Fall 2007

Nebraska Green Scene Fall 2007

UNIVERSITY OF NEBRASKA–LINCOLN

AN ANNUAL PUBLICATION OF THE DEPARTMENT OF AGRONOMY & HORTICULTURE

GREEN

The official color of the Big Red Green Team.

FEATURED IN THIS ISSUE:

Alumni | Big Red Green Team | Sustainable Landscapes | Environmental Management | Agronomy

FALL ◆ 2007

NEWS FROM THE
DEPARTMENT OF AGRONOMY & HORTICULTURE

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AN ANNUAL PUBLICATION FROM THE
DEPARTMENT OF AGRONOMY & HORTICULTURE

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Introducing the Big Red Green Team, theme created by Swanson Russell & Associates

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Letter from the Head

L. Mark Lagrimini, Head

Photo by Brett Hampton, IANR

I sincerely hope this past year has been safe and prosperous for you and your family. Historically high commodity prices driven through the expansion of biofuels has realized high profits from the farm gate throughout the agricultural sector. I can't remember the last time I have seen so many smiling faces. Employment opportunities for our graduates are boundless. Most of our students have signed with an employer months before graduation. Wages are strong in all areas from Landscape Design and Golf Course Management, to Agrochemical Sales and Crop Consulting. The increasing demand for corn, soybean, and other commodities has turned the focus from creating new markets to increasing productivity. This is certainly a new paradigm during my career. The need for Agronomists and Agronomic Research is at an all time high, and we all know "There is No Place Like Nebraska" for Agronomy.

2007 marks the launch of our "GO GREEN" campaign. The Go Green campaign and the Big Red Green Team is our way of reaching out to today's youth, and informing them of the opportunities in Agronomy, Horticulture and the Plant Sciences. Throughout this publication you will see and read about the Big Red Green Team. You will read about our 8 new focus areas, and you will read about the real opportunities from the design, installation, and management of sustainable landscapes to using biotechnology, genetics, and agronomics to produce food and energy for a growing population. Please consider joining our Big Red Green Team and helping us spread the word throughout your community.

This has been a transition year for the Department of Agronomy and Horticulture. Several of our senior faculty are leaving the university, Keim Hall gets a facelift, and Agronomy celebrates a birthday. Faculty retiring this year include Dr. Alex Martin (Weed Science), Dr. Jay Fitzgerald (Horticulture), Dr. Patrick Reece (Range Science), and Dr. Larry Schulze (Pesticide Safety). All four of these gentlemen have had long distinguished careers at the university. We will miss their contributions to the department and wish them the very best. Dr. David Baltensperger (Alternative Crops) has taken the position of Head in the Department of Crop Science at Texas A&M University, and Dr. Achim Dobermann has taken the position of Program Leader for Intensified Rice Systems at the International Rice Research Institute in the Philippines. We wish them the best in their new roles. The state legislature has funded the renovation of Keim Hall as part of a deferred maintenance bill for the University of Nebraska. The architectural firm of Alley-Poyner Architecture has been selected for the design. They have designed several buildings on campus including Avery Hall, Hardin Hall, and the International Quilt Study Museum. Keim Hall will be taken down to the exterior walls and receive all new utilities including a new HVAC system. We have just begun the design phase and are moving faculty and staff to temporary accommodations. The renovated space will have state-of-the-art classrooms, research laboratories, and student commons areas. Keim Hall will be a "Green" building using recycled and plant-based construction materials, emphasize energy efficiency, and create an inviting space that connects with landscaping, the prairie, and Maxwell Arboretum. Construction is set to begin in March 2008 and be completed by September 2009. Coinciding with the re-opening of Keim Hall is the 100th anniversary of the Department of Agronomy at the University of Nebraska. We have already begun planning the celebration. Keep your eyes open for further information and plan to be here for the festivities. ■

Find our PDF newsletter on the web at http://www.agronomy.unl.edu/newoutreach/alumni.html

Jump-Start Your Future through Distance Ed/Life-Long Learning Program

(http://www.agronomy.unl.edu/prospective/distanceed.html)

By Deana Namuth and Cathy Dickinson

If you've ever thought about returning to college and taking additional courses in agronomy or horticulture to enhance your career or for personal enrichment, you'll want to visit the department's Distance Education and Life-Long Learning Program Web site at: http://www.agronomy.unl.edu/prospective/distanceed.html and explore the new, exciting and affordable educational opportunities we offer to jump-start your future and enhance your hobby interests.

Our department's high-quality distance education offerings revolve around six primary areas—genetics and plant breeding, horticulture, plant physiology, soil science, turf science, and weed science—with courses running the gamut from organic farming to crop genetic engineering to turf and landscape weed management to specialty grain crop production. The best part is that the majority of our offerings are available via distance delivery so learners don't even have to leave home to take advantage of them. Most courses are available for graduate academic credit, as well as noncredit professional development and CEU credit.

We are pleased to let you know about a new, recently launched distance noncredit professional development certificate program which offers certificates in Agronomy and Pest Management and Turf and Landscape Management. All courses are distance-delivered, and no prior college coursework is required to participate in the program. Please check our Web site periodically for updates on this new program.

We also continue to develop and expand our award-winning Plant and Soil Sciences eLibrary (http://plantandsoil.unl.edu) which contains lessons and animations on plant and soil science topics. This valuable online resource is free to the public and is used by teachers, educators and learners from all backgrounds around the world. The eLibrary, which currently averages 10 million hits a year, has recently undergone a major facelift with new features, improved navigation, and the addition of three new lesson series—two dealing with soils and one focusing on manure phosphorus and surface water protection. Many of the lessons are now available in Spanish, as well as English, further increasing the eLibrary's global reach. We are pleased to announce that additional eLibrary lessons are being translated into Spanish as a result of our partnership with the American Distance Education Consortium (ADEC) and weed scientist Dr. Renán Agüero from the University of Costa Rica. Take a look for yourself, and especially check out the animations!

The new, noncredit certificate program and expansion of the eLibrary are testimony to the growth of the department's distance education program, now entering its tenth year. From its humble beginnings during the 1998-99 academic year when only one three-credit-hour course was offered, the program now boasts 26 distance-delivered courses and serves learners in Nebraska and all over the world. Learners in our courses include: professionals in the agribusiness, horticultural, and turf and landscape management industries, science teachers, extension educators, nursery owners, crop consultants, sales personnel, master gardeners, government and industry researchers, producers and hobbyists. They come to us from as close as Lincoln, Nebraska, and as far away as Belgium!

We hope you will visit our Web site or contact us soon to further explore the wonderful educational opportunities available through our Distance Education and Life-Long Learning Program. For more information, please contact our director, Dr. Deana Namuth, dnamuth@unl.edu, 402.472.1549, or project assistant, Cathy Dickinson, cdickinson2@unl.edu, 402.472.1730. ■

Above: top—Think outside the box—explore distance learning! Photo courtesy of UNL Extended Education and Outreach. Below: Dr. Renán Agüero, weed scientist, in a Costa Rican rainforest.

Meet Stephanie Blum, Senior Horticulture Major–Landscape Design

By Stephanie Blum, Senior Horticulture Major-Landscape Design

This summer I have been working at Faller Landscape in York, Nebraska participating in a landscape design internship. For the past six years I have been employed for Todd Faller but this year was different from the rest. I was primarily behind the drawing boards working on many landscape plans for a variety of customers. Along with designing, other responsibilities included watering, potting, pruning, container design, and helping customers. This summer however, I interned under Tena Ehlers, Faller Landscape's main landscape designer. Tena has worked at Faller since she graduated from UNL's horticulture program about ten years ago. She has been a great mentor and I have learned a lot from her this summer about design processes.

Tena involved me in the design process from start to finish; measuring landscapes, going on calls, meeting clients and listening to their wants and needs. I was also involved in presenting plans and revising them until clients absolutely loved them. I have been really fortunate to be that involved in a designer-client relationship. Through my internship I have met many interesting people. Some folks have been very easygoing while others have definitely kept me on my toes. Overall, it has been a great experience.

From large to small, I designed approximately thirty plans in my first month and made approximately $30,000 in landscape design sales. This was definitely a major unexpected accomplishment for me and has helped me gain more confidence as a beginning designer. I know there is much I have yet to learn, but as far as I am concerned, I will always be learning new, different, and exciting things about the world of horticulture.

I realize that not many college students who are pursuing degrees in horticulture with their main focus on landscape design have the opportunity to experience what I did. After putting my resume and portfolio out in the garden center and landscaping world, I began to understand that very few companies were willing to give me a chance with a pencil in my hand. Faller Landscape was willing to give me the opportunity to grab that pencil and put my ideas on paper. Yes, there were times when I was told not to 'get too crazy!' or heard someone say 'these college kids these days. . .', but they let me show them that it wasn't crazy—it was simply something new and different. The freedoms that Faller gave me were genuinely terrific.

Throughout my summer designing project, some of my ideas were great while others weren't but I simply kept going. There were days when I would draw a design that I loved and the next design would not be good. These 'designing emotions' showed up in my customer presentations; the designs I loved would sell, while the ones I didn't, ended up as redraws until I loved them too and then they sold. This taught me that to be a great designer, you have to love and believe in your designs so that your client loves them too. Without passion (emotion), clients do not feel that your heart is really into it.

Working at Faller Landscape throughout the years, and especially this summer, has helped me to grow as a person and as a landscape designer. Todd and Tena have shared much knowledge about design and horticulture with me. They had enough confidence in me to let me step into their shoes this summer and I think I did a pretty good job filling them. The rest of the crew at Faller Landscape was great to work with. There is always a fun and inviting atmosphere present which makes it a great place to work. I want to thank everyone at Faller Landscape for giving me the chance to prove myself as a beginning designer, and for listening to my ideas, even if they thought I was a little crazy at times. ■

Lowell Sandell joins our faculty

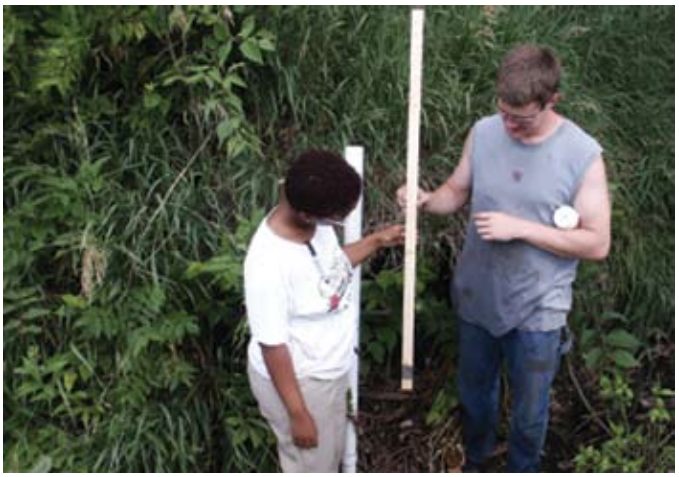
Lowell Sandell joined the Department of Agronomy and Horticulture as an Extension Weed Science Educator on March 19, 2007. He is based on East Campus here at UNL in Lincoln, Nebraska. His primary duties will be to participate in and plan extension weed science education activities in conjunction with other faculty and staff in the agronomy and horticulture department and throughout extension. These activities will range from coordinating the Crop Protection Clinics to identifying samples that come into the diagnostic clinic. He will also participate in the editing and production of the Nebraska Weed Management Guide.

Lowell is originally from a Century Farm in north central Iowa and has a background primarily in corn and soybean production. He attended Iowa State University earning a B.S. in agronomy and a M.S. in weed science. Professionally, Lowell worked three years in the entomology department at the University of Kentucky doing pesticide education training and coordinating the department's Pest Management Center. He then taught farm business and agriscience at Chippewa Valley Technical College in Eau Claire, Wisconsin for 3 years.

"I am very excited to be at the University of Nebraska and look forward to working with our faculty and state clientele." Lowell can be reached at (402) 472-1527 or by e-mail at lsandell2@unl.edu. ■

Nathan Mueller, a Soil and Water Science M.S. candidate

By Nathan Mueller, M.S. candidate

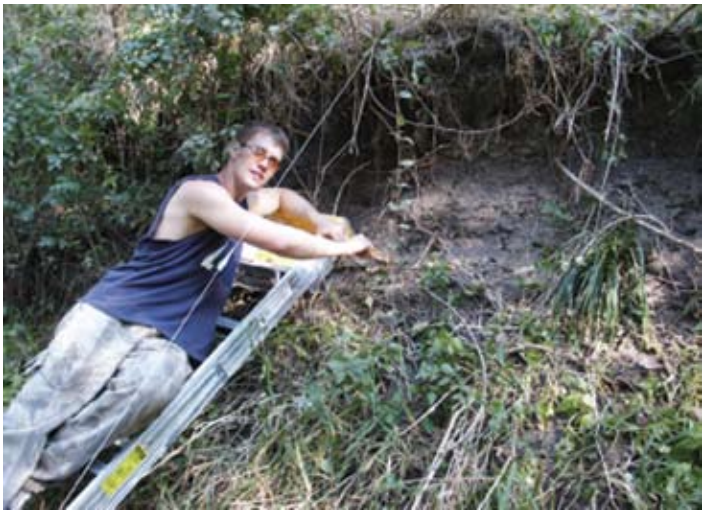


Above: Martha Mamo and Nathan Mueller observe the peak stream flow recorded by a crest gauge; granulated cork sticks to the wood inside the pVC pipe.

I am Nathan Mueller and am obtaining a Master of Science degree in agronomy in the area of soil and water science. I started my degree program in May 2005, after I received my B.S. degree in agronomy from the University of Nebraska–Lincoln. My major advisor is Dr. Martha Mamo, and I have had the opportunity to be her teaching assistant in both Soil Resources 153, and Soil Nutrient Relationships 366.

I am studying and writing my thesis on stream bank erosion. Our own Dead Man's Run here on Lincoln's East Campus is a perfect example of stream bank instability and erosion that is costing 2.3 million dollars to renovate.

Stream bank erosion is a large contributor of sediment filling local lakes. This filling by sediment reduces the dam's ability to control floods by decreasing volume. Further, it impairs water quality, thus reducing the lake's recreational value. Very few studies have been conducted in eastern Nebraska to evaluate the extent of the stream bank erosion problem. I wrote a proposal and acquired funding for the study from the Department of Environmental Quality (DEQ) and Lower Platte South Natural Resource District (LPSNRD).



Above: Nathan installing small welding rods or pins in stream banks.

Above: Nathan uses the crest gauge measurements to separate processes of erosion.

My study is measuring the amount of sediment and phosphorus that is being lost from stream banks that are draining into Wagon Train Lake. Wagon Train Lake is located south of Lincoln near Hickman and was built in 1962 as a part of a government program for flood-control. The streams that help keep the lake full of water are also sending sediment and nutrients from their banks to the lake which reduce water clarity and cause excessive algal blooms. Currently, Wagon Train Lake does not meet federal water quality standards. Even with government programs helping land managers in the watershed, the overall goal of improving the quality of water has not yet been met. My research will establish the delivered sediment contribution of the stream banks to the lake as well as help to delineate management recommendations to state and federal agencies to reduce bank erosion.

As of November 2006, preliminary data suggest that stream bank erosion contributes up to 2,619 Megagrams (about 1,700 cars worth) of sediment to Wagon Train Lake annually. The processes causing erosion of the cohesive banks are mostly due to freeze-thaw and wet-dry cycles loosening bank material. These processes are active at locally redistributing intact stream bank soil on the upper bank to loose sediment that accretes on the bank toe which, in turn, reduces the force needed for flowing water to remove it from the bank and deliver it downstream to the lake.

Just remember, soil and water science does not stop at the edge of the field, but it carries into our streams, lakes, and oceans. The connectedness of our world is amazing, yet startling! ■

Photos directly above and right: a large grid of pins were created using a laser level to determine the placement of each pin on the bank. The stream during peak flow created a noticeable line.

2006 Agronomy and Horticulture photo contest winners

2006 brought with it an invitation to participate in the department's first-ever photo contest. Many faculty, students, and staff entered their prize snaps and several categories were created. Photo viewing and voting was made available online. Winners and their respective submissions are shown below. Thanks to everyone who participated.

First place, category: East Campus.
Union spectacular by Paul Koerner

First place, category: People.
Where are the weenies? by Carol Speth

First place, category: Agronomy.
Relay cropping soybean into wheat by Scott Tubbs

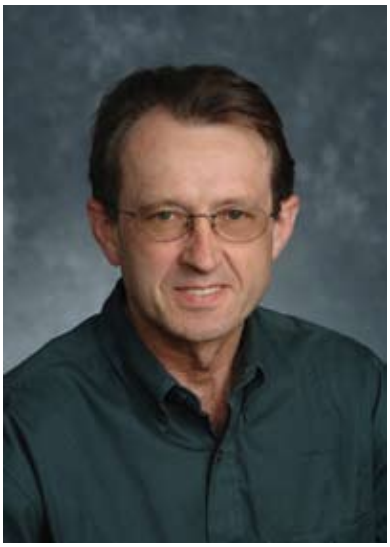
First place, category: Horticulture.
New beginnings by Brad Morner

Second place, category: People.
Our students come in all ages by Carola Strauss

Third place, category: People.
Here's Jane by Carola Strauss

It really is all about a life of learning

By Ray Riley, Head, Global Corn and Soybean Research and Product Development, Syngenta Seeds, Inc.



Even though it shouldn't, it surprises me how frequently I think back to my days in graduate school at the University of Nebraska–Lincoln and recognize the learning foundation it provided.

I'm not surprised to look back upon my graduate studies in plant breeding at the University of Nebraska fondly, but I am occasionally surprised at how frequently the connection is made between the foundation established there and how that has continued to enable the opportunities I have been fortunate to have in my career and life experiences. Graduate school in Lincoln was clearly a time of learning, questioning, establishing new relationships – and quite honestly, developing in ways I never planned on when the journey started.

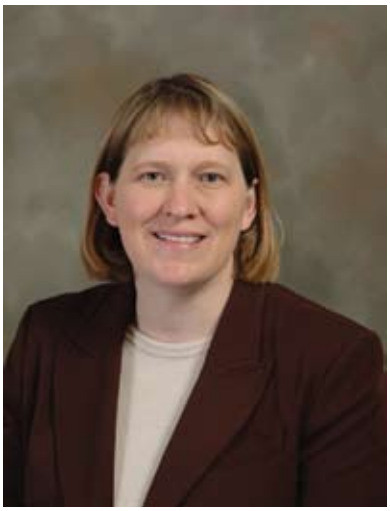
When I embarked on my grad studies in the UNL agronomy department, I came to Lincoln on a leave of absence from the USDA Soil Conservation Service. My vision on arrival was of a graduate education that would enable me to have a larger impact through the use of native grasses in management and conservation activities. Slowly but surely things changed; there was so much to be learned, there were so many things we could do in agriculture through the application of science, especially if we brought out the best in people. I recall a few of the surprised looks as I evolved from a masters degree program working with native grasses towards a co-advised Ph.D. focused on breeding with a co-advisor from corn – and potentially more surprisingly, with a minor emphasis in Organizational Behavior and Performance.

Over the past 25+ years since graduating with my Ph.D., it has been a wonderful experience to participate in the continued growth in agricultural productivity through the application of both established and newly emerging scientific knowledge. It truly is exciting to see the current evolution in areas such as genomics and genetic information and to participate (at least tangentially) in the application of this knowledge to the development of new and improved products. But it is also important to step back and realize that the fundamentals of genetics, plant breeding and statistics from back in grad school are just as much a part of our current research programs as the newer disciplines in biotechnology, genomics and association genetics. And, it is increasingly done through increased levels of teamwork and collaboration across disciplines and organizational divides which most (if not all) of us never envisioned would have a significant connection when I embarked on this journey. Another key change is that the effort is ever increasingly a global effort where germplasm, knowledge, technology and the production output flow between markets in ways I would never have imagined during my graduate school days.

Since graduating in 1981, I have had the opportunity to build on my graduate school foundation through rich experiences including several years as an active corn breeder in northern Iowa, the ability to oversee research programs spanning the U.S., Latin America, Africa and Asia and the ability to lead the establishment of significant global seed production efforts. Today I lead the Corn and Soybean Research & Product Development efforts of Syngenta Seed, which spans from the discovery and development of new traits on through to the delivery of the integrated products that increase the productivity of our customers. It is exciting to see the progress we have made and the clear opportunities that lie ahead of the entire industry to continue to increase the quantity, quality and reliability of agricultural production. There is much work left to be done, and it is great fun to be part of the learning and discovery that will ultimately create new opportunities for all of us.

As I think back to the foundation I established during my years in graduate school at Nebraska, a multidimensional picture emerges in my mind. Sure, I see it in terms of the great educational opportunity it provided and in terms of the ongoing relationships, many of which are rekindled as I go through my day-to-day activities. But I also see it in terms of the foundation it provided me by instilling the need for lifelong learning, the need to think about how we must work through others. I also think about it in terms of the importance of enabling opportunities for myself and others and then having the courage to take on the challenges and chances that enable us to help each other succeed. Now that I think about it, that is exactly the way I remember my teachers and colleagues from back in grad school. ■

Anne Streich promoted



Anne Streich – Promoted to Associate Extension Educator. Hired: 2003. M.S., University of Nebraska–Lincoln, 1996; B.S., University of Nebraska–Lincoln, 1993. Recent major accomplishments: UNL campus-based Master Gardener Program – resulted in improved plant selection and management practices that will help conserve and protect Nebraska's natural resources; FFA teacher training – participants have increased their horticultural knowledge and have incorporated new teaching methods and horticultural topics into their classrooms. ■

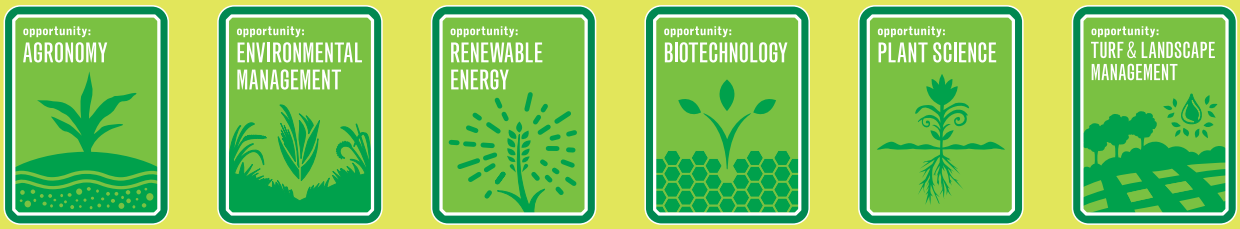
Approaching bandwagon status.

THIS MESSAGE OF "GREEN" HAS BEEN APPROVED BY THE BIG RED.
UNIVERSITY OF NEBRASKA–LINCOLN

How do you show the academic importance of a college department full of energy, excitement and new ideas in a student population that lives, eats and breathes red?

You go green, of course.

WITH EXCITING NEW AREAS



GO GREEN

Imagine a pastoral setting of gardens, woods, wheat fields and prairie yet only a short walk from coffee houses, theaters, restaurants, and museums. Sound too good to be true. Think again. The University of Nebraska–Lincoln's East Campus is all that and more.

The Department of Agronomy & Horticulture, always striving to remain relevant, has embarked on a journey to create a new voice for itself. That voice shouts green with a clean, vibrant design and eight new programs of emphasis. Built on a foundation of strong faculty leadership and the highest-quality academic facilities, the Department of Agronomy & Horticulture led by the Big Red Green Team, can now be seen for what it is—an academic leader, environmental steward, and a force on campus and in your community.

We invite you to visit us on East Campus, and see us as we form a vision for the future with fresh thinking, and an eye on our number one resource—our students.

we're GREEN

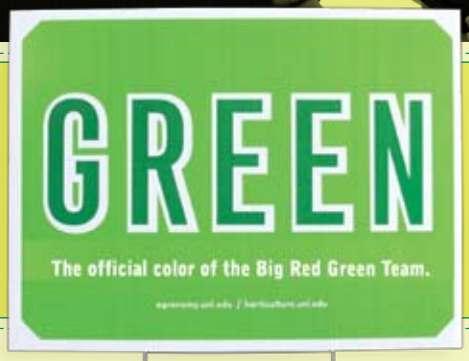
BIG RED GREEN TEAM STUDENTS are changing the way we think about our environment, our world, and our resources. With programs in 10 different areas of study, UNL's Department of Agronomy and Horticulture offers students the opportunities to expand their talents to meet the needs of our ever changing economic and earthly needs. Join the team that is changing the way we think of **GREEN.**

opportunity: HORTICULTURAL ENTREPRENEURSHIP

opportunity: ORGANIC FARMING

opportunity: SUSTAINABLE LANDSCAPES

opportunity: HORTICULTURE



Landscape Connections through Design

By Steven N. Rodie and Richard K. Sutton

Landscapes connect us. They connect us with nature and the seasons. They restore our mental and physical well-being in personalized landscape settings, provide us with special places to share with family and friends, and make us part of the earth as we tend gardens and animals. Hectic lifestyles and urban/suburban living dilute the quantity and quality of time spent in landscapes, diminishing the associated benefits that were historically accessible.

Making the most of our landscape experiences and activities becomes a critical issue for happy, healthy people. Nothing has a greater impact on the net value of landscapes than does quality design. Pursuit of that quality has been the focus of the landscape design option in the horticulture major for over 30 years. We have produced hundreds of graduates who every day influence the quality of designed landscapes in Nebraska and across the country. But what exactly does landscape design at UNL encompass? What skills and knowledge are needed? What is the difference between landscape design and landscape architecture—one of the newest degree programs at the University of Nebraska and strongly supported by the Department of Agronomy and Horticulture? Lastly, what is quality design, and is there more than meets the eye?

◆*Landscape Design Program*

The landscape design degree option at UNL officially graduated its first students in 1980. Over the years, graduates have averaged approximately 15 per year, while option enrollment has consistently led the department in total student numbers. Currently, the department has 60 design advisees. Landscape design option students also make up the largest percentage of University of Nebraska–Omaha students enrolled in the UNL pre-horticulture program in Omaha. The UNO program was initiated in 1989 to serve a growing interest in horticulture in Omaha, and has expanded from one course to the 12 courses currently offered.

Photos of students are in the Landscape Construction (HORT 300) course getting hands-on experience building a paver patio on East Campus during Spring Semester 2006.

Dozens of students have transferred to UNL over the years to complete their degrees, while many others have stayed in Omaha to work as designers and green industry entrepreneurs.

Graduates have been employed as landscape designers and contractors, garden center managers, staff at botanical gardens, zoos and school districts, and in many other green industry positions. Graduates have also started a variety of local and regional design, design/build, landscape management and plant nursery companies. Many have gone on to pursue graduate degrees in horticulture and landscape architecture. Within this diverse employment setting, graduates have shared the common thread of the love of plants, a commitment to hard work (much of it outdoors) and a strong sense to enhance the quality of outdoor landscape spaces and living environments.

◆*Landscape Design Curriculum*

In its most basic sense, landscape design solves problems. Students are trained to identify site opportunities and constraints, develop client "wish lists" and cost estimates, assess/judge environmental conditions, process combined information, oversee/participate in design implementation, evaluate the completed project, and develop maintenance guidelines for the project.

Designers must balance a wide range of knowledge and talents to be effective. Design is science and art and requires the use of both left brain and right brain skill sets. Design is also a business. Designers must successfully sell their ideas and themselves every workday. Communicating effectively (graphically, verbally and written word) with clients and users becomes critically important. These basic skills blend with knowledge in plant materials, construction materials/details, and landscape maintenance operations. The departmental curriculum encompasses a broad range of coursework, including five courses that focus on design; three on plant materials, four on core horticulture science, and many others that provide for unique student focus. Students are also required to complete career experiences outside the studio and classroom that become invaluable learning experiences and on-the-job training. A capstone course that provides an opportunity to combine and apply curriculum and design knowledge and skills tops off the students' last year.

Throughout the program, students work on real-world projects with clients on a variety of scales and settings to allow them hands-on opportunities to design and critique. Local and regional projects have included site and landscape master plans for school campuses and facilities in Lincoln, Waverly, and for the University of Nebraska; city parks (Ashland,

and Landscape Architecture

Photos of students left to right, and left to right below are in the Landscape Construction (HORT 300) course getting some hands-on experience building a paver patio on East Campus during Spring Semester 2006.

Lincoln and Omaha); state parks (Platte River); golf course developments, and a wide variety of residences, acreages and other residential developments. Our design coursework is taught by three licensed landscape architects with over 70 years of combined teaching and professional experience. Not only does this experience significantly enhance the quality of the program, but the connections between practicing faculty and real-world projects provide an almost limitless supply of cutting edge projects.

- *Landscape Architecture at UNL*

The University of Nebraska degree program in landscape architecture celebrated its official start-up during fall semester 2006. Interest in developing a landscape architecture program began thirty years ago in the Department of Agronomy and Horticulture. Recent interest from the College of Architecture, combined with the committed efforts of the department's landscape design faculty, has made the program a reality. Currently there is a nationwide concern about the lack of landscape architecture graduates required to meet the needs of a growing profession, so the program start-up has also been well-received outside of Nebraska. The combined investment of two UNL colleges—the College of Architecture and the College of Agricultural Sciences and Natural Resources in the degree program provides a unique framework of design talent and natural resources/rural landscapes expertise that will provide graduates with the skills and perspectives necessary to enhance the quality of future large-scale design and planning across the state and region. There are several key differences between landscape design and landscape architecture. These include:

–Landscape design involves a four-year Bachelor of Science (BS) degree while landscape architecture requires a five-year Bachelor of Landscape Architecture (BLA) degree. Landscape architecture students receive a Bachelor of Design upon successful completion of their fourth year.

–Design graduates can practice on smaller scale, private, commercial, and residential sites without certification or licensure.

–Landscape architect graduates must be licensed. This requires minimum education and experience standards to be met; however, they are required to pass an examination.

–Landscape architects are licensed to protect public health, safety, and welfare.

–Landscape design typically involves small- to medium-scale projects, such as residential landscapes and commercial landscapes.

–Landscape architecture encompasses all scales of design, but typically focuses on medium- to large-scale projects, such as residential acreages, parks and recreation facilities, large commercial and institutional landscapes, and transportation corridors.

–Landscape architecture also encompasses a wide variety of environmental pursuits in areas such as visual resources and historic landscape preservation, and plays an important role in land use planning at city, county, and regional scales.

The Future

Demand for well-trained landscape designers and landscape architects is expected to grow in the future, and the department will have a significant role to play in training the local and regional designers who will meet the demand. Appreciation of quality design continues to expand in all of our landscape settings. Personal restoration, family gatherings, neighborhood holiday festivals, city and regional celebrations—all are significantly enhanced through design that sensitively responds to the needs of the people using the landscape and the environmental/ecological conditions that shape the landscape.

Quality landscape design can be defined in a variety of ways. It enhances energy conservation, water conservation and quality, storm water management, low impact development principles, and green roof technologies. Quality landscape design looks great, is easy on the environment, and can be maintained efficiently. Lastly, and most importantly, quality landscape design is an investment in quality-of-life for all Nebraskans. Regardless of project scale, location or audience, department graduates and faculty will continue to play a critical role in that quality-of-life. ■

The border surrounding this article consists of actual design projects created by talented UNL and UNO landscape design students. These students are enrolled in HORT 2660 (Landscape Design), and HORT 2670 (Landscape Design Studio) courses.

Catch the Future!

By Tom Hoegemeyer

The book "As the Future Catches You" by Juan Enriquez should be required reading for all citizens of our state and nation. He notes that individuals, companies, states, nations, and societies that apply technology and value science provide the basis for immense wealth creation and progress to take place. Societies that expect the umbrella of a glorious past to protect them from the forces of change driven by advancing technology are doomed to fall behind. We are witnessing the convergence of digital electronics, genetics, and information economy, with nanotechnology posed to enter the mix. Those who understand and make use of binary and DNA languages are equipped to handle the future.

Enriquez states "A seed is an instrument designed to execute a genetic program that transforms soil, water, air and sun into wood, flowers, grain, or fruit." When I was a student, science was just learning to read the "program language." My experience at UNL focused my interest and helped prepare me for a career working with seed and genetics. My family operated a small seed business near Hooper, Nebraska. In high school, I really liked math and science—the objectivity, precision, and the way it could be applied to solve real world problems. I wasn't sure what I wanted to do with my life, but one of my aunts had been a physical chemist, and I thought that was cool.

I registered in the College of Agriculture thinking that I would do biochemistry or transfer later to pure chemistry. I needed a few general agricultural courses so I took "Agronomy 1" along with calculus, chemistry, biology, and English. To my good fortune, the advisor assigned to me was Dr. David McGill in the agronomy department. After the first semester, I was invited into Honors Chemistry, and into Ag Honors, a major that allowed one to bypass some required courses for more advanced courses throughout the university.

What really cemented my future was the influence of some professors. Dr. McGill, in particular, who taught my first genetics course, and for whom I worked as a teaching assistant for 5 semesters and Dr. Robert Sorensen, who taught soils. Dr. Sorensen was both demanding and fascinating as a teacher and as an individual. After my junior year, I was lucky enough to land a National Science Foundation grant for undergraduate research and worked with Dr. C. O. Gardner on the effect of radiation on quantitative genetic parameters in corn populations as well as on other maize breeding and genetics projects. It was then that I became personally committed to going on to graduate school. I wanted to learn more about plants, plant breeding, and genetics.

After finishing a Ph.D. in plant breeding and quantitative genetics, I decided to try to grow our family seed business while using some of the revenue to breed corn adapted to the western Corn Belt. We have been reasonably successful at both. Our company has licensed corn parent lines to multinational and regional seed companies. Our business continues to grow throughout Nebraska, Kansas, western Iowa, and Missouri. I have had the opportunity to meet and work with hundreds of corn, sorghum, and soybean producers in this region. There is a lot of personal satisfaction in being able to help people make sound decisions and positively impact their productivity.

But education brings more than the opportunity for good jobs and the accompanying financial rewards. I have had the opportunity to travel on business to England, France, Germany, Italy, Brazil, Mexico, and Chile. Since 1980, I have spent a couple of weeks each January breeding corn in either Hawaii or Puerto Rico. I know several members of the National Academy of Science on a first-name basis, and have had dinner with two Nobel Prize winners. I have had the opportunity to work with scientists from U.S. and European universities, as well as several multinational technology companies. Additionally, I was privileged to serve as an officer of both the Nebraska Seedsmens' Association and the American Seed Trade Association, and have met lots of interesting people in the industry.

The University of Nebraska–Lincoln provided me with the opportunity to learn, to acquire the tools I needed to work in this field, and to connect with outstanding professors who took a personal interest in helping students succeed. This same trait is evident today among the professors I know in the Department of Agronomy and Horticulture as well as across the university. Just as physics and chemistry drove the technology and economic advances of the 20th century, biology will drive the 21st century. Students are provided the opportunity to explore the huge range of possibilities in plant biology and to impact the future of the state, the nation, and the world. Find something you really like to study and do, and then go after it! ■

Deana Namuth promoted

Deana Namuth – Promoted to Extension Associate Professor. Hired: 2000. Ph.D., Colorado State University, 1998; M.S., Colorado State University, 1993; B.S. (with honors), University of Nebraska–Lincoln, 1990. Area of focus: direct plant science distance education to serve both academic students and extension clientele. Major accomplishments: (teaching/outreach). Obtained $759,000 in grant funding; 19 peer-reviewed publications; directs the overall distance education in the Department of Agronomy and Horticulture; lead the Plant and Soil Sciences eLibrary which contains 97 educational plant science lessons and animations. ■

Meet Tim Johnson, Director of Horticulture Chicago Botanic Garden

By Tim Johnson, Director of Horticulture

Twenty-two years ago, I accepted a job at the Chicago Botanic Garden as an assistant gardener after graduating from UNL with a horticulture degree. This was an entry level position with a couple of small areas to directly maintain and rotate amongst other gardeners three days per week. I chose the Garden as it seemed to be an institution with great future opportunities. Having a good education from UNL, coupled with internships in the horticulture industry, gave me the foundation I needed to develop as the Garden expanded into a major public garden.

I have had the position of Director of Horticulture for the past 11 years. There are 40 full time staff in the horticulture division with approximately 50 seasonals hired to work during the growing season. Being that the Garden is such a dynamic organization, each year is different with new challenges keeping work fresh even after 22 years. The scope of my responsibilities include maintenance of the display gardens, bonsai collection, conservatory and general grounds, plant production, plant health care, plant sales, horticulture components of exhibits and events, horticulture intern programs and interior plant displays.

Over the years I discovered that I really enjoy working with people as well as plants so my current position is a good fit for my interests. There is a solid group of staff in the horticulture area who work well together to accomplish much. The Garden was awarded the Horticulture Magazine Award for Garden Excellence in 2006 by the American Public Gardens Association. My day-to-day duties focus on providing them the support they need to get their jobs done with excellence. Other aspects include sharing knowledge with the public by teaching classes, leading tours, writing a gardening tips column for a local newspaper and doing media interviews. ■

To meet our educational challenges, we are offering you the opportunity to contribute to the University of Nebraska Foundation in support of the Department of Agronomy and Horticulture. Together we can make a difference in students' lives. Won't you help? Please make gifts payable to the University of Nebraska Foundation, 1010 Lincoln Mall, Suite 300, P.O. Box 82555, Lincoln, NE 68501-2555.

If you have questions about giving opportunities, contact Dr. Mark Lagrimini, Professor and Head, Department of Agronomy and Horticulture, 402-472-1555, mlagrimini2@unl.edu or Ann Bruntz, Director of Development IANR, University of Nebraska Foundation, 402-458-1176, abruntz@nufoundation.org. ■

New Plant Biology Major

By Ellen Paparozzi

In August 2006, as a result of years of work, a new intercollege major came into being—Plant Biology. This new major is targeted not just to students who have an interest in plant biology, but also to students that enjoy science and are not quite sure what area they want to study since the first year is directly transferable to any life science major. Additionally, there is a new one (1) credit course being offered for the first time this fall—Exploring Plant Biology that allows students to meet the faculty, explore careers, start undergraduate research projects, and develop an experiential portfolio.

Students can elect the major either through Agriculture and Natural Resources or Arts and Sciences. There are two options within this major – biotechnology and ecology and management. In addition to a core of basic biology and other science courses, there are a lot of flexible credit hours. Students will get to choose from many of the courses offered in Agronomy, Horticulture and Natural Resources.

Leaders in this effort are: Dr. Ellen Paparozzi, Horticulture, Chair of the Steering Committee; Dr. Don Lee, Agronomy, Chief Undergraduate Advisor; Dr. Walt Schacht, Agronomy; Dr. Dave Wedin, School of Natural Resources; Dr. Sally Mackenzie, Plant Science Initiative; Dr. John Osterman, School of Biological Sciences; Dr. Tom Powers, Plant Pathology; and Dr. John Markwell, Biochemistry.

Our Web site is http://plantbiology.unl.edu ■

Gilles J. Basset joins faculty

Dr. Gilles J. Basset joined the Department of Agronomy and Horticulture on November 1, 2006 as a biochemical geneticist and holds a joint appointment in the Department of Biochemistry and UNL's campus-wide Plant Science Initiative. He is based at the Beadle Center for Genetic Research in Lincoln, Nebraska. Dr. Basset's research focuses on understanding how plants synthesize and metabolize vitamins and other phytochemicals that are beneficial to human health. Gilles received his Ph.D. in Plant Biochemistry and Genetics from the University of Bordeaux, France and his postdoctoral training at the University of Florida, Gainesville. Before joining us, he was a permanent investigator at the National Institute for Agronomical Research in France. Gilles can be contacted at: gbasset2@unl.edu. ■

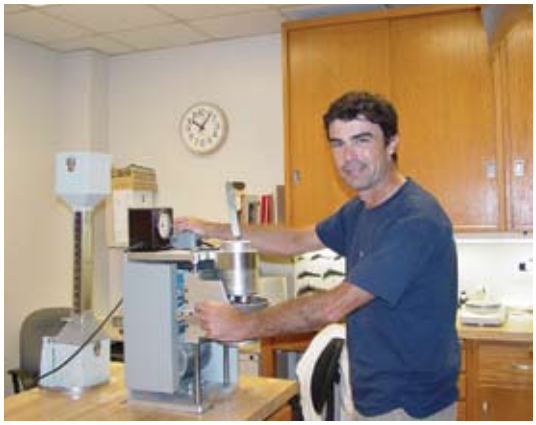
Introducing the Plant Quality Laboratory

By P. Stephen Baenziger and Lan Xu

Above: Ms. Lan Xu, laboratory manager.

In 1953 the University of Nebraska with support from the Nebraska Wheat Board developed the Wheat Quality Laboratory. For the next 54 years it worked to ensure that wheat varieties that were released had the end-use quality desirable in the market place. Some of these lines included Scout 66 (which was destined to become quality standard for the Great Plains), Bennett (the line with the best end-use quality for all attributes and one of the few lines named after a person, in this case an extraordinary technologist who unsuccessfully fought cancer while working for the project), Brule and Redland (excellent baking wheats though genetically lower in protein), and Millennium (a modern, excellent end-use quality wheat). Other wheat varieties, such as Centurk, Centurk 78, Centura, and Pronghorn were identified as being strong wheat varieties that were ideal for blending to improve the end-use quality of weaker wheat varieties. In 2006, Ms. Mary Shipman, a faithful and trusted baker, retired. At that time, the decision was made to expand the capabilities of the laboratory.

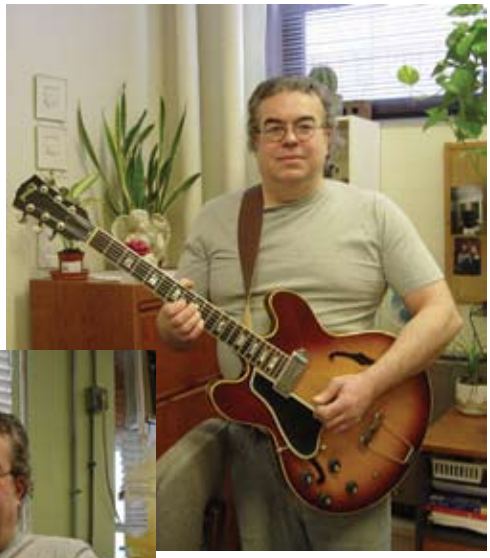
The Plant Quality Laboratory opened in fall 2006 with the hiring of Ms. Lan Xu, laboratory manager. Lan is trained as an analytical chemist and received an M.S. degree from the University of Georgia. The Plant Quality Laboratory is intended to provide measurements of quality for the diverse crops (corn, soybeans, millets, sorghum, dry edible beans, vegetable crops, etc.) that Nebraska farmers produce and sell in the marketplace. The evaluation of wheat quality will remain a critical aspect of the laboratory. With the support of the Nebraska Wheat Board, Mr. Marc Walter with a B.S. degree in biology was hired to test wheat and other grain quality. The wheat breeding program and outreach efforts related to wheat quality have continued and we are very fortunate to have two dedicated employees. While much of the laboratory services are directed to supporting University and collaborative USDA-ARS projects, the laboratory has an open-mind (willing to learn new techniques) and open door policy to the agricultural community and will provide services that require specialized testing not commonly found at grain elevators, food processors, agricultural supply companies, or non-university breeding programs. If you have any questions, please feel free to contact Ms. Lan Xu, laboratory manager, at 402-472-6028/6243 or lxu4@unl.edu.

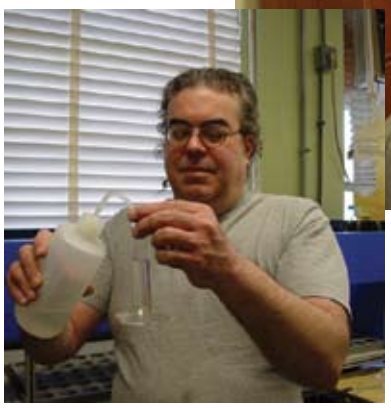


Above: Marc Walter, research technologist, shown testing several wheat samples.

Meet Bruce Atkins – A member of the Soil and Plant Analytical Laboratory (SPAL) team!

By Bruce Atkins





Top: Bruce strumming his guitar (a hobby, and favorite past-time). At left: Bruce is conducting a soil test in the SPAL lab.

My name is Bruce Atkins and I am a research technician at the University of Nebraska–Lincoln's Soil and Plant Analytical Laboratory (SPAL). The lab's primary function and service is the testing of soil and plant samples for our faculty, state and county agencies, area farmers, and the public at large.

I've worked at the SPAL lab since 2002, and have been a full time employee at UNL since 1998. Prior to joining the agronomy and horticulture department, I worked as a supply control clerk at the University of Nebraska Press.

My duties at the lab include sample preparation, pH determination, and particle size analysis. I work with a wide variety of scientific instruments in the analysis of plant, soil, and water samples. I prepare reagents and standards for use in the lab, and assist my supervisor, Anita Jackson, and the rest of the lab staff in keeping the lab running smoothly.

I also serve as a member of the department's Staff Advisory Committee representing the lab and computer group.

When I'm not working, my hobbies include photography, bicycling, and playing the guitar. ■

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The official color of the Big Red Green Team.

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