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MPSHIRE PLANT GROWERS ASSOCIATION

June & July 1994

# *the Plantsman*



**POINSETTIA PEST MANAGEMENT, PAGE 17**

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**SUMMER MEETING INFORMATION, BACK COVER**

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# What do you want for Christmas?

**YOU WANT SOMEONE WHO IS RESPONSIVE TO YOUR NEEDS**  
At Sibgo Tree Company we offer a wide variety of high quality Christmas Trees. Other tree companies can say that too. But, since we *also* have a retail Christmas Tree business, we know what retailers want. What sets us apart is our understanding of *your* needs. We know what *you* want from a supplier.

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COLEBROOK, NH

## June

JUNE 21 *Maine Landscape & Nursery Association Twilight Meeting* (North), The Growing Concern, Orono; for information: Claire Ackroyd at (207) 866-3448.

JUNE 23 *UMass Turfgrass Field Day*, South Deerfield Farm; Rich Cooper at (413) 545-2353.

JUNE 24-25 *Sixth Annual Pocket Gardens of Portsmouth Tour*, Portsmouth, NH; information: (603) 743-5260.

JUNE 25 *New Hampshire Rose Society Annual Show*, Barton Hall, UNH, Durham, NH; for information: Bill Prince at (603) 868-9610.

JUNE 26 *FTD District 1-C Meeting*, Rye, NH; information: Ray Savage at (603) 352-1155.

JUNE 26 *New Hampshire Landscape Association-sponsored Tour of Tower Hill Botanical Garden*. Boylston, MA; contact Guy Hodgdon (1-800-639-5601) before July 1.

## July

JULY 9-13 *International Floriculture Industry Short Course*, Cincinnati, Ohio; for more: (614) 487-1117.

JULY 12-15 *AAN Convention*, Baltimore, MD; (202) 789-2900.

JULY 14-16 *MANTS*, Baltimore, MD; (301) 256-6474.

JULY 26-28 *PANTS*, King of Prussia, PA; (717) 238-1673.

JULY 13-14 *New England Ag Expo*, Tunbridge Fairgrounds, Tunbridge VT; for information: 1-800-653-2700.

JULY 20 *Connecticut Nurserymen's Association Summer Meeting*, co-sponsored by Young's Nursery and Planter's Choice Nursery, Newtown, CN; for information: (203) 872-2095.

## August

AUGUST 4 *Massachusetts Nurserymen's Association Summer Meeting*, hosted by Bigelow Nurseries, Boylston, MA; information: (508) 534-1775.

AUGUST 5-7 *Professional Plant Growers Association's Geranium Special Interest Group Seminar/Tour*, Seattle, WA; information: 1-800-647-PPGA.

AUGUST 10 *Third Annual Athletic Turf Management Field Day*, College of the Holy Cross, Worcester, MA;

information: Mary Owen at (508) 892-0382.

AUGUST 10 *NENA Summer Meeting*, Aqua Turf, Southington, CT; for information: (617) 431-1595.

AUGUST 17 *NHPGA Summer Meeting*, Ledgewood Farm, Moulton-boro, NH; co-hosted by Spider Web Gardens, Center Tuftonboro; for information: Chris Robarge at (603) 862-1074.

AUGUST 17 *Rhode Island Nurserymen's Association Summer Meeting*, Blithewood, Bristol, RI; for information: (508) 761-9260.

AUGUST 20 *Plant Sale*, Hay Estate, Route 103-A, Newbury, NH; information: Ann Loeffler at (603) 526-4153.

AUGUST 24 *Vermont Plant Growers' Summer Meeting*, Stowe, VT; information: Tina Nyce at (802) 899-3361.

AUGUST 26-SEPTEMBER 3 *Professional Plant Growers Association (PPGA) Technical Tour of Denmark*; for information: 1-800-647-PPGA.

## September

SEPTEMBER 14 *NHPGA Twilight Meeting*, 5:30-7:30, Gateway Gardens, 430 Loudon Road, Concord, NH; for information: Kirk Weyant and Sue Englund at (603) 229-0655.

SEPTEMBER 16-OCTOBER 1 *Eastern States' Big 'E'*, West Springfield, MA.

SEPTEMBER 17 *Floral Garden Mum Workshop*, Konjoian's Greenhouses, Andover, MA; information: Peter Konjoian at (508) 683-0692.

SEPTEMBER 22-27 *27th International PPGA Conference and Trade Show*, Buffalo, NY; for more: 1-800-647-PPGA.

## October

OCTOBER 17-19 *New England Greenhouse Conference*, Sheraton Sturbridge Inn, Sturbridge, MA; for information: Henry Huntington at (603) 435-8361.

## November

NOVEMBER 12 *Rhode Island Nurserymen's Association 75th Birthday Celebration*, Doubletree Inn, Newport, RI; for information: (508) 761-9260.

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## About Our Cover

"Regular plant examinations help..."  
(Photo of Ginny Hast by Alan Eaton.)

The *Plantsman* is published in early February, April, June, August, October, and December with copy deadlines being the first of each prior month. While camera-ready ads are preferred, set-up assistance is available at a nominal fee. Free classified advertising is offered as a member service. We will carry a short message (no artwork or logos) for one or two issues of *The Plantsman*.

AD SIZE	6x	1x
3 3/8" w x 2 1/4" h	\$120	\$30
3 3/8" w x 4 3/4" h	\$160	\$40
7" w x 2 1/4" h	\$160	\$40
7" w x 4 5/8" h	\$250	\$50
7" w x 9 1/2" h	\$400	\$100

For further information, please contact the editor: Robert Parker at the UNH Research Greenhouses, Durham, NH 03824, (603) 862-2061; or PO Box 5, Newfields, NH 03856, (603) 778-8353.

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Form GRI-AN-10

## Greenhouse Energy Audits

Warren W. Leary

The New Hampshire Governor's Office of Energy and Community Services, with the help of UNH Cooperative Extension, has begun to develop an Agricultural Energy Program to help various agricultural interests in the state. As everyone knows, energy is a costly segment for any business—but this doesn't always need to be the case. Through proper maintenance of equipment, use of new technologies, and good old Yankee ingenuity, we can help hold energy costs down. This not only means more profit for farmers and growers, but a healthier environment for everyone.

One of the intentions of this program will be to help greenhouse growers manage energy usage more efficiently through greenhouse energy audits. On-site audits will examine energy type and usage, equipment, building design and integrity, and such variables as temperature and humidity. This data will then be analyzed by a computer program that suggests and evaluates energy-saving measures that are cost-effective for the grower. This same program was successful in Georgia, where growers showed savings of as much as 25% after having implemented the recommended conservation measures.

The program here is still in its development stages, but we hope to be performing the first audits by the end of July. Right now we are interested in receiving input from growers concerning aspects of the growing process that should be looked into or added to our program. We would also like to hear from any greenhouse suppliers. Input from all aspects of the industry would be of great help to us as we develop a program that would genuinely assist New Hampshire growers in becoming more energy-efficient and profitable.

## WORKER PROTECTION STANDARD UPDATE May 3, 1994

Murray L. McKay

Implementation of the general provisions of the worker protection standard, originally scheduled for April 15, 1994, has been put off until January 1, 1995. Not all aspects of the standard, however, have been delayed, and pesticide applicators will still have responsibilities under the Standard during 1994. The breakdown is as follows:

"During 1994, applicators must comply with any worker-protection requirements that are spelled out on the pesticide label. These include label requirements for personal protective equipment, restricted entry interval restrictions, and certain posting and other notifications for notifying workers of pesticide use. Certain restrictions for 'early entry' workers, agricultural emergencies, and protective equipment options for irrigation work are also in effect this year.

"Most of the provisions, however, that are 'referenced' on the label through the worker protection reference statement, will not be enforced until January 1, 1995. These include requirements for pesticide safety training, decontamination, notification of workers about pesticide applications (where notification is not specified), display of safety poster and specific application information, and emergency assistance.

"If you have already trained your workers and handlers, you will not have to retrain them in 1995 so long as you have documented the training and it was conducted by a qualified pesticide safety trainer. Agricultural employees, therefore, are encouraged to continue to conduct training and to comply with all aspects of the Standard during 1994, so that you will be that much further ahead next January.

"The delay in implementation has not affected the New Hampshire certification requirements: all private applicators and commercial applicators who are certified under agricultural or forestry categories must now pass a worker protection test as part of the core examination requirements. Certified applicators who have not yet taken a worker protection exam will have to do so prior to renewing their licenses in 1995. All such applicators are urged to contact the Division of Cooperative Extension to schedule an exam.

"If you have any questions as to your responsibilities under the Standard during 1994 please contact the Division of Pesticide Control at (603) 271-3550."

Please free to contact me, Warren Leary, at (603) 271-2611 or write to: Governor's Office of Energy and Community Services, 57 Regional Drive, Concord, NH 03301.

### Twilight Meeting

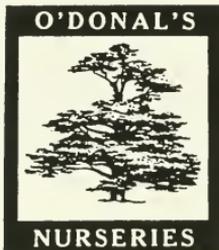
On the evening of April 28, members and friends came to Northern Nurseries in Barrington for a

chance to get together and see what Bob Averell, Northern's manager, calls a "meat-and-potatoes nursery operation."

Northern is one of six wholesale distribution centers operating under that name as a division of Robert Baker Companies. Bob has been here since it began in March, 1988, and as he gave a tour of the seven-acre facility and told about

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how its design evolved, he talked about such things as hardwoods offered (the "Mulch Monster"), the irrigation system (two pumps, a 100-gallon per minute well, a million-gallon pond, a 24,000 gallon above-ground storage tank), and buying trends ("People want larger material").

Afterwards the conversation continued over refreshments (meatball subs) in the office.

The NHPGA thanks Bob Averell and staff for their time and hospitality and wish them a successful 1994 season. ☺

## Welcome New Members

Forever Green  
178A Buffalo Road  
Rumney, NH 03266

Barbara Judkins  
PO Box 267  
Atkinson, NH 03811

Ken Francoeur  
8 Maple Avenue  
Newton, NH 03858

☺ ☺ ☺

## BOARD HIGHLIGHTS

April 5, 1994

**B**ob, Chris, Henry, Roger, and Tammy met at Pleasant View; the meeting opened at 7:10.

Chris reminded Board members that the ERNA Show at the Concord distributes all money beyond expenses to state organizations in proportion to the attendance from each state. The NHPGA received \$465, which isn't a lot, but is worth our continued support.

Forty members had not renewed and the list of their names was divided up among the Board. These people will be called and asked personally to renew. If they choose not to, hopefully the Board will receive suggestions on how to improve the organization and its relevance to members.

A proposal by Andi Axman (Wordworker and marketing specialist) to organize a membership campaign (the idea being that increased membership would increase *The Plantsman* circulation, which in turn would increase interest in advertising) was looked over by the Board. However, several new businesses have chosen to place ads recently and no action was taken on Andi's proposal.

It was decided to sponsor a trophy to be given for the best cut flower arrangement at the New Hampshire Orchid Society Show.

Most aspects of the Summer Meeting seem to be in place. The Board discussed several possibilities for door prize and felt that a weekend away from work—something the person wouldn't arrange on their own—would be most appropriate.

A questionnaire will be given to members at the Summer Meeting. It will be brief and concerned basically with what sort of plant material members would like to see promoted at next year's Farm & Forest. Not many fliers were taken at this year's booth there, but the Board feels the concept is solid, and that if next year's booth is manned and fliers actively given out, it would successfully promote the NHPGA and the products of its members. Roger will be writing the questionnaire and next year's fliers.

The Board began discussing locations for 1995's Summer Meeting.

☺

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## 1994 New Hampshire Fairs

JULY 28-31 *North Haverhill Fair*, Fred C. Lee Memorial Field, N. Haverhill; for information: David Kelth at 787-6696.

JULY 29-31 *Stratham Fair*, Route 101, Stratham; information: David Noyes at 431-GAME.

AUGUST 2-7 *Cheshire Fair*, Route 12, N. Swanzey; John Thurber at 357-4740.

AUGUST 16-21 *Lancaster Fair*, Route U.S.3, Lancaster; Bonnie Knapp at 636-2845.

AUGUST 19-21 *Cornish Fair*, Town Hall Road, Cornish; Bob Bladen at 542-4622.

AUGUST 20-21 *Belknap County 4-H Fair*, Mille Hill Road, Belmont; Tom Corbin at 524-5125.

AUGUST 24-28 *Plymouth State Fair* (Take Exit 26 off I-93); Fran Wendelboe at 536-2305.

SEPTEMBER 1-5 *Hopkinton State Fair*, Contoocook Fair Grounds, Contoocook; Alan Hardy at 746-4191.

SEPTEMBER 9-11 *Hillsboro County Agricultural Fair*, Rte 13, New Boston; John Robertson at 588-6500 or Marge Rowe at 673-2510.

SEPTEMBER 15-25 *Rochester Fair*, 72 Lafayette St., Rochester; Jeffrey Taylor at 332-6585.

SEPTEMBER 29-OCTOBER 2 *Deerfield Fair*, Route 43, Deerfield; Robert Stevens at 463-7421.

OCTOBER 8-10 *Sandwich Fair*, Center Sandwich; Earle Peaslee at 284-7062.

All telephone area codes are 603.

## Welcome, New Board Member

In March, Tammy Hathaway agreed to serve on the NHPGA Board. (We now have a full board.) Tammy's involved in several aspects of the business—having worked at Michaud's in Exeter for eight years, she is now at Rolling Green in Greenland. She will continue doing there what she has always done—growing, gardening, sales....

She and her husband have also begun a cut-your-own flowers business (with an unusual assortment to pick from) at their own home. After a successful first year, they're expanding—this year, it's a wider assortment, larger bed, and an 8x10 shed at the end of the driveway. She's also an enthusiastic member of the Specialty Cut-Flower Association and hopes to share with NHPGA members some of the information she receives from them.

Tammy's at 61 Squamscott Road, Stratham, NH 03885; she can be reached at 603-778-3912.

## New Product

Back in July, 1993, the Rochester, New Hampshire, Organic Waste Composting Facility opened and began accepting leaves, brush, wood chips, and stumps. Sludge and wood ash were accepted beginning in the late fall.

Towns throughout the area bring their organic wastes to the facility; nurserymen, landscapers, and homeowners bring small quantities as well. Each load is weighed and the party bringing it charged \$10.00 a ton.

The material is put into one of the 15 bays of the 44,000-square foot facility. For 21 days, it's turned daily and air hot enough to kill weed seeds and pathogens is driven through it. Then it's cured outdoors for a month.

The product from all this is a compost called AllGro. And International Process Systems, Inc. (a

Wheelabrator Clean Water Company) began marketing it on April 15. A lot of research and testing (some of it ongoing) has gone into the development of this compost; it's seen as an excellent soil conditioner and top soil substitute, useful in a wide range of applications. Advantages listed in a promotional brochure include increased soil aeration, nutrient and water retention, and cation exchange capacity.

AllGro is delivered directly in 50-to-60-yard truckloads to nurseries, garden centers, and landscapers (it's not yet available in smaller quantities). There's a two-tier price structure—one for users, a slightly lower one for distributors ("In this way, we protect our distributors," Jeff LeBlanc, Director of Marketing, says.) Accommodating and aggressively searching for new markets, Jeff is at 1-800-662-2440.

Allgro is in Rochester at the Waste Management Landfill off Route 125 on Rochester Neck Road.

## NHPGA Scholarships Awarded

The success of the auction at last year's Summer Meeting allowed the NHPGA to give two \$750 scholarships this spring.

As is traditional, one went to a student in the Department of Plant Biology, one to a student in the Thompson School.

Scott Ridlon, Thompson School student, currently owns a small lawn care business in Milton Mills, New Hampshire. He's married, with two young sons, and owns his own home. He went back to school because he felt "an education in the horticultural technology field would help me and my business become more marketable." After graduation, plans include "starting a small greenhouse for plant production, helping to reclaim an old farm and making it profitable and productive again, and making my own business financially stable and large enough to hire employees."

Tracy Weber, student in the

Plant Biology Department, decided to major in horticulture because "creating and maintaining gardens brought me an immense amount of satisfaction." After graduation, she'd like to study in Great Britain and, eventually, work in a public garden. Right now though, she's "open to any job opportunity in horticulture."

*Congratulations to both recipients.*

## NHPGA Trophy Presented

Nine AOS awards were given at the New Hampshire Orchid Society's (NHOS) lively and successful show at Bedford Mall on April 30 through May first. Four of these went to Darrin Norton and Chuck Andersen's Mountain Orchids (specializing in miniatures) of Ludlow, Vermont, and included the AOS trophy for the Most Outstanding Exhibit. Cheryl Keim of Hampstead received a CCM (Certificate of Cultural Merit) for a Laelio Cattleya (37 blossoms) she grew on a window sill. (That was the small one—she couldn't get the big one out of the house.) The NH/VT Teleflora Unit received the Best Cut Flower Arrangement Trophy, presented by the New Hampshire Plant Growers' Association. The trophy was a Pepi Hermann (a New Hampshire artisan specializing in hand-blown glass) vase with the NHOS symbol etched into it.

Attendance was good (according to Joanna Eckstrom, the show's coordinator, over 3000 people attended and vendor sales were high as well). A show next year is already being talked about, so reserve the last weekend next April for a visit to 1995's bigger-and-better-than-ever.

## Summer Events

There are summer events that, although not industry-related, are plant-related. Go yourself—for your own pleasure or, more pragmatically, to see what material is being



WOODCUT: BON PARKER

used. If you can't attend, tell your customers about them. (Inspired customers produce sales.)

## POCKET GARDEN TOUR

The Sixth Annual Unitarian-Universalist Portsmouth Pocket Garden Tour takes place June 24-25 in Portsmouth, New Hampshire. A dozen or so gardens will be included. A wide range of styles—formal, cottage, "ingenious"—are used. All should be interesting to see.

A new feature will be the Friday night (5-8 pm) viewing. Music and refreshments will enhance the twilight. On Saturday, the hours are from 9 to 3. Admission is \$10 either day; tickets will be on sale at the Unitarian-Universalist Church, 292 State Street (a garden shop will be in the churchyard on Saturday). For information, call (603) 743-5260.

## HAY ESTATE PLANT SALE

The Historic Landscape Committee of the John Hay National Wildlife Refuge will hold its annual plant sale on Saturday, August 20, from 9 am until 1 pm at the Hay Estate on

Route 103-A in Newbury, New Hampshire. Events include a rare plant auction at 11:30 and garden tours. Choice alpine, shrubs, and perennials will be offered for sale from specialty nurseries, in addition to material from the Hay Estate and other local gardens. Parking and admission are free.

Working under the guidance of the Garden Conservancy, the Historic Landscape Committee and its director, Bill Noble, are developing long-range plans for the restoration of the Hay Estate gardens to their appearance during their peak development in the 1930s and the creation of a horticultural center for northern New England. Proceeds from the sale will benefit these efforts.

(Directions: From Concord, take 1-89 N to Exit 9 (Route 103) toward Newbury; in Newbury, take 103-A north 2.2 miles—the estate will be on your left. From Hanover, take 1-89 S to Exit 12 (Route 11 W); Route 11 intersects immediately with 103-A; go south on Route 103-A for 5.5 miles—the estate will be on your right.)

## Manual Available

A new manual—1994 *New England Management Recommendations for Insects, Diseases and Weeds of Shade Trees and Woody Ornamentals*—offers latest information on virtually all insects, diseases, and weeds of woody plants in New England. It includes the current and legal listings of chemical compounds labeled for the management of these pests, as well as integrated pest management considerations for most of them. Information about fertilization of woody plants, a listing of low-maintenance trees and shrubs, and growing degree day information for most of the insect pests in included.

This manual was created by Extension professionals and by foresters from all six New England states, the US Forest Service, and the UMASS Urban Forestry Diagnostic Lab.

To order, send a check for \$20. (payable to the University of Massachusetts) to Bulletin Center, Cottage A, Thatcher Way, UMASS, Amherst, MA 01003. For information, contact Kathleen Carroll at (413) 545-0995.

## Composting & Recycling Resource Book Available

The Pennsylvania Nurserymen's Association (PNA) has announced the availability of a new publication on composting and other resource conservation practices. The publication, *Recycling and Resource Conservation: a Reference Guide for Nursery and Landscape Industries*, is available through the PNA office.

"The publication is a practical reference manual of technical information and proven practices which addresses composting landscape debris, recycling plastics, reducing and recycling water in greenhouses as well as container and nursery industries, and more efficient use of fertilizers and other chemicals in nursery crop production and landscaping. While many resources ex-



LABYRINTH IN POITIERS CATHEDRAL. Reprinted from *Mazes and Labyrinths* by W.H. Matthews

ist for any one of these topics, there was no one source for simple and practical information until this publication was introduced."

For information or to request an order form, write the PNA, 1924 North Second Street, Harrisburg, PA 17102, or call (717) 238-1673.

## Asian Gypsy Moth Emergency Declared

from AAN Update, April 4

On March 9, Secretary of Agriculture Mike Espy declared an emergency due to an infestation of Asian Gypsy Moth in eastern North Carolina. As a result, \$8.7 million in federal funding has been made available to conduct an eradication program on roughly 130,000 acres near Wilmington. A similar eradication program was conducted—apparently successfully—in the Pacific Northwest in 1992.

## Introducing...

### 'CHRISTINE'

(from Nursery Retailer, March/April, 1994)

The FloraStar Board of Directors has announced 'Christine' as the winning garden mum from Yoder Brothers' Prophets series. (FloraStar is a subsidiary of the PPGA; its trialing program selects new varieties of potted plants for promotion in industry-wide marketing efforts.) 'Christine' has bronze vibrant color with a good keeping quality and was described by the judges as

displaying "excellent, non-fading color, with lasting blooms and post-harvest keeping." For more, FloraStar at (708) 963-7001

### 'TOOLITTLE'

from *Greenhouse Manager*, April 1994

A mutant sport of *Ficus benjamina* discovered by Parrish Tropicals manager Jim Atchison in 1988 is taking the bonsai market by storm. But the tiny ficus, named 'Toolittle' for its minuscule internodes and dainty curved leaves, also shows promise for topiaries, small "standard" trees and miniature bushes.

Parrish Tropicals has been selling 'Toolittle' for just about one year and has applied for a plant patent on it. The cultivar is such a dwarf that the original plant has grown to just four feet in five years.

It's currently available only in 2-, 4-, and 6-inch pots. "It is so petite and 'tight' in general that it looks like a small tree," Atchison said. "It makes a great starter bonsai. A true bonsai it is not."

For more: Parrish Tropicals, Inc., 16320 Carter Road, Delray Beach, FL 33446; (407) 498-4558; fax (407) 498-0134.

## AND CUT VIBURNUM

from *Nursery Retailer*, March/April 1994

Viburnum production in Holland has grown more than 10% annually in the last few years to meet consumer demand. Popularly known in North America as a 'snowball,' Viburnum was "rediscovered" a few years ago for the exclusivity of its stalks and the current trends toward round shapes and "back to nature" themes.

*Viburnum opulus 'Roseum'* is the only variety grown, but it is found in widely varying forms. There are short stocks with one or two flower heads, particularly suited for small hand-tied bouquets; others with long stalks and four clusters are suitable for decorative binding and arranging.

Consumers are attracted to the beautiful change in color: the buds, which are still green during the trading phase, slowly change during flowering until they attain their final white.

The Viburnum has a vase life of about 14 days. Stalks should be wrapped in bunches of ten and traded in water. Retailers are advised to use shrubby nutrient to combat the growth of bacteria, and the consumer should also be supplied with a sachet of shrubby nutrient. This will improve water intake and development of flower clusters. (It's important to recognize that shrubby nutrient is only suitable for bouquets in which only shrubby is used. When used in combination with other types of cut flowers, use a general cut flower nutrient.)

Viburnum is available at Dutch auctions from February through May. ☘



## PPGA HIGHLIGHTS

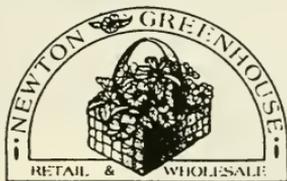
Professional Plant Growers Association is developing special interest groups (SIGs) to meet the needs of the various segments of the PPGA membership. The Geranium SIG has been in operation for more than a year—now a Retail SIG has been established. It's designed to help small garden centers build their businesses, growers diversify into retailing, and larger retailers train their staffs.

The Retail SIG is developing ways to help its members succeed. Seminars present the principles of merchandising and display in a practical, hands-on manner. Tours of successful retail businesses show retailing principles in action and give participants ideas to take back to their home stores. Four newsletters go to members each year—two offering retailing ideas and information for store managers—and two that can be used as consumer newsletters to be sent to customers.

Barbara Falls of Michigan State University has been appointed coordinator and organizer of Retail SIG activities, seminars, newsletters, and services. Falls is an Associate Professor at MSU with a Ph.D. in floriculture from Virginia Tech. She's taught retail floriculture for 13 years and has created and manages an on-campus retail flower and plant store where she trains students in retail floriculture. For commercial floral retailers, Fall developed a retailing short-course she teaches each summer—and a retail greenhouse evaluation program to help improve merchandising.

Retail SIG membership dues are \$165 a year. This includes the newsletters and reduced rates on all Retail SIG events. Seminar/tour combinations are scheduled during PPGA's 1994 conference in Buffalo, NY, in September—and again in June, 1995.

For information, contact PPGA, PO Box 27517, Lansing, MI 48909-0517; the phone number there is 1-800-647-PPGA. ☘



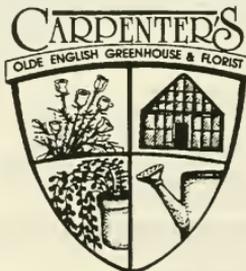
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continued from back cover



But this is only part of the story. Quality plant material and innovative retailing is another. For these, visitors will go by bus to Bill Stockman's Spider Web Gardens a few miles away. Begun in the 30s by Bill's grandfather, Spider Web has become one of the Lakes Region's better known establishments—a place well worth a visit.

Bill will lead tours. Or the visitor can stay and look around himself and take a later bus back. There will be jumbo annuals and perennials and combination pots, as well as a half acre of cut-your-own flowers (glads, cosmos, zinnias, asters).

One of the main themes will be how to expand sales when selling out of a small (1,000 square foot) shop. One way is to use a tent; another is to create sales islands in the parking lot. Other innovative techniques include the creation of the "Spider Web Garden Club." Members get a card on which the amounts they've spent are re-

corded. When a certain total is reached, the person can get \$5. of merchandise free. This encourages return visits and keeps the mailing list updated as well.

Along with visiting these two places, there will be an opportunity to talk with vendors at the tailgate trade

show (the list is growing....) In the afternoon, the main event is the auction to support our scholarship fund. Peter Callioras from The Auction Professionals will again contribute his services as auctioneer (and entertainer).

Perillo's of Manchester is catering lunch (one of his fine all-you-can-eat barbecues—chicken, hot dogs, hamburgers, sausages, a choice of salads, corn-on-the-cob....)

...and for those who want a very full day, Castle-in-the-Clouds is just up the road from Ed's (his barn was built to house the workers who built it) and open until 5:30.

Preregistration is \$25 (\$30 at the door); there is a door prize, as yet unannounced.

See you on the 17th. ☺

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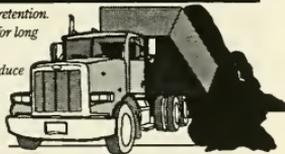
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# Floriculture's Fountain of Youth

Dr. Peter S. Konjoian

For centuries, man has been searching for the elusive 'Fountain of Youth'. We have experimented with all kinds of compounds, practices, and beliefs that would successfully extend life by maintaining one's juvenility. Have we succeeded? Have we made progress? Each of us may answer these questions differently; however, one thing can be stated with certainty. Although we are living longer, it does not appear that we are living longer younger. I would like to discuss the topic of juvenility as it pertains to plants in this article. There are times when understanding plant growth helps us to explain aspects of animal physiology. Plants seem to be simpler and easier to understand.

For ten years now, I have been researching the effects of ethylene on floricultural crops. During my days in graduate school at Ohio State University in the late seventies, I learned a lot about how bad this hormone can be to floricultural crops once they've been harvested. A whole discipline evolved called post-harvest physiology, with its practical counterpart for growers being post-harvest care and handling. We devoted so much time and energy to this new discipline of horticulture that, in my opinion, we created a monster. Don't get me wrong—I'm not saying that our understanding of post-harvest physiology is incorrect. But I am saying that we've become so preoccupied with thinking of ethylene as the bad boy on the block that we've almost missed how very beneficial it can be during the production (or pre-harvest) stage of crop development.

As I became fascinated with this hormone's story, my research gained momentum. With each experiment, I am finding that this simplest of plant hormones, the only one that occurs naturally as a gas, was not put into plants to contribute only to aging and senescence and death. Later in a plant's life, all these things are true. But early in a crop cycle, while the plant is growing and building itself, ethylene has quite the opposite effects. It prevents flowering and stimulates branching, resulting in more juvenile and active plant growth.

Because ethylene occurs naturally as an odorless, tasteless gas, it is difficult to apply accurately even in controlled settings to yield consistent results. To date, ethylene gas is used routinely in supermarket warehouses, in sealed rooms, to trigger the ripening process in bananas and tomatoes. However, in a commercial greenhouse, you can quickly see that using ethylene gas would be extremely uncontrollable. Think of how important it is to have furnaces burning cleanly and efficiently. If they are not, ethylene is a common by-product of in-

complete combustion. And, once it is released in a tightly sealed New England greenhouse and circulated with either a fan jet or horizontal air flow system, it does not take long for a crop to be exposed.

The solution to this problem was to somehow lock the ethylene up in a solution and apply it to the plant in a liquid form. Almost 30 years ago, this was accomplished by chemists. The liquid compound was named ethephon and it was given the trade name "Florel". Since then, if one considers agriculture on a global scale, ethephon is considered to be the most widely-used chemical growth regulator. In the United States, about 90% of the ethephon used is for cotton, to open the bolls uniformly. If you have any farming your background—vegetable, to be exact, you may have used a product named "Ethrel" to accelerate ripening of tomatoes. This is just a different formulation of ethephon.

The beauty of ethephon (or Florel) as we know it in our business is that the application is completely localized. That is to say, if I have two geranium plants side-by-side and spray one with Florel, the untreated plant will not be affected at all. The plants can be inches apart, but as long as there is no spray drift carrying material to the untreated plant, it will show absolutely no effects. Notice that I mention drift. This is very important: spray drift will have an effect on plants, and care and planning must therefore be practiced when treating crops.

As I mentioned earlier, Florel's effect on floricultural crops are numerous. It prevents flower initiation and aborts already initiated flower buds. These effects are desirable on stock plants because all of the plant's photosynthates are channeled into vegetative growth. This effect is also beneficial for rooted cuttings and recently transplanted finished crops because premature flowering can be eliminated. During each of these production stages, hand labor is saved because flowers and flower buds do not have to be removed. Florel also stimulates lateral branching on all stages of crop development from stock plants to rooted cuttings to finished plants. Labor savings once again are substantial. Florel also acts as a 'typical' growth regulator in inhibiting internode elongation, thereby controlling stem stretch. 🌱

*If you are interested in learning more about Florel's "Fountain of Youth" potential and how to harness the fascinating effects of this plant hormone, please contact me. I hold workshops at my Andover, Massachusetts, greenhouse range, have an entire notebook available that contains all of my Florel writings, and publish a regular newsletter on the effects of Florel on floricultural crops. I can be reached at 508-683-0692.*

# The General Principals of Biological Pest Control

Michael S. Cherim

## STARTING OUT

In any biological pest control (BPC) program, there exists a dramatic learning curve. And, as in all new ventures, time should be given to learning and understanding the concepts and idiosyncracies surrounding it. As a rule, if you're new to BPC, never make the transition, committing your entire operation, all at once. It's best to make a dedicated transition of one section at a time (5-25% of your operation perhaps, depending on its size, the crop being raised, and of course, your own tolerance). When you feel comfortable with the control obtained in that section and with the knowledge you've gained, move on to another, and so on, until the entire operation is converted. When this happens, you'll not only have bettered the environment—you'll be saving some money.

## THE TOOLS

When using predators and parasites, it is best not to use chemical pesticides. This doesn't mean that your hands are tied, though. After all, you have several non-chemical weapons, which work well with the various organisms, at your disposal. Such weapons include, but are not limited to, traps (including "trap"-or-"catch"-crops) and items such as sticky traps, lures (for both good and bad bugs), barriers (environmental, cultural and physical), bacteria, microbes, pathogens, insecticidal soap and horticultural oil (if carefully applied), vacuuming (good for whitefly adults), and even hand-picking (while not practical on the large scale, can be accomplished on the small scale when monitoring or scouting. After all, any pest you kill is a pest which will cause no further damage or bear young).

## ANOTHER TOOL...BEING IN THE KNOW

You should become familiar with the identification of bugs, good as well as bad. This is necessary when monitoring. Getting a good hand lens, a 10x-30x, is also highly recommended. You should also become familiar with the life cycles of the bugs. The more knowledge you have of your friends and foes, the better able you'll be to cope with your situation. A detailed identification guide—especially one that covers BPC agents (beneficial insects) in great detail—is highly recommended. Your local university library or BPC agent supplier should be able to help you locate such a publication.

## LETTING NATURE HELP

As there are a lot more beneficial species of indigenous organisms than there are of pest species, pest exclusion is not always recommended. It is, in many cases, to your advantage to get rid of the screens isolating your greenhouse from the rest of the world. As you know, the pests still get inside anyway, but the good bugs usually don't. The beneficial species, of which there are hundreds indigenous to your area, usually have plenty of food sources outside, so it is there that they stay. Natural control of pests is the most effective there is, and when you have a greenhouse which is open, as well as one with a less toxic microenvironment, the good bugs will be eager to come in and lend a hand. Additionally, the intro-



WOODCUT: BOB PARKER

duced BPC agents will stay longer, work harder and establish themselves more readily. This results in fewer introductions of purchased beneficial species, especially in the summer months, thus extending a notable savings.

## THE HOW TO

By far the best way to use BPC agents, as a general rule, is to make repeated introductions of limited quantities rather than hitting the area with massive quantities in a onetime inoculation. Repeated releases will result in a generational overlap. In other words, you'll always have beneficials in various life forms, some of which will be the form which is useful to the agribusiness. It is also *highly* recommended to act as soon as possible after pests are noticed, or in many cases, to act preventively. Normally, a BPC agent supplier or insectary will require a certain amount of lead time prior to shipping your order. In most cases, a week's notice is necessary.

*Continued on next page*

## BIOLOGICAL PEST CONTROL

Continued from page 13

### KNOWING WHAT TO EXPECT

Unlike pestiferous species, beneficials do not sit in one spot, sucking plant juices and making a home for themselves. Beneficials like to roam. Most are nomadic, laying eggs, etc. where the pests are. Beneficials will actively seek new prey and hosts. This is their job. It is how they survive. Many growers are disappointed by this because they can't readily pinpoint their investment. Most beneficials are very small, and this, in combination with their active behavior, makes them very hard to find. The best way to know that they are there is to look for the results of their activity. Their discreteness has its advantages: they won't swarm your employees or, more importantly (in a retail operation), your customers. Though most of your customers will have a basic understanding of beneficials, many do not like to see bugs, period. If they

do happen to see some beneficials, negative reactions can usually be countered by hanging a sign stating that "Beneficial Insects" are in use. This sign definitely has a more positive effect than the old skull-and-cross-bones. Most customers will be pleased to know that they might be taking some beneficials home with their purchase. You may also want to retail some popular beneficials yourself. Some popular choices are ladybug beetles, praying mantis egg cases (which have esthetic appeal but aren't very useful as BPC agents) and parasitic nematodes. All of these beneficials can be stored in a refrigerator. If this sounds like something you would like to offer your customers, contact your local BPC agent supplier/wholesaler. ☛

*The doctor is in—Michael S. Cherim is the owner of The Green Spot, Department of Bio-Ingenuity, 93 Priest Road, Barrington, NH 03825. He offers 39 BPC agent species to retail and commercial clients. He is also a wholesaler. For a free catalog or telephone consultation, call (603) 942-8925. "Learning today is easier than catching up tomorrow."*

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## DIAGNOSTIC UPDATE

I can usually tell when spring has arrived (or at least is on its way) by the increase in the number of samples arriving the Plant Diagnostic Lab, and this year is no exception. The number of samples doubled during April and early May. Although there were numerous conifer and broad-leaf evergreen samples, the majority were from greenhouse crops. The problems diagnosed on greenhouse crops were primarily edema on ivy geranium, botrytis pythium, and three cases of bacterial blight of geraniums. Thanks to the whims of Mother Nature, weather conditions during January-March were very conducive to development of edema. In several cases, the severity of the edema was such that the leaves shriveled and died. BACTERIAL BLIGHT in this year's geranium crop has been confirmed by diagnostic labs throughout most of the northeast. In greenhouses, the most common symptom is wilting of one or more leaves even though the soil is moist. Leaf spotting, although less common than wilt, may occur if severely infected plants are present nearby. Leaf spot develops when the bacterium splashed from one plant onto another or drips from hanging baskets onto plants below. Leaf spotting is usually accompanied by yellowing, often in a V-shaped pattern. The symptoms on ivy geranium are not as obvious as those on seed and zonal types. On ivy geraniums, the symptoms are easily confused with

edema or nutrient imbalances. If bacterial blight is suspected, a laboratory diagnosis is necessary to confirm the presence of the bacterium. If confirmed, strict measures are needed to reduce potential crop loss. Plants cannot be cured or protected by pesticide sprays or drenches. Therefore:

1. Infected plants should be destroyed and soil should not be reused
2. Suspicious plants should be isolated
3. Tools, pots, flats, and bench tops, should be sterilized with 10% bleach.

Many conifers and broad-leaf evergreens took a beating this winter, particularly hemlocks. Besides the usual damage caused by salt injury to roadside planting, many hemlocks are showing symptoms of desiccation caused by the combination of the extremely cold temperatures and dry winds of this past winter. Last summer's drought also stressed many trees that were accustomed to growing in relatively wet sites. Trees less than six feet that have turned completely brown will probably not survive. However, wait a few more weeks to evaluate their condition before you replace or remove them.

June and July are 'big' months for plant diseases. Watch for BROWN PATCH, PYTHIUM BLIGHT, and LEAF SPOTS on turf (water in the morning and avoid excessive nitrogen). Lilac shoots infected with bacterial blight should be pruned

during dry conditions. FIRE BLIGHT infected shoots ('strikes') on crab apples, hawthorn, cotoneaster, or mountain ash should be pruned during dry conditions (sterilize tools between each cut). Watch for the leaf spots or dieback associated with DOGWOOD ANTHRACNOSE and prune any severely infected or dying twigs and branches. The severity of LEAF SPOTS and POWDERY MILDEWS can be reduced through the use of sanitation measures plus cultural techniques that increase air circulation. One interesting 'disease' often shows up on bark mulch at this time of year...SLIME MOLD (simply rake or shovel them up, or wait and they'll either blow away during dry weather or wash away during the next good rain). Remind your customers (as well as yourselves) that proper planting (depth and spacing) and cultural techniques (sanitation and mulching) go a long way toward preventing plant problems.

If you wish to submit plant material to the PDDL for diagnosis, send sample to: Dr. Cheryl Smith, Plant Disease Diagnostic Lab, Nesmith Hall, UNH, Durham, NH 03824. Samples should be accompanied by an identification form (available from your county Cooperative Extension office). There is no fee (at this time). Cheryl Smith is the UNH Cooperative Extension Specialist in Plant Health, and can be reached at (603) 862-3841. 🍀

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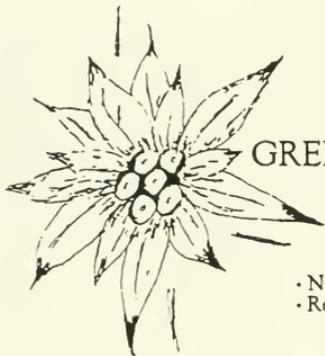
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# Poinsettia Pest Management

ALAN T. EATON  
UNH Cooperative Extension

**U**NH Cooperative Extension ran a pilot poinsettia IPM program in 1993. Since we were trying it out (and I was learning myself), we did not offer the program to all interested growers. Instead, we looked for experienced growers who were close to the university, kept good records, and were interested. We decided on two locations. Newton Greenhouses included roughly 8000 square feet for poinsettias and produced cuttings on the site. Pleasant View Gardens devoted roughly 26,000 square feet to poinsettias and brought in cuttings. From the time of cutting arrival until December 1, the two sites were visited weekly. We used sticky cards, examined plants, and kept records of pesticide applications. Extension workers performed the scouting and discussed the results and recommendations every week with the managers. By the end of the season, it was clear that NH poinsettia producers could benefit from such a program.

As this issue of *The Plantsman* goes to press, it is unclear what the funding picture will be for fiscal year 1995 (Oct. 1, 1994 to Sept. 30, 1995). If sufficient funding is available, Extension will offer a full IPM program for the 1994 crop, patterned after the pilot program. If funds are tight, some alternate

method of program delivery will be used, possibly involving grower meetings, scouting demonstrations, identification clinics and/or regular visits to interested managers. Irrespective of the funding situation, some kind of poinsettia IPM program will be offered this coming season.

*What follows is an overview of the important points in management of whitefly problems that we learned as a result of the pilot program.* By following these steps, you may be able to improve the way you handle whitefly problems, and possibly save money at the same time. Following the program, the growers with whom we worked were able to produce crops that were almost entirely free of whiteflies at the time of sale. Visits to several other greenhouses convinced us that many New Hampshire growers are far from achieving this. Whiteflies are the most serious of the pest problems poinsettia growers face. Time does not allow for the coverage of all pest problems in this article (and still meet press deadline!), so I will concentrate on this one.

■ **CLEAN STARTUP/KEEP IT CLEAN.** This is the best approach in dealing with whiteflies. It is particularly true with poinsettias because 1) late cleanup of

problems is very difficult and 2) the crop becomes very sensitive to pesticide applications after the bracts color up. Spraying after bract coloring might control the pests, but injure the crop and severely reduce its salability. Never allow the plants to become heavily infested. The idea is to keep them clean.

■ **COMPLETELY ELIMINATE UNDER-BENCH WEEDS.** Plants that grow under the benches are not hit by pesticide applications, so they serve as refuges for aphids, whiteflies and other insects. From this spot, the insects can keep reinfesting your crop. Out of sight, out of mind!

■ **ELIMINATE VEGETATION GROWING WITHIN FIVE FEET OF THE GREENHOUSE EXTERIOR.** You may wish to use mulch or gravel to keep plants from growing in this area. Insects that live on them are easily sucked into the greenhouse through vents and doorways. If elimination is not appropriate, keeping the vegetation low may help. Do not mow vegetation near the vents when fans are on and air is being sucked in.

■ **CONSIDER SCREENING ALL VENTS.** Data from sticky cards last year strongly demonstrate how many insects are sucked into the greenhouse during ventilation. When venting stopped, the number of insects on the cards dropped sharply. This drop also occurred after the first good frost. Covering vents with fine screening (400 holes per square inch) will prevent virtually all insects from getting through. You may have to increase your fan size to compensate for reduced air flow or build frames around the vents to increase the screened area.

■ **DISCOURAGE WORKERS FROM WEARING YELLOW OR YELLOW-GREEN CLOTHING.** Winged stages of aphids and whiteflies are strongly attracted to these colors. Wearing such clothing can cause workers to inadvertently carry insects from one section to another.

★ **Inspect all plants and cuttings immediately upon arrival.** This will allow you to reject those that are infested, before they spread. Upon arrival, place them in a "quarantine" area—one removed from your other plants, so they are protected while you examine the new arrivals. Many cuttings arrive with low numbers of whiteflies. A few shipments are badly infested. Probably few shipments are *completely* clean. Take the time to examine the undersides of leaves, preferably with a magnifying glass or hand lens. An hour or two now could save much time later, and avoid costly problems. If rejecting the shipment is a difficult option, at least you can treat the incoming material with an appropriate pesticide before the problem spreads.

...the growers  
with whom we worked  
were able to produce crops  
that were almost entirely  
free of whiteflies  
at the time of sale.

■ **"PET" PLANTS.** Plants that stay in the greenhouse year after year (your favorite potted orange tree, for example) may serve as refuges for thrips, whiteflies, aphids, fungus gnats, or other pests. Removing them from the poinsettia house will insure they won't spread pests to your poinsettias.

■ **MONITORING WHITEFLY POPULATIONS IS VALUABLE.** Regular checking will allow you to maximize the effectiveness of insecticides applied for whitefly. You can tell when and where treatments are needed, determine if sprays have been effective, and tell when treatments are not needed. The most effective program includes *both* sticky cards and plant inspections.

Yellow sticky cards are commercially available and easy to use. We set them on bamboo stakes. As the plants grew, we kept the cards just above the canopy. Yellow sticky cards only tell us where adults are (and therefore where to expect egg laying). We followed (adults!) whiteflies, aphids, shore flies, fungus gnats and thrips with the cards. One card for no more than 1000 square feet of production area is recommended. We checked weekly, but more frequent checking is more helpful.

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■ **PLANT INSPECTIONS CAN HELP.** Plant inspections took more time than sticky card counts, but gave us important information. We learned what benches were hotspots, so that control efforts could be concentrated there. Most hotspots tended to stay hot over the season, while large sections of bench area were free of whiteflies. We learned that it can be very effective to spot-treat. Without plant examinations, we would have wasted treatments where they were not needed. Plant examinations also told us what stages the whiteflies were in. We know that the adults and young larvae are easiest to control; the eggs and pupae are the most difficult. Knowing what stages were present allowed us to select the most effective control options, as well as anticipate where and when adults would appear. On several occasions, plant inspections proved that an influx of adult whiteflies seen on that week's sticky cards had actually come from nearby plants, not the poinsettias.

■ **FLAGGING INFESTED SPOTS CAN HELP.** We learned how effective treatments had been by marking well-infested leaves with blue flagging and checking on them the following week. By returning to the same leaves, we could tell if sprays had done their job. If they had not, the pattern of coverage and the records of rate and past choices of materials helped us determine if the problem was caused by poor coverage, too low a rate, or perhaps resistance.

■ **MARK THE BENCHES/BAYS WITH IDENTIFYING NUMBERS.** We made maps of the greenhouses and bench numbers, so that managers could identify which benches or areas were hotspots, from the data sheets. Anyone looking at the data could then figure out what was going on, not just the person(s) doing the scouting.

■ **SPRAYS MUST BE DIRECTED AT THE LEAF UNDERSIDES.** It was clear that getting good coverage to

the undersides of the leaves was critical when spraying was done. Although adults are sometimes found elsewhere, all other stages are exclusively found on leaf undersides. On one occasion, the manager intentionally selected a pesticide that gave easy-to-see white deposits, so that we could better evaluate coverage. We also tried water-sensitive paper (turns blue where touched by droplets) attached to leaf undersides, to help us see if we were getting good coverage. It worked well if the strips were placed just before spraying and evaluated just after spraying. If watering took place before the strips could be examined, they just turned solid blue!

Controls were not limited to just spraying. In a few cases, a very few well-infested leaves were threatening otherwise uninfested benches. Removal of those infested (lower) leaves improved the appearance of the plants and eliminated the whiteflies, too.

■ **PUTTING IT ALL TOGETHER.** It is not necessary for you to employ all of these practices to improve your management of whiteflies. I hope you already use some! The

challenge is to fit together a program of practices that will help you in your situation. For some, this means getting better coverage. For others, monitoring is the principal need. In some situations, it is clear that preventative measures (starting clean, staying clean) are of key importance. My experiences with sprays on fruit and vegetable crops indicate that growers are very quick to assume that poor control means the pesticide was ineffective. In fact, most of the time poor coverage, calibration or poor timing are the reasons. My limited work with greenhouse pests suggests the same patterns.

In the coming months, the Extension IPM program will specifically target management of pests in poinsettias. Keep in touch with your County Extension staff or me if you are interested in help.

Dr. Eaton is an Extension Specialist in Integrated Pest Management, with UNH. He can be reached at 603-862-1159. 🐞

### Whiteflies

are the

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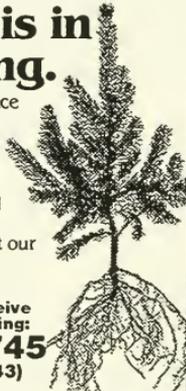
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Jim Zablocki is Territorial Manager, The Scotts Company, Northeast. He can be reached at (603) 2254-5583.

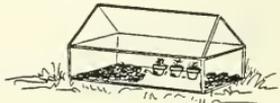


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# Edgewater Farm

*Once, maybe 15,000 years ago,*

*a great dam of ice across the Connecticut River at Rocky Hill, just below Hartford, held back enough water to form a lake that extended all the way to Lyme, New Hampshire.*

*This lake was called Lake Hitchcock.*



*Rivers fed by the great melting ice sheet ran into this lake and made deltas of gravel. Varves, distinct yearly soil deposits (clay deposited under winter ice and coarse silt deposited in the turbulent waters of summer) were added year after year.*



*This ancient lake stayed at the same height for 3,559 years. But one day, the dam at Rocky Hill was breached; the surface of the lake dropped 90 feet. A lower, more northerly lake formed behind a new ice dam at Bennington, Vermont.*

*Scientists named this Lake Upham.*



*When this second barrier broke, the lake drained unobstructed to the sea and the Connecticut River Valley, with its bluffs and terraces, assumed the topography it has today.*



*Around 1830, on a varve terrace in Plainfield, New Hampshire, a cape farmhouse was built. An ell, a barn, a well house, and sheds were added. Crops were grown.*



*Then, in 1974, Pooh and Anne Sprague bought the little grey cape and 30 acres of land. In 1975, an acre was planted with strawberries. In 1976, the first customers arrived....*



*These are the beginnings of Edgewater Farm.*

## Vegetables

"On newly opened ground, production is good," Pooh says and the crop was heavy in the first years. Acreage increased. Pick-your-own berries—in spite of a tarnish plant bug infestation in 1979—became one of the main threads in the complicated weave of Edgewater Farm.

In 1979, Anne was teaching fifth grade in the Plainfield elementary school; Pooh was playing guitar in local bands...at Edgewater, there was "some sweet corn, a few pumpkins..."

Today, 42 acres (15 of them leased) are in production, 13 of them in sweet corn, ten in strawberries, one in potatoes. Lettuce (1500 plants per planting) is sown every eight to ten days from early April until September. There are three sowings of cucumbers and two each of zucchini and summer squash.

Crops are rotated; land in production one year lies fallow the next. This can require some flexibility because Edgewater's land is on four levels, each with its own

soil type. The seven acres next to the river—probably present day river alluvium—is the most difficult to work because it's basically beach sand. In summer it retains heat (workers barefoot on other fields wear shoes when working

here) and not much water; leafy crops can have a difficult time.

There are irrigation capabilities in all the fields. There's a pond; and the river; PTO driven pumps carry water through underground pipe. The system's important in preventing frost damage as well.

Pooh sees the vegetables he grows as "straight-forward," but there's some experimenting in gourmet items. Garlic is grown—and arrugala, a French green with a peppery taste. This year, mesclun, a mix of miniature greens—priced, but very tasty, is being grown for the first time.

A farm stand on Route 12-A is the main sales outlet. A 20x17 pole shed with a 16x16 walk-in cooler built in 1984 "was a real benchmark in the farm operation," Anne says. Before then, Pooh sold sweet corn from the back of his pickup; "now we had a place to sell things like basil and cut flowers. It was great."

At the beginning of June, although customers are still visiting the greenhouses, the emphasis shifts to the stand. Fruit (grapes,

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peaches, blueberries) and early vegetables are bought in, but most of the produce is from the farm itself. "Today people can buy fairly good produce almost anywhere—so it's important—it's a real selling point—that it's our own."

A list of what's needed for each day is made by Anne and the stand crew the night before. Pooh and the field crew have produce picked, washed, and at the stand by ten the next morning. Some is brought to the shed in plastic garbage cans and put through a washer—a system of revolving brushes on a conveyor belt. The Spragues are also proud owners of a "vintage 1935 carrot washer that works terrific"; and at the stand is a series of tubs. The washed produce is stored in the walk-in cooler.

The pick-your-own strawberry operation, usually from the third week in June through the third week of July, is now done in cooperation with Paul and Nancy Franklin's Riverview Farm next door. PYO customers come to Riverview (there's limited parking at Edgewater); people bring containers, which are weighed in by Anne and Nancy and, after picking, weighed out. Profits are divided between the two farms.

(Cooperation has its uses—a group of farm operators in the Plainfield area designed and manned a booth—"The Farms of Plainfield"—at a trade show in Hanover this spring. Displaying photographs and products of the participating operations—various, but all agricultural, it was manned by volunteers from each operation, who gave visitors samples of cider, chocolate milk, and maple syrup. Although there may not be a marked increase in sales because of their efforts, the farmers of Plainfield made people aware of

themselves and of New Hampshire agriculture.)

Tomatoes are grown in three (one heated, two high tunnel) of the greenhouses. Pooh plants Bufalos or Johnnie's 109s directly into the ground. The first fruit is ripe at the end of June....



## Greenhouses

The first greenhouses were two pit greenhouses (each 10x40) put up in 1970—"we grew a hanging basket or two"....

In 1981, Anne stopped teaching and began to concentrate on greenhouse crops full time.

Now nine houses are spread evenly across part of the second (silt/clay; probably ancient lake bottom) terrace; three others are by the river. The 10-acre terrace seems narrow—a third terrace (gravel; probably old river delta) rises abruptly behind it and the bluffs limit winter sunlight. The houses are spaced 20 feet apart to allow easy snow removal, but the space between them is used—each spring it's planted with flowers to be sold at the stand.

"People come for the afternoon," Anne says. "They'll spend a couple hours...just poking around." The houses encourage this sort of thing—they're small (approximately 28x90), double-poly, with wooden ends painted red. They're not numbered ("that would be too imper-

sonal"), but named (Keith, Flap, Baer) after someone associated with their building. Each house has its own slightly different layout of benches (wire on hemlock frames set on cement blocks). The result is a series of subtle variations—the range is consistently engaging. A fleet of red wagons is ready for customers to fill—they do, but they look around awhile first.

The year's cycle begins in mid-January. Propagation is done in a 16x32 polygal lean-to attached to the south side of a new barn (1989)—before that, propagating was done in the cellar. A bandanna seeder used for petunias and nicotiana; most are seeded by hand in Metro 360 in 288s. All are hand watered, some on capillary matting.

When they're transplanted into 806s, a half Metro/half Sunshine mix is used for everything. Pots and mix are brought to each house and the work is done right there.

Propane gas heats the houses—it's slightly more expensive than oil, but the heaters seem cleaner and easier to maintain.

All watering in the greenhouses is done from a 2,000-gallon cement tank installed under Baer house. Water from the artesian well near the house (three gallons a minute) managed to keep this full (a float shuts off the pump), so there was always a reserve. There's another well (12 gallons a minute) now at the stand and a line comes from that too ("so things are better").

Bare-root perennials are potted in five-inch pots. In spring, they're displayed outside, on benches are brought into an area beside the barn. Along with a wide range of the expected—phlox (20 varieties), hosta (14), day lilies (10), chrysanthemums (9)—Anne and Pooh offer some unusual as well. Their choices

tend toward the more subtle (*Arabis*, *Aubrieta*) or old-fashioned (*Lychnis*—Garden Pink). This year those overwintered were put outside ("we would have to try this in the coldest winter I can remember"), but normally they're stored in one of the greenhouses under microfilm.

Annuals offered can be unusual—*Lavatera* (Tree Mallow) and *Amaranthus caudatus* (Love-Lies-Bleeding) are two examples Anne gives. "When we first started," she recalls, "an old woman came to us and asked if we had petunias that smelled." We didn't, but we started growing them and now they're one of our most popular offerings." Scent is a quality she looks for and other plants—both annuals and perennials—are scented as well.

During a trip to England last fall (They spent the entire time visiting gardens in the Cotswolds), Anne and Pooh were impressed with the number of people using simple hands-on methods to grow a lot of beautiful and unusual plants. They brought back ideas from a visit to a geranium collection there and ordered seed: various geraniums—some scented, some zonal—fill benches in

John and Flap houses. Mixed together, rather than separated into types, they reveal possibilities of texture and contrast.

At the height of summer, there are eight full-time employees—weeding, picking, selling, hauling—there's a lot of that—from house to house, from gardens to stand. Lots of hands-on labor. The natural tendency is to simplify—particularly as Edgewater continues to expand (the Spragues recently bought ten more acres of land—with a brook). But the trip to the Cotswolds may inspire them to remain somewhat funky (defined in Webster's as "earthy, pleasantly unconventional") and hands-on. And with lots of well-grown and unusual plants.

The land, its fields—some in production, some fallow, and the small, evenly-spaced structures placed upon it have created an unusual pattern of intimate enclosures—a garden of landscaped rooms. One hopes that as Edgewater continues to expand, Anne and Pooh can maintain some of this unique sense of place. (B.P.)

*Anne and Pooh are at 2 River Road in Plainfield—(603) 298-8391.*

## TIPS

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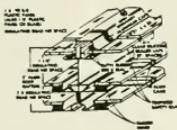
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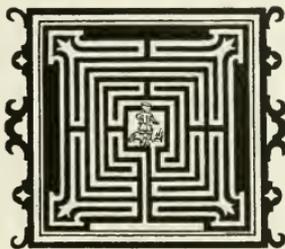
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# HERBS

## *in the landscape*

TANYA JACKSON



HERBAL LABYRINTH. Reprinted from *Mazes and Labyrinths* by W.H. Matthews.

The popularity of herbs grows and grows. More people are using them intertwined in their perennial borders and home landscapes. One reason is that herbs are more than pretty plants. They have uses and histories to offer, as well as fragrances, textures and subtle colors that enhance the landscape.

A stone wall or rock-edged walk becomes a fragrant pathway when planted with mint-scented English Pennyroyal or apple-scented Chamomile, and the crisply fragrant Oregano Thyme (*Thymus pulegioides* 'Oregano, sometimes called *T. nummularis*). Woolly Thyme will literally flow over the timbers at the top of a retaining wall, providing a fragrant bench for sitting. Other low-growing thymes such as *T. herbarona* 'Nutmeg', *Mother of Thyme* cv 'Fosterflower' (named after herbal author Gertrude Foster), and *Mother of Thyme* 'White Magic' creep along the edges of flagstones and bricks, scenting with every step.

Two herbs I would like to see more of in the landscape are the alpine version of Lady's Mantle, and the dwarf variety. Petite and neat, they are slower to spread than the large variety, *Alchemilla vulgaris*, and do not flop over when they mature. When they are more readily available and the cost comes down, I think we will see them used more often as ground covers and in rock gardens. They seem to have no insect problems and flower with delicate sprays of chartreuse for a long period of time.

Another nice herb for walls and walk edges is Winter Savory, *Satureja montana*. It can take poorer soils, has a neat appearance with slick green shiny leaves that remain nearly evergreen. It likes to cascade over walls or will provide a fine accent in ornamental gardens of small conifers and broadleaf evergreens. Germander (*Teucrium chamaedrys*) is similar, a good accent herb as well, but without much fragrance. Winter Savory flowers in pink and Germander in yellow. Both are excellent for rock gardens.

Lavender is one of the best known of herbs because of its perfume quality fragrance that lasts for years in the harvested flower stems. There are many

cultivars and species with subtle differences in leaf size and shape, flower color and flower stalk length. For hardiness, I still find the most success with the old English Lavender (*Lavandula angustifolia*), sometimes called Lavender Vera. A border at the Urban Forestry Center is still flowering profusely after 15 years, despite being out in the open, unmulched for the winter, and (to top off this abuse), transplanted from one place to another at 10 years of age! It will grow in Zone 4 in protected places.

Russian Sage (*Perovskia atriplicifolia*) is outstanding in the landscape. It forms a feathery mass of silver branches to three feet tall throughout the year, with clouds of tiny blue flowers from July to September. It is spectacular when combined with spikes of Foxglove (*Digitalis*), and Clary Sage or Silver Sage (*Salvia sclarea* and *S. argentea*). Clary Sage is an under-used biennial that can be quite beautiful when it displays its tall silvery pink sprays of blossoms. Silver Sage performs with silver white sprays 2-3 feet tall rising from a thick rosette of silver hairy leaves.

Other than white, there is not a more restful color for the garden than sky blue. Blue Flax (*Linum perenne*) in large masses is spectacular. The secret here is to plant large masses and let the seeds drop, providing larger masses, or "wandering color" throughout the garden. The blooming period is long, though each tiny flower only lasts from early morning until noon, the plants blossom for weeks. Masses of the fine textured feathery foliage are also attractive when the seed heads appear.

Southernwood (*Artemisia arbotanum*) in a variety known as 'Tangerine' is tall, feathery, and fragrant as an accent in a large herb or perennial garden or near an entrance where brushing against it releases its fruity scent. This plant roots easily from layering on the ground or from cuttings and really should be used more in the landscape. It can be pruned and easily kept to a desired size.

Other tall accent herbs not used often are lovage (*Levisticum officinale*), discussed in last fall's issue, and Angelica (*Angelica archangelica*), also in a striking purple

variety, *A. atropurpurea*. I am looking for this one, for I saw it accenting a water garden in Ohio, with lovage as a green backdrop. It was spectacular! Angelica can get to 7 feet tall, and reseeds itself if the soil around it is moist and friable. Fennel (*Foeniculum vulgare*) and Bronze fennel (F.V. 'Rubrum') are also excellent accents. When they are in bloom, the anise scent attracts from quite a distance.

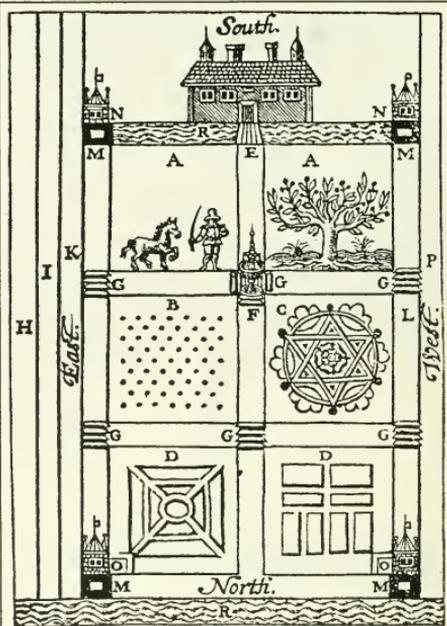
Meadow Rue (*Thalictrum glaucum*) and Meadowsweet (*Filipendula ulmaria*) are good herbal screening plants. There are also a number of new Yarrow varieties (*Achillea spp*) to add to this list. 'Coronation Gold' and 'Moonlight' are well known, but new ones include shades of pink, as well as apricot, peach and pale yellow. All resemble the white yarrow we find growing in the fields. Screening plants, to be effective, should grow to more than 3 feet and be planted in masses. These types of plants make a good transition from garden to shrubs and trees or as a gradual move to meadowland, where herbs such as Yarrow, Queen Anne's Lace, Goldenrod, and Joe Pye Weed grow naturally. I have often thought that if Joe Pye Weed (*Eupatorium dubium*) had a different name (excluding 'weed') it would be in many more gardens. It is named for an Indian medicine man of New England and has an interesting medicinal history. I have had it in my garden for years and it is beautiful and well behaved, with handsome foliage, especially when young, and frothy pink flowers that are good as cut flowers and for drying. Last year I did see it for sale in a Seacoast nursery and I was impressed.

Some gardeners dislike Lemon Balm (*Melissa officinalis*), calling it weedy. But it can be a favorite when located carefully. I have one near a gate and when the gate swings open and bruises the plant the lemon scent is superb and refreshing. Also refreshing is a few crushed sprigs of lemon balm added to a tall lemonade or iced tea on a hot summer day. The trick with this herb, as with many, is not to let it go to seed if one does not wish little seedlings scattered about. Simply deadhead it before seed is set and sown.

Among the lemon scents, Lemon Verbena (*Aloysia triphylla*) is probably tops. Not winter hardy in New Hampshire, this plant deserves a place in a large tub planting. It can get to 2 feet tall in one season, perhaps even make a few tiny blossoms, and its fragrance and crisp light green leaves are well worth the extra trouble. Encourage gardeners to save the branches in the fall for a perfume that will please them for years, when added to a potpourri or simply saved in a basket or decorative jar and crushed in the fingers occasionally. The leaves also make a delightful tea.

These are just some of the herbs that can be used in the landscape. As gardeners discover that, alongside their usefulness and fascinating history, herbs have a special beauty that can enhance a variety of situations, they will want to grow more and more of them. 🌿

Tanya Jackson is a well-known area herbalist. She can be reached at (603) 431-6774.

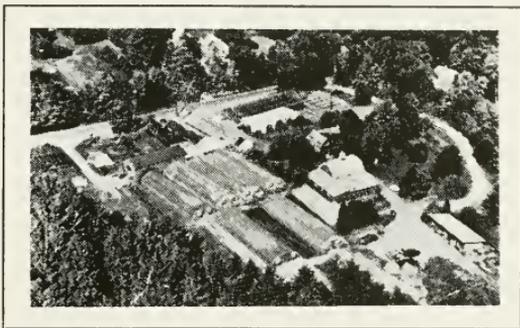


A GARDEN PLAN. This plan originally appeared in *A New Orchard and Garden* by William Lawson, published in 1618. (Reprinted from *The Formal Garden in England* by Reginald Broomfield.)

- A. All these squares must be set with trees; the gardens and other ornaments must stand in spaces betwixt the trees and in the borders and fences.
- B. Trees 20 yards asunder.
- C. Garden knot.
- D. Kitchen garden.
- E. Bridge.
- F. Conduit.
- G. Staires.
- H. Walkers set with great wood thicke.
- I. Walkes set with great wood round about your orchard.
- K. The out-fence.
- L. The out-fence with stone fruit.
- M. Mount. To force earth for a mount or such like, set it round with quick, and lay boughs of trees strangely intermingled, tops inward, with the earth in the middle.
- N. Still-house.
- O. Good standing for bees if you have an house.
- P. If the river run by your doore and under your mount it will be pleasant.

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# Summer Meeting

A DOUBLE HEADER BY THE LAKES  
WEDNESDAY, AUGUST 17

i

t's a double header this year. The 1994 New Hampshire Plant Growers' Association will be the guests of Ed Person at Ledgeview Farm, Moultonboro and Bill Stockman at Spider Web Gardens in Center Tuftonboro.

Ledgewood grows bedding plants and vegetables and builds a range (nine sizes now) of hoop houses. The year's bedding plant business will be over, but the vegetables will be in full swing, so there's plenty to see. But Ed's emphasis will be on the technical operation of the place—not necessarily the newest machine—but inexpensive alternatives an owner can do himself. And at a quarter of



the cost. Ledge-wood is full of such things.

...things like roll-up sides on the greenhouses, flood benches (at a dollar per square foot rather than five), rolling benches, germination chambers, stack basket holders (the space they take up makes a profit while allowing more sunlight to reach your other plants), a Little Machinery automatic plug seeder (for those who may not want to buy in plugs). None of this sounds spectacular—it isn't: spectacular's usually expensive—but small things add up. And when you can do them yourself, they add up even more.

*continued on page 11*

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