NEWS FROM THE INTERIM DEPARTMENT HEAD
John Dole

Just three months ago, I started as Interim Department Head, taking over for Julia Kornegay, and immediately launched into the main season for commodity meetings. I have attended a number of them, including the Green and Growin’ Show, Green Industry Council Annual Meeting, NC Peach Society Annual Meeting, NC Sweetpotato Commission Annual Meeting, Winter Vegetable Conference, NC Muscadine Grape Annual Meeting, NC Winegrowers Association Annual Meeting, Weed Science Society of NC Annual Meeting, and NC Watermelon Association Annual Convention. As long as that list is, there were several more meetings that I did not attend this year.

Coming from the ornamentals side of the department, most of these meetings were new for me. I got quite an education in all the activities that our faculty and staff are involved in around the state. At several meetings one or more growers or association directors pulled me aside to heap praise on a hort faculty member or staff. It is great to hear all of the positive comments.

For some of the meetings, I was only able to stay awhile, but with others I was able to attend many of the talks. As much as I am supposed to be attending to represent the department, I enjoyed the talks and took notes for my home garden. Don’t tell anyone as this is supposed to be just work!

On to more serious matters; departmental attention has been focused lately on budget issues and discussions of NCSU’s reorganization. At the time of this writing, we have not been notified regarding the amount that the department is going to be required to cut from its budget for 2011/2012. NCSU has gone through periodic cuts in the past and will no doubt have to do so again, even after this next year’s cut. What makes these cuts particularly painful is that they come on top of 17% cuts over the last four years. While a bit scary, the reality is that faculty have continued to write and receive grants, raise money from industry, and to support their staff and graduate students. The department raises an average of $5-7 million dollars a year in external funds, and this year appears to be no different.

With the daffodils finishing and the azaleas starting, Raleigh has entered the lush phase of spring, making it hard to think too long about budget issues. Similarly, the department is continuing to move forward. A number of faculty have received awards, from Frank Blazich being awarded Outstanding Alumnus for the University of Vermont CALS to Dick Bir receiving the Liberty Hyde Bailey award from AHS award. Read more about all of the departmental happenings in the rest of the newsletter.

FACULTY NEWS
Todd Wehner and Elaine Levin

Craig Yencho recently returned from a two-week trip to Kenya, Rwanda and Uganda where he visited two sweetpotato improvement projects. The first project is funded by the McKnight Foundation Collaborative Crops Research Program. Here, Craig visited with one of his collaborators, Dr. Gorrettie Ssemakula, a Ugandan sweetpotato breeder. The second project is supported by the Bill and Melinda Gates Foundation, and it is called the SASHA
project, the Sweetpotato Action for Security and Health in Africa. Craig serves as a technical advisor on this project. He consulted with fellow sweetpotato breeders and scientists to assess progress.

Robert Mwanga (left), Damien Shumbusha, a student of Robert Mwanga’s (center) and Craig Yencho (right) in a newly planted field of sweetpotatoes at an agricultural research station in Rubona, Rwanda. Robert Mwanga's student would be Craig Yencho's "academic grandson".

Craig has been working on sweetpotato improvement in Sub-Saharan Africa for over a decade, with several African collaborators. He and his wife, Gina Fernandez, also a faculty member in Horticultural Science, recently returned from a six-month sabbatical at the African Centre for Crop Improvement, University of Kwa-Zulu Natal in Pietermaritzburg, South Africa. While there, Craig taught 15 students from all over Africa who are working towards their doctorate in plant breeding and genetics. He recruited two new sweetpotato breeding students during this time, Benard Yada, from Uganda, currently in Raleigh doing his laboratory work with Bryon Sosinski, and Benjamin Kivuva, now doing his field research in Kenya.

Sweetpotatoes are a staple crop in many African countries. They are drought tolerant, easy to propagate and require minimal inputs. In order to address the poverty, hunger, and vitamin A deficiencies which persist in this region, Craig’s sweetpotato improvement projects are designed to improve the yield, pest resistance and nutritional quality of sweetpotatoes in Sub-Saharan Africa. Vitamin A deficiency is severe in pregnant women and children in Sub-Saharan Africa. Many Africans eat white-fleshed sweetpotatoes, which are not as nutritious as the orange-fleshed types. Numerous studies have shown that a diet rich in orange-fleshed sweetpotatoes, an excellent source of vitamin A precursors, can alleviate vitamin A deficiency, resulting in improved health outcomes.

The McKnight Project, formerly lead by one of Craig’s students, Robert Mwanga (PhD ’01), is focused on developing high dry matter orange-fleshed sweetpotatoes for Ugandan farmers. These sweetpotatoes are resistant to insects and viruses, major production constraints in Sub-Saharan Africa. Robert Mwanga, Craig Yencho and the members of the Uganda breeding team have released several improved orange-fleshed varieties. One of these is named VITAA because of its vitamin A potential, and it is very popular with small farmers.

The SASHA project is a larger, five-year, $21 million project encompassing 18 Sub-Saharan African nations. Designed to impact rural farmers and households throughout Sub-Saharan Africa, it is lead by the International Potato Center (CIP), based in Lima, Peru. CIP is one of the international centers within the CGIAR, The Consultative Group on International Agricultural Research. Their mandate is to improve potato and sweetpotato production in developing countries worldwide. Maria Andrade (PhD ’95), based in Mozambique, is also a graduate of the Department of Horticultural Science. She and Robert Mwanga, who now works with CIP, serve as lead sweetpotato breeders for southern and eastern Africa in the SASHA project. Their varieties are making a big difference in the lives and health of many rural Africans.

The historical sweetpotato breeding program at NC State makes a great impact globally as well as locally.
**John Dole** and **John Williamson** led an effort to create a rose which has both an extended “vase life” and defends itself against one of its greatest fungal pathogenic threats. By inserting a gene from celery into the roses, these roses are then able to “chew up” the effects of the pathogen and block disease like petal blight, which produces wilty, mushy petals.

NC State is researching how to build a better rose. Included are research activities which examine the types of sugars best suited for mixture with water to keep the plants thriving after they have been harvested; studying the variance in water quality across the country to see which water provides the best home for roses after they’ve been cut; and preventing other important plant diseases.

The goal is to have roses which survive for three to four weeks after they have been harvested. Many roses in florist shops and grocery stores come from Colombia and Ecuador. The longer shipping times reduce vase life after purchase. Longer-lived roses give you more value, and help the entire floral industry.

**Bryon Sosinski** is working on identifying other genes in the rose which provide resistance to additional environmental factors, and **George Allen** and **Sergei Krasnyanski** insert these genes of interest into the rose plants. This research is funded by Dole Food Company and the American Floral Endowment.

**Todd Wehner**, NCSU and **Joe Burton**, USDA were the featured speakers at a training session for plant breeders at Syngenta in Minneapolis. The one-day session on February 28, 2011 was focused on optimization of breeding procedures. The **NC Horticultural Council** met at the JC Raulston Arboretum on February 24, 2011. Commodity group representatives heard from speakers on the new food safety regulations, the new fumigation requirements, and overviews of NCDA and NCSU. The council elected new officers for 2011, and donated $1000 to the horticulture scholarship fund in their name.

Sadly, we report the passing of **Carolyn H. Reid**, widow of **William Walton (Bill) Reid**. Bill Reid was an extension instructor in our department from 1963-66. From 1966 until he retired on 9/1/79, he was an extension professor. At the time of his retirement, he worked with vegetables at the Tidewater Research Station at Plymouth.

**Awards**

The NC State-produced public television show, “**In the Garden with Bryce Lane**” received an Emmy Award at the 25th Annual Mid-South Chapter of The National Academy of Television Arts and Sciences Regional Emmy Awards program. The award was won in the Information/Instructional Series category.

**Bryce Lane**, NC State Alumni Distinguished Undergraduate Professor, Lecturer and
Undergraduate Coordinator in Horticultural Science, and the production team from NC State University Communications, attended the awards banquet at the Shermerhorn Symphony Center in downtown Nashville, Tennessee. Bryce, Producer Sonya Williams Harris, Videographer/editor Simone Keith, and Graphics Specialist John Vanaman all received their own Emmy trophy.

**Frank Blazich**, Alumni Distinguished Graduate Professor, has won the 2011 Outstanding Alumni Award at the College of Life Sciences, University of Vermont, Burlington, Vermont. The award will be presented by Dean Thomas Vogelmann at the 18th Annual Alumni Award Dinner on Saturday, May 14, 2011 on the University of Vermont campus, Burlington, Vermont.

Congratulations to **Denny Werner** for being named a Fellow of the American Society for Horticultural Science for 2011.

**Gina Fernandez, Garry Grabow, Katherine Jennings, Frank Louws, David Monks, Barclay Poling, Charles Safley, Steve Toth, and Zvezdana Pesic-VanEsbroeck** have been awarded the Specialists Team Award of The North Carolina State Grange Search for Excellence Awards competition.

**Helen Kraus** has received the Outstanding Teacher Award from CALS.

In recognition of the high quality of her work, **Lucy Bradley** has been selected as the 2010 North Carolina Cooperative Extension Service Foundation Grange Search for Excellence Award winner in the Specialists Individual category. The award, in the amount of $800.00, is sponsored by the North Carolina State Grange and North Carolina Cooperative Extension Service Foundation. The formal presentation of the award plaque will be at the District Extension Conference meeting.

**Sylvia Blankenship**, Associate Dean for Administration for the College of Agriculture and Life Sciences and Professor of Horticulture, has been elected a Fellow of the International Society of Horticultural Science.

The society has been electing fellows since 2002, and only 10 people have been honored. Sylvia is the first person from NC State University to receive the honor, one of two women and one of four Americans to be elected a society fellow.

In electing Sylvia a Fellow, Norman E. Looney, society president, noted that she “is a world-
class horticultural scientist whose many accomplishments during her career as a postharvest physiologist have contributed significantly to the understanding of ethylene biology in horticultural crops. Her work with ethylene action inhibitors in particular has changed the course of research in the area of fruit ripening and provided an invaluable commercial tool for postharvest management of climacteric fruit.”

Sylvia Blankenship and Ed Sisler, professor of biochemistry, developed a patented method of treating fruits and vegetables that slows fruit aging, thus controlling ripening. The method, called the SmartFreshSM Quality System, is widely used, particularly with apples.

“Sylvia Blankenship’s name will always be associated with the groundbreaking discovery of the ethylene action inhibitor, 1-methylcyclopropene (1-MCP). This development has had an enormous impact on postharvest science and technology, particularly commercial practice. It has brought great advantages to experimental postharvest science in allowing the control of ethylene action and so increased our understanding of ripening and senescence processes,” Looney noted.

Sylvia joined the College of Agriculture and Life Sciences faculty in 1983 in the Department of Horticultural Science. She served as Assistant Department Head from 1999 to May 2003 and as Interim Department Head from May 2003 to October 2003. She has served as Associate Dean for Administration for the College, first in an interim capacity and then permanently, since late 2003.

The North Carolina SweetPotato Commission Campaign welcomes the commitment from Craig Yencho as a major donor to the Covington Endowment for Excellence in SweetPotato Research and Extension.

The American Horticultural Society (AHS) is pleased to announce that Richard E. Bir, an Extension Horticulture Specialist Emeritus with NCSU in Fletcher, North Carolina, has been named the 2011 recipient of the Society’s most prestigious award, the Liberty Hyde Bailey Award. The award is one of 12 Great American Gardeners Awards that the AHS presents annually to individuals, organizations, and businesses that represent the best in American gardening. Each of the recipients has contributed significantly to fields such as scientific research, garden communication, landscape design, youth gardening, teaching, and conservation. The Liberty Hyde Bailey Award is given to an individual who has made significant lifetime contributions to at least three of the following horticultural fields: teaching, research, communications, plant exploration, administration, art, business, and leadership.

During his 25-year tenure with NCSU, Dick worked with county agents and nurserymen to evaluate, select, and grow better plants for the landscape, focusing primarily on shrubs and trees. Prior to this, he was an Extension horticulturist in Florida from 1972 to 1979. While there, he earned several national and state Extension awards for his work, including best radio program.

Over the course of his career, Dick has been influential in increasing public awareness of American native plants and making them more available through mainstream markets. In particular, he was instrumental in establishing and guiding the development of the Cullowhee Native Plant Conference. Since its debut in 1984, this annual event has become the foremost native plant conference in North America.
Dick’s 1992 book, *Growing and Propagating Showy Native Woody Plants* (University of North Carolina Press) is still considered a classic. A popular speaker, he has made presentations about native plants throughout North America and written numerous articles for popular, academic, and trade publications. In recent years, he has served as a consultant for the Southern Highlands Reserve in western North Carolina, dedicated to the native plants of the southern Appalachian Mountains.

---

**DEPARTMENTAL HIGHLIGHTS**

Elaine Levin and Todd Wehner

**Endowments** are an important part of the support programs in Horticultural Science. Twelve faculty have started endowments, or have had endowments started in their honor. These include Professors Sanders, Correll, Werner, Raulston, Harris, Powell, Monaco, Cochran, Covington, Gardner, Larson, and Ballinger. There is also an endowment to honor Ms. Pittman, a former undergraduate secretary.

In this newsletter we will discuss the **Douglas C. and Ellen J. Sanders Horticultural Research Endowment** and the **Georgina Malloy Werner and Dennis James Werner Horticultural Science Undergraduate Education Scholarship Endowment**.

The **Douglas C. and Ellen J. Sanders Horticultural Research Endowment** was established by Ellen Sanders to honor Doug’s memory, his many contributions to horticulture, and to benefit research activities in sustainable vegetable production and food safety. Included are environmentally sound production practices that are compatible with a profitable enterprise for the growers.

Sustainability, in the largest sense, means that we can meet the needs of the present without compromising the ability of future generations to meet their own needs. This endowment makes it possible for the individuals receiving a grant to do research and to develop practices that are applicable to those present and future needs.

---

*Cercis canadensis ‘Merlot’*

**Dennis and Georgina Werner** have endowed a scholarship that favors undergraduate students who have excelled academically and expressed interest in a plant breeding career. Because NCSU has been so good to the Werner family, providing Dennis with the opportunity to "do what he loves to do", the Werners decided to help both the University and the future of plant breeding by funding undergraduate student scholarships, and by giving recognition and encouragement to the student recipients.

Building the endowment is allied with the anticipated success of Dennis’ recent and future redbud releases. These redbuds, which are

---

*Cercis canadensis ‘Merlot’ Flowers*
protected by plant patents, are being managed on behalf of NCSU by a company called Planthaven, Inc. Planthaven coordinates the national and international marketing and promotion of the redbuds. When Dennis informed Planthaven of the new Endowment, he asked if they would partner with him and contribute a modest amount from the sale of each redbud tree to the scholarship endowment. They readily agreed to do this. And now, for every tree of ‘Ruby Falls’ and ‘Merlot’ which is sold, $0.25 and $0.15 respectively goes into the scholarship endowment fund. If these cultivars are successful commercially, which we fully expect, this should significantly enhance the fund.

---

**Staff News**
Elaine Levin

Welcome to **Lila Claire Heatwol Shank**, born at 9:20 Saturday morning, March 19, 2011, to **Kendra and Absalom Shank**. Kendra, Absalom and Lila are doing well. Lila was 5lbs 6oz., a healthy girl. Congratulations!

A retirement celebration for **Beth Harden**, Research Specialist in Horticultural Science, was held on Friday, February 4, 2011 at the Ruby McSwain Building of the JC Raulston Arboretum. Co-workers gathered to honor Beth for her 30 years of service to the Department. They enjoyed five individual and delicious homemade soups, and all the fixings for wonderful sandwiches. **Diane Mays, Ingram McCall, Tammy Ellington, Ann Green** and **Bernadette Clark** organized a delightful and memorable event, and a pleasant time was enjoyed by all.

The Annual Chili and Cornbread Cook-Off was held on Monday, February 21, 2011 from 11:30 am to 1:30 pm in the newly renovated conference room, 121 Kilgore Hall. There was a competition for chili and a variety of toppings, desserts and drinks were enjoyed by Departmental members and friends.

---

**February Staff Meeting**

Some of the matters discussed were the effects of the CALS budget plan, which requested that departments develop their own budget for 5%, 10% or 15% cuts. In April, our department will be informed what our budget cut will be. The College of Agriculture and Life Sciences, in defense of desired funding, remind the administration and the state government of the College’s value, noting that agriculture is the largest business in North Carolina, that agriculture dollars turn over 8 times in the economy, and that projected food production must be doubled by 2050. There are more horticulture commodity groups than other commodity groups in the rest of the College, combined. Many horticulture commodity groups are small, but together they represent a large and active constituency. Many horticulture businesses are small to medium-sized, and these tend to have the most job creation after a recession. These are important points to consider when weighing the economic impact of potential budget cuts to the both the academic and to the North Carolina general community.

Additionally, we learned that the Department is developing a database to include all individuals and groups associated with horticulture: alumni, commodity and industry groups, master
gardeners, and anyone who is interested in or supportive of horticulture. The Department will use the database to promote horticulture in general, and the Horticultural Science Department at NCSU in recruiting students, and raising funds. The Department is developing plans to host a Horticulture Camp in summer, 2012. Questions were asked about methods to save presently held jobs, such as possibilities that current employees might consider working part-time, furloughs, and salary reductions. Some of these solutions are possible, some are not. Other issues included a request for individuals to not park in front of the HFL greenhouse loading door, or in front of individual greenhouse sections unless working in those sections. It was additionally noted that the HFL greenhouse Plant Room phone number was still crossed with the phone number in the Islamic Center.

If you require additional information, please contact Dolores Lawson:
Dolores.Lawson@ncsu.edu.

Ken L. Fager, 48, passed away December 31, 2010. He was a researcher and educator at the Center for Environmental Farming Systems at NC State University. Ken was a native of Pennsylvania and received his bachelor’s degree in Horticulture from Penn State University in 1984. Ken moved to North Carolina in 1998. Ken touched the lives of so many across the state in so many ways. Working with CEFS for close to 12 years, he brought knowledge and dedication to sustainable agriculture, to his work, and to the farmers he served. He was a wonderful mentor and friend to students, interns, farmers, and to all interested in cover crops, organic farming, vegetable gardening, home canning, operating farm equipment, or just about anything. He was eager to teach and he excelled at teaching. He was especially good with children, demonstrating patience and insight, and inspiring and challenging them to open their eyes to the natural world.

Ken enjoyed backyard organic gardening with his devoted girlfriend, Karen Strong. He spent time with many friends, enjoying hiking, bicycling, the ocean, cooking and preserving his own food. He cared for the earth and lived life in total harmony with his values. He will be missed by many across the state and nation.

Sustainable Agriculture in North Carolina has lost one of its true, long-time heroes.

Ken is survived by his mother, Loretta Fager, his brothers, Curt and Lou Fager of Pennsylvania, and his girlfriend of 11 years, Karen Strong of Benson, North Carolina.

Services were held on Tuesday, January 11th at the St. Peter Roman Catholic Church, 4 South-5th street, Coplay PA 18037, and a memorial service and slide show in Ken’s honor were held at the JC Raulston Arboretum on Saturday, January 15, 2011. There was a potluck and gathering of friends and family following the memorial.

Mr. Charles, Charles H. Washington, 64, of Raleigh, NC passed away on Wednesday, January 5, 2011, in Raleigh, North Carolina. Mr. Charles worked in University Housekeeping for 21 years before retiring in 2009. Mr. Charles was known as being very dependable and dedicated to his work and to the customers he served. He was an inspiration to all of those who knew him. His positive attitude and great listening skills were enjoyed by all, and when asked, he provided strong and uplifting words of advice. One of Mr. Charles favorite sayings was "Life Goes On". He will be missed by all, especially by the University Housekeeping Staff - Zone A6. They lost a true friend and a devoted TEAM Family member. His funeral service was held on Saturday, January 8, 2011 at C. A. Haywood, Sr. Memorial Chapel. Burial took place at Mt. Hope Cemetery.
January Faculty Meeting

John Dole has taken the position of Interim Department Head, effective January 1; 2011. Julia Kornegay is now Director of the Graduate Program. Connie Fisk has accepted a teaching position in Wyoming, and will leave mid-summer. Anne Spafford will take study leave this spring. Todd Wehner will take study leave this fall. Wayne Buhler will become Assistant Department Head when Todd’s study leave starts.

Retirements: Barclay Poling and Beth Harden retired effective January 1, 2011.

2011-12 Budget Planning Update: There is a potential budget freeze, and the Department is planning for multiple scenarios of budget cuts.

Fundraising/Recruitment/Publicity: The goal of the Technology Committee (Lucy Bradley, chair) is to put together and maintain a comprehensive database of Horticulture (and related) personnel, used for fundraising, recruiting, etc. The goal of the Content Committee is to create a document highlighting the department, used for media relations.

Conference Room remodeling: This major renovation should be finished in one more month. The funding for remodeling comes from Distance Education monies. Updates include a Polycom unit, a permanent computer, and a permanent projector.

Horticulture Working Groups Reports:
Undergraduate Student Programs: Bryce Lane tells us that enrollment in the Landscape Design program has decreased, but enrollment in other programs is holding steady.

Graduate Student Program: Julia Kornegay reports that Ryan Aldridge is the new graduate student working with Katie Jennings.

Greenhouse Committee: Bill Fonteno reports that the current Greenhouse project is to alleviate recent problems in the MAFL and HFL greenhouses. New management protocols will involve more frequent applications, and people are reminded to pay attention to signs on doors.

Horticulture Field Laboratory Committee: Brian Whipker reminds that the HFL classroom must always be cleaned up when people who are using it leave the room.

CEFS: Nancy Creamer is on sabbatical leave.

Seminar Committee: Brian Jackson and Chris Gunter report that there may be a couple of open slots remaining for seminar presentations. If you wish to suggest someone, contact Brian Jackson or Chris Gunter.

Thanks again to our SPA representatives, Chris Harlow, Angela Oldham, and Amy Hamilton.

GRADUATE PROGRAM

Julia Kornegay and Rachel McLaughlin

In January, Julia Kornegay took over responsibility of the Department Graduate Program, after serving 7.5 years as Department Head. John Dole is the Interim Department Head.

We currently have 43 students enrolled in our Graduate Program. Of these, 16 students (3+7%) are in the PhD program, 19 (44%) are in the MS program, and 8 (19%) are in the MHS program. Our Graduate Program is highly respected nationally and internationally. For Fall 2011, we received 45 applications! As our departmental assistantship funding is limited, the competition among applicants is very high. We're fortunate that a number of our faculty have grants that support graduate students. We also have applicants with their own external sources of funding, such as scholarships and stipends from their home country governments. All in all, we expect to have a large number of new graduate students starting this Fall.
Eleven years ago, North Carolina Cooperative Extension launched the newsletter *Extension’s Successful Gardener*, addressing the high demand for gardening information across the state. Founding editor Leah Chester-Davis has joined with team member, Extension agent, garden-book author and former Horticultural Science graduate Toby Bost to produce a book with some of the newsletter’s best material.

**Awards**

Mary Archer has been awarded the first Douglas C. and Ellen J. Sanders Horticultural Research Endowment Scholarship. Mary's MHS work focuses on rooftop gardens. She develops NC-specific guidelines for rooftop gardens, in terms of productivity (edibles) and extension of living space.

**Pi Alpha Xi Update**

Pi Alpha Xi held their initiation banquet on March 23, 2011 in the Ruby McSwain Education Center at the JC Raulston Arboretum. The following undergraduate and graduate students were inducted: Amanda Wilkins, Brittany Thomasson, Chen Jiang, Christine Bradish, Courtney Goldman, Don Raymond Edwards, Emily Lumpkin, Hunter Barrier, Irene Palmer, Jason Lattier, Jeremy Machacek, Kelley Nash, Lauren Minnick, Leethaniel Brumfield III, Lindsey Fleetwood, Moo Jung Kim, Pamela Taheri, Ray Jacobs III, Rebecca Latimer, Rebecca Pledger, and Shen Ma. The guest speaker, John Hoffman, President of Hoffman Nursery, Inc., was also inducted as an honorary member. Pi Alpha Xi will have its Spring Plant Sale on April 9 and 10, 2011. Come and support PAX! For more information, go to www.ncsu.edu/project/pialphaxi/

**Undergraduate Program**

Bryce Lane and Betty Coleman

Amanda Wilkins, a sophomore from Wilson, North Carolina who studies plant propagation, is also the editor-in-chief of *Technician*, NC State’s award-winning daily newspaper. “Amanda was selected because she has innate leadership abilities and is able to get people to follow her,” he said. “That’s why she was hired, and that’s what makes her good.

Lindsey Fleetwood, a senior in the THL (landscape design) curriculum, will be interning at the Sarah P. Duke Gardens this summer.

**News from Around North Carolina**

Center for Environmental Farming Systems (Goldsboro)

Nancy Creamer and Lisa Forehand

Nancy Creamer, Director of the Center for Environmental Farming Systems, was a keynote speaker in the two day February 18-20, 2011
Agritourism Networking Association meeting in Carthage, NC. There were self-guided tours on the first day, and an education meeting on the second day, with sessions on marketing, successful strategies, and many opportunities for discussing industry issues such as labor and public relations. Additionally, Nancy participated in the USDA Agricultural Outlook Forum 2011 on February 24, 2011 in Washington, D.C. In the session entitled “Promoting Sustainable Agriculture Through Regional Food Sheds”, she spoke about North Carolina’s leadership in building local food economies.

NC Choices and CEFS hosted the Carolina Meat Conference on March 25-27, 2011 in Concord, North Carolina. This was the first statewide conference on meat production, and is sponsored by NC Choices and the Center for Environmental Farming Systems.

The Center for Environmental Farming Systems (CEFS) announced that Kathleen A. Merrigan, Deputy Secretary of the U.S. Department of Agriculture (USDA), spoke at NCA & TSU and at NCSU on Wednesday, February 9, 2011. Dr. Merrigan, named by Time Magazine as one of the “100 Most Influential People of the World in 2010” oversees the day-to-day operation of USDA’s many programs and spearheads the $149 billion USDA budget process. She has managed the Know Your Farmer, Know Your Food initiative, highlighting the connection between farmers and consumers and which supports local and regional food systems, increasing economic opportunity in rural America. She also helped to spearhead the Organic Food Production Act.

Dr. Merrigan discussed efforts to support farmers, build local food economies, and pinpoint professional opportunities available to graduates and researchers at the USDA. Both lectures were free and open to the public. Dr. Merrigan’s visit is an important component of CEFS ongoing Farm to Fork initiative to build North Carolina’s local food economy.

JC Raulston Arboretum (Raleigh)
Ted Bilderback

Events at the JC Raulston Arboretum have been well attended this year. Several Friends of the Arboretum events have been near standing room only, including: Tim Alderton’s presentation, Gardens and Wilds of Oregon; David Spain on Moss Gardening, Helen Yoest, A Walk in the Winter Garden with Wildlife in Tow; and Julia Kornegay on the Exotic World of Heliconias. Be sure to check the JCRA Webpage (http://www.ncsu.edu/jcraulstonarboretum/index.php) for upcoming presentations on Thursday evenings.

The JCRA hosted a Mini-Symposium February 25 & 26, 2011 and it SOLD OUT! Approximately 190 plant-passionate people came to listen to A Passion for Plants presentations by Mark Weathington, Todd Lasseigne, Tony Avent and Dan Hinkley. A larger symposium is planned for September 23 & 24, 2011.

The JC Raulston Arboretum launched a new Children and Families program on March 26, 2011, with Wake Up it’s Spring. Caroline Richardson is the JCRA’s Children’s Program Coordinator. Caroline has been training a volunteer team, including several Horticultural Science graduate students to lead learning activities on plant parts, how plants grow, and on soil. The target age group is 5 to 9 years of age with a parent participating during the activities. More programs are planned for 2011, and the next on is May 21, 2011.
The money for our new NSF grant has now been received (GEPR: Epigenome dynamics during DNA replication). This grant is for five years, and the final amount is $6.7 million. The group from NCSU includes Bill Thompson (Plant Biology), Linda Hanley-Bowden (Biochemistry) and George Allen (Horticultural Science). Rob Martiennsen (Cold Spring Harbor, NY) and Matt Vaughn (University of Texas Advanced Computing Center) are also part of the project. The major focus of the grant is to study the processes that transmit epigenetic marks through multiple rounds of DNA replication and cell division in Arabidopsis and maize. When we get the project webpage online, I will include it in a future Newsletter.

This grant includes an outreach project in which the NCSU researchers will work with two NC middle school teachers from Granville County and the NC Museum of Life and Science to create and test a genetic “Science in a Suitcase” kit for middle school students. The kit is designed and "field tested" by the middle school teachers and their students, and includes a two-day workshop for 10 middle school science teachers during each of the first three years of the project. The workshop will provide hands-on activities and will address kit contents, the North Carolina Standard Course of Study requirements, classroom implementation, overview of genetic science at the middle grades level, and assessment of learning strategies. This project has the potential to reach more than 1,000 students in 10 middle schools in the Granville and Durham Counties. Another new idea is to develop a YouTube series to go along with the kit, which shows students how the exercises are done.

We recently hired Jerson Dominguez as a Research Scientist to work with Sergei Krasnyanski on a project to develop an improved method for cotton transformation. We hope to produce cotton with a shortened flowering cycle that facilitates rapid breeding, without having to release the genetically modified cotton. Jerson has an MS in Plant Production and a PhD in Plant Genetics from Purdue University. He has vast experience in transforming plants including tomato, Arabidopsis, tobacco, and rice. His rice transformation project led to the production of rice that are resistant to Rice White Leaf Virus (hoja blanca virus Rice or RVHB).

We are continuing to develop preliminary data for our grant to the NSF-BREAD program, with the goal of producing durable resistance to multiple diseases of banana and tomato. This will be made available to African farmers. Our project will take advantage of RNA interference (RNAi), or gene silencing, to provide durable resistance to multiple diseases and pests of both banana and tomato. As we described in the last Newsletter, the project is a collaboration among NCSU (Horticultural Science and Plant Biology), Venganza (a small biotech company located at Centennial Campus), and the National Agricultural Biotechnology Centre in Kampala, Uganda.

The PTL is continuing work that was originally funded by Dole Fresh Flowers and the American Floral Endowment entitled to develop fungal resistance in elite rose and in potted plants using the celery gene for Mannitol Dehydrogenase (MTD). The project is a collaboration with John Williamson and John Dole.

Other collaborative projects in which the PTL is involved include the development of an improved yam transformation system (collaboration with NC A&T), development of drought tolerant tomato (Eric Davis, Plant Pathology, NCSU), and arabidopsis transformation to understand the functional role of Matrix Attachment Regions on plant gene expression, DNA replication, and development.
Jeremy Pattison, assistant professor and strawberry breeder, is one of the three coordinators of the N.C. Strawberry Project. The project is a partnership with Johnson & Wales University Culinary Education Program in Charlotte and the North Carolina State University Plants for Human Health Institute at the North Carolina Research Campus in Kannapolis. This dynamic project brings together both Jeremy Pattison and the culinary industry, to breed a better North Carolina strawberry. During strawberry season this spring, Jeremy will be studying 20 different varieties of berries, and working with Sensory Spectrum, Inc., to learn specific characteristics, flavor, color, texture, and size, that are favored by chefs, produce buyers and consumers.

The project’s educational objective is to build understanding and mutual appreciation between the culinary world, farmers, and scientists. Both Johnson & Wales faculty and students (chefs-of-tomorrow) will visit a local farm and the Piedmont Research Station. The project also has a marketing outreach campaign to communicate the importance of the strawberry sector and its economic contribution to North Carolina. Jeremy and Chef Mark Allison have been featured in numerous magazines and newspapers across the state, as well as interviewed on radio and television in the Charlotte market. A marketing outreach campaign this spring will be in full swing, with news media coverage through the Cooperative Extension Centers across the state. The North Carolina Strawberry Project is supported by the Golden LEAF Foundation. Learn more about the project at [www.ncmarketready.org](http://www.ncmarketready.org).

The website for the blueberry genomics project is now online, says Allan Brown. Located at [http://www.vaccinium.org/](http://www.vaccinium.org/), it is a joint project between NC State and Washington State and will host genomic, EST, marker and map data for breeders. Rutgers, the State University of New Jersey will also be submitting cranberry data to the same site.

Allan Brown also informs us that the May issue of Growing Magazine, [www.growingmagazine.com](http://www.growingmagazine.com), will feature a story on the North Carolina State broccoli breeding program (yes...., we have one).

The North Carolina Watermelon Association held its Annual Convention March 11-12, 2011, in Raleigh. Attendees learned production and management related to watermelons in Friday’s meetings, and on Saturday, participated in open discussions about marketing with buyers. Everyone enjoyed the festivities.
In February and March 2011, over 200 homeowners and commercial muscadine growers across the state attended winter production meetings and pruning demonstrations sponsored by NCSU and Cooperative Extension. With our recent warm weather, the vines will likely break bud early. Barring any late frost events, we're on track to enjoy another bumper crop!

In January 2011, Mark Clough and Craig Yencho attended the Potato Expo in Las Vegas, Nevada. Mark attended courtesy of the North Carolina Potato Association, and he helped staff their booth during the event. Potato seed for the 2011 season arrived in early February. Also in February, Mark attended the NE1031 Regional Potato Project Technical meeting in Beltsville, Maryland. As March progresses, the Potato Breeding Program is working to get potato trials planted.

On January 3, 2011, Ragy M. Ibrahem began work at the Mountain Horticultural Crops Research and Extension Center (MHCREC), Mills River, NC, with Dilip Panthee as Research Specialist. Ragy manages the molecular markers analysis lab at MHCREC. He is from Egypt, and has extensive experience working in tomato at the Horticulture Research Institute in Egypt, and with the tomato breeding program at the University of Florida.

Send items for the newsletter to Todd Wehner (tcwehner@gmail.com) or to Elaine Levin (elaine_levin@ncsu.edu)