Chair Welcome

Hello and welcome to the first edition of our newsletter. This Fall marks the beginning of my third year as Department Chair of Plant and Soil Science. The idea for this newsletter has been circulating the department for several years and I am happy to initiate contact with our former students. I think you will approve of the changes instituted to keep our programs viable, not only to student interest, but as part of our ongoing commitment to the environment of Vermont and beyond. We have made tremendous strides improving our visibility on campus.

This past spring, we had 53 students in our majors that include Sustainable Landscape Horticulture and Ecological Agriculture. The Ecological (Continued on page 7)

Re-Opening of the Horticulture Club Educational Gardens

On August 28, 2006, a small ceremony marked the re-opening of the UVM Horticulture Club Educational Gardens on the north side of Hills Science Building. The gardens were partially destroyed during the construction of the new Carrigan Wing on the south side of Marsh Life Science auditorium (Benedict Auditorium). The new gardens represent extensive efforts on the part of the summer interns, campus grounds crew, and assistance from Vermont Master Gardeners.

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Students in PSS 212, Ecological Farm Management got an early jump on the Fall semester by spending four days immersed in their studies at The Farm Between in Jeffersonville. While other students were wrapping up summer jobs or getting that last bit of relaxation in, these students were studying the farm in all aspects, from marketing outlets for produce to family interactions.

According to John Hayden, who is the instructor for the class and runs the farm with his wife Nancy, “This is a senior capstone class and we wanted the students to be able to call on and synthesize their previous coursework in subjects like crop production, soil fertility and pest management to describe and understand this farm as an ecological system.”

Spending four days and four nights from August 20-24 at the farm allowed the students an intimate look at the inner workings of this diversified organic farm. Arriving Sunday afternoon, students were immediately put to work harvesting for Monday’s Farmers Market. The next morning students loaded up the truck, set up the farm stand and conducted a market assessment of the Smugglers Notch Farmers Market with counts of potential customers, surveys and critiques of farm stand displays. In the afternoon, it was soil sampling and digging a soil test pit with Dr. Wendy Sue Harper and Dr. Fred Magdoff, both from the Department of Plant & Soil Science, UVM. On Tuesday morning, students got up front and personal with the tools and equipment used on the farm, including a chance to drive the farm’s team of draft horses. The afternoon was spent learning about and surveying the farm’s pest population including weeds, insects and diseases with the help of Ann Hazelrigg from the UVM Plant Diagnostics Lab. “It was nice to be able to get hands on with the pests, beneficials and Integrated Pest Management practices that we learned about in our Entomology class” said Kristen Gallagher, an Ecological Agriculture major.

Wednesday was a field trip day with stops made at Pete’s Greens, Bonnieview Farm, and High Mowing Seeds. These are farms in the Northeast Kingdom that are usually out of range for field trips from UVM. On the last day the students spent the morning at River Berry Farm learning about tractors and equipment used on the forty-acre vegetable farm from proprietor David Marchant. “I loved being able to drive a tractor for my first time” proclaimed student Neale Mahoney. The final activity was setting up the Community Supported Agriculture pick-up where 24 families come for their weekly share of vegetables. Students were able to talk to CSA members and get a feel for why they sign up for a weekly share.

The students are now working on their semester project where they are acting as consultants to John Hayden and will be giving him reports containing ideas and specific plans for improving the workings of the farm. Student Brian Walden summed up the experience, “The fourteen hour days were intense, but we learned tons, and Nancy’s cooking was awesome!”
A Bug’s Life

There is an exciting new course offered each spring in PSS! Well at least the students think so. You thought insects were just an incidental part of life, maybe an occasional cricket to scoot out of the house or a buzzing fly to swat. “Not so”, says Plant and Soil Science’s Scott Costa in his “A Bug’s Life” course, “they impact our lives day in and day out”. Insects are also a great tool for opening the sometimes daunting doors of science for students and for developing their scientific literacy to promote informed civic engagement.

During the inaugural Spring 2006 semester nearly 50 students from across UVM joined the class. Students explored and studied topics including the multitude of insect types and their unique habits, insect invasions, biological warfare on bugs, and their often profound impacts on culture. The semester took a somewhat gruesome twist when a prominent forensic entomologist used cases he helped solve to illustrate the role of insects in crime scene investigation. The semester culminated with an avant-garde bug banquet of cricket croquettes, mealworm-pesto pasta and other treats, in which students, friends and family shared a candlelit evening.

Much Depends on Dinner

Have you have ever looked at something you are having for dinner and wondered about its origins? Dr. Wendy Sue Harper examines the issues and history around foods we take for granted in our globally connected world. “Much Depends on Dinner” is a broad-based survey course of topics central to crops, agriculture, food systems and their effects on civilization. Beginning with a basic overview of plant structure, the course takes on a new “main dish” each week. Corn, rice, sugar cane, wheat, legumes, chocolate and vanilla are all ubiquitous on the American table, but how many of us know the economics or production methods behind these items?

Dr. Harper seeks to unravel the details around each, taking into account not only the necessity of food, but also its presence culturally in the arts. The politics of hunger are discussed because class topics also cover international trade policies. Hunger, famine, paying farmers not to grow certain foods, how nation to nation politics can help or hurt its citizens; all are fodder for discussion and debate. The end result is when you sit down to a plate of rice, or drink a soda sweetened with corn syrup; you will know the labor and knowledge it took to bring that item to you. Not many classes can claim a potluck as part of its coursework, but in “Much Depends on Dinner” it’s one of the weekly perks. Students literally break bread with each other, mindfully eating what is not just a grab and go lunch; but a lesson in labor, politics, botany and sharing.
Fred Magdoff receives Vogelmann Award

Faculty member Frederick R. Magdoff is recipient of the Hubert W. Vogelmann Award for Excellence in Research and Scholarship. This award recognizes a faculty member in the College of Agriculture and Life Sciences for outstanding effort and achievement. Dr. Magdoff was presented with the award at the Honors Day Ceremony on April 21, 2006.

Fred’s thirty-two year multifaceted career in the department as a productive scientist, interdisciplinary educator, national and international speaker has made important contributions to both science and farmers. His work on soil buffering capacity and the nitrate test for field corn changed how scientists and farmers think about fertilizers and soil fertility. Fred’s focus on soil organic matter and health has promoted examining agriculture through the eyes of ecology. He has effectively shown the connections between soil organic matter management, pest problems and, thus, agricultural sustainability.

In addition, his leadership of the Northeast Region of the Sustainable Agriculture Research and Education program has brought national prominence to both the college and our department. The northeast region has been consistently guided by Fred for seventeen years. Fred’s efforts and creative thinking have inspired a whole generation of young scientists and are largely responsible for making the SARE program the unique success that it is today.

We warmly congratulate our colleague Fred Magdoff.

Award for Excellence in Staff Support

The Award for Excellence in Staff Support recognizes a staff member in the College of Agriculture and Life Sciences for outstanding effort and achievement in the support of the mission of the College and is the most prestigious award given to a staff member.

David Heleba received the Staff Award for 2006 at the CALS Honors Day Ceremony on April 21 in recognition of his efforts and achievements as research and field technician. He has been employed by Plant & Soil since 1989, coming directly into the department after completing his B.S. with us. He has a prolific skill set, some of the things we count on him for include; teaching assistant, statistician, plant collection specialist, gardening expert, newsletter coordinator, nursery manager, equipment repair god and greenhouse builder.

Dave is an integral part of The Friends of the Horticulture Farm, an organization he helped found that dedicates itself to the protection and enhancement of the Horticultural Research Station. He has served on the Board of Directors from 1994 through 1999 and is a regular contributor and editor to the newsletter.

In short, Dave has done it all for the PSS Department, enhanced college activities through his many faceted efforts and earned the respect and thanks of peers, students, and co-workers.

We warmly congratulate our colleague David Heleba.
Additional Awards

Undergraduate students

* Senior SLH major, **Mark Finch**, received the Vermont Association of Professional Horticulturists Award

* Junior EA major, **Kristen L. Gallagher**, received the Vermont Vegetable and Berry Growers Association Award

* Junior SLH major, **Sarah Greenleaf**, was chosen to serve on the CALS Board of Advisors

* Senior PSS major, **Christopher K. Savastio**, and junior EA major, **Travis J. Streeter**, earned James E. Ludlow Endowed Scholarships

* Seniors, **Allison M. Lauze**, **To比亚h S. Schulman** and **Robin V. Sorrell**, and Junior, **Travis Streeter**, received American Society for Horticulture Science Collegiate Scholars Awards

* Junior EA major, **Travis Streeter**, received a scholarship from the Edith T. and Charles Dana Bennett Foundation for the academic year 2005-2006.

Graduate students

* **Marlys Eddy** received the New England Farm and Garden Scholarship for Fall 2005.

* **Karen Hills** was recognized as a nominee for the Graduate College TA Award of the year presented on April 5, 2006 and nomination for the NACTA Award

Faculty

* **Lorraine Berkett**, Extension Professor, earned tenure on her research appointment

* **Vladimir Gouli** was promoted from Research Associate to Assistant Research Professor

* **Leonard Perry**, Extension Professor, was re-elected to become judge for national America in Bloom program

* **Mark C. Starrett**, Associate Professor, received the Outstanding Advisor Award from Alpha Zeta, presented on October 8, 2005

* **Margaret Skinner**, Research Associate Professor, received the 2005 Vermont Tree Steward award

Coffee Giveaway

The Class of 2010 arrived on campus full of expectations and questions like all others who preceded them, but this year were met with something unprecedented. Professor Mark Starrett, Horticulturalist and Plant & Soil faculty member, was on hand with coffee plant seedlings, 2,500 of them to be exact; one for every first-year student.

“Welcome to UVM”, the label on each plastic pot reads, “Just like you will graduate in 4 years, this coffee plant will grow beans in 4 with proper care and feeding!” The synchronicity was irresistible. Horticulture Club President, Sarah N. White, 07 and fellow club member Jonathan Mejia, 09 were present to help hand out the plants to an enthusiastic audience. At one point, the line for coffee plants was longer then the one with free ice cream!

More then a welcome wagon treat, the giveaway heralds a new course about coffee, beginning Spring 07. Topics will range from conservation issues to international development.

When the students graduate, those with the largest plants or the most beans will be awarded prizes. Arrangements have been made to roast the beans and brew up what is sure to be the most memorable cup of joe they’ll ever have.
Re-Opening of the Gardens

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Present at the ceremony was: CALS Associate Dean Josie Davis who cut the ribbon with a pair of golden shears; Dr. Deborah Neher, Chair of Plant and Soil Science; Dr. Mark Starrett, Horticulture Club and Summer Intern advisor; David Heleba, PSS technician; Rosemarie Leland, Director of Grounds; Jonathan Mejia (Biology) and Sarah White (PSS), both Horticulture Club Summer Interns. Not able to be present was Nancy Hulett representing the Vermont Master Gardeners. The ribbon cutting was conducted on the opening day of fall classes on campus.

The retaining wall on the north end of the greenhouse will remain an annual border with hopes of expansion of this garden to include the north sloping hillside.

A “pocket garden” has been developed on the north side of the new Carrigan Wing which will include select small woody trees and unusual shrubs, a fern collection and Asian plants. These plants will envelop the giant boulder placed in this site that was excavated during the construction process.

A “winter feature” garden consisting of red and yellow twig dogwood, winterberry hollies, and willows is featured in a peninsula between the new Carrigan Wing and the elm tree (which was protected during the construction.

The vine collection has yet to return to campus however, plans are underway for a set of permanent metal trellis along the south side of Hills Building. Each trellis will be positioned between each window and a series of wooden columns will be placed out in front of the windows for the vines to climb on. The vines should be coming back to campus later this fall or early next spring.

The gardens have already been used extensively by both summer and fall biology classes, art classes, and PSS classes. We hope that they will continue to serve the students, faculty, staff and general public in years to come.

These gardens were expanded this year to provide greater diversity of plant materials for study and aesthetic enjoyment. The border garden along the west side of Stafford Hall is going to be white and yellow-flowered perennials. These were started by the Plant Propagation class in spring 2006 and were planted by the summer interns in a repeating pattern in front of each window. One set of these plants will be labeled with engraved signs for plant identification.

A grass collection was started in front of the new Carrigan Wing. This year is consists of both annuals and perennial grasses and each year additional grasses will be added.
PSS Welcomes New Faculty Members

Sarah Taylor Lovell, Landscape Design
Assistant Professor  Dr. Lovell comes to us from the University of Illinois, Urbana. Sarah’s background is agronomy, plant science and landscape design.

V. Ernesto Mendez, Agricultural Systems
Assistant Professor  Dr. Mendez comes to us from the University of California at Santa Cruz. Ernesto’s background is agroecology, biodiversity conservation and local development in Central American coffee landscapes.

Tim Taylor, Adjunct Lecturer  Tim is proprietor of Crossroad Farms in Fairlee Vermont and will bring twenty-six years of farming experience to our students.

Other Current Faculty

- John Aleong - Applied Statistics
- Lorraine Berkett - Plant Pathology
- Sidney Bosworth - Field & Forage Crops
- Scott Costa - Entomology
- Aleksandra Drizo, Constructed Wetlands
- Vladimir Gouli, Insect Pathology
- Wendy Sue Harper - Ecol. Agriculture
- John Hayden - Ecological Agriculture
- Ann Hazelrigg - Plant Pathology
- Fred Magdoff - Soil Fertility
- Deborah Neher - Soil Ecology
- Bruce Parker - Entomology
- Leonard Perry - Ornamental Horticulture
- Donald Ross - Soil Chemistry
- Margaret Skinner, Entomology
- Mark Starrett - Horticulture/Landscape
- Jon Turmel - Entomology

We’ve geared up for the fall with three new hires!

Chair Welcome

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Agriculture major replaced the former Plant and Soil Science major in 2004. We currently have 18 graduate students enrolled in our programs, five of which are pursuing doctoral degrees. Our strong graduate program can be attributed to increased extramural funding secured by our faculty who currently direct research programs supported by $3 million in grant funds.

We continue to improve our curriculum to meet both the desires of our students and job market demands. Significant changes this year include adding a requirement of one year of biology for all our majors, and adding an advanced track for students with aspirations of graduate or professional degrees. Ecological Agriculture is the practice of applying ecological principles to the production of agronomic crops. Interest in sustainable agriculture is expanding on campus among environmental science and studies programs. For example, Environmental Science majors can elect a track entitled “Agriculture and the Environment”. The Sustainable Landscape Horticulture major reflects student interest in the same cross-disciplinary approach to current practices in landscaping and horticultural practices. Both these new majors focus on integrating classroom experience with field trips and demonstrations. Student feed back tells us field trips are the most memorable experiences of their time at UVM. Perhaps some of you have memories of your trips in the field?

Thank you for your continued loyalty and support of our programs. Please take a moment to fill out the enclosed contact card so you can receive our annual newsletter via e-mail. We are also planning PSS sponsored events. I look forward to meeting you someday, perhaps during either Reunion or Alumni weekend.

Best regards,

Deb Neher, Chair
Degrees Awarded at the 2006 Graduate College Commencement

MASTER OF SCIENCE

Juan Pablo Alvez - M.S. - Irrigation, Nitrogen, and Soil Amendment Effects on Pasture Forage Yield and Quality

Marlys E. Eddy - M.S. - Performance of Cold Hardy Wine Grape Cultivars at Four Commercial Vineyards in the Champlain Valley of Vermont: Yield, Fruit Quality, and Bud Survival

Christine Marie Manuck - M.S. - The Effects of Compost Banding on Lycopersicon Esculentum Mill. and Zea Mays L. Root Architecture and Yield Quality

Felix R. Jimenez-Serrano - M.S. - The Relationship of Chronological Age, Temperature and Plant Phenology with Neutral and Acid Detergent Fiber of Cool-Season Grasses

David L. Weber - M.S. - Alternative Phosphorus Filter Technology for Wastewater Treatment on Vermont Dairy Farms

DOCTOR OF PHILOSOPHY

Mohammed El Damir - Ph.D. - Environmental Profile of Entomopathogenic Fungi for Management of Sunn Pest (Eurygaster integriceps Puton).

Heidi C. Hales - Ph.D. - Using Stable Isotopes as a Tool to Study Streamwater and Soil Nitrate