Gardening in the Windy City

Students in Stan Hokanson's Public Garden Management class embarked on a two-day journey to Chicago to learn from experts at some of the most successful public gardens in the country. Trip destinations included the Morton Arboretum, Millenium Park, and the Chicago Botanic Gardens.

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A new cold climate strawberry e-Book is soon to be released
The next time you’re shopping at your local co-op, you might be surprised to find the grocery shelves stocked with works of art. The Regional Sustainable Development Partnerships (RSDP) have collaborated across multiple departments at the U to create special 25-pound paper packages for local and organic dry beans.

RDSP presented Professor James Boyd-Brent’s screen-printing and design class with specifics about different edible bean varieties to help inspire students’ designs and provide accurate marketing information. Imagined and printed by students in Boyd-Brent’s class, the bags could just as easily be framed for display as stored in a pantry.

The project is part of a larger effort through RDSP to improve supply chains and analyze horticultural and agronomic conditions for local and organic edible dry beans in Minnesota.

“There’s a lot of education needed in regard to dry edible beans, especially at the local level,” says master’s student Hannah Swegarden (M.S. Applied Plant Sciences). Under the advisement of Professors Tom Michaels and Craig Shaeffer, Swegarden has been evaluating, characterizing, and breeding heirloom dry bean varieties for the past two years. She and Claire Flavin (M.S. Applied Plant Sciences) helped to explain the basics of breeding and growing beans to the design class.

Swegarden confessed that before settling on a biology degree, she started her undergraduate career as an art education major. Bridging disciplines by giving college students an opportunity to use their artistic skills to solve a real-world problem in horticulture appealed to her creative side.

“A lot of people don’t even know we can—and do—produce dry beans in Minnesota. In addition, very few dry beans are produced and consumed locally. We’re trying to increase awareness by making the product more appealing to consumers and direct markets.”

Kathy Draeger, statewide RSDP director, said the project will continue next year, but will experiment with different sized bags to attract consumers interested in purchasing smaller quantities. Led by RSDP associate program director Greg Schweser, surveys are also being collected to better understand farmers’ and distributors’ experiences with growing and selling dry beans. Draeger hopes that these efforts and the greater-scoping initiatives will help to bring more local beans to consumer and vendor attention in Minnesota.

For more information about this project, visit http://agronomy.cfans.umn.edu/GraduateProgram/BeanProject.
Alumnus Joel Karsten spreads straw bale gardening method around the globe

How did this whole straw bale gardening thing come about?
I started growing vegetables in straw bales on my own 21 years ago. It was one of those situations where necessity is the mother of invention. I bought a house and quickly discovered there was really no topsoil to speak of. I was young and broke and didn’t have the money to get topsoil shipped in. I remembered seeing thistle seeds growing on old straw bales on our farm as a kid, and I thought, why can’t I just plant right into the bales? So we set up some experimental and control plots and started taking measurements. We discovered right away that plants we grew in the straw bales grew bigger and faster than the ones we planted in the ground. That was fun because if you’re the first one on your block with red tomatoes, you’ve won the game.

When the opportunity presents itself, you have to grab the bull by the horns. You’ll end up doing something you never dreamed possible.

- Joel Karsten, Alumnus (’91)

So, how did you attain the gardening celebrity status you’ve reached today?
Well, for the first 14 years, it was just me and a few friends and neighbors and relatives doing it, but that was about it. About 6 years ago, a reporter at KARE 11 found a copy of my straw bale booklet. He did a segment, and it just exploded after that—people started getting in contact with me from garden clubs, schools, conferences, and so on. One thing led to another. It’s pretty amazing to go from accidental discovery and just a plain old love of horticulture to this success.

What do you think is the most important message you’re trying to spread through your work?
If I could do one thing, it would be to get everyone to try gardening at home. The straw bale method makes it so easy that anyone anywhere can be successful at it, and they’re going to end up loving it. One of the reasons I think it’s important for everyone to at least try growing their own food is because we end up with so much waste from supermarkets. People see a tomato with a little blemish, and they don’t want to buy it. I think if people actually went through the process of growing their own tomatoes, they would understand that not everything looks perfect, and there wouldn’t be so much waste due to minor cosmetic damage.

What advice would you give to our students and alums?
Follow your passion. I know you have to make money and pay the bills, but do what you love because that’s what you’re going to be best at. If you have a feeling about something, that it might work, try it out. I’ve had some things as a businessperson that have been failures, but a lot of things have gone great. When the opportunity presents itself, you have to grab the bull by the horns. You’ll end up doing something you never dreamed possible.

For more information about Joel Karsten and his work related to straw bale gardening, visit www.strawbalegardens.com.

Above: Karsten’s straw bale method produces abundant cabbage and other vegetables, often with earlier harvest dates.
“Unfolding New Leaves”: Hort Club Hosts All-Day Symposium

It was standing room only as nearly 150 students, researchers, educators, and community members crowded into a lecture hall on the St. Paul campus to learn about professors’ projections for the future of horticultural science. The all-day symposium in November, titled “Unfolding New Leaves: Envisioning the Future of Horticulture,” was organized by the UMN Horticulture Club with sponsorship from the Coca-Cola Foundation.

“In horticulture, one of the ways we measure progress is by counting the number of leaves that have unfolded on a plant,” explained club president Erin Pfarr (B.S. Horticulture ’14). “We wanted to find a way to share some of the fascinating work being done in horticulture with the broader community. We also wanted to get people thinking about the ways things are changing to prepare for the future.”

The symposium featured a steady stream of speakers with presentations ranging from ten minutes to an hour in length covering an array of topics.

Professor John Erwin’s keynote presentation explored his research in greenhouse production and projected an increase in indoor food and ornamental production in upcoming years. Climatologist Mark Seeley outlined the implications of climate change on Minnesota horticulture. Other professors filled in the broader picture with more specifics, covering subjects such as nutrient management, root systems, fruit crop breeding, plant biochemistry, and sustainable turfgrass.

Several presenters also discussed their research and outlook in regard to particular crops such as strawberries and tomatoes. Scientists and students had the opportunity to share and discuss their work in a more intimate setting over a poster session luncheon. Professor and American Society for Horticultural Science president Mary Meyer closed the symposium with remarks on the overall challenges facing the field of horticulture and the ways in which the future generation must be poised to meet them.

“Oftentimes it feels like we’re isolated in the work we do at the University,” reflected Pfarr, “—so it was a great experience to see firsthand that the work we do is important to the broader community.”

Smart Learning Makes Smart Students

While many teachers struggle with getting students to put their smartphones away during class, others are asking students to take them out.

In the Horticultural Science Department, instructors are using high-tech methods to provide students with an active learning style in the classroom, complimenting the firsthand experience gained in laboratories and in the field. Here are just a few examples of the way instructors in the Department of Horticultural Science are using technology to engage students with course material:

- Students reinforce plant identification skills by taking digital photographs that illustrate concepts discussed in class and then upload them to a course webpage for peer and instructor critique
- Students participate in a “flipped classroom,” where traditional lectures are delivered online and class time is spent on assignments and hands-on activities
- “Augmented reality” applications send students outside on virtually-enhanced scavenger hunts using GPS technology on smartphones and tablets, allowing them to make guided observations about the landscape
- Students create short videos about horticultural concepts using a classroom set of iPads and share them with the class instantly using Apple TV

Giving students ample opportunities to “learn by doing” teaches them problem-solving skills because it forces them to explore concepts from multiple angles as they troubleshoot and receive feedback during class time. Graduating students become more adaptable in the workplace and more prepared to tackle challenges in horticulture.
A Huge Thank You to Our Donors!

Our success as a department is built upon the generous support of donors both big and small. The following are just a few of many of things we were able to accomplish this year thanks to new gifts:

- Seminar speakers were invited to give presentations to provide greater perspective and education for students and faculty
- Plants and equipment were purchased to create new bee habitat in the Display and Trial Garden on Folwell Avenue
- The Minnesota Turf and Grounds Foundation reached a $1 million milestone in gifts to support Turfgrass Research at the U of M

To all who contributed to these accomplishments and to the numerous achievements not listed, THANK YOU!!!

Sponsor a Student Intern in the Horticultural Display and Trial Garden

Each year, the horticultural science department provides two students with hands-on experience in landscape planning, public garden maintenance, and field experimentation through summer internships in the Display and Trial Garden on Folwell Avenue. Construction of the popular gardens in the mid-1980s was made possible due to a swell of support from nonprofit groups, nursery and landscape industries, and individual donors. We are extremely grateful for the past contributions that have allowed us to build such a lovely outdoor laboratory.

Still, keeping the gardens beautiful and functional requires ongoing maintenance. The department is in need of additional support to keep student interns employed in the garden. To help meet this need, the department encourages individuals and organizations to consider giving a special gift by sponsoring a student intern in the gardens.

For more information about how you can contribute or to learn about other ideas to support our work in horticultural science, please contact Professor and Head Emily Hoover (hoover@umn.edu).
A new A to Z book on how to grow and sell strawberries in cold climates will soon be available. The content draws on the knowledge of farmer cooperators and experts in the field, including U of M horticulturalists. The book is targeted primarily at new strawberry growers, but has something to offer for even the experienced grower.

“We identified a dearth of information out there for people who want to start a strawberry operation,” commented publisher and co-author Echo Martin. “We wanted it to be a comprehensive guide to help people be successful at growing and selling strawberries.”

Topics covered include the business side of producing strawberries, such as market identification, insurance and liability issues, food safety, and worker protection. The book provides details on how to grow strawberries in two different ways: matted row systems using June-bearing strawberries, and low tunnel systems using day-neutral strawberries. The latter method is especially pertinent for growers in cold climates, as it extends the growing season and allows strawberries to be produced from July to October. Still, the method is not yet widely used among growers.

Strawberries have a short storage life, which is why most commercial strawberries you buy at the supermarket are picked before they reach peak ripeness, leaving something to be desired in terms of flavor. Promoting more local strawberry farmers and increased production means it’s possible that we could see riper, more delicious strawberries in stores. The book’s price tag is also enticing. It’s FREE.

“The book’s electronic delivery is significantly less expensive than printing a book, so we can offer it at no cost,” says Martin. “The e-book format is also designed to make learning easy, interactive, and fun.”

In addition to traditional text-based information, the book contains videos, worksheets, quizzes, flashcards, and social features like the ability to view comments from other readers. Twitter and Facebook groups are also being developed to build a community of growers.

You can expect to see the book on (virtual) shelves this June on Inkling.com. For more detailed information on the e-book and its release, visit http://z.umn.edu/ccsf.