NEWS FROM THE DEPARTMENT HEAD
Julia Kornegay

External Review of Academic Programs
In May, the undergraduate and graduate programs of the Department underwent a formal external review by a team of renowned horticultural leaders in academia. Our last review was in 2001. In the report summary, the review team stated that they were “impressed with the extraordinary diversity and scholarly strength of the Horticulture department, with the visible collegiality and camaraderie among its dedicated faculty and staff, and with the articulate and bright students with whom we visited. The department has a long and distinguished record of service to the state of North Carolina and to the nation as well. It is a valuable resource in which the University should take great pride and that it should protect and nurture.” The review team thought that we were among the top three departments in the nation.

The review team also noted some challenges facing the department. This includes our ability to maintain our traditionally broad focus of research, teaching, and extension activities in light of budget cuts, loss of faculty positions and support staff, and declining enrollment in our undergraduate programs. They were also very concerned about Kilgore Hall being a liability for the department, and emphatically recommended that the building be remodeled or rebuilt. We were particularly interested in their suggestions on how to redesign and update our curriculum to attract more, and more diverse students to horticultural science, both as majors and as non-majors. One of their recommendations was that we need to make our undergraduate courses more relevant to prospective students who may not even know what ‘horticulture’ means, but who want to work with plants and have an interest in agriculture. One way of doing this is to change the titles of some existing courses to make them more attractive and understandable. For example, instead of ‘General Viticulture’, our course could be renamed ‘Viticulture: From Vines to Wines’. They also recommended that we reconfigure our General Horticulture curriculum. Right now this curriculum is very broad and includes classes such plant ID and plant propagation, as well as more topic specific courses in fruit, vegetable, nursery and floriculture production and management. Their recommendation is that we create a set of concentrations that are focused on more identifiable career aims with greater emphasis on sustainable production and business. During the fall, the department is going to discuss and evaluate the Review Team’s recommendations and develop a new strategic plan for our undergraduate programs.

New Faculty Hires
We are in the process of recruiting a new Leafy Vegetable Plant Breeder to be based at the Plants for Human Health Institute (PHHI) in Kannapolis. Candidate interviews will be held later this summer.

Report on Sustainable Agricultural Systems
I am very happy to announce that the report Towards Sustainable Agricultural Systems in the Twenty-First Century by the National Academies will be publicly released on June 28 in Washington, DC. It has been a highly educational and rewarding experience to serve as chair of this committee for the last two years. Agriculture is at a pivotal stage in terms of meeting increasing demands from a growing global population for food and other products, under the constraints of rising production costs,
increasingly scarce natural resources, and climate change. We hope that this report will stimulate greater discussion and awareness of the challenges facing US agriculture and result in greater research and extension support for both incremental and transformative approaches to increasing agricultural sustainability, and the development of appropriate public policies that will help drive these changes.

**Faculty News**
Todd Wehner and Elaine Levin

**Pi Alpha Xi Plant Sale News**
The PAX Plant Sale was held on April 17-18, 2010 at the JC Raulston Arboretum. Proceeds from the plant sale supported the JCRA; The Nature Conservancy; D. Mason Pharr Seminar Series Endowment; HSGSA; D. Mason Pharr Seminar 2011; TGS, Randy Rose Memorial Garden; Evan Keto, City of Raleigh; Neuse Riverkeeper Foundation; E.S. King Village Garden Shed; USTL Greenhouse Interns; and the soon-to-be NCSU Plant Breeding Club.

**PAX 2010-2011 Officers:**
President, Jared Barnes, Woodies VP, Kelly Oates, Perennials VP, Brigitte Crawford, Secretary, Liz Bridges, Treasurer, Christine Bradish, Marshalls, Katie Pound and a second to be determined.

Congratulations to Jim Ballington and Will Hooker on their recoveries from their illnesses. Jim has returned to work after his heart attack. Will has just received a shoulder replacement, is feeling fine, and we hope to see him back at work soon.

Members of the Sweetpotato Group sustained minor injuries as a result of a car accident. Recovering well and back at work are Ken Pecota, Nic George, and Jarred Driscoll.

Barclay Poling has been named a Fellow of the American Society for Horticultural Science at the annual meeting in August.

Nancy Creamer is on study leave from June 15 through December 15, 2010. She will focus on work with local foods, the launch of The 10% Campaign, working with the Sustainable Local Food Policy Council in policy options relevant to North Carolina, and she will be writing up some previous work in both research and strategic initiatives.

Lo & Behold 'Blue Chip' Buddleia, developed by Denny Werner and Layne Snelling, was named best new plant for 2009 and received a gold medal at the Salon Du Vegetal Nursery Show in France.

George Wilson was the invited speaker for the Opening Plenary Session of the Sixth International Postharvest Symposium in Antalya, Turkey held last year.

John Dole and the Floriculture group welcome Visiting Scholar Dr. Iftikhar Ahmad.

Dr. Ahmad will be working with the group on cut flower postharvest issues and visiting local cut flower farms. He is an Assistant Professor in Floriculture & Landscape from the Institute of Horticultural Sciences at the University of Agriculture in Faisalabad Pakistan.

The Department has a new position to fill. The Leafy Vegetable Breeder position will be located at the Plants for Human Health Institute (PHHI) on the North Carolina Research Campus in Kannapolis, NC. This position will develop superior leafy vegetable cultivars adapted to NC production systems, with enhanced nutritional and nutraceutical properties, resistance to major
production constraints, high yields, and extended postharvest shelf-life.

The UC Davis Plant Breeding Academy graduated its second class of students this month. The class was composed of an international group of working professionals from 10 countries who spent more than 300 hours in classes, workshops and the field. The instructors are Doug Shaw and Larry Teuber from UC Davis, and Todd Wehner from NC State. Class III of the PBA will begin in September and is nearly filled; see http://pba.ucdavis.edu.

Gina Fernandez was on sabbatical from January 1 to June 30, 2010 and worked at the University of KwaZulu Natal with Dr. Isa Bertling and the UKZN Center for Microscopy. Gina developed a protocol that will help determine when Eucalyptus nitens meristems undergo the change from vegetative to reproductive growth. She also taught several lectures in the Temperate Fruit Production course to fourth year undergraduate students. With the help of personnel from the KZN Department of Agriculture, Environmental Affairs and Rural Development, she toured strawberry, blueberry, blackberry and raspberry grower operations throughout the country. When not working, the family visited 8 national parks and several provincial and private game parks, visited 7 provinces in South Africa, took day trips to Lesotho and Swaziland, saw the big five (elephant, rhinoceros, cape buffalo, lion and leopard), and took a canopy tour through an indigenous forest on a foofie slide.

Craig Yencho (also on sabbatical) was a visiting scholar in the Department of Horticultural Science and at the African Centre for Crop Improvement located on the campus of the University of KwaZulu-Natal in Pietermaritzburg, South Africa http://www.acc.org.za/. The mission of ACCI is to train a new generation of African PhD plant breeders from Eastern and Southern Africa to breed better crops for African farmers, using a combination of conventional and molecular breeding techniques. AGRA, the Alliance for a Green Revolution in Africa, is based in Nairobi, Kenya, and is supported by the Bill and Melinda Gates and the Rockefeller Foundations. These foundations provided partial funding for Craig’s sabbatical. While at ACCI, Craig developed a modularized course based on his graduate level course in plant breeding, HS 703, Breeding Asexually Propagated Crops. Craig taught the course to a group of 9 PhD students in May and will be teaching the same course at ACCI’s sister centre, the West African Centre for Crop Improvement (WACCI) at the University of Ghana in Legon in November.

When not working, Craig made sure that Gina and their wonderful daughters Yvonne (12) and Anya (9) were safely chauffeured around the country to see the many wonderful sights and sounds of South Africa. It was an experience that they will long remember....

Awards

Nancy Creamer (Director of our Center for Environmental Farming Systems), has been named distinguished professor of sustainable and community-based food systems. She will occupy an endowed chair that was made possible with a $3.15 million endowment established last year by the W.K. Kellogg Foundation.

Wayne Buhler has been selected as a 2009 Search for Excellence Award Recipient in the Specialists category. The selection committee, composed of NCCES Foundation Board Members, was extremely pleased with the quality of the programs that were selected and expressed their appreciation for his outstanding leadership in the organization. His award of $800 and a plaque will be presented during a special reception at the CALS Donors Gala on October 31, 2010 here in Raleigh.

Mike Parker received the Individual Award for the Outstanding Extension Program from the NC Association of Cooperative Extension Specialists. NCACES Extension Education Awards recognize members of the North Carolina Association of Cooperative Extension
Specialists who develop and deliver outstanding Extension Education Programs.

**Helen Kraus** and **Anne Spafford** won an Honorable Mention from The Eric Hoffer Awards for Short Prose and Independent Books: Home Category for their book entitled “Rain Gardening in the South: Ecologically Designed Gardens for Drought, Deluge and Everything in Between.”

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**STAFF NEWS**
Dolores Lawson

**Amber and Ryan Polk**’s son, Jackson Cooper Polk, was born on Wednesday, June 24, 2010.

**Diane Ducharme**, Administration-Extension Service Extension Associate, Horticulture & Food Safety & GAPs Program Coordinator, has received the University Award for Excellence

On June 7, 2010, **Emily Bernstein** began working at the Mountain Horticultural Crops Research and Extension Center, Mills River, NC with **Jeanine Davis** as her research assistant. Emily is coordinating an organic research unit at the Waynesville Mountain Research Station. She is from Milwaukee, WI and went to school at UW-Madison.

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**GRADUATE PROGRAM**
John Dole and Rachel McLaughlin

The Department of Horticultural Science at North Carolina State University is pleased to announce the following degrees awarded in May 2010:

**Adam D. Call** (MS). Studies on Resistance to Downy Mildew Caused by *Pseudoperonospora cubensis* in Cucumber (*Cucumis sativus* L.).


**Emma L. Locke** (PhD). Extending Cut Flower Vase Life by Optimizing Carbohydrate Status: Preharvest Conditions and Preservative Solution.

**Adam W. Lowder** (MHS). Day/Night Temperatures Influence Growth and Photosynthesis During Containerized Production of Selected Species of *Helleborus* (Hellebores).


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**Awards**

Graduate students **Connie Landis Fisk** and **Mariana Franco-Ruiz** were inducted into Gamma Sigma Delta at the Spring banquet on April 22, 2010:

**Kay Jeong**, who is pursuing her PhD degree and working with **Paul Nelson**, is the 2010 recipient of a KUSCO-KSEA Graduate Scholarship. The KUSCO (Korea-U.S. Science Cooperation Center) program recognizes outstanding graduate students who have demonstrated excellent talents in the fields of science and engineering and helps to identify and nurture potential leaders of the scientific community for closer future cooperation between Korea and the US. The program is operated in cooperation with the KSEA (Korean-American Scientists and Engineers Association). Awardees receive a check of $1,500 each from KUSCO and have the opportunity to attend the Award Ceremony in Seattle, WA on August 11-15, 2010. Travel expense for attending the Award Ceremony will be reimbursed by KUSCO up to $500.
UNDERGRADUATE PROGRAM
Bryce Lane and Betty Coleman

The following seniors were inducted into Gamma Sigma Delta at the Spring banquet on April 22, 2010: Christopher David Hart, Katherine Cox Pound, Brandon Tyler Smith, and Matthew Christopher Swaim.

JC Raulston Arboretum (Raleigh)
Ted Bilderback

The Japanese Garden remodel and the new stone walkways were completed in time for the May 2, 2010 grand opening, the GALA in Wonderland. We were sad that Dr. Donald Moreland passed away just before the renovation was completed. Before his passing, Dr. Moreland provided the funds to install the walks in memory of his beloved wife Verdie. The handcrafted stone pathways are beautiful, and form a centerpiece of this tranquil garden. The new lath house construction was begun in June and will be completed by the end of summer 2010. This elegant design was created by Frank Harmon Architects of Raleigh. With construction of the lath house underway, we have delayed development of the Ellipse in the center of the Arboretum. The Master Plan team has used this time to embellish some of the previous design ideas, and we look forward to a truly magnificent Ellipse project in 2011.

Centennial Campus (Raleigh)
George Allen and Sergei Krasnyanski


The Plant Transformation Laboratory (PTL) has now started a fee-for-service that is available to both NC State Users, outside universities, and commercial interests. Their first contract is with Prof. Tai-ping Sun at Duke University to produce tomatoes that she will use to study the hormone GAA as part of her USDA grant.

Sergei Krasnyanski from the PTL and Fei Ding from John Williamson’s lab have successfully produced petunia and geranium that express mannitol dehydrogenase (MTD). These plants are now being tested for resistance to botrytis with very encouraging results. The PTL has already produced lines of elite long-stemmed rose that express MTD as part of their earlier project, which are also included in the botrytis-resistance experiments. We are encouraged that MTD may have a wide use for providing resistance to many different fungi in addition to botrytis in many important crop and ornamental species.

NC Research Campus (Kannapolis)
Mary Ann Lila, Tara Vogelin and Penny Perkins-Veazie

Penny Perkins-Veazie reports that Jeremy Pattison and Allan Brown have 3-6 interns, graduate students, teachers, and summer workers per lab, representing Rowan Cabarrus Community College, UNC, NC State Horticultural Science and Food Science Departments, Pfeiffer University, and A.L. Brown High School. The NCRC has recently added two more companies to the DHMRI building. One is a small biotechnology company and the other is General Mills. Dole Foods has officially opened its lab and office in the NCSU building with Nick Gillett as director, and there are plans to add two more staff shortly.
Ivette Guzman has joined Allan Brown's program for a 2-year Post Doc. Dr. Guzman received her PhD from New Mexico State University. Her expertise is in the area of carotenoid analysis in chile peppers and she will be working on broccoli (carotenoids and tocopherols) and blueberry (phenolics).

Mary Ann Lila reports that four interns have joined the Lila Lab for the summer. They are from UNC (Chemistry Dept), NCSU (Food Bioprocessing and Nutrition Sciences Dept), and RCCC (Rowan Cabarrus Community College - Biology Program). PhD candidate Josh Kellogg began his program of study in the Lila Lab this spring, and moved from Raleigh (NCSU-FBNS) to Kannapolis this May to launch research on plants with antiplasmodial properties.

Six Kannapolis scholars (funded by the $1M USDA AFRI grant awarded to Odle, Harris, Lila and Larick last fall) moved in to Kannapolis in May to begin their interdisciplinary programs of study, each involving at least 2 of the 8 institutions represented on the NCRC. The scholars are participating in weekly journal club meetings and a Food for Thought seminar series.

The Plants for Human Health Institute (PHHI) has just launched a search for up to 3 new faculty positions. More information at http://www.ncsu.edu/phhi/. Priority areas for consideration are Plant Metabolic Pathway Engineering, Pharmacogenomics of Plant Products, and Systems Biology.

Muscadine Grape Program (Kenansville)
Connie Fisk

Connie Fisk informs us that the muscadine vines are loaded, and the dry weather this spring has kept diseases at bay. They anticipate a good season. The NC Muscadine Grape Association Bus Tour will be held Friday, August 6, 2010. Details will be available on their website (http://www.ncmuscadine.org) in July.

Vernon James Research and Extension Center (Plymouth)
Mark Clough

In May 2010, Mark Clough attended the annual North Carolina Potato Association meeting in Elizabeth City. The tour did not stop at the Weeksville trial this year, but Mark was able to show off some of the more promising varieties during the business meeting. Beginning June 21st, the Potato Breeding Team prepared for harvest. We are excited to welcome back Craig Yencho, our program leader, just in time to dig. This year, because of a wet start which delayed planting, we anticipate harvest going into August. Additionally in August, the Blackland Farm Managers Association (BFMA) will be having their annual meeting and tour at the Tidewater Research Station and the Vernon James Center. The BFMA is an organization of farmers in the black land region of the state which encompasses Tyrrell, Washington, Hyde and Beaufort counties. They focus on improving agriculture and funding for agricultural research in the region. The Potato Breeding Program plans on utilizing the tour to showcase both the advanced and some novel material in the program to the growers in the region who are not familiar with potato production.

Departmental Newsletter Committee
Editors: Elaine Levin, Todd Wehner, and Rachel McLaughlin
Send items for the newsletter to Todd Wehner (todd_wehner@ncsu.edu)