors course taught by Auburn Vice President for Student Affairs Amy Hecht-Macchio that Brennan, then a sophomore, read "Half the Sky: Turning Oppression into Opportunity for Women Worldwide," a book in which Pulitzer Prize-winning journalists Nicholas Kristof and Sheryl WuDunn call for action against the persecution of women and girls in the developing world and show how a little help can transform the lives of the oppressed.

**"When we flew into Haiti, I stepped off the plane and fell in love," Brennan says. "I immediately knew that this might be my first trip to Haiti, but it wouldn't be my last."**

"The book brought up issues of global gender inequity," Brennan says. "Dr. Hecht is passionate about improving the lives of underserved women, and it all made a very big impression on me."

The book was still on her mind during the summer semester before her junior year at Auburn, when she participated in a College of Agriculture study abroad tour to Haiti, so perhaps that contributed to Brennan's unexpected emotional reaction to that country.

"When we flew into Haiti, I stepped off the plane and fell in love," Brennan says. "I immediately knew that this might be my first trip to Haiti, but it wouldn't be my last."

"It was the people—to look in their eyes and see how hard they worked for so little," she says. "It was an overpowering feeling, that I wanted to do something to make things better for them."

Shortly after returning from Haiti, Brennan was off again, this time to Koh Lanta, Thailand, where she spent nine weeks working as a volunteer at a local animal rescue clinic. This tour was made

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# View from AGhill

As part of a land-grant university, we have a three-pronged mission of instruction, research and outreach in the College of Agriculture. Much of what I write in these View From Ag Hill columns tends to focus on two of these areas, research and outreach, because that is where we address some of today's most pressing agricultural issues. But the long-range solutions to these and many other challenges within our industry will come through instruction—recruiting and training the best and brightest students as tomorrow's research, technology, production and agribusiness leaders.

Our next generation of leaders will face an agricultural landscape and a global population very different from the ones we have faced, and so they must be educated and prepared with a new level of skill. This forecast should influence not only the way we train students today, but also the way we recruit them. Our industry is teeming with career opportunities for the students we recruit, educate and graduate.

According to the USDA, every \$1 billion in agricultural exports requires the employment of about 6,800 people. And our exports are growing. In fact, U.S. agricultural exports are expected to grow from \$145 billion this year to more than \$176 billion in 2022.

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She also shared her experiences, her excitement and her change in career goals with Hecht-Macchio.

"When I got back from my summer abroad, I wanted to talk to her and thank her for her positive influence," Brennan says.

As it happened, Hecht-Macchio, in her role with the university's Office of Student Affairs, was organizing what would be Auburn's first TEDx event and was developing a lineup of presenters from the Auburn Family and beyond who would share their ideas and insights on such issues as gender inequity, educational achievement gaps, hunger, poverty, environmental sustainability and global health with an audience that included Auburn faculty, staff, students and community members.

TED is a nonprofit organization that aims to change attitudes, lives and, ultimately, the world by bringing together "the world's most inspired thinkers" to communicate their ideas and spark intelligent public debate over key global issues. The theme of Auburn's independently organized TEDx event was Global Challenges and Social Innovation.

Hecht-Macchio had narrowed her list of presenters for the March 2013 event to eight professionals, but Brennan's enthusiasm over finding her passion was contagious enough that she asked Brennan to join the list of speakers.

As the only Auburn student scheduled to take the stage before a live



**LIKE MINDS** Emily Brennan, left, a May 2012 College of Ag animal sciences/pre-vet alum, and younger sister Katie, who will graduate with the same degree in December, play with a pup housed at the Lee County Humane Society, where both were volunteers. Emily Brennan is now pursuing her master's degree in public health at Emory University, and Katie Brennan plans to enroll in a school of osteopathic medicine following graduation.

As you can see, the agricultural industry is creating more job and career opportunities, but the supply of graduates from colleges of agriculture is not keeping up with the industry demand. This must change moving forward, but it will change only if we broaden the scope of our recruitment efforts to attract student demographics that have traditionally not considered agriculture a desirable or profitable career option.

We are currently exploring ways to effectively advance our message among these important student audiences, and whatever methods we use must include you, the alumni and friends of our college. It isn't enough to tell students of the broad range of career opportunities in agriculture. We must show them, and you can help us do that. Through you, we can expand students' perceptions of the agricultural industry and demonstrate the far-reaching, impactful careers they can pursue.

I invite you to help us reach out to these bright, talented students. They would love to hear your story and to see the success you have achieved and the impact you have made. By doing this, you can make all the difference in their choice of career.

For information on how you can help, please contact our Office of Student Services at 334-844-4768 or agstusv@auburn.edu.



**Bill Batchelor**

DEAN, COLLEGE OF AGRICULTURE  
DIRECTOR, ALABAMA AGRICULTURAL EXPERIMENT STATION

audience at the Auburn University Hotel and Dixon Conference Center, Brennan admittedly was nervous. But she also was confident and extremely excited about sharing her story with others, so she focused on how to convey those thoughts in the allotted seven minutes.

Early on, Brennan had decided to wear one of her few "dressy" outfits, heels included, to make her presentation, but she nixed that idea during a rehearsal on the eve of the TEDx event.

"I dressed up, which something I never do, and I'd practiced a lot and thought I was ready, but at the first distraction, I lost it," she says. "I was uncomfortable and couldn't focus."

So it happened that a comfortably clad Katie Brennan showed up for the event itself, and she delivered a powerful presentation, encouraging students and others in the audience to keep searching for their true passion until they discover it.

"It's worth it," she says. "Even if you have to make sacrifices or change courses, finding your passion will make all the difference."

The younger Brennan, who will graduate with her bachelor's in animal science in December, is applying to the College of Osteopathic Medicine at Nova Southeastern University in Fort Lauderdale with the eventual goal of dedicating her life to improving women's reproductive health around the world.

Her path closely resembles that of her sister, Emily, who graduated in May 2012 with a degree in animal sciences/pre-vet and as the first Auburn undergrad to complete a College of Veterinary Medicine minor in public health. After a year abroad, working in developing countries, she began graduate school this fall at Emory University, where her agriculture degree is providing a firm foundation for a master's in public health.

The College of Agriculture at Auburn boasts a remarkably high rate of job placement in ag-related fields, but the Brennan sisters demonstrate that, with an Auburn agriculture degree, the sky's the limit. **CS**

## Details

Ag Illustrated is a quarterly publication of the Auburn University College of Agriculture and the Alabama Agricultural Experiment Station. It is compiled and published through Ag Communications and Marketing, the College and AAES information office. This publication is printed on Sappi® Opus Matte paper, which is 10 percent recycled and is Green Seal certified.

Subscriptions to Ag Illustrated are free and are sent automatically to Ag Alumni Association members. To become a member, go to [www.ag.auburn.edu/adm/alumni/](http://www.ag.auburn.edu/adm/alumni/). To subscribe, fill out the form below or visit our website at [www.ag.auburn.edu/agillustrated](http://www.ag.auburn.edu/agillustrated). You may also contact us about subscriptions or other editorial issues at Room 3 Comer Hall, Auburn, AL 36849; 334-844-5887; or [agcomm@auburn.edu](mailto:agcomm@auburn.edu).

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*Editor/Writer*  
Jamie Creamer

*Designer*  
Hannah Dixon

*Contributing Writers*  
Nathan Kelly  
Wendy Reed  
Maggie Lawrence

*Photographers*  
Kevin Fichtner  
Julian Golce  
Jamie Creamer  
Hannah Dixon



Deacue Fields

1995. He then worked for almost three years at Florida A&M University as an assistant professor and director of A&M's small-farm outreach program. He returned to his home state in 1998 to complete his Ph.D. in ag economics at Louisiana State University.

## Fields New Ag Econ, Rural Sociology Department Chair

Deacue Fields, an agricultural economist who has served on the Auburn University faculty for 11 years, has taken the reins as chair of the Department of Agricultural Economics and Rural Sociology.

Fields was hired at Auburn as an Extension economist and assistant professor in 2002, was promoted to associate professor in 2007 and recently was awarded professor status. A Louisiana native, he earned his bachelor's degree from Southern University in Baton Rouge in 1993 and his master's from the University of Missouri in

At Auburn, Fields' research has focused on consumer food preferences and on the economic impact of Alabama's horticulture industry. Earlier this year, he completed a comprehensive analysis that showed agriculture and forestry dominate the state's economy.

His classroom responsibilities include teaching senior- and graduate-level courses in agribusiness management and coordinating an internship program, which he was instrumental in establishing, for undergraduates majoring in agricultural economics. In his Extension role, he coordinates the Alabama farm economics and agribusiness management team and works directly with the commercial horticulture team.

Fields said that, as department chair, his priorities will be to encourage multidisciplinary collaborations, to develop a plan to justify refilling faculty positions that are vacant due to retirements, to build an identity for the department that will attract students to the program and to fortify relationships with departmental alumni.

He succeeds ag economics professor Curtis Jolly, who served as department chair since 2005 and has returned to his faculty position in the department.



John Beasley

## Auburn Agronomy Department Renamed; Beasley Announced as New Head

The 2013-14 academic year at Auburn University brings two major changes to the College of Agriculture's Department of Agronomy and Soils: a new name and the first new department head in 24 years.

The unit is now officially the Department of Crop, Soil and Environmental Sciences, and on Jan. 1, John Beasley Jr., a 1979 alumnus of the program, will return to Auburn as head of the department. He will succeed Joe Touchton, who is retiring from

33 years on the Auburn faculty and 24 years as department head.

Beasley, who was selected following a national search, currently is a professor and Extension peanut agronomist in the Department of Crop and Soil Sciences at the University of Georgia and is based at the College of Agricultural and Environmental Sciences' Tifton campus. He is a native of Columbia in Alabama's Houston County.

The faculty-driven move to rename the agronomy and soils department the Department of Crop, Soil and Environmental Sciences was approved by Auburn's Board of Trustees in April. Faculty and College of Agriculture administrators proposed the change to increase the department's visibility among prospective students, research sponsors and the general public; to bring the department's name in line with similar programs offered at peer

institutions; and to more accurately reflect the academic programs the department offers.

In addition to curriculum tracks in crop production, turf management, soil science and soil, water and land use, the department now administers Auburn University's environmental science degree program, an interdisciplinary major in which the department partners with the Samuel Ginn College of Engineering and the College of Sciences and Mathematics.

The name change also applies to the Agronomy Club, which is now the Crop, Soil and Environmental Sciences Club.

"We want the club to be all-inclusive and encourage interaction between crop and soil sciences majors and environmental science students, and this will allow us to do so," says professor David Weaver, a 32-year veteran of the department and faculty adviser for the student organization.

Beasley, the incoming department head, received his bachelor's degree in agronomy and soils from Auburn and then completed his master's degree in agronomy, at Oklahoma State University. In 1985, he was awarded his Ph.D. in crop science from Louisiana State University and began his career as an assistant professor and Extension specialist at the University of Georgia. In 1991, he was promoted to associate professor, and five years later, he attained the rank of professor.

Throughout his career, Beasley has received numerous awards and is a Fellow of both the American Society of Agronomy and the American Peanut Research and Education Society.



John Jensen

## Auburn Fisheries Department Now a School; Jensen Named Interim Director

The Auburn University College of Agriculture's Department of Fisheries and Allied Aquacultures is now the School of Fisheries, Aquaculture and Aquatic Sciences within the College of Ag, and longtime faculty member and administrator John Jensen has been named interim director.

Auburn's Board of Trustees approved school status for fisheries and three other large academic departments on campus at its June meeting. Fisheries and allied

aquacultures faculty and administrators had requested, and College of Agriculture Dean Bill Batchelor had endorsed, the change, saying designation as a school will allow the unit to expand its research, academic and outreach programs and its impact throughout the Southeast and around the world. As approved by the trustees, the school is to be led by a director.

Jensen succeeds David Rouse, who is retiring Sept. 30 from 32 years on the fisheries faculty, the last 12 of those as department head/interim director. Rouse played a lead role in the effort to achieve the department's designation as

a school and says school status will boost the unit's national and international visibility and enhance its ability to attract extramural funding and recruit top-notch students and faculty.

Jensen's solid history with Auburn fisheries, the college and the Alabama Agricultural Experiment Station will be invaluable in his position as interim director, Batchelor says.

Jensen's past administrative positions at Auburn have included six years as head of the fisheries department and nearly three years as interim dean of the College of Agriculture and interim director of the Alabama Agricultural Experiment Station. Though Jensen retired from Auburn in 2007, he has continued to serve the college in several capacities, including professor emeritus, visiting professor, co-director of the Aquaculture and Fisheries Business Institute and part-time development officer.

He came to Auburn as a research associate in 1972 and through the years achieved professor status. In 1995, he was selected head of the fisheries department. He holds a bachelor's degree in fisheries and wildlife management from the University of Minnesota and master's and Ph.D. degrees in fisheries and allied aquacultures from Auburn.





**HIGH-TECH DONATION** Students listen in as Jim Harris, associate director of the Auburn University Turfgrass Research Unit, points out features of the new Jacobsen ECLIPSE walk-behind greens mower that Jacobsen recently donated to Auburn's turfgrass management program. Jacobsen ECLIPSE walking and riding greens mowers are the only products on the market to offer variable frequency of clip, onboard backlapping that eliminates the need for double mowing and a choice of either hybrid or battery drive. Jacobsen, a Textron Inc. company, donated the mowers to Auburn and 12 other U.S. universities and colleges nationwide that have the nation's top turfgrass programs. In addition to giving Auburn turfgrass management students the chance to operate advanced professional turf equipment, the mower donation is also a financial shot in the arm. "We're a low-budget operation, and every dollar counts," Harris says. The students with Harris are, from left, Chelsey Greene, Patrick Conard, Chris Dugan and Craig Richey. Conard is an agronomy and soils graduate and Dugan is a horticulture major. Greene and Richey are student workers for crop, soil and sciences professor Beth Guertal. Jacobsen is based in Charlotte, N.C., and has been marketing and selling high-quality turf maintenance equipment for 90 years.

## Student Accomplishments

Horticulture grad student **Judson LeCompte** was selected to participate in two international exchange programs over the summer. He spent three months at Technische Universität München in Friesing, Germany, through a TransAtlantic Precision Agriculture Consortium-sponsored program and then traveled to Great Britain as the inaugural participant in the International Plant Propagators Society's Southern U.S. region exchange program.

The judges and the audience at the Auburn Graduate School's first-ever Three-Minute Thesis competition voted fisheries, aquaculture and aquatic sciences graduate student **Reid Nelson's** succinct presentation on his research as best in show among master's students campus-wide who participated in the contest. The contest challenged grad students to present a compelling oration on their theses and the significance of their findings to a non-specialist audience in 180 seconds or less. Nelson also won the People's Choice Award. Go to <http://grad.auburn.edu/3MT/> for more information and a link to Nelson's presentation.

## Faculty and Staff Accomplishments

**Beth Guertal**, professor in the Department of Crop, Soil and Environmental Sciences, has been named a 2013 Fellow of the Soil Science Society of America. Members of the society nominate colleagues based on their professional achievements and meritorious service. Only 0.3 percent of the organization's active and emeritus members may be elected Fellow.

The American Society of Agricultural and Biological Engineers has awarded Fellow status to **Steve Taylor**, biosystems engineering professor and department head and director of Auburn University's Center for Bioenergy and Bioproducts, citing his accomplishments in structural wood engineering education and forest engineering research, his service to the wood products industry and his academic leadership of biological engineering programs. The association also awarded biosystems engineering assistant professor Sushil Adhikari its

2013 New Holland Young Researcher Award, recognizing him as the top researcher under 40. The award recognized his outstanding bioenergy and biofuels research program at Auburn.

Two poultry science faculty members received top honors from the Poultry Science Association during the global organization's annual meeting. Professor **William Dozier** was awarded the 2013 National Chicken Council Broiler Research Award, and associate professor **Shelly McKee** was named the Novus International Teaching Award recipient. Also at the meeting, professor **Joe Hess** was elected to a three-year term as a director on the Poultry Science Association's Executive Board.

Three College of Agriculture faculty members were among 16 faculty campus-wide to be recognized for outstanding academic achievement during the prestigious Auburn University 2013 Faculty Awards ceremony in September. **Conner Bailey**, professor in the Department of Agricultural Economics and Rural Sociology, received one of two 2013 Creative Research and Scholarship Awards, which honor the research achievements and contributions of faculty who have distinguished themselves through research, scholarly works and creative contributions to their fields. **Nannan Liu**, the Entomology and Plant Pathology Endowed Professor in the College of Agriculture, was one of five Auburn faculty to be named an Auburn Alumni Association 2013 Alumni Professor, a five-year, non-renewable professorship awarded on the basis of research, publishing and teaching. And **Christy Bratcher**, associate professor in the Department of Animal Sciences, received one of three 2013 Alumni Undergraduate Teaching Excellence Awards in recognition of her exceptional quality of teaching, knowledge of subject and interest in and availability to students. Over the summer, Bratcher also was presented a 2013 Distinguished Achievement Award from the American Meat Science Association for her research in the areas of meat quality and food safety.

**Michelle Worosz**, associate professor of rural sociology, received the Rural Sociological Society's 2013 Excellence in Instruction Award for her outstanding rural-oriented teaching at the graduate and undergraduate levels. Worosz was cited for her strong commitment to teaching and, spe-

cifically, for the Sociology of Natural Resources and the Environment course she has developed at Auburn.

**John Olive**, director of the Alabama Agricultural Experiment Station's Ornamental Horticulture Research Center in Mobile, received the Southern Nursery Association's 2013 Porter Henegar Memorial Award in recognition of his outstanding contributions to ornamental horticultural research and to the association.

**John Fulton**, biosystems engineering associate professor and Extension specialist, was named the 2013 Educator of the Year by the PrecisionAg Institute. Fulton, who leads the Alabama Precision Ag Team, focuses his teaching, research and outreach programs on precision agriculture technologies that allow growers to operate more efficiently and profitably with minimal environmental impact.

Horticulture professor **Amy Wright** was one of four Auburn University faculty members selected by the Graduate Student Council as an Outstanding Graduate Mentor for the 2012-13 academic year. Wright and the three other winners were selected for the honor from a pool of nearly 40 nominees.

Agricultural economics associate professor **Norbert Wilson** has been selected chair of the Agricultural and Applied Economics Association's Committee on the Opportunity and Status of Blacks in Agricultural Economics. The committee represents the interests and encourages the professional advancement of black agricultural economists.

## New Hires

**Karen Veverica** has been named director of the E.W. Shell Fisheries Center in north Auburn. Veverica joined the School of Fisheries, Aquaculture and Aquatic Sciences in 1981 and had served as interim director of the center since January 2012.

College of Agriculture alumnus **Jamie Yeager** is the new director of the Black Belt Research and Extension Center in Marion Junction. Yeager, who earned his bachelor's degree in animal and dairy sciences in 2001 and his master's in ag economics in 2004, previously worked as an Extension ag economist in Greensboro.

The College of Agriculture welcomed three new assistant professors to the faculty this fall, including **David Bleresch** in biosystems engineering, **Nate Hardy** in entomology and plant pathology and **Adam Newby** in horticulture. Bleresch most recently worked as a research assistant professor in the civil, structural and environmental engineering department at State University of New York at Buffalo, and entomologist Hardy in the Cleveland Museum of Natural History's invertebrate zoology department. Newby received his bachelor's and master's degrees in horticulture from Auburn and recently completed his Ph.D. at The Ohio State University.

## Faculty Promotions

Seven College of Ag faculty have been promoted to the rank of professor and nine others to associate professor with tenure, Auburn Provost Timothy Boosinger has announced. The seven new professors and their departments include **Cova Arias**, fisheries, aquacultures and aquatic sciences; **Deacue Fields** and **Valentina Hartaska**, both in agricultural economics and rural sociology; **Kathy Lawrence**, entomology and plant pathology; **Puneet Srivastava**, biosystems engineering; **Amy Wright**, horticulture; and **William Dozier**, poultry science, who was also awarded tenure. Faculty promoted to associate professor with tenure include **Sushil Adhikari**, biosystems engineering; **Christy Bratcher** and **Soren Rodning**, both in animal sciences; **Julie Howe**, crop, soil and environmental sciences; **Denis Nadolnyak** and **Michelle Worosz**, both in ag economics and rural sociology; **Carolyn Robinson**, horticulture; and **James Stoeckel** and **Alan Wilson**, fisheries, aquaculture and aquatic sciences.

## Retires

Three veteran faculty in the College of Ag have recently retired, including fisheries, aquaculture and aquatic sciences associate professor **Ronald Phelps**; **Roger Lien**, associate professor in poultry science; and **Jim Novak**, ag economics professor and Extension specialist. In addition, **Bill Deutsch**, director of Alabama Water Watch and Global Water Watch and research fellow in fisheries, aquaculture and aquatic sciences, has retired.

# Walton Named to Shellfish Review Board

Bill Walton, a former Cape Cod oyster farmer who since 2009 has been an Auburn University assistant professor of fisheries and Alabama Cooperative Extension System fisheries specialist at the Auburn Shellfish Lab on Dauphin Island, is one of seven individuals tapped by Alabama Gov. Robert Bentley to serve on the newly established Alabama Shellfish Aquaculture Review Board.

The Alabama Legislature created the board during its 2013 regular session and charged it with developing a state shellfish aquaculture policy and implementing a sustainable program for leasing land in Alabama's coastal waters for oyster farming.

"The legislation's goal is to expand the off-bottom oyster farming industry in Alabama," Walton says. "It will help create environmentally friendly jobs that keep people working on the water and add to the traditional oyster industry."

Walton was appointed as the board's Extension representative. Other board members include two industry representatives and the heads of the Alabama departments of Conservation and Natural Resources, Agriculture and Industries, Environmental Management and Public Health.

Extension Director Gary Lemme says Walton's appointment ensures that the board will have the technical expertise it needs.

"Dr. Walton has done extensive research in oyster farming and has the knowledge the board will need," says Lemme. "Bill is already working with producers who are raising oysters in off-bottom methods."

Off-bottom farmed oysters are raised suspended above the sea floor. Though there are several options for this process, Walton uses mesh bags that



**PERFECT SPECIMEN** Auburn University's Bill Walton examines an oyster that has been raised in a mesh bag suspended in the water. Because of their improved appearance and high quality, farm-raised oysters command higher prices than those harvested in the wild. (Photography by Hollis Bennett)

hang from lines. Raising the oysters in the bags above the ocean floor keeps the mollusks sheltered from predators, which increases survival rates, and protects the oysters from what's known as fouling—damage from aquatic organisms such as algae and barnacles. Off-bottom culture typically improves oyster shell shape and overall appearance and increases product consistency.

The new review board will establish a streamlined program for leasing submerged land off the coast for the purposes of oyster culture so that leases can be issued as promptly as possible. The new leasing program will be administered by the Department of Conservation and Natural Resources.

# Scientists Identify Enzyme Linked to Green Muscle Disease

by JAMIE CREAMER



**QUITE A FLAP** Green muscle disease is a growing problem in the poultry industry, and the damage is not discovered until processing.

After more than a decade of research into an increasingly common and costly broiler condition known as green muscle disease, a team of poultry scientists at Auburn University has identified a blood plasma enzyme that could give breeders a noninvasive tool to screen birds for susceptibility to the disease.

The plasma enzyme is creatine kinase, or CK, elevated levels of which signal muscle breakdown and damage. In humans, high CK levels in the blood can be indicators of heart attack, muscular dystrophy, acute renal failure and other serious muscle conditions. In broilers, they indicate the development of green muscle disease.

Green muscle disease—technically called deep pectoral myopathy—is a degenerative condition of broiler chickens' minor pectoral muscles, or tenders, that results in discoloration of muscle tissue. The damage is not discovered until processing, and then it must be trimmed and discarded, costing the U.S. poultry industry an estimated \$50 million a year in losses.


Auburn poultry science professor Joe Hess—who cooperated with departmental colleagues Sarge Bilgili and Roger Lien in conducting extensive research into the disease—says the condition is caused by sudden, excessive wing activity.

"Green muscle disease is an exercise issue," Hess says. "If you have a house full of chickens and there's a loud noise or water outage or some other environmental stressor, they're going to get scared or agitated and start flapping their wings, and if it's late in the growing season, that's when the damage occurs."

During wing movement, blood flow to the breast muscles, the major and minor pectorals, increases and the muscles swell. The problem is that, compared to the breast fillet muscle, the tender has a more rigid covering and is confined to a tighter space, and the swelling so compresses the muscle that the blood supply is cut off and the tissue bruises.

Early in their work on the condition, Lien developed a technique that he dubbed "encouraged wing flapping" to induce the condition in broilers for research purposes, and using that procedure, the poultry scientists have determined that broiler strains bred for higher breast meat yields, broilers marketed at heavier weights and, to a degree, male broilers are more likely to develop the condition.

Birds are also more prone to green muscle disease when temperatures are cool to normal, because those are periods of rapid growth, Hess says.

In their latest focus on the relationship between creatine kinase levels and deep pectoral myopathy development, the researchers found that plasma CK levels significantly rise from one to four days after encouraged wing flapping in birds that go on to develop the disease. Hess says this indicates that encouraged wing flapping and creatine kinase could be used in genetic selection programs to screen for green muscle disease susceptibility. 

# Attention Ag Ambassador Alums: Reunion Oct. 12

All Auburn University College of Agriculture alumni who served as Ag Ambassadors while students over the past three decades are invited to the Ag Ambassadors 30th reunion and dinner, set for Friday, October 11, at 6 p.m. at the Red Barn in Ag Heritage Park.

The college's current team of Ag Ambassadors is hosting the reunion, which coincides with Homecoming Weekend at Auburn. Among those scheduled to make remarks during the evening is College of Ag Associate Dean Emeritus Bill Alverson, who established the Auburn Ag Ambassadors program in 1983 and served as its adviser until his retirement in 2006.

Christa Ray, president of the 2013-14 Ag Ambassadors, says the event is a great opportunity for current ambassadors, ambassador alumni and former advisers to connect with each other and see the progress the organization has made through the years.

"While our uniforms, duties and members have changed over time, our passion for Auburn and the industry of agriculture connects us all today," Ray says. "We are thrilled to welcome home those who have served before us and celebrate their accomplishments in making Ag Ambassadors one of the premier organizations on Auburn's campus."

Dinner will feature legendary Auburn food favorites, including Momma Goldberg's Momma's Love subs, Toomer's lemonade, BBQ House barbecue and Niffer's corn nuggets. Cost of the meal will be \$10 per person.

For more about the 30th reunion, contact Megan Ross at 334-844-3201 or [mhr0001@auburn.edu](mailto:mhr0001@auburn.edu).



## Auburn Researchers Discover Two Native Insects that Prey on Exotic Kudzu Bugs

by JAMIE CREAMER

Two key research breakthroughs at Auburn University over the summer could prove valuable weapons in the frustrating battle against the rapidly spreading, crop-destroying kudzu bug, and both are in the form of native insects that prey on the invasive pests and their eggs.

Auburn entomology graduate research assistant Julian Golec made both finds as part of his master's degree investigations into the biology and management of kudzu bugs. He is working under the direction of College of Agriculture entomology professor and Alabama Agricultural Experiment Station scientist Xing Ping Hu.

Golec's first discovery, made as he dissected dozens of kudzu bugs in Hu's lab, was of a parasitic fly that has found adult kudzu bugs suitable repositories for its eggs. Inside about 10 percent of the bugs dissected, Golec found larvae that soon pupated and emerged as flies.

"We have determined this is an indigenous tachinid fly species that is widely distributed in North America," Hu says. "Typically, this fly parasitizes only adult insects of a broad range insect species, including dung beetles, grasshoppers, earwigs, moths and so on. Now, adult kudzu bugs can be added to that list."

Golec discovered the fly in mid-July. Days later, during a routine field investigation of kudzu bug damage in a soybean field, he noticed clumps of kudzu bug eggs that contained black masses—black masses that were moving. Back in the lab, he and Hu placed the eggs under a microscope and, using a high-speed camera, recorded wasps emerging from the eggs. The newly emerged wasps immediately mated, and the females began laying eggs, typically in other kudzu bugs and

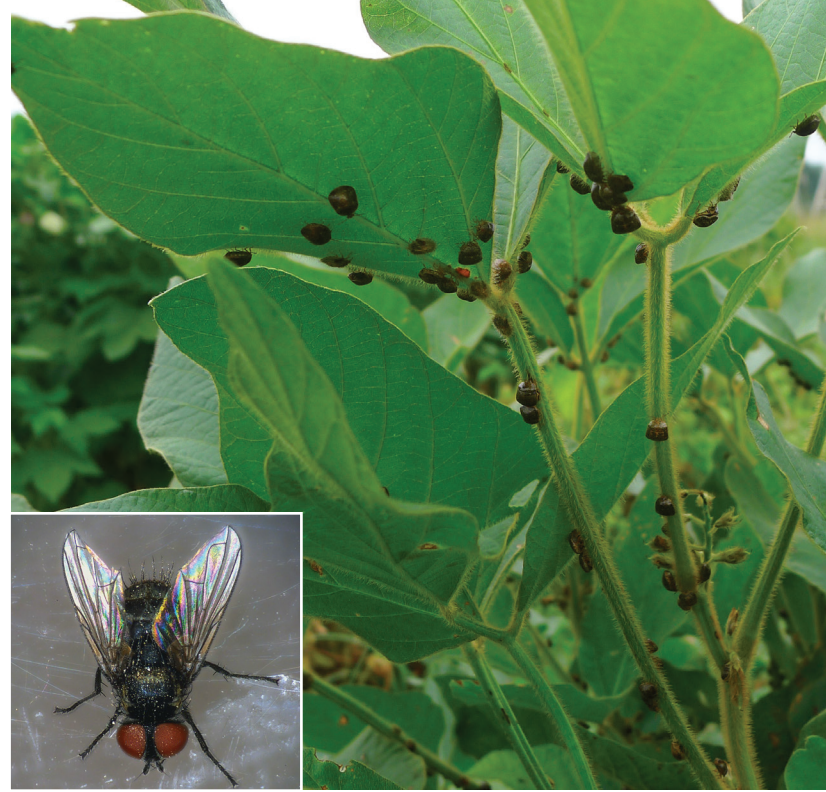
thus repeating the cycle. The rates of parasitized eggs were especially high.

Since first detected in the U.S. in northeast Georgia in 2009, kudzu bugs, which are native to Asia, have spread throughout the Southeast, from eastern counties of Louisiana up into Maryland. At last report, they had invaded 56 of Alabama's 67 counties. Though the pests do feed on kudzu, they also favor soybeans and now are considered serious soybean pests throughout the region. And if kudzu and soybeans aren't available, Hu says they can be found munching on ornamentals and vegetable crops, especially green beans.

The insects' remarkable adaptability to new environments is a key factor in the kudzu bugs' spread, but Hu and Golec say their basic research points to other factors as well. They have found, for instance, that about 50 percent of female kudzu bugs mate in the fall, store the sperm and, when the weather begins to warm in early spring, gradually release the eggs wherever they have overwintered; no males are needed. The scientists, using special equipment in their lab, also have determined that adult kudzu bugs can fly for at least 30 miles.

But Hu says the discoveries of the parasitic fly and parasitic egg wasp as natural enemies of kudzu bugs could be game changers in reducing the invasive insects' future populations. They also would be less expensive than using chemical controls.

Currently, about 10 pesticides are labeled for kudzu bug control in the U.S., but the discovery



**THAT TOOK GUTS** Although kudzu bugs do eat kudzu, they are also wild about soybeans, as seen above. Since first sighted in the U.S. in 2009, kudzu bugs have inflicted major damage to soybean crops in Alabama and surrounding states. But while dissecting the entrails of dozens of the invasive species, Auburn entomologists discovered larvae in the guts of about 10 percent of the bugs they were dissecting, larvae that emerged as a native fly species, inset, that obviously has found kudzu bugs ideal repositories for its eggs. In another major research breakthrough, the researchers found a native parasitoid wasp that deposits its eggs inside the eggs of kudzu bugs. Both groundbreaking discoveries could prove effective weapons against the invasive kudzu bugs.

of the two native parasitoids has raised concern that those chemicals could also negatively impact the fly and wasp. To investigate that aspect, Xiangli Dong of Qingdao Agricultural University in China's Shandong Province has joined Hu and Golec as a visiting research scholar at Auburn and is studying the timing of applications and the pesticide concentrations that would provide kudzu bug control without harming the natural predators. ☞

## Scientists Urge Gluten Intolerant To Make Voices Heard

by JAMIE CREAMER

The number of Americans who have jumped on the gluten-free bandwagon has soared in recent years, largely in response to a plethora of celebrity testimonials and magazine articles extolling the virtues of eliminating gluten—a protein found in wheat, rye and barley—from the diet.

As demand for gluten-free foods has grown, so has the number of products bearing the gluten-free label on supermarket shelves. For those consumers who have gone gluten free simply because they believe it's better for them, makes them healthier or helps them lose weight, that's all well and good.

But for the more than 2 million Americans who suffer from celiac disease and for whom a diet completely free of gluten can be a matter of life and death, the gluten-free craze could be dangerous, say two Auburn University College of Agriculture researchers.

In their article "A cautionary tale of purity, labeling and product literacy in the gluten-free market," published in 2012 in the *Journal of Consumer Affairs*, rural sociologist Michelle Worosz and agricultural economist Norbert Wilson track the evolution of the organic foods sector from a localized market that was based on trust to a commercialized, regulated industry with watered-down definitions and standards, loss of some quality attributes and consumer confusion about the products they're buying, and they contend the gluten-free market is at risk of traveling that same path.

"The core value of the original gluten-free community—people who physically cannot tolerate the protein—is and always has been product purity," Worosz says. "For decades, the celiac disease community has trusted specialized providers that understand their needs and are focused on offering foods with zero gluten and practices that prevent cross-contamination, and those individuals have been willing to pay premium prices for those products."

"Now that gluten-free has become the greatest thing since sliced bread, large



**ALL THE RAGE** The market for gluten-free food products hit \$4.2 billion in 2012, representing a compound annual growth rate of 28 percent from 2008 to 2012. Auburn University agricultural economist Norbert Wilson attributes the rising demand in part to the general public's perception that any food product that is labeled "free" of something is healthier.

corporations and food manufacturers are seeing the profit potential and entering the market, and industry consolidation could occur, as the bigger players purchase the smaller, original gluten-free providers," she says. "And those corporations tend to be extremely influential in federal rule-making."

Celiac disease is an immune system disorder in which consuming foods that contain gluten damages the lining of the victim's small intestines and prevents the body from absorbing essential nutrients. It can lead to serious gastrointestinal problems, cancer and death. There is no cure. The only treatment is to follow a strict gluten-free diet, which ideally means food products with a detectable-gluten level of zero.

In August, however, seven years after being directed by Congress to do so, the U.S. Food and Drug Administration issued a final rule

on use of the gluten-free label: The label can only be applied to products that contain under 20 parts per million of gluten. That translates into less than two-hundredths of a gram of gluten per 2.2 pounds of food. The new regulation goes into effect August 2014.

"It's good to finally have a definition of what gluten-free means, but there are still many concerns, such as how the agency plans to enforce that rule," Wilson says. The regulation does not require manufacturers to test their products to ensure they comply.

But in their "cautionary tale," Worosz and Wilson maintain that domination of the gluten-free market by large corporations is not inevitable.

"We challenge people with CD and the original providers of gluten-free products to step up to the table and make their voices heard in any discussions of standards and regulations," Wilson says. "In addition, the CD community has high levels of product literacy, and working together with food manufacturers, they can create and market products that meet the CD community's expectation of high quality product." ☞

## Beyond Auburn

### Two Study Abroad Students Highly Recommend International Tours

by WENDY REED

Derrick Robinson has never been one to pass up a great opportunity, so when the Auburn University agricultural economics master's student received an email announcement in early 2013 from the College of Agriculture's Office of International Agriculture about a first-ever study tour to—of all places—Russia, he immediately responded.

"Sometimes you've just got to take a leap and go for it," Robinson says. "I can't say that a trip to Russia was first on my to-do list, but when an opportunity of a lifetime presents itself, you go."

The Russia experience, which was Robinson's first trip abroad, was a 10-day study tour at Michurinsk State Agrarian University in Russia, located in an area where collaborative partnerships between agriculture and business are a new focus, says Joe Molnar, a rural sociology professor and coordinator of the college's Office of International Agriculture.

"Michurinsk is the most agricultural place in Russia, so it is a fitting study tour destination for students in our college and focal point for possible research collaborations in the future," Molnar says.

For Ginger Stuckey, her first chance to venture beyond this nation's borders came in the midst of her senior year as a fisheries major at Auburn. Her destination: Ho Chi Minh City and Can Tho, Vietnam. It was a two-

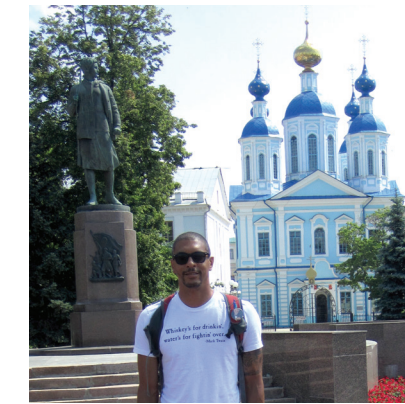


**VISITING VIETNAM** Auburn University student Ginger Stuckey, second from right, and four female undergraduates enrolled with her in an aquaculture production class taught at Vietnam's Can Tho University by Auburn University fisheries faculty member Bill Daniels, find a cool shade while touring a farm that produces tra fish, a catfish species that is a major competitor of the U.S. catfish industry. Stuckey participated in the study abroad tour as a senior in fisheries; she now is a graduate student in the program.

week study tour in which Auburn fisheries associate professor Bill Daniels taught an accelerated, for-credit version of his 5000-level aquaculture production course to Stuckey, the other six College of Agriculture students who participated in the tour and 20 aquaculture students from Vietnam's Can Tho University, the Auburn group's home base.

Stuckey says it was an amazing learning experience.

"It was wonderful to travel to a new place that's so much different than the U.S., and to meet new friends and learn about their culture—and their amazing food—while also getting to see the difference between their [aquaculture] production systems and ours," says Stuckey, who now is a graduate student in the School of Fisheries, Aquaculture and Aquatic Sciences.



**FROM RUSSIA** Derrick Robinson, a graduate student in the Department of Agricultural Economics and Rural Sociology at Auburn, visits the Russian city of Tambov during a 10-day study tour to Michurinsk, Russia, that he and fellow Auburn ag econ grad student Bret Griffin participated in spring semester. Joe Molnar, coordinator of the College of Ag's Office of International Agriculture, worked with a Michurinsk State Agrarian University administrator to arrange for Robinson and Griffin to join a group of German students on the agricultural tour.

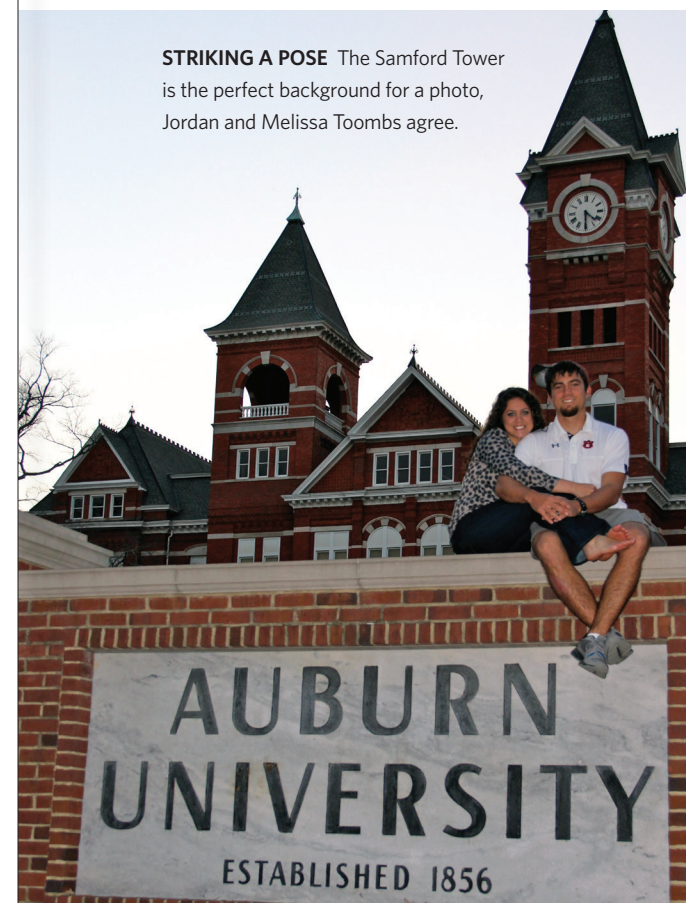
Both Stuckey and Robinson say their international experiences were eye-opening, transforming them and their global perspectives.

"Everything I thought about Russia got turned upside down," Robinson says. "The people were shockingly open, and Mitsurinsk turned out to be a lot like Auburn—small, friendly, very family-focused."

And Stuckey admits that, initially, the thought of going to Vietnam was unnerving.

"Some people even tried to talk me out of going, but Vietnam is nothing like everyone thinks it is," Stuckey says. "It isn't the scary, war-torn place we think of; it has definitely changed with time."

"I can't speak for the whole country, but we were in Ho Chi Minh City and Can Tho, and both were beautiful places and the people were extremely nice," she says. "Visiting Vietnam totally changed my outlook on it." ☞



**STRIKING A POSE** The Samford Tower is the perfect background for a photo, Jordan and Melissa Toombs agree.

## From Hay Field to Greener Pasture

### Agronomy Graduate's Club Involvement, Work Ethic Lead to Job

by NATHAN KELLY

North Alabama. To make that happen, Toombs, who grew up working on the family dairy farm in Columbia, Tenn., decided to start his own hay production and harvest business in Florence.

With his farming background, Toombs had the know-how to manage a farm; what he didn't have were land and equipment. So he worked out a deal with his father such that dad would help son get both in exchange for a share of Toombs' crop.

"It was a sweet deal for someone right out of high school," says Toombs, now 25. "I'd help my dad out with my first cut, since he helped me with starting the business. Other than that, I had to buy my own diesel and took care of all the equipment."

In 2010, Toombs achieved his just-married goal when Melissa graduated from UNA. That's when he realized he had a decision to make: Should he continue growing his successful hay business? Or should he take a leap of faith and pursue a college degree of his own?

"Hay production was a big part of my life and was proof that I could start my own business, and I needed that at the time," Toombs says. "But since we were living in Alabama, and since I had always wanted to go to Auburn for agriculture and now had in-state tuition, there was no doubt that we would be heading to Auburn."

There was no doubt, either, that he would major in agronomy and soils.

"From an early age, I learned how things work on a farm, and I got very comfortable with most of our equipment and learned the work ethic it takes to have a farm," he says. "The areas I needed help in were, 'How do the crops grow?' and 'What can I do to help them grow better?' Those questions led me to Auburn agronomy."

At Auburn, Toombs immediately got involved in the Agronomy Club—now the Crop, Soil and Environmental Sciences Club—and soon was elected club president. He says his involvement in that organization paid off big-time.

"The Agronomy Club is the reason I landed a job out of college," he says. "If you're a student at Auburn and aren't taking advantage of the clubs for your department or major, then you're missing out on one of the best resources on campus."

One day during a College of Ag career fair, Toombs visited with representatives from Helena Chemical Company, a leading distributor of crop protection and crop production inputs and services for agricultural markets. Apparently, Helena Chemical was impressed with Toombs' club leadership role and the strong work ethic he had developed growing up on a farm because by the time he graduated from Auburn in May 2013, he had a job with Helena as a sales representative, working in the company's Dothan location.

"Helena is a good fit for me," Toombs says. "It's a family-oriented company that is a great environment to grow and move up in."

Meanwhile, the Toombses have a new educational goal: In July, Melissa was accepted into the University of Alabama at Birmingham's nurse practitioner program, and because much of the coursework is online, the couple will remain in Dothan and Toombs with Helena.

"The way I've approached decisions and goals in my life is, if a door opens for you, don't slam it in the person's face," he says. "I'll get to stay on with Helena and begin building my career while Melissa gets one step closer to her dream and our goal together." ☞





## 2013 Ag Roundup Set Homecoming Saturday, Oct. 12

Auburn University's 2013 Fall Roundup and Taste of Alabama Agriculture is set for Homecoming Saturday, October 12, at Ag Heritage Park, prior to the Auburn–Western Carolina football game. Activities will be set up on Ag Heritage Park's south side, with the main entrance located at the Alabama Farmers Pavilion, 620-A S. Donahue Drive.

Ag Roundup, which has earned a reputation as Auburn's largest tailgate party, is open to everyone and features a wide range of foods grown and/or produced in Alabama—among them corn dogs, sausage, burgers, boiled peanuts, satsumas, fried catfish, fried chicken, turnip greens and sweet potato fries. In addition to the food, Ag Roundup offers informative displays and children's activities as well as live and silent auctions that raise money for College of Agriculture scholarships.

Game time for the Auburn–Western Carolina homecoming game had not been announced as of press time, but Ag Roundup typically begins four hours before kickoff and wraps up one hour prior to the game. Admission to Ag Roundup is \$5, payable at the gate; children 6 and under are admitted free.

Ag Roundup is co-sponsored by the College of Agriculture and the AU Agricultural Alumni Association, with corporate partners Milo's Tea, John Deere and SunSouth.

Ag-related businesses, on-campus departments and organizations and commodity groups are invited to set up exhibits for free at Ag Roundup. Exhibitors will have about 15 feet of setup space, each with a table and chairs provided, and are invited to bring small tents, up to 10 feet by 10 feet.

No product sales are allowed at Ag Roundup, but free product samples are. Donations of items for the two auctions also are welcome.

For more information, contact Amanda Martin at 334-844-8900 or [amanda.martin@auburn.edu](mailto:amanda.martin@auburn.edu).

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*Recipe File*

## Tailgating Treat Spicy Chicken Dip Great for Game-Day Party

For College of Agriculture student recruiter and alumni relations coordinator Amanda Martin, one of the best parts of football season is tailgating with friends, and her go-to tailgate recipe—Cheesy Buffalo Chicken Dip—is always a winner. As easy as it is delicious, this spicy appetizer “will definitely impress the crowd and have them yelling, ‘War Eagle!’” she says.

### Cheesy Buffalo Chicken Dip

- 2 (8-ounce) packages cream cheese, softened
- 1 cup ranch or blue cheese salad dressing or ½ cup of each
- ¾ cup of FRANK'S REDHOT® Wings Sauce
- 1 ½ cups shredded cheddar cheese, divided
- 3 cups cooked, chopped chicken
- Blue cheese crumbles, optional

Cream together the cream cheese and salad dressing until smooth. Blend in hot sauce and ½ cup cheese; stir in chicken. Place mixture in a lightly greased baking dish and top with remaining cheddar cheese and blue cheese crumbles, if desired. Bake at 350 degrees for 20 minutes, or until dip is hot and bubbly. Serve with celery sticks, crackers or tortilla chips. Makes 20 servings.

\*To prepare in a microwave, place the dip in a microwave-safe dish and heat on high, uncovered, for 5 minutes, stirring halfway through. To prepare in a slow cooker, cover and heat on high for 90 minutes, until hot and bubbly. To prepare on a grill, place dip in a heavy disposable foil pan and heat until hot and bubbly.

