

## Department of Environmental Horticulture • University of California, Davis

# GROWING Points

## American Society for Horticultural Science Meetings Attract EH Alumni to Sacramento



<http://envhort.ucdavis.edu>

The 98<sup>th</sup> Annual Conference of the American Society for Horticultural Science was held in Sacramento in late July. The program was packed with society activities, research colloquia and workshops, an exposition of horticultural equipment suppliers and publishers, and over 800 oral and poster presentations. Pre- and post-conference tours included visits to the UC Davis campus, nearby organic farms and "winegrape research" in the Sonoma and Napa valleys. Needless to say, it was a great opportunity for several alumni of Environmental Horticulture to showcase their research and visit the old alma mater.

**Dr. Raul Cabrera** (<http://dallas.tamu.edu/People/rcabrera/>) is an associate professor of woody ornamental



*EH alumni Dr. Claudio Pasian, left, of Ohio State University and Dr. Raul Cabrera, right, of Texas A & M University confer during a poster session at the ASHS meetings.*

horticulture at the Texas Agricultural Experiment Station in Dallas, affiliated with Texas A&M University. He completed his M. Sc. and Ph. D. degrees with **Dr. Jack Paul** and **Dr. Richard Evans** in 1993. Raul presented two posters reflecting his current research interests. He collaborated with colleagues at the Colegio de Postgraduados in Montecillo, Mexico to evaluate alternative ingredients for container media used to grow foliage plants. He also displayed his work on developing a searchable internet database for the genus *Lagerstroemia* (crepe myrtle). In addition to characteristics of over 200 ornamental cultivars, the site contains information on species used for other purposes, such as commercial timber and medicinal tea (<http://dallas.tamu.edu/woody/cmyrtle>). Raul maintains communication with his EH colleagues and recently collaborated with Richard Evans on a study of nitrogen levels in soils beneath commercial greenhouses.

**Dr. Art Cameron** ([http://www.hrt.msu.edu/faculty/main\\_cameron.htm](http://www.hrt.msu.edu/faculty/main_cameron.htm)) is a professor in the horticulture department at Michigan State University and joined that department after completing his Ph. D. with **Dr. Michael Reid** in 1982. Art's research interests revolve around flowering and postharvest physiology of horticultural crops. Two of Art's students gave oral presentations on consumer preferences for traditional flow-

ering potted plants and forced perennials, and on factors affecting flowering of *Digitalis purpurea* 'Foxy'. Art was also co-author on two posters involving techniques for flowering herbaceous perennials during nursery production. Michael Reid and Art confer frequently on topics such as good microbrewery beers, and they recently co-authored a paper on the effects of the anti-ethylene compound, 1-MCP (1-methylcyclopropene), on the longevity of *Pelargonium* flowers.

**Dr. Paul Fisher** is a member of the Plant Biology faculty at the University of New Hampshire and held a postdoctoral position with **Dr. Heiner Lieth** in 1994-96. Paul's research interests include plant nutrition and modeling of ornamental plant growth and development. He presented his recent work on correcting micronutrient deficiencies in bedding plants grown in high pH media. He also outlined a nutritional program called "Iron-Out" (<http://ceinfo.unh.edu/Agriculture/Documents/IRONOUT.pdf>) for crops prone to iron and manganese toxicity at low media pH. One of Paul's students presented his work on quantifying the optimum pH range for production of the bedding plants *Petunia x hybrida* and *Impatiens wallerana*. Paul frequently collaborates with Heiner Lieth and they recently published a paper on modeling flower development in Easter lily.

**Dr. Daryl Joyce** (<http://>)  
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www.[silsoe.cranfield.ac.uk/staff/cv/d\\_joyce.htm](http://silsoe.cranfield.ac.uk/staff/cv/d_joyce.htm)) is a professor of postharvest technology and leader of the Postharvest and Food Technology Group at Cranfield University in the United Kingdom. Daryl completed a postdoctoral assignment with **Dr. Michael Reid** in 1980s. In his own words, Daryl's "professional interest is applied research and teaching in ripening and senescence physiology and in postharvest technology of perishable crops." He was co-author on a poster evaluating "electronic nose" technology for assessing the quality of spring onions grown in different soils and at different levels of sulfur nutrition. Michael Reid and Daryl collaborated in 2000 on a paper involving treatment efficacy of 1-MCP on ethylene perception in banana fruit and in the flowers of grevillea and Geraldton waxflower.

**Dr. Ann King** is a horticulture advisor with UC Cooperative Extension in San Mateo and San Francisco counties. She works closely with growers and with EH extension specialists on issues such as water quality, pesticide safety and organic certification. Ann completed her M. Sc. and Ph. D. degrees with **Dr. Michael Reid** in 1985 and recently spent a sabbatic leave with his research group. That work was the

subject of a poster she co-authored with Michael's group on the effectiveness of the cytokinin-like compound, thidiazuron (TDZ), in reducing leaf yellowing in poinsettia and other flowering potted plants. Ann continues to work closely with all of the extension faculty in the EH department on outreach activities statewide. She is on the editorial committee for *CORF News*, the quarterly newsletter of the California Ornamental Research Federation (<http://www.corf.org/>).

**Dr. Claudio Pasian** (<http://www.hcs.ohio-state.edu/hcs/PC/Faculty/cp.htm>) is an assistant professor of floriculture in the Horticulture and Crop Science Department at Ohio State University. He completed his M. Sc. and Ph. D. degrees with **Dr. Heiner Lieth** in 1993, and his research interests include modeling of plant growth and development, improving methods for applying systemic pesticides and evaluating alternate growing methods for specialty cut flowers. In addition, Claudio participates annually in the Ohio Short Course sponsored by the Ohio Florists' Association. Claudio displayed a poster summarizing the results of a consumer preference survey for poinsettia cultivars demonstrating that, although buyers prefer red cultivars, they are willing to

purchase novelty varieties.

A couple of EH alumni didn't have to travel far to attend this year's ASHS meetings, mainly because they are currently members of the department. **Dr. Dave Burger** (Ph.D. 1980) (<http://envhort.ucdavis.edu/ehweb/dwb/Dwb.htm>), professor and former department chair, co-authored a poster on *Agrobacterium*-mediated transformation and regeneration of lemon scion cultivars. **Professor Emeritus Wes Hackett** (B. Sc., M. Sc., Ph. D. 1962) divides his time between California and New Zealand maintaining research projects in both hemispheres. He teamed up with Michael Reid's research group and contributed his expertise to the work presented on two posters. One involved grafting of ornamental *Grevillea* cultivars onto *G. robusta* rootstocks to increase their tolerance of non-native soil conditions. Wes also was the inspiration for evaluating TDZ as a tool for preventing leaf yellowing in cut *Alstroemeria* flowers.

This year's ASHS meetings allowed EH friends and colleagues to renew collaborations and plan future research projects in the familiar atmosphere of Davis and Sacramento. Look to future issues of this publication for the results...*L. Dodge*

## **Heiner Lieth Takes the Reins as New EH Department Chair**

The mid-June monthly coffee gathering of EH faculty, staff, affiliates and students had a larger-than-average turnout and more edible delights than usual. The break room was filled to capacity with those curious to witness the ritual transition of responsibilities from the outgoing department chair to EH's leader for the next five years. After six years of able guidance and determined advocacy for EH, Dr. Dave Burger passed on the mantle of leadership to the equally capable Dr. Heiner Lieth. The occasion was marked with kudos for Dave, presentation of essential tools for the job to Heiner, the wearing of silly hats and the consumption of much food.

As a collective token of departmental esteem, Dave was given a set of golf clubs. The fact that they were plastic and only eighteen inches long did not dampen his enthusiastic appreciation. He vowed to take them to Riverside later this year

where he will be spending a sabbatic leave, focusing his attention on "turf research".

Then it was time for the customary transfer of the chair's tool kit. As the outgoing chair, Dave added certain items to the kit which had proven useful during his term and presented the entirety to incoming chair, Heiner. Dave added a variety of essential tools, including a pair of dice for making executive decisions, a pacifier to offer for instant relief when faculty needs exceed reality, a spare set of marbles in case Heiner loses his and, in recognition of a newly-established tradition, a bottle of Elmer's Glue to remind him that staff help hold the department together. Heiner graciously accepted these implements of office as well as a full-body target from his graduate students to practice dodging attacks from the administration.

This celebration reflected the optimism with which the department views the future under Heiner's able leadership.



*Outgoing EH department chair Dave Burger, at left in beanie, and management services officer Sandy Fielden, in tiara, hand over the official EH toolbox to incoming chair Heiner Lieth, at right in festive headgear.*

# News from the Western Center for Urban Forest Research and Education

by Dr. Greg McPherson

## Benefit-Cost Analysis for Trees for a Green LA

Over the next two years *Trees for a Green LA* will plant 200,000 new trees throughout the city of Los Angeles for energy savings and other benefits. **LA Department of Water and Power (DWP)** and the **Los Angeles Conservation Corps (LACC)** went to the [Center for Urban Forest Research](#) to get some hard numbers on the benefits of their proposed program. The benefit-cost analysis conducted specifically on DWP's operations found a benefit-cost ratio of 1:1.4 (\$1.40 return on every \$1 invested) for energy conservation benefits alone (485 GWh over 30 years). When other environmental and social benefits were taken into account the benefit-cost ratio increased to 1:17.5. Other less tangible benefits of the program include employment and job training for about 100 young people from the LACC.

## Green Plants or Power Plants??

A new research study conducted by **Drs. Greg McPherson and Jim Simpson** at the Center for Urban Forest Research found that if citizens in California planted 50 million more shade trees in strategic energy-saving locations, the energy saved would be equivalent to seven 100-MW power plants. Researchers also found that existing shade trees already reduce annual air conditioning energy use by 6,400 GWh, equivalent to 7.3 100-MW power plants.

### Existing Trees

Findings show that there are already 177 million trees in energy conserving locations. Most of them are around homes where energy savings are the greatest. As a result:

- California utilities already save \$500 million annually in wholesale electricity purchases or generation costs.
- Customers already save about \$1 billion in retail expenses for air conditioning.
- Peak load demand is already reduced by about 10%.
- The cooling savings are equivalent to 7.3 100-MW power plants.

Dr. McPherson points out "since up-front costs to establish these trees have

already been made, keeping these trees healthy and functional is one of the best investments communities can make."

### What More Trees Can Do

If Californians establish 50 million more trees in strategic locations on the east and west side of residential buildings, in 15 years the annual cooling savings will be 6,100 GWh. What this means:

- At least 7.0 100-MW power plants will not have to be built, nearly doubling (14.3) the number of power plants that are not needed – enough power for 1.4 million homes and 3.5 million people.
- California utilities will save an additional \$462 million annually in wholesale electricity purchases or generation costs.
- Residents will save an additional \$1 billion annually in retail energy costs for air conditioning over what they currently save from existing trees.
- Peak load demand will be reduced by another 9% over reductions already provided by existing trees – for a total of 19%.

## Alternative Prescriptions for Firewise Landscapes

We've known for years that the landscapes people create and manage around their homes influence the susceptibility of their residences to wildfire. However, little research on "firewise" landscapes has taken into consideration the vegetation characteristics that residents may consider most important—such as beauty, shade, privacy, and wildlife habitat.

**Dr. Lisa Mabli** is developing a set of alternative landscape designs that will enable homeowners to meet their personal needs at the same time that they increase fire safety. The focus of this research is the optimum urban forest structure for wildland/urban interface areas. One product will be a web-based computerized decision tool that can evaluate risks associated with alternative landscape prescriptions. The tool will:

- Help to objectively evaluate the fire risk associated with single-family residential landscapes.
- Enable a quick assessment of the positive and negative impacts of landscape maintenance practices.

•Allow homeowners to customize alternative landscape prescriptions to reflect preferences for vegetation species, placement, and management.

Research partners include the **Natural Resource Conservation Service, National Institute for Standards and Technology, Earthview Computing, and UC Berkeley Forest Products Laboratory.**

## New Employees

**Dr. Lisa Mabli** (Post Doc) recently received her Ph.D. in Environmental Science, Policy, and Management from UC Berkeley and will lead research on fire behavior and wildland-urban interface issues.

**Scott Maco** (Forester) just received an MS in Horticulture and Agronomy at UC Davis and conducted a benefit-cost analysis of Davis' municipal urban forest as a thesis project. He will assist with development of information on tree growth, dimensions, benefits, and costs for regions throughout the west.

**Hugh Nguyen** (Computer Specialist) worked as a programmer for the Space and Naval Warfare Systems Center in San Diego and will use his knowledge of modern telecommunications software and hardware to develop new decision-support tools in urban forestry.

**Tommy Mouton** (Forester) graduated from Southern University and A&M College with a degree in urban forestry and interned with the Center for several years. He will assist with all areas of urban forest research.

**Steven Lennartz** (Bio-Science Technician) graduated from Rutgers with a BS in Natural Resource Management. He will apply his expertise in GIS/remote sensing to assist with research in urban hydrology.

## Summer Interns

**Nancy Strahan** is a senior in EH's urban forestry option and is interested in fire ecology and wildland-urban fire issues.

**Torry Ingram** is a senior in urban forestry at Southern University and A&M College and worked last summer with civil engineers on the Plumas National Forest in Quincy, CA. **GP**

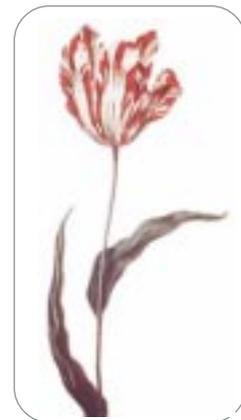
# California Floriculture Statistics for 2000

Compiled by Dr. Richard Evans, UC Cooperative Extension Floriculture Specialist,  
Department of Environmental Horticulture, University of California, Davis

Kind	Producers (Number)	Unit	Quantity Sold (1000s)	Wholesale Sales (%)	Wholesale Price (Dollars)	Wholesale Sales (\$1,000s)	CA % of U.S.
<b>Cut Flowers</b>							
Alstroemeria	37	Stems	17,848	100	0.15	2,624	48.9
Carnation	34	Stems	37,796	99	0.14	5,367	84.6
Chrysanthemum	39	Bunches	13,030	97	1.14	14,854	93.0
Delphinium/Larkspur	57	Stems	37,967	99	0.37	14,200	91.9
Gerbera	25	Stems	52,636	96	29.60	15,580	94.3
Gladiolus	23	Spikes	10,853	99	0.67	7,239	22.5
Iris	43	Stems	59,268	99	0.25	14,817	77.1
Lilies	51	Stems	76,835	99	0.62	47,715	81.4
Lisianthus	41	Stems	17,930	99	0.60	10,417	95.2
Orchids	14	Blooms	1,260	81	1.09	1,373	35.1
Rose	53	Stems	124,675	98	0.33	41,517	59.8
Snapdragon	53	Spikes	44,973	99	0.28	12,592	68.2
Tulip	29	Stems	38,280	99	0.36	13,743	51.1
Other	158			98		84,181	65.7
<b>Total</b>			<b>533,351</b>			<b>286,219</b>	
<b>Potted Flowering Plants</b>							
African violet	14	Pots	937	52	1.38	1,290	6.8
Azalea	20	Pots	1,084	97	5.15	5,581	10.1
Chrysanthemum	19	Pots	3,774	100	2.25	8,492	11.6
Cyclamen	64	Pots	2,466	92	2.62	6,465	37.0
Easter lily	28	Pots	900	97	4.07	3,663	10.4
Orchids	42	Pots	3,519	94	10.21	35,920	35.9
Poinsettia	94	Pots	7,164	89	3.85	27,549	11.6
Spring bulbs	34	Pots	3,425	99	1.44	4,939	13.2
Other	72	Pots	13,508	96	3.29	44,472	22.8
<b>Total</b>			<b>36,777</b>			<b>138,371</b>	
<b>Foliage Plants</b>							
Hanging baskets	48	Baskets	6,260	95	3.83	23,976	27.7
Potted foliage	84	Pots		96		46,838	9.6
<b>Total</b>			<b>6,260</b>			<b>70,814</b>	
<b>Herbaceous Perennials</b>							
Chrysanthemum	38	Pots	3,641	100	1.08	3,920	3.7
Hosta	14	Pots	51	98	3.37	172	0.5
Other	63	Pots	16,557	98	2.13	35,315	12.4
<b>Total</b>			<b>20,249</b>			<b>39,407</b>	
<b>Bedding/Garden Plants</b>							
Begonia	50	Flats	951	100	7.99	7,598	15.1
Geranium	28	Flats	191	97	13.06	2,494	8.0
Geranium cutting	21	Flats	1,790	99	12.62	22,590	63.9
New Guinea impatiens	13	Flats	41	100	10.49	430	6.7
Impatiens	61	Flats	1,784	99	10.28	18,340	15.8
Marigold	45	Flats	603	99	8.73	5,264	15.2
Pansy/Viola	48	Flats	1,271	99	9.69	12,319	16.5
Petunia	61	Flats	1,359	98	9.07	12,326	13.9
Other	68	Flats	8,220	85	9.66	79,405	20.2
Begonia	42	Pots	1,970	78	0.91	1,797	10.7
Geranium	47	Pots	7,096	99	1.25	8,849	8.2
New Guinea impatiens	46	Pots	1,755	100	1.43	2,516	6.6
Impatiens	56	Pots	8,176	91	0.73	5,982	24.1
Marigold	33	Pots	1,403	89	0.74	1,043	18.8
Pansy/Viola	35	Pots	2,716	87	0.72	1,966	9.2
Petunia	46	Pots	2,445	91	0.76	1,854	10.6
Other	82	Pots	39,624	96	1.33	52,573	18.1
<b>Total</b>			<b>81,395</b>			<b>237,346</b>	
<b>Cut Cultivated Greens</b>	<b>44</b>			<b>100</b>		<b>13,348</b>	<b>23.8</b>
<b>Propagative Material</b>							
Cut flowers						4,609	82.6
Potted flowering plants						5,625	18.9
Bedding/garden plants						9,152	8.6
Herbaceous perennials						5,054	8.0
Foliage						2,806	7.6
<b>Total</b>						<b>27,246</b>	

Source: <http://usda.mannlib.cornell.edu/reports/nassr/other/zfc-bb/lor0401.pdf>

## Book Review: *The Botany of Desire* (A Plant's-Eye View of the World) by Michael Pollan



Those interested in horticulture will enjoy the twist in perception that Michael Pollan brings to this philosophical exploration of the coevolutionary relationship between humans and domesticated plants. Pollan brings his talents as an environmental journalist and avid gardener together to examine the premise that human desires are part of the natural order and those species which, by trial and error, manage to satisfy those desires are the ones that get to reproduce and multiply with our assistance. As Pollan puts it: "For a great many species today, fitness means the ability to get along in a world in which humankind has become the most powerful evolutionary force." To illustrate his thesis, he chronicles the historic relationships between humans and four domesticated plant species that have successfully fulfilled our desires—the apple (sweetness), the tulip (beauty), marijuana (intoxication) and the potato (control in the form of genetic engineering).

To early Americans establishing themselves in frontier settlements, an apple orchard symbolized Old World domestication and provided a source of sugar (or alcohol for hard cider) where none existed. John Chapman, also known as Johnny Appleseed, made it his life's work to provide apple trees to settlers on the fringes of the frontier during the early 19<sup>th</sup> century. As the name implies, his plants were of seedling origin and, therefore, more variable than the familiar grafted varieties of Central Asia and Europe. The widespread planting of seedling trees allowed the apple to adapt to American conditions and those individual trees found to possess good fruit characteristics were the sources of our modern cultivars. So humans got plentiful sweet fruit and the apple got to reinvent itself and multiply on a new continent.

Flowers have attracted animals ever since the angiosperms first evolved. Usually, flowers have to offer something such as nectar or pseudosex to get animals to pick up and spread their pollen or seed. In the case of humans, many flowers simply have to gratify our eye for beauty to be selected, lovingly tended and multiplied. Pollan illustrates how the desire for beauty almost ruined the economy of Holland in the 17<sup>th</sup> century when Tulipmania gripped the country. The Dutch coveted tulips such as the variegated 'Semper Augustus' cultivar (pictured above) to the extent

that they paid enormous amounts of money or traded their homes and assets for a single bulb. The frenzy reached a point where people were buying and selling future bulbs that had not been produced yet and the crash that ensued has been identified as the first example of an economic "bubble" to which the current demise of internet stocks has been compared. Pollan reminds us that a bulb-weakening virus was responsible for the eye-catching variegation and was able "to insinuate itself into the relationship between people and flowers, in effect exploiting human ideas of tulip beauty in order to advance its own selfish purposes", i.e. to survive and multiply.

Pollan thoughtfully explores the relationship between humans and marijuana as an outgrowth of some plants' ability to manufacture toxic or unpalatable chemicals as defenses against hungry animals. The chemical produced in plants of *Cannabis* spp. came to have a pleasurable effect on the human brain, suppressing our short-term memory and allowing us to live more "in the moment". Stringent laws against marijuana cultivation have forced growers to select for plants that thrive in the artificial environment of clandestine indoor gardens. The plant has obliged to the point where hybrids now produce three pounds of super potent sinsemilla on short, compact plants in eight weeks utilizing the space of a pool table. Pollan's discussion of the evolutionary significance of the production and consumption of psychoactive compounds suggests that "the desire to alter one's experience of consciousness may be universal" and that our brains may make and have receptors for an endogenous cannabinoid substance.

A genetically engineered potato cultivar is Pollan's example of a new paradigm in man's control over nature. Scientists have incorporated bacterial genes for the production of Bt toxin into the genes of this potato, allowing it to produce its own insecticide to defend against lepidopteran caterpillars. The plants themselves are registered with the EPA as pesticides and are patented to control unlicensed propagation. Growers will benefit by reduced use of chemicals on their crops but the rules of domestication have been changed forever. Until now, Pollan says: "The plant in its wildness proposes new qualities, and then man selects which of those qualities will survive and prosper." In Darwin's words: "Man does not actually produce variability." Now, of course, he can and genetic traits from such diverse organisms as fireflies and tobacco can be combined to produce plants that glow in the dark.

While genetically engineered plants may seem alien and threatening, Pollan contends that this technology actually "allows a larger portion of human culture and intelligence to be incorporated into the plants themselves". Although agriculture will be inevitably changed, Pollan also suggests in this fascinating book that species wildness and diversity must be preserved and nurtured to contend with future unforeseen challenges. -L. Dodge

## Chinese Beetle Released as Biocontrol Agent for Tamarisk

During the 19<sup>th</sup> century, several species of *Tamarix* from Eastern Europe and Asia were introduced into the United States for use as ornamentals, windbreaks and for soil stabilization. Also known as tamarisk or saltcedar, their billowing flower displays and ability to thrive in arid conditions led them to be planted extensively as shrubs or trees.

Today, saltcedar is considered a noxious weed and has escaped cultivation to occupy over 1.5 million acres of land in the western states. It has invaded riparian habitats forming dense thickets along rivers and lakes, displacing native vegetation and causing flooding and erosion. Land management agencies have spent countless dollars and man-hours attempting to control saltcedar infestations using conventional weed control methods. Herbicides, bulldozing and fire have proven ineffective, however, and plants manage to regrow and reseed. Efforts are now underway to find biological control agents for this wildland pest plant.

The Saltcedar Biological Control Consortium (<http://arsserv0.tamu.edu/lewis/saltc.htm>) is a group of federal, state, university and private organizations working as a team to develop and implement biological control programs for controlling saltcedar. These scientists are investigating 15 species of insects that feed on *Tamarix* species in their native ranges for possible introduction into the United States.

The Chinese leaf beetle, *Diorhabda elongata*, has been intensively studied by the consortium and deemed a good prospect for biocontrol. Both larvae and adults feed on saltcedar exclusively, the adults produce two or more generations per year and have successfully overwintered here. Just over a centimeter in length, these black-and-yellow-striped bugs effectively defoliate saltcedar plants and create wounds that cause branches to wither and die.

In May, biologists from UC Berkeley and USDA's Agricultural Research Service in Albany, Calif., released Chinese leaf beetles in saltcedar-infested areas of the Owens Valley. Releases were also made in Texas, Colorado, Nevada, Utah and Wyoming by other members of the consortium. The beetles are expected to feed primarily on saltcedar seedlings, slowly reducing infested acreage and allowing reestablishment of native vegetation. Consortium cooperators plan to intensively monitor the beetles to ensure their establishment and evaluate their population growth and impact on target and nontarget plants.

If any ornamental plantings of tamarisk still exist, it may be wise to consider replacing them in the near future as the Chinese leaf beetle becomes established in the West.

-Linda Dodge

### "Growing Points" Origins Revealed

A recent letter to the editor has identified the origin of *Growing Points* as a newsletter. In June of 1963, Douglas Hamilton, a UC Cooperative Extension farm advisor in Alameda County, began the newsletter as a monthly publication "to keep the greens industry reliably informed on practical matters influenced by university research." He continued as editor until his retirement in 1984 and, during that time, *Growing Points* served the Central Coast counties, identifying itself as "for people who earn a living in landscape horticulture- or are about to..." Under the direction of Farm Advisor Pavel Svihra in the 1980s, *Growing Points* addressed "the needs of professionals in landscape horticulture and arboriculture, maintaining the rapid communication necessary to assure continuing progress in the solution of landscape horticulture problems." Also involved in the early days of the newsletter was a farm advisor by the name of Thomas G. Byrne who, in 1963, must have been fresh out of high school. Thanks to Mr. Hamilton for his kind letter and we, the current staff of *Growing Points*, hope to continue the publication as an information resource for California horticulturists.



Chinese leaf beetle (*Diorhabda elongata*) feeding on saltcedar. Photo by Bob Richards, APHIS.



## Notes From the Chair... by Heiner Lieth

It is with great pleasure that I assume the role as Department Chair of the EH department. I have a strong commitment to all facets of Environmental Horticulture and have

big plans. I would like to share some of my ideas with you.

Before I do that, though, I would like to introduce myself to those of you who do not know me. I was born in Germany and immigrated with my parents when I was a child. I grew up in North Carolina and got my college education at UNC-Chapel Hill. I received a PhD in Biomathematics from North Carolina State University working on development of mathematical models for plant growth. In 1984, after a postdoctoral research position in Texas, I was hired by the EH department at UC Davis to apply my mathematical modeling skills to horticultural situations. I have the title of "Crop Ecologist" and do research, teaching and extension. So I have now been doing this for 17 years, focusing my energies in greenhouse and nursery production of ornamental plants. If you want more detail on that, then you might look at my web site at [lieth.ucdavis.edu](http://lieth.ucdavis.edu).

During the 1990s the EH department encountered many retirements with few new faculty coming into the department. The net effect is that the faculty size is now half of what it was when I came to UC Davis. Much of this reduction occurred in bad economic times, so that it was impossible for the University to commit to re-growth of the department. In recent years however, it has become evident that the State of California desperately needs us. The floriculture industry has suffered significant reductions due to deteriorating ability to compete. The greenhouse and nursery industries currently face difficult environmental challenges, particularly in coastal areas. A lot of environmental pressures exists where we can be of help: e.g. vernal pools management, coping with salinity in the environment, development of drought tolerant landscape plants, etc. Furthermore, the continued growth in urban areas means that more and more demand exists for information related to urban horticulture.

During the time when I was candidate for the chair position, I spent a lot of time talking with the faculty and College administration about the direction of the department in the future. It was decided that we should have a particular focus and that this should be the following: (1) the development of horticultural methods to solve environmental problems and (2) development of sustainable horticultural methods that are environmentally sound. Dean van Alfen recognized the value

of this approach and is committed to the department's growth. Thus, in the years to come, the EH department will be seeing significant growth.

This growth will be in two areas: production of ornamental crops and landscape/urban horticulture. Our goal is to achieve an international reputation in these areas where we will be known for the specialization in the focus area mentioned above. Some of our scientists would specialize in the area of greenhouse and nursery production, working with growers to develop best-management practices (BMPs) that are sustainable and environmentally sound. Others would be developing methods for managing urban landscapes including such specialized areas as restoration of disturbed sites and mitigation of specific environmental problems. Our goal would be to provide information to anyone in California needing information on urban horticulture.

The future for Environmental Horticulture is very exciting. We have numerous interesting projects in the works and we will be sharing information about these with you in the future.

There have also been interesting events in the lives of the folks that work here in EH. The following are some examples of what has been happening here in the department.

### Student Happenings

Ph. D. candidate, **Steve Wathen**, who is working with **Dr. Michael Barbour**, received a grant of \$2,500 from the **Geological Society of America** for use in his dissertation research on the long-term vegetative, fire, and geomorphological history of a high Sierra Nevada watershed. In addition, Steve received \$6,000 worth of radiocarbon dating from **Lawrence Livermore Laboratory** to date cores taken from his study lake.

### Summer Programs for High School Students

As is the case every summer, high school students from the region got to experience university life as part of three scholastic outreach programs- the Junior Academic Science Research Achievement Program (**JASRAP**), the Collegiate Academic Preparatory Science Research Achievement Program (**CAPSRAP**), and the UC Davis Young Scholars Program (**YSP**) supported by the **National Science Foundation**. These programs are designed to inspire talented students to achieve high educational goals. Several students were hosted by EH faculty this summer and made valuable contributions to various research projects. **Dr. Alison Berry** and doctoral student **Rik Smith** welcomed **JASRAP** student **Judy Thao** from North Highlands, CA to assist them in their study of cover-crop nitrogen dynamics in vineyards.

**CAPSRAP** participant **Carla Christianson** came from Galt, CA to help **Dr. Michael Barbour's** students **John Rusmore** and **Steve Wathen** in their dissertation research projects. **Dr. Richard Evans** hosted **YSP** student **Chithra Krishnamurthy** from Fremont, CA who conducted experiments on nitrogen uptake in ornamental shrubs using a hydroponic system. **YSP** participant **Madeline Christopher** from Chico, CA worked in the lab of **Dr. Michael Reid**. Her research project involved the evaluation of *Mirabilis jalapa* (annual four-o'clock) as a model system for studying floral senescence. We hope these students enjoyed their time in our department and we wish them luck in their academic pursuits.

### Faculty Activities

**Dave Neale's** research group at the **Institute of Forest Genetics** was recently awarded a research grant in the amount of \$1.8 million from the USDA. Their project is entitled: "Allele Discovery for Genes Controlling Economic Traits in Loblolly Pine". Congratulations to Dave and his hard-working associates.



*JASRAP student Judy Thao learns to operate the department's nitrogen analyzer.*

### Staff Accomplishments

On June 27, the entire department celebrated the much-anticipated birth of twins to nursery technician, **Mitch Bunch**, and his wife, **Yvonne**. Boy **Zachary** and girl **Lindsey** are doing fine and keeping their parents busy.

Our principal superintendent of agriculture, **Ron Lane**, will be teaching a course in "**Hydroponic Vegetable Production**" for **University Extension** on September 27, 2001. The one-day class is geared toward commercial production and offers 6 continuing education credits.

Three venerable staff members received special longevity awards from the College. Those honored were **Sandy Fielden** and **Glen Forister** for 25 years of service, and **Sherryl Fawx** for 15 years. **GP**

## Landscape Horticulture Specialist

Department of Environmental Horticulture and  
Program in Landscape Architecture, Department of Environmental Design  
University of California, Davis

This position is open until filled; for full consideration, applications should be submitted by October 1, 2001

Landscape Horticulture Specialist in University of California Cooperative Extension (100%), with emphasis on urban landscape horticulture. This is a career track appointment in the Department of Environmental Horticulture (80%) and the Landscape Architecture program (20%) in the Department of Environmental Design.

The appointee will develop a statewide program in landscape horticulture focusing on issues critical to the general public, landscape management industries, and relevant government agencies. The Landscape Horticulture Specialist will establish a cooperative research program with faculty, specialists and farm advisors, and will publish findings in peer-reviewed media. It is expected that the Landscape Horticulture Specialist will seek and obtain extramural funds to support his or her research effort. The incumbent will provide leadership and coordination for University of California landscape horticulture advisors. The Landscape Horticulture Specialist is also expected to develop and disseminate educational materials targeting landscape industries, government agencies and the general public. The appointee will be an academic resource for the statewide Master Gardener program.

The Landscape Horticulture Specialist will be located in [Environmental Horticulture](#), and will also interact closely with the [Landscape Architecture](#) faculty. Additional resources for collaboration include the [UC Davis Arboretum](#), and the [U.S. Forest Service Center for Urban Forest Research](#), which is co-located with the Environmental Horticulture Department. The position includes no campus-based teaching responsibilities.

Applicants must hold a Ph.D. degree in horticulture, urban forestry, plant biology or ecology, or related fields. The Landscape Specialist's research program could include any of the following, but are not limited to these areas: (1) landscape soil-water issues, (2) management of urban-agricultural-natural interfaces, (3) landscape plant introduction, (4) urban landscape planning, and (5) integrated pest management programs in the urban environment. Salary is commensurate with experience within the Assistant Specialist in Cooperative Extension rank at the University of California, Davis.

Applications will be reviewed with the expectation that the appointee will be available before Fall, 2002.

Submit letter of interest, *curriculum vitae* with publication list; a 2-3 page narrative describing current and anticipated research activities, in relation to this position; graduate transcripts if within five years of obtaining the Ph.D.; and names of 3 references to: Dr. Alison M. Berry, Department of Environmental Horticulture, University of California, One Shields Ave., Davis, CA 95616-8587. (530) 752-7683. For further information about the position, contact [amberry@ucdavis.edu](mailto:amberry@ucdavis.edu), or about the application process, contact [sfielden@ucdavis.edu](mailto:sfielden@ucdavis.edu).

THE UNIVERSITY OF CALIFORNIA, DAVIS, IS AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER WITH A STRONG INSTITUTIONAL COMMITMENT TO THE ACHIEVEMENT OF DIVERSITY AMONG ITS FACULTY AND STAFF. IN THAT SPIRIT, WE ARE PARTICULARLY INTERESTED IN RECEIVING APPLICATIONS FROM PERSONS OF UNDER-REPRESENTED GROUPS INCLUDING WOMEN, ETHNIC MINORITIES, DISABLED VETERANS, VIETNAM-ERA VETERANS AND HANDICAPPED PERSONS.

DEPARTMENT OF ENVIRONMENTAL HORTICULTURE  
College of Agricultural & Environmental Sciences  
**ANNOUNCEMENT OF LECTURER POSITIONS**

**ENH 001 - Introduction to Environmental Horticulture and Urban Forestry - Fall Quarter 2001:** This three-unit lecture course provides an understanding of the role of plants used to enhance the physical, visual and social environment. Societal concerns about the environment, including how global climate change can be addressed are demonstrated and how ecological and engineering principles can be used to develop sustainable, low maintenance landscape systems.

**ENH 100 - Urban Forestry - Fall Quarter 2001:** This four-unit course has two hours of lecture and one three-hour laboratory each week. Students learn the principles and practices of planning and managing urban vegetation and gain an appreciation for the breadth of urban forestry from the inventory and management of street trees in the city center to the design and management of fire safe landscapes at the urban-wildland interface. The basics of tree appraisal, natural resource inventory, development of a long term management plan and the importance of understanding people-plant interactions will be stressed.

**ENH 102 - Physiological Principles in Environmental Horticulture - Spring Quarter 2002:** This four-unit lecture and discussion course relates the cultural processes applied in horticulture to physiological principles. It discusses several critical physiological factors that determine the timing of crop production and performance of plants in horticultural situations. Several applications will be used to show the interactions between genotype and environment.

**ENH 120 - Management of Container Media - Fall Quarter 2001:** This three-unit course comprises two hours of lecture and one three-hour laboratory each week. The course includes instruction in learning the principles of soil science and practices related to management of container media, emphasizing appropriate use of soils and amendments, irrigation and fertilizers. Physical and chemical properties of soil will be tested. Effects of management on crops are evaluated in the laboratory.

**ENH 133 - Woody Plants in the Landscape - Winter Quarter 2002:** This four-unit course comprises three hours of lecture, one two-hour laboratory and one hour discussion each week. The course includes principles and practices concerning growth and management of trees and shrubs in the landscape with practical emphasis on management of woody plants in urban landscapes. The course broadens concepts of woody plant management for the whole urban forest, urban-wildland and other disturbed landscapes.

The qualified candidate will possess, minimally, a Master's degree in horticulture or related field and professional experience in the field. Prior teaching experience is preferred. Salary commensurate with qualification and course load. Candidates should send a curriculum vita and the names and addresses of three references, teaching evaluations, course syllabi, etc.) to:

Lecturer Search Committee Attn: Sandy Fielden  
Environmental Horticulture  
University of California  
One Shields Avenue  
Davis, CA 95616-8587  
[sfielden@ucdavis.edu](mailto:sfielden@ucdavis.edu)

Applications must be received on or before September 1, 2001.

Specify in the application the class you prefer to teach .

The University of California, Davis, is an Affirmative Action/Equal Opportunity Employer.

This position is covered by a collective bargaining agreement.



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