

Department of Horticultural Science Newsletter

Spring 2004

North Carolina State University, Raleigh, NC 27695-7609

http://www.cals.ncsu.edu/hort_sci/

News from the Department Head

Julia Kornegay

Spring is on its way! Hooray! For a tropically-adapted person who likes to garden year round, getting use to winter was a challenge; but, overall, I'd have to say that it wasn't too bad. My family enjoyed the thrill of experiencing snow and ice for the first time, and my kids especially liked "snow days" and being out of school. I was pleasantly surprised in March when a riot of daffodils came up all over our front yard. Daffodils really help to move winter along.

I'm looking forward to the upcoming **PAX Spring Plant Sale** on April 17 and 18 at the JC Raulston Arboretum and getting some plants for my garden. The plant sale is run by our graduate students and benefits horticultural scholarships and area charities. Many rare and unique annual, perennial and woody ornamentals are available for the public. If you are looking for other garden events to enjoy in the spring, nothing is more beautiful and special than the annual **Gala in the Garden** at the JC Raulston Arboretum on May 2. The profits from this event support research, extension and education programs at the Arboretum.

I hope you noticed the changes in our **departmental newsletter and website**. Dr. Todd Wehner, cucurbit breeder and computer-internet aficionado, has been working on this new look all winter with the help of Chris Glenn, assistant webmaster. Each time you click on the newsletter a different seasonal image comes up in the top right corner. There are also other neat features and lots of images, which I'll let you find yourself.

The Department of Horticultural Science is looking for a **new logo** to represent the outstanding education, research, and extension programs that are taking place in the department. Anyone is eligible to submit an entry - students, faculty, alumni. Mail or deliver your original entries to Ms. Barb Amos, Dept. of Horticultural Science Logo Contest, 120 Kilgore Hall, Campus Box 7609, Raleigh, NC 27695-7609. All entries must be your original work. Entries must be received by 5:00 p.m. on April 1, 2004. Entries must be submitted with a signed entry form (available on the HS web page). A \$250 cash prize will be awarded to the winning entry.

Mr. **Jack Jones**, president and owner of Jones' Landscaping and Maintenance, Inc., recently fulfilled one of our 'Wish List' requests and had new blinds and shades installed in a classroom and conference room in Kilgore Hall. We greatly appreciate Jack's contribution to the Horticulture Department and for helping us to upgrade our facilities. His generosity will benefit our faculty, staff and students alike.

Departmental Highlight

Todd Wehner

Weeds, weeds, everywhere. Weeds reduce crop yields and aesthetic quality of landscapes, displace native flora in our parks and woodlands, and can affect human health and recreation. For those needing help in controlling their weeds, **Joe Neal and David Monks** have a web site to provide assistance. See <http://www.ces.ncsu.edu/depts/hort/weeds/>. At the site, you will find lists of weed species, help with identification of major weeds, and management guides for control of weeds in

different crops. Watch for a major overhaul of the web site that is planned for this spring.



Interesting Web Sites

Mary Peet

Get the facts on the sudden oak death pathogen on the **APHIS website** <<http://www.aphis.usda.gov/lpa/issues/sod/sod.html>>, including the SOD hotline (888-703-4457).

Educate yourself on the area of endangered species and invasive species in preparation for seminars on March 22 and 29 at the **PLANTS database** <<http://plants.usda.gov/>>. This is a very well-developed site which includes names, distribution, species abstracts, images, links, references and crop information. It also has valuable tools, such as a crop nutrient calculator and information on plant materials and information on endangered and invasive species.

Georgia also maintains a website on **invasive and exotic species** <<http://www.invasive.org/>> where you can search for images and information.

For information on pests in the Southeast U.S., the **Southeast Exotic Pest Plant Council** also maintains a website <<http://www.se-eppc.org/>>, and for local information on weedy species, the

NC Botanical Garden offers assistance <<http://www.ncbg.unc.edu/exotic.htm>>.

People in the News

Todd Wehner

The departmental web page dealing with **HS People in the News** is updated periodically, and is available for you to browse at:

http://www.cals.ncsu.edu/hort_sci/news/hspplnews04.html

Faculty News

David Monks

Allan Thornton joined the horticultural science department as an extension associate in February 2004. He received his B.S. degree in Agronomy and his M.S. degree in Crop Science from North Carolina State University. He worked five years as a research technician in the crop science department at NC State University. Allan then joined NC Cooperative Extension in 1993 as a horticulture agent in Johnston county. In 1994, he became the horticulture agent in Sampson county and remained there until he assumed his present position. Allan will be assuming extension responsibilities for watermelon. He will also share extension responsibilities with Doug Sanders for pepper. Allan will work closely with producers of major vegetable and fruit crops for Sampson and surrounding counties. Welcome Allan to the horticultural science department!

Drs. **Dennis Osborne, Doug Sanders and Donn Ward** will offer a one day school on how to pass a USDA third party audit for fresh produce food safety the first time. The schools will be held at Mountain Hort Crops REC, Fletcher, on April 20, 2004 and Cunningham Center May 12, 2004, from 10 am to 4 pm. They will include guidance in how to prepare for the audit and all the materials to initiate an on-farm food safety program. Registration is \$100 per operation, with reduced rates for

second members of the same farming operation. There will be a materials fee and a fee for additional educational materials. Those interested should contact Dennis Osborne, Box 7609, NCSU, Raleigh, NC, 27695, 919 515 1184. Osborne and his cooperators say they will offer special versions of the program for any group of ten or more.

Dr. **Mary Peet** is hosting Dr. **Hyung Jun Kim**, a visiting scientist from Korea, working with the Rural Development Administration. Dr. Kim has worked with nutrition in hydroponic systems, and will be assisting with an aeroponic project. He is accompanied by his wife, Hoe Mi Park, daughter Min Jeong (12) and son Dong In (7).

Mary Peet is also hosting Dr. **Asao**, arriving from Japan with his wife and two children in April. Dr. Asao has worked with autotoxicity in hydroponically grown cucumbers and will be working on a project with organic production. He will be looking for a place to stay, furniture and inexpensive transportation, if anyone has recommendations or items to sell. Dr. Asao is a Professor in the Faculty of Life and Environmental Science at Shimane University in Matsue, Japan.

Faculty awards

At the 2004 Northeastern Weed Science Society meeting, Dr. **Joe Neal** received the Distinguished Member Award, one of the highest honors the Society presents in recognition of service to weed science in the Northeast and to the Northeastern Weed Science Society.

Congratulations to the following awardees at the Southern Region meetings of the American Society for Horticultural Science: **Jonathan Schultheis** - H.M. Covington Outstanding Extension Specialist Award; **Jennifer Yarbrough***, **Doug Sanders**, and **Ed Estes** - Third place in J.B. Edmond undergraduate student paper 'Pruning Techniques Influence Eggplant Growth Yield and Economics'; Paclotrutzol and Uniconazole'; Extension Blue

Ribbon Publication Award: **Dennis Osborne, Doug Sanders, Donn Ward, Kenneth Ellzey and Sonya Williams** for the video 'Bridging the GAPs from the Farm to the Table'; **E. Barclay Poling, Charles Mainland, William T. Bland, Bill Cline, and Kenneth Sorensen** for the bulletin 'Muscadine Grape Production Guide'.

Staff News

Barb Amos

Welcome to **Nathan Lynch** who began working as an Agricultural Research Technician on February 23rd in Dr. Tom Ranney's program.

George Cox, Agricultural Research Technician III, is retiring April 1 after 30 years of service at the Mountain Horticultural Crops Research Station and the Mountain Horticultural Crops Research and Extension Center. During that time he worked for Mr. Harley Blackwell, Dr. Tom Konsler, and Dr. Jeanine Davis. He has provided technical assistance and oversight to projects on a wide variety of crops including commercial vegetables, staked tomatoes, woodland botanicals, culinary herbs, luffa gourds, pyrethrum, and organic vegetables.

Staff awards

Congratulations to **Tammy Ellington** on winning a Pride of the Wolfpack Award. Great job Tammy!

Barb Amos was initiated into the Iota Chapter of Pi Alpha Xi as an associate, honorary member at a banquet held on February 6, 2004 in Raleigh. Pi Alpha Xi is the national professional honor society for floriculture, ornamental horticulture, and landscape horticulture.

Mary Lorscheider is the recipient of an 'Award for Excellence' from the College of Agriculture and Life Sciences in the on-campus technical category. Mary and five other college awardees will be honored during an Awards for Excellence Luncheon on Wednesday, April 7 at

noon at the University Club. For this honor Mary will receive a plaque and a check for \$250. Congratulations Mary!

Undergraduate Program

Bryce Lane

ALCA Team XIV. Thirty one students are heading to Columbus State Community College in Columbus Ohio on March 24 to participate in the Associated Landscape Contractors of America Annual Student Career Days Event. The event consists of Thursday workshops, Friday Career fair and competition and Saturday competition. Over 95 horticultural companies will be interacting with over 700 students from as many as 55 schools. Company sponsors lead workshops dealing with irrigation, arboriculture, brick paving etc, and coordinate 24 competitions including Plant ID, Estimation, Landscape Installation, Landscape Design, Sales, Arboriculture, and Pest Management. Students have been working hard to raise all the funds to cover all their expenses. They have met their goal of \$18,000 and are very excited about representing the department at this event.

Landscape Construction Class. If you happen to pass by Kilgore Hall along Hillsborough St., be sure to check out the sitting structures that Ann Spafford's Landscape Construction class designed and built. Students worked on designing sitting structures based on an existing paradigm and built them out of found materials. They are displayed in front of Kilgore and were evaluated by students and faculty who spent time sitting in and reading about each structure.

Mark your calendars for **graduation** Saturday May 15. Our Departmental Graduation ceremonies are scheduled at the Ruby McSwain Center at the JC Raulston Arboretum for 11:30AM. We have 20 undergraduates graduating this spring. All faculty and staff are invited.

Graduate Program

John Dole and Rachel McLaughlin

As many of you know already, I have taken over for **Dennis Werner** as graduate program director. I hope you all will thank Dennis Werner for the 12 years of service he gave to the department! As Dennis and I were making the transition, it became apparent how much time both Dennis and **Rachel McLaughlin** have invested in the Horticultural Science Graduate Program. In addition, the graduate committee has taken quite a bit of time to faithfully review dozens of applications each year. Certainly the large number of dedicated, bright and successful students that we have in our department is testament to a thriving program. I am looking forward to working with all of the graduate students. They are a fun, hard working group – as a visit to the grad offices will quickly prove.

Graduate students starting

Four students started their graduate programs in our Department this Spring semester. We welcome all of the new students to the Department and wish them the best in their graduate program here at NCSU.

Ryan Contreras. Ryan was born in Morehead City, North Carolina. He received his BS December 2002 from NCSU majoring in Horticultural Science. His long-term career goal is to work as a research plant breeder. Before Ryan started his graduate program, he worked in the Dept. of Crop Science at NCSU, beginning October 2002, with the Peanut Genetics program. The main purpose of the peanut program was transfer of disease resistance present in wild species into production cultivars. During Fall 2002 he had the opportunity to work on a project with Dr. Dennis Werner. The project involved the application of cytological techniques to obtain an accurate chromosome number in the 'Honeycomb' cultivar of Buddleia. Ryan will be working on his MS degree with **Tom Ranney**.

Tiffany Harrelson. Tiffany was born in Lumberton, North Carolina. She received her BS May 2001 from NCSU majoring in Horticultural Science. In addition to attending classes, she is the Commercial Horticulture Extension Agent for Johnston County. In the future, she aspires to transition into production and run her own commercial greenhouse operation. Tiffany's work experience includes a part-time job as a sales associate at a retail garden center in Raleigh during her undergraduate degree program. She also completed a three-month internship with a landscape contracting firm in Albuquerque, New Mexico during the summer of 2001. She has been employed by the NC Cooperative Extension Service as a Commercial Horticulture Extension Agent in Johnston County since November 1, 2001. Tiffany will be working on her MS degree with **Stu Warren** and **Ted Bilderback**.

Sara Millar. Sara was born in Augusta, Georgia. She received her BS from NCSU, majoring in Animal Science. While she was working on her BS degree, she started working at garden centers and realized that her other passion, plants, was her ideal area of study. Fall 2002 Sara began taking horticulture classes (in our Department) and received hands-on experience at two garden centers, two greenhouses and a landscape company. Spring 2003, she acquired extra research experience assisting Dr. Ballington in the greenhouses. Sara has also completed a summer internship at the JCRA. She is interested in plant propagation, breeding, plant identification and tree care. Sara will be working on her MS degree with **Frank Blazich**.

Daniel Norden. Daniel was born in Raleigh, North Carolina. He received his BS May 2003 from NCSU majoring in Horticultural Science. But that was not an easy decision because when he was a senior at Enloe High School, he was faced with the decision of trying to determine which of two passions he wanted to pursue – horticulture or music. Fortunately for us it was horticulture. While completing his undergraduate degree, he worked with two

different garden centers – Logan Trading Company the summer of 2000 and Lassiter Mill Gardens the summer of 2001. Both summers were very valuable experiences for Daniel and helped him recognize a few things – he really liked working with perennials and woody ornamentals, and helping customers. Of all the awards and honors he received, probably his proudest accomplishment was being elected the National President of the National Junior Horticultural Association in 2000 – an organization where he has won 34 national awards in horticultural competitions. Daniel will be working on his MS degree with **Frank Blazich**.

Graduate student awards

At the 2004 Northeastern Weed Science Society meeting, the **North Carolina State University** won first place team and **Andrew MacRae** won first place individual. Also, **Carrie Judge** received 2nd place award in the student presentation contest for her presentation "Japanese Stiltgrass seed dormancy characteristics and germination requirements". Carrie also was recognized for her service as graduate student representative on the NEWSS executive committee for the past 3 years.

Andrew MacRae received the Outstanding PhD Student Award from Weed Science Society of North Carolina (WSSNC) at their annual meeting.

Congratulations to the following awardees at the Southern Region meetings of the American Society for Horticultural Science: **Brian Krug***, **Brian Whipker**, and **Ingram McCall** - First place in the Norman Childers M.S. graduate student paper 'Stargazer Lily Height Control with Flurprimidol Pre-plant Bulb Dips, Substrate Drenches, and Foliar Sprays'; **Brian Krug*** - Second place in the graduate student poster presentations 'Caladium Growth Control with Flurprimidol, Paclobutrazol and Uniconazole'.

Employment Opportunities

Todd Wehner

The JC Raulston Arboretum has several part-time and full-time **summer internships** available. Contact Bob Lyons.

Summer jobs are available for those interested in working in the field, greenhouse, or laboratory with various research faculty. Contact John Dole, Bob Lyons, Ken Pecota, Jonathan Schultheis, Todd Wehner, John Williamson, or Craig Yenko for information.

News from Around North Carolina

Horticultural Crops Research Station (Castle Hayne)

Susan Rooks

Betsy Humbles has joined the Horticultural Crops Research Station at Castle Hayne as secretary. The search for a superintendent continues, and the end is in sight. We currently only have three crew working the station, so patience is essential and project leaders should bring much of their own help.

Mike Mainland attended the North American Blueberry Council and United States Highbush Blueberry Council meetings in Sacramento, CA. Afterwards he toured the blueberry production area of California. Mike gave a brief review of that trip to growers in Ivanhoe, NC.

JC Raulston Arboretum (Raleigh)

Bob Lyons

Please join us in welcoming **Jon Roethling** as the new research technician at JCRA, beginning January 1. We have known him for some time as an undergraduate in our department, and then as a temporary, industry-funded worker for 1.5 years. Jon brings a love of plants to the JCRA, and his presence around the different areas will increase as he widens his responsibilities.

The Capitol Trees program gave 2 **Champion Trees awards** from the City of Raleigh to the JCRA for *Quercus oglethorpensis* (Oglethorpe oak) and *Quercus robur* (columnar English oak). The awards are displayed on the awards wall in McSwain Center.

LCPTRS-Cunningham Research Station (Kinston)

Bill Jester

Sandy Barnes is continuing to work part time while a search is underway for a station superintendent.

Weather has been wet through February, delaying the planting of **lettuce** studies on the station, finally starting March 1. Several companies are growing about 100 acres of (winter-spring) iceberg and romaine lettuce in Eastern NC.

Mountain Horticultural Crops Research and Extension Center (Fletcher)

Tom Ranney

Dick Bir is retiring on April 1, 2004 (no fooling). All are invited to a casual, bluegrass, barbeque event in Dick's honor on Saturday, April 17th. More information at: <http://www.ces.ncsu.edu/fletcher/programs/nursery/dicksretirement.pdf>.

Welcome to Dr. **Zenaida Vilorio**. Zenaida will be working as a post-doctoral research associate with Tom Ranney. She received her Ph.D. from University of Florida and has most recently been an Assistant Professor at the University of Zulia in Venezuela. Zenaida has experience in breeding and genetics, micropropagation, polyploidy, somatic hybridization, and embryo culture and will be working on developing new nursery crops.

In order to answer the question, "Can medicinal herbs be commodity crops for North Carolina?", **Jeanine Davis** is leading a new project under the umbrella of the N.C. Specialty Crops Program with funding from the N.C. Tobacco Trust Fund Commission and the N.C.

Department of Agriculture and Consumer Services Plant Industry Division. Seventeen farmers from across the state will receive \$5,000 each to grow one to two acres of medicinal herbs on contract. Five large raw botanical buyers helped us select the herbs to grow, based on the current market. They will evaluate the quality and quantity of herbs produced in the project, have the first option to buy the herbs grown, and help us analyze what our competitiveness might be on the global herb market. Jackie Greenfield is serving as the project coordinator.

With funding from the GoldenLEAF Foundation, the **N.C. Specialty Crops Program** is funding 19 county agent led on-farm studies, 14 CALS researcher led projects, and 13 educational programs in 2004. A wide diversity of crops and value-added products will be covered ranging from specialty potatoes to new nursery crops to making paper from cotton stalks. Jeanine Davis is the coordinator of the statewide, multi-agency N.C. Specialty Crops Program.

Jeanine Davis is cooperating with Franklin and Betty Garland of Garland Gourmet on a truffle growing project. With funding from the N.C. Tobacco Trust Fund Commission, 50 growers will be selected to plant truffle inoculated filbert seedlings. Educational programs will be held around the state to teach people about truffle production. Through this project we hope to learn if truffles are an economically viable crop for North Carolina.

Nathan Lynch recently started as a research technician working with Tom Ranney and his research group. Nathan comes with extensive experience having worked for Paul Shoemaker in Plant Pathology since 1998. Nathan is a native of Asheville, a graduate of Appalachian State University, and an exceptional mountain biker.

What's a **Mountain Schimlinia**? Find out more at:
<http://www.ces.ncsu.edu/fletcher/programs/nursery/mountainschimlinia.pdf>

Small Fruit Program (Morganton)

Andy Allen

The viticulture extension program has conducted **two vineyard pruning workshops** so far this season, one at Raylen Vineyards in Mocksville on January 31 and the second at Ragapple Lassie Vineyards in Booneville on February 7. Both events had between 50 and 60 people in attendance. An 'exploring winegrape production' workshop was held at the Mocksville Public Library on February 19 with 55 people in attendance, along with several county extension personnel. This was the third time this annual event was held to explore basic considerations about winegrape production for those contemplating entering this expanding industry.



The workshop was put on by the Yadkin Valley Extension Grape Group, a working group formed to develop and present multi-county workshops and demonstrations on viticultural topics to support winegrape growers in the Yadkin Valley area. The group currently consists of Extension Viticulturist **Andy Allen** and Extension Horticulture Agents **Amy-Lynn Albertson**, **Stephen Greer**, **Greg Hoover**, **Jack Loudermilk**, and **Colleen Sparks** (a recent graduate of the department).

Vernon James Research and Extension Center (Plymouth)

Mark Clough

The **conference center** on the station is now back in operation. Funding came through in December and by the end of January, all the ceiling tiles were in place, the walls were painted and new carpet was put down. A day later we were hosting meetings again.

It is that time again! We are planting eleven **potato variety trials** and seven observational trials around eastern NC.

Wish List

Julia Kornegay

Because of on-going budget restrictions, the horticulture department can no longer purchase all the items needed by our programs. We hope that our alumni and collaborators will review this list and **help us obtain these items**.

For **Kilgore Hall**

- stove and extraction hood
- digital camera (4-5 Mpixels)

For the **greenhouses**

- two golf carts with back utility beds
- wireless network hubs (802.11b or g)

For the **graduate student office**

- double sided printer
- flatbed scanner
- six replacement computers (Win, Mac)
- computer desks and chairs (8 - 10)

Horticulture Facilities

David Monks

We moved into the new **USTL greenhouses** in December 2003, and the **Kilgore greenhouses** have been mostly removed.



Here is a previous and a current (March 2004) view of Kilgore greenhouses (thanks to Roland Leatherwood for the photographs).



Departmental Newsletter Committee

- Editor /Webmaster: **Todd Wehner**
- Printing / Mailing: **Rachel McLaughlin**
- Newsletter Design: **Anne Spafford**
- Administrative News: **Julia Kornegay**
- Honors / Awards: **Rachel McLaughlin**
- Faculty News / Facilities: **David Monks**
- Staff News: **Barb Amos**
- Undergraduate News: **Bryce Lane**
- Graduate News: **John Dole**
- Graduate Student Feature: **Richard Olsen**
- Interesting Web Sites: **Mary Peet**

- Location News: **Bob Lyons** (Arboretum), **Susan Rooks** (Castle Hayne), **Tom Ranney** (Fletcher), **Bill Jester** (Kinston), **Andy Allen** (Morganton), **Mark Clough** (Plymouth)