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1993 Oct/Nov



The Plantsman

NEW HAMPSHIRE PLANT GROWERS ASSOCIATION

October & November 1993



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The Plantsman

NEW HAMPSHIRE PLANT GROWERS ASSOCIATION

October & November 1993



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October

OCTOBER 19-20 *Two-day Meeting on Field Specialty Cut Flowers*, the Health & Human Services Auditorium, Concord, NH; for information: Charles Williams at (603) 862-3207.

OCTOBER 20 *NHPGA-sponsored Pesticide Applicator Recertification Program*, Granite Street Bar & Grill, Manchester, NH; information: Chris Robarge at (603) 862-1074.

OCTOBER 30 *UNH FFA Regional Invitational Judging Competition*, UNH, Durham; information: (603) 862-1760.

November

NOVEMBER 3; NOVEMBER 10 *UNH Cooperative Extension Mini Course on Marketing and Merchandising*, Raymond, NH; for information: Nada Haddad at (603) 679-5616.

NOVEMBER 4-7 *Association of Specialty Cut Flower Growers' 6th National Conference*, Doubletree Hotel, Overland Park, Kansas; information: Alan Stevens at (913) 532-5173.

NOVEMBER 7 *Joint Meeting, FTD Districts 1-C and 1-D*, Sheraton North Country Inn, West Lebanon, NH; information: Ray Savage at (603) 352-1155.

NOVEMBER 9-10 *A Business Short Course: Strategies for Tomorrow's Business Climate*, the Marriott, Worcester, MA; for information: John Bragg at (508) 534-1775 or Kathleen Carroll at (413) 545-0895.

NOVEMBER 13 *Annual New Hampshire Orchid Society Plant Auction*, Immanuel Lutheran Church, Manchester, NH; for information: Joanna Eckstrom at (603) 654-5070

NOVEMBER 19 *'What's Wrong with My Tree' Workshop*, Vermont Technical College, Randolph, VT; for information: Scott Pfister (The Vermont

Plantsmen's Association) at (802) 244-7048.

December

DECEMBER 3-6 *43rd Annual Meeting, Eastern Region, International Plant Propagators' Society*, Amway Plaza Hotel, Grand Rapids, MI; for information: (215) 388-6901.

January

JANUARY 12 *New Hampshire Plant Growers' Association (NHPGA) and New Hampshire Landscape Association (NHLA) Joint Winter Meeting*, Granite Street Bar & Grill, Manchester, NH; information: Peter van Berkum at (603) 463-7663.

JANUARY 18-19 *Connecticut Nurserymen's Association Combined Annual Meeting/ Educational Seminar*, Aquaturf Outing Club, Southington, CT; for information: (203) 872-2095.

JANUARY 27-29 *New England Grows*, Hynes Convention Center, Boston, MA; for information: (617) 431-1622.

February

February 3-5, 1994 *Farm & Forest Exposition*, Center of New Hampshire Holiday Inn & Convention Center, Manchester, NH; for information: Mary Ellen Pitman at (603) 271-3788.

FEBRUARY 7-8 *Rhode Island Nurserymen's Association Winter Meeting/ Trade Show/ Educational Course*, Doubletree Inn, Newport, RI; for information: (508) 761-9260.

FEBRUARY 23 *Vermont Plantsmen's Association Annual Meeting*; for information: (802) 244-7048.

April

APRIL 27-MAY 1 *Third Annual New Hampshire Orchid Society Show* (AOS approved), location to be announced; for information: (603) 654-5070.

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The *Plantsman* is published in early February, April, June, August, October, and December with copy deadlines being the 5th 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.

This issue's cover is drawn by TONY SARAVONG, Lee, New Hampshire. Tony was a participant in Summer Learning, an educational program held at UNH, Durham, this summer. Tony's drawing of Venus fly traps was done after a visit to the Research Greenhouses. Other sketches throughout this issue are by his classmates.



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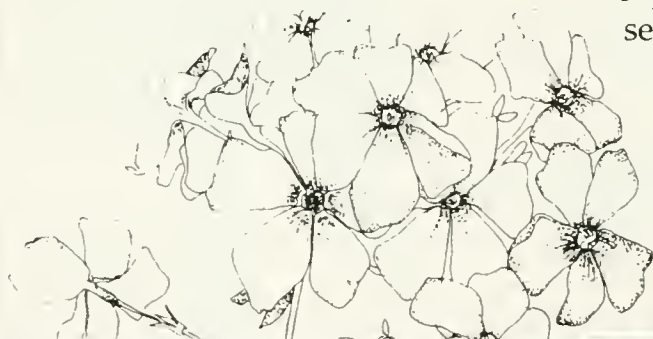
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Pointsettia Integrated Pest Management Program

Alan Eaton

UNH COOPERATIVE EXTENSION has begun a pilot poinsettia IPM program. Two locations are involved: Pleasant View Gardens and Newton Greenhouses. If all goes as planned, we will be able to handle more sites next year. An IPM scout visits the greenhouse once per week and checks sticky traps and foliage. Both types of monitoring are required to really understand what the pests are doing. Monitoring begins with arrival of the cuttings and ends when the crop is ready to market.

As with many other crops, it is important to start off well. Cuttings that are free of pests, placed in a house or section that is free of pests, will be more easily kept pest-free than those that arrive infested. Under-bench weeds have proven to be an important (and overlooked) site for whiteflies, thrips, and aphids. The same is true of "pet" plants—those that stay in the same section year after year. Another great way to infest your crop is to load up the neighboring benches with other heavily infested plants.

By this spring, we expect to have analyzed the data and results of the first year. We can then begin passing along pointers to any interested growers and sign up those who may wish to participate in next year's program. If you have questions about the IPM program, contact Dr. Alan Eaton, Statewide IPM Coordinator, at (603) 862-1159.

FROM THE BOARD

SOMETHING Needs to Change

Andrea Capron

IN TODAY'S SOCIETY, it is nearly impossible for young adults to start their own business. How does one start with no capital, no land, and already in debt with college loans?

All you have is experience, education, and a strong will to try. Most people would probably tell you not to, because the start-up costs are overwhelming.

Fortunately for me, I gained practical hands-on experience by working at a well-established garden center for many years. I also gained 'book knowledge" by getting a degree in Plant Science at UNH. More importantly, however, I had a family that was willing to "donate" the land, capital, and free labor to get the ball rolling.

Unless young people are handed down the family business or have a family that is lucky enough to have the capital to allow them to open their own, they can't do it. *Something* needs to change.

Andrea Capron is co-owner of Deer Cap Orchards, Center Ossipee, NH. ☺

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NHPGA SUMMER MEETING

A Rainy Start, a Sunny Finish

IT WAS A LITTLE WET in the early morning at the 1993 New Hampshire Plant Growers' Summer Meeting at Elliott & Williams Roses in Dover, but clearing was slow but steady—and the meal, the auction, the side trips to seacoast attractions were in definite sun.

Morning activities included touring the rose houses and visiting the trade show.

The featured speaker was Paul Parent, owner of Family Patch Garden Center in Scarborough, Maine, and host of the popular call-in (3,000-5,000 calls an hour) garden show on WRKO in Boston. His topic was "Marketing for the Garden Center in Changing Times." One of the major changes in our commercial landscape, Paul says, is the large discount store suddenly ap-

pearing a mile down the road and offering plant material at prices less than what it costs us to produce it. How to compete? "Keep changing." "Talk with other growers and garden center owners;" "Don't be afraid to share ideas;" "Look for something you can offer that the big guys don't have." Paul's suggestions included perennial 4-pacs, a mix of vegetables in 6-pacs, unusual hanging plants, unusual containers.... "For many people, shopping is a pastime—make your place of business attractive, entertaining. Keep changing."

After lunch, another of Perillo's all-you-can-eat barbecues, auctioneer Peter Callioras of The Auction Professionals, Inc., and many vendors contributed to the very successful auction.

Over \$1500 will be used for scholarships. Several smaller door prizes were given; the final—big—one went to Mary Welch, Spider Web Gardens, Center Tuftonboro, NH.

We thank our hosts, Craig and Barry Williams, auctioneer Peter Callioras, and all the members—board and otherwise—who worked to make the day a success.

We also thank the vendors who not only participated in the trade show, but who contributed items for the auction as well.

This year's vendors are listed below. We hope Plant Growers will thank these people in a more substantial way—by patronizing their businesses.

Support these people—they support the NHPGA.

1993 SUMMER MEETING VENDORS

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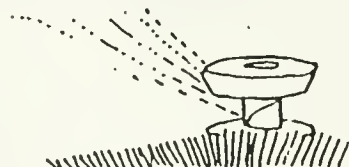
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October 22 Deadline

The University of New Hampshire Cooperative Extension and members of the Rockingham County Agricultural Group are organizing a short course on "marketing, advertising, merchandising, and promotional strategies."

"This course will provide information on boosting traffic flow to farm stands and pick-your-own operations...and boosting sales once they get there. The speaker is Tina Sawtelle, of Sawtelle Marketing Associates. Topics include 'The Pay-offs of Marketing the Small Business,' 'What's the Point in Advertising,' 'Pros and Cons of Media Forms and How to Build Relations with Your Local Media Outlets,' 'Techniques to Build Recognition and Patronage through Promotional Activities,' 'Selling by Use of Good Display Techniques,' 'Signage,' and 'Layout of Retail Space.'

This two-session short course will be offered in Raymond, New Hampshire, on November 3 and 10 from 6:45-9 pm. Pre-registration is required—the deadline is October 22. For information, call Nada Haddad at (603) 679-5616

Wanted....

The Seacoast Area Flower & Landscape Show is once again looking for a home. Although Portsmouth is a major tourist destination in the state, there is no building large enough (30,000 square feet) to accommodate what could be a major annual event.

There are certain requirements: the building should be within the catchment area of the Visiting Nurses Association (Portsmouth, Rye, Greenland, Newington, and New Castle, New Hampshire, and Kittery, Maine). The association would consider locations in North Hampton and Stratham, New Hampshire, and Eliot, Maine, but would prefer not to infringe on other VNA

Welcome, New Members...

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116 Ridge Road
New Durham, NH 03855

STARK BROS. NURSERIES
Hwy 54 West
Louisiana, MO 63353

TWISS FARM GARDENS
50 Stark Highway South
Dunbarton, NH 03045

service areas.

And this building should have plenty of nearby parking, be accessible to handicapped, and allow for easy setup and display of landscape material (large doors, no rugs).

If anyone knows of such a place, contact Brenda Schure at (603) 436-0815.

Expo '94—a New Look

According to Mary Ellen Pitman, spokesperson for the NH Department of Agriculture, changes are taking place and this year's Farm & Forest Exposition will have a "new look." One change is that there will be more room—a new section of the Expo Center will be open; Salon A will be available for group meetings and educational events.

The Board has voted in other changes as well. It has voted to allow direct sales of agriculture- and forestry-related products. The relationship must be direct—knick-knacks are out; plant products are in. If in doubt about what you want to sell, "Call Before You Haul."

Any food sold (giveaways are exempt) must be "pre-packaged, labelled, and prepared in a state-licensed kitchen" in order to meet city standards.

There will be the possibility of different booth configurations this year to allow, for example, the public to see all sides of big equipment displayed. A "booth contest" will award the best booths in educational and commercial categories.

Other changes include setting up a petting farm for the kids and making the traditional breakfast an hour-and-a-half buffet...and more changes are promised. One thing that won't change—admission is free.

For information, call Mary Ellen Pitman at (603) 271-3788.

Orchid Society— Two Major Events

The New Hampshire Orchid Society's annual fund-raising auction will be held on Saturday, November 13, at Immanuel Lutheran Church, Huse Road in Manchester. (Take South Willow Street Exit from Route

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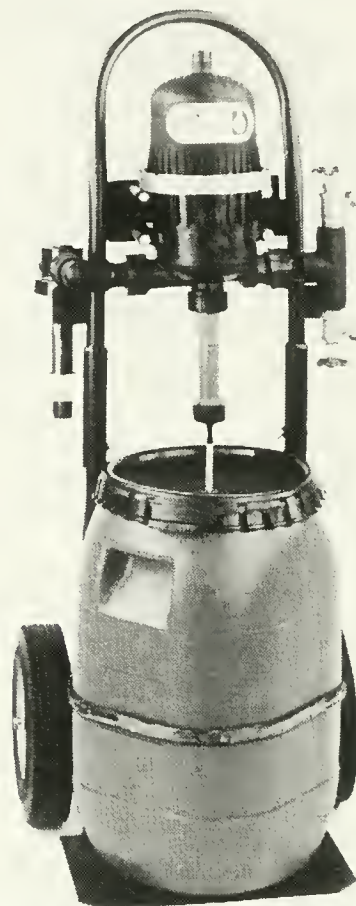
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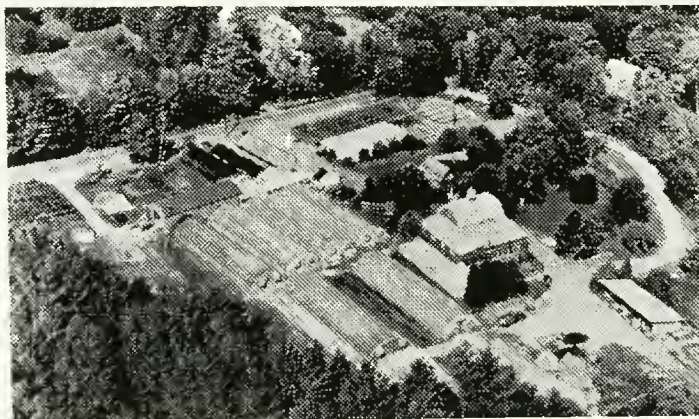
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101; go south past Mall of New Hampshire to lights at Huse Road; go left and after a quarter mile, go left onto Weston Road and take an immediate left into the church parking lot).

Last year over 400 plants donated by vendors and hobbyists from all over the country were auctioned off. This year's auction begins at one; registration and preview is at 12. ("A great way to add to your collection.")

Also, the early stages of organizing have begun for the Third Annual New Hampshire Orchid Show. The date is set: April 27- May 1. A location has not been chosen yet and sites are being looked at not only in Manchester, but in Hampton and Durham as well.

For information on both the auction and the spring show, contact Joanna Eckstrom at (603) 654-5070.

This May Apply to You....

UNH Cooperative Extension has a newly revised publication entitled "Review of Selected State and Federal Laws that Apply to Agricultural Employers;" this talks about selected state and federal laws and gives names of specific agencies you can call for explanation and clarification.

The publication defines "regular employment" (as opposed to "agricultural employment") and "employees" (as opposed to independent contractors). Defining what constitutes agricultural labor is particularly important to producers operating roadside stands or other retail outlets because several labor laws differentiate between these and other classes of employees.

Copies are available at all UNH Cooperative Extension offices.

TIPS FROM THE GRIFFIN GURU



DID YOU READ THE INSTRUCTIONS?

IF YOU'RE LIKE ME, the answer is "half-and-half"—half I know all about, so I read only what pertains to the half I don't. Sooner or later, you will do the same. But cut the piece too short and you may have to get a new one.

We recently have been made aware of some real problems with heating system installations that need not have happened if the directions had been read. New safety devices were installed and a critical change in the vent stack system was required. After much aggravation and the cost of replacing the destroyed parts, the instructions were followed and everything now works fine.

Please—take time to read the instructions.

PPGA HIGHLIGHTS



STANDARD WEEK ADOPTED

(from *Greenhouse Manager*, August, 1993)

IF NORTH AMERICAN GROWERS adopt an international standard for numbering weeks for scheduling activities—such as germination, flower response time and propagation—they'd finally be in sync with the rest of the world.

The Professional Plant Growers Association decided to adopt the standard at its June board meeting and hopes the International Standard, ISO 2015 or ISO 8601:1988, will simplify things for growers here and for suppliers and customers abroad.

Theo Blom, research scientist at the Horticultural Research Institute of Ontario, Vineland Station, said the system is so simple that it should have no problem replacing widely varying methods now used. It is compatible with computerized scheduling.

The system has two rules: a week must always consist of seven days and start on a Monday; and the first calendar week of the year is the one that includes the first Thursday of that year.

Although this is not part of the standard, PPGA suggests that growers use a particular format for listing the week of the year. For example, the 15th week could be written 1993W15 (complete), 93W15 (year and week of that year), or -W15 (the fifteenth week of any year).

"I would hope that people will accept the system," Blom says. "Although some companies already use the international system, if we all get going in the same direction—in the same stream—then we'll all move along together."

For more: PPGA, PO Box 27515, Lansing, MI 48901; phone: (517) 694-7700.

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CGGA's First Executive Director

The Connecticut Greenhouse Growers' Association (CGGA) is pleased to announce the appointment of its first Executive Director, Robert V. Heffernan.

Mr. Heffernan began his duties August 1, 1993, and has established an office for the Association in Monroe, Connecticut.

The CGGA, which is only two years old, now has over 110 members. It provides educational, informational, and governmental representation services to the growers.

Mr. Heffernan holds a BA in Journalism from The American University in Washington and has served seven years on the staff of the United States Senate Committee on Governmental Affairs, also in Washington. He is a registered lobbyist in Hartford and will continue in his other role as Executive Vice-President of the Connecticut Florists' Association.

CGGA's new office address is PO Box 415, Botsford, CT 06404. The phone number is (203) 261-9067; fax is (203) 261-5429.

What's Wrong with My Tree?

(from *The Dirt*, Summer, 1993)

Nina Bassuk, Plant Physiologist and Director of the Urban Horticulture Institute at Cornell University, will be the principal speaker at the 'What's Wrong with My Tree' Workshop at V.T.C. in Randolph, Vermont on November 19.

"Dr. Bassuk is known for her work intergrading the biological needs of trees with innovative design solutions. Her talk will cover topics such as site assessment, plant selection, site modifications, transplanting techniques, and the identification of abiotic and stress factors."

The workshop is sponsored by the VT Plantsmen's Association in

co-operation with the Department of Agriculture, Foods and Markets, the UVM Extension System, and the VT Urban and Community Forest Program. For information, call Scott Pfister at (802) 244-7048.

Garden Dedication

After a year of hard work, the landscaping of the Cooperative Extension Building at URI, Kingston, was dedicated on September 19. A 100th birthday gift to URI from the Rhode Island Nurserymen's Association, the material emphasizes the easily maintained and stress-tolerant. The project was supervised by Dr. Richard Casagrande, director of the Low-Input Sustainable Agriculture (LISA) Program at URI. The gardens are open to the public and brochures describing the material used will be available.

Strategies for Tomorrow

A Business Short Course, "Strategies for Tomorrow's Business Climate," will be held November 9-10 at the Marriot in Worcester, MA. Co-sponsored by UMass Cooperative Extension and the Massachusetts Nurseryman's Association, this two-day course "will give managers and staff of landscape, garden center and nursery businesses the important information needed to prepare for tomorrow's business climate."

The first day's speakers include Carol Felix and Wayne Dickson, owners of Dickson Felix, Inc., and founders of the Alexis Group, an organization of the leading garden centers in America (their topics: the market of today and how to communicate with your customers), and Dr. Charles D. Schewe (customers of the future and dealing with aging America). Other topics include future designs of garden centers, marketing IPM Health Care to your customers, and analyzing the costs of individual crops.

The second day of workshops

will deal with assessing the impact of mass merchandisers on the Green Industry (followed by a panel discussion), plants of the future, your best customer, your most profitable customer, and an economic assessment of the future of business in New England.

The cost is \$60.00 per day (this includes a manual, lunch, and coffee); registration deadline is November 1; for information: Kathleen Carroll at (413) 545-0895.

Up-to-Date Quarantine Information

"AAN (American Association of Nurserymen) has joined with the National Plant Board and USDA to publish *Federal & State Quarantine Summaries*. The goals of this project are two: to facilitate industry compliance with quarantine and shipping requirements and to minimize the spread of harmful plant pests on nursery crops."

This book outlines the domestic certification and quarantine requirements enforced by the USDA's Animal and Plant Health Inspection Service, and by all 50 states and Puerto Rico.

Each state summary lists the relevant plant health agency and contact information, definition of nursery stock, general shipping requirements, and quarantines or other specific certification requirements that apply to shipment into that state.

The manual is available exclusively from AAN. It's \$22.50 for members and \$27.50 for non-members. For information, call (202)789-2900.

Organic Wholesalers

The 1994 *National Directory of Organic Wholesalers* is now in production and will be released in February, 1994. Farmers and other wholesalers can be included in this directory by calling 1-800-852-3832. (Some 1993 directories are still available.)

Research Funding....

The Bedding Plants Research Foundation approved the funding of 12 projects nationwide for 1993-94. The board allocated nearly \$60,000 in grants, \$9,000 above last year's funding.

The foundation seeks to fund projects that will help growers improve production and grow quality plants. In response to recent grower surveys, BRFI funded projects that "will increase germination, find new controls of disease and pests, increase markets, and control plant growth."

In New England, at the University of Vermont, Dr. Bruce Parker received the Leonard Bettinger and James Perry Grants to investigate, with on-plant and in-soil trials, the potential of indigenous fungi for Western Flower Thrips and Sweet Potato Whitefly management. This work will help develop fungal pathogens as viable components for IPM in horticultural and greenhouse industries.

BRFI is a non-profit organization dedicated to the improvement of the greenhouse industry. All contributions to BRFI may be business or personal tax-deductible. For more, contact BRFI, PO Box 27241, Lansing, MI 48909, or call (517)694-8537.

...and Scholarships Awarded.

The Horticulture Research Institute (HRI) has awarded the second annual Timothy Bigelow Scholarships to Kris Mitchell and Paula Elizabeth Serabian, students enrolled in the horticulture curriculum at the University of Rhode Island (URI) in Kingston.

Presentation of the \$2,500 scholarships took place August 12 at the summer meeting of the New England Nurserymen's Association in Kennebunk, Maine.

Mitchell will enter her senior year as a landscape architecture major. After graduation, she plans to pursue a Parks and Recreation internship in her home state of Connecticut while working part-time under a licensed landscape architect.

Serabian, a Massachusetts resident, will enter her senior year as a horticulture major with a minor in chemistry. Upon graduation, she plans to pursue an internship at Longwood Gardens.

The Bigelow scholarship was created by family members as a memorial to the late Timothy Bigelow, son of Palmer W. Bigelow, a prominent New England nurseryman. Applicants must be enrolled full-time in a horticulture or related program and be residents of New England. For information, contact Ashley Ruden at 1250 I Street, NW, Suite 500, Washington, DC 20005. Or phone (202) 789-2900.

SOMETHING DIFFERENT

Bromeliads to Promote for Holiday Sales

(from *Greenhouse Manager*, August, 1993)

Bromeliads are not a holiday crop per se," said Michael Kent, who handles sales and marketing for Kent's Bromeliad Nursery. Nonetheless, "we try to have a mixture of colors year-round."

Here are the cultivars that Kent's recommends for a year-round holiday program:

VALENTINE'S DAY: *Vriesea poelmanii* 'Super Select' or 'Margot.' (Bright red bloom lasts eight to ten weeks.)

EASTER: *Aechmea fasciata*. (Pink bloom rises above bending leaves.)

SECRETARY'S WEEK: *Guzmania* 'Empire.' (Multi-leaf and colorful.)

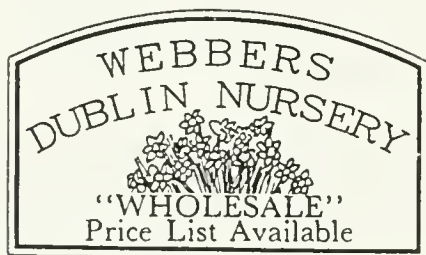
MOTHER'S DAY: *Guzmania* 'Irene.' (Very colorful and delicate. Deep red blooms last 16-20 weeks. A similar cultivar is 'Super Amaranth'.)

HALLOWEEN: *Guzmania* 'Cherry.' (Bright reddish-orange. Similar cultivars are 'Ostara' and 'Rana'.)

THANKSGIVING: *Guzmania* 'Orangeade.' (Harvest colors of orange and gold.)

CHRISTMAS: *Guzmania* 'Claret.' (A deep red with a candle-like stature. 'Decora' is a similar cultivar.)

For more: Kent's Bromeliads, Inc., 703 Pomelo Drive, Vista, CA 92083; phone: (619)758-2396.



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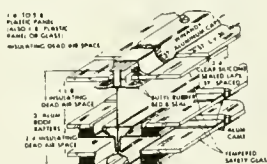
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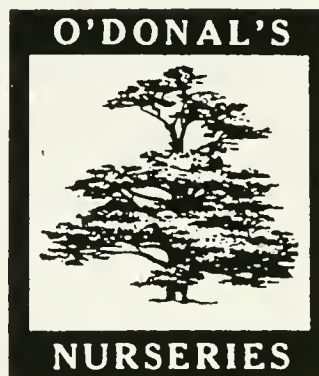
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NURSERY STOCK INSPECTION

by the Division of Plant Industry,
New Hampshire Department of Agriculture

Siegfried E. Thewke

NEARLY EVERYONE who grows and sells nursery stock in New Hampshire has met—or will meet—a horticultural inspector from the Division of Plant Industry (NHDA). Nurserymen, greenhouse growers, plant dealers, and collectors often wonder what we, in the division, are doing inspecting plants. There is more to regulatory horticulture than looking at plants, as many of you already know.

Movement of plant material from Europe to America prior to 1900 was infrequent and limited. Plants could not take the rigors of a sea voyage lasting many weeks and nearly always died. Most of the plant material imported then was in the form of seeds. Development of the "Wardian Case", essentially a miniature air-sealed greenhouse, allowed plants in a growing state to survive long sea voyages. Use of such cases enabled growers in Europe to ship a lot of nursery stock to America. Inevitably, the United States became a dumping ground for poor quality, insect and disease infested/infected stock. Plant quarantine laws to prevent such dumping had not yet been put in place.

The United State Department of Agriculture had agricultural inspectors who became alarmed about the importation of infested/infected stock. They did not want to accept this stock but, due to the lack of regulations, had to allow it in. Legislation to stem the flow began to be put in place. The USDA established a division of entomology in 1863 and passed a Federal Insect Pest Act in 1905. Importation of pests such as the Gypsy Moth pointed to the need for quarantines. Interestingly, opposition by economic entomologist, the nursery industry, and especially garden clubs had to be overcome. Passage of the Plant Quarantine Act of 1912 ended the unrestricted flow of plants from Europe.

The San Jose scale, *Aspidiotus perniciosus* Comstock, was the one insect that led to the establishment of nursery inspection in the northeast. This insect, a na-

tive of northern China, arrived in California between 1870 and 1880. It arrived in Virginia in 1893 and spread throughout the northeast. By 1898, 15 states had passed laws addressing horticulture within their borders, mostly directed against the San Jose scale.

Today, departments of agriculture of all the states and territories have a section, branch, or division that bears the responsibility for the inspection and certification of nursery stock. The purpose of such work was alluded to previously and is conducted to prevent the introduction of harmful insect pests and plant diseases. Nurserymen, greenhouse growers, and others involved with nursery stock meeting our inspectors for the first time are sometimes suspicious of us, perhaps wondering what the state is up to now.

They become even more skeptical when told they will be charged! Have no fears. All the work we do is for the good of the industry.

The Division of Plant Industry has three inspectors, all entomologists and each with expertise in particular areas. An inspector cannot just be an entomologist because the field of horticulture encompasses so many disciplines. Our inspectors have between 15-20 years of field experience and are knowledgeable in plant pathology, botany, nematology, forestry, acarology (mites and ticks) and so on. The job of horticultural inspector in the division of plant industry had to be performed by versatile individual—the industry requires it.

Well, what exactly does a horticultural inspector do? A couple of examples will illustrate the type of work an inspector of the division is called upon to perform.

There are several horticultural establishments in New Hampshire that ship nursery stock out-of-state on a more or less regular basis. Any grower intending to ship out-of-state should be aware of the import restrictions other states have. Failure to be aware of these can result in dire consequences for the stock

shipped. California and Washington state in particular have quarantines against certain pests found in the rest of the country. Anyone not aware of such restrictions should contact our offices and find out.

California has a number of exterior quarantines against certain pests and the host plants of these. Most nursery stock that is not a host to any quarantined pest can enter California simply with a copy of the certificate of inspection you receive from this office. Quarantined pests such as the Japanese beetle are not allowed entry. Host material can be certified for California, but only under certain conditions. Chrysanthemum plants (one of the hosts of the European Corn Borer) cannot be shipped into California unless these plants are not from second year growth, or fumigated with methyl bromide, or come from seed. These conditions are hard to meet. Growers knowing these bits of information are forewarned as California plant regulations inspectors can—and will—destroy the shipment.

Inspectors of the division also certify nursery stock destined for foreign countries, Canada, and Mexico. Each country, not just the ones mentioned, has import requirements that the shipper must meet. Our inspectors are cooperators with USDA Animal and Plant Health Inspection Service (APHIS), and so are able to write not only state phytosanitary certificates but federal ones as well. Foreign shipments generally require federal certificates. In many cases import permits are

required and the grower needs to find out if the recipient of the stock has obtained such a number from their government.

Sometimes a shipment may be held up in one of the states of the United States or in Canada. The grower may have inadvertently forgotten to have the nursery stock inspected before shipping. The state certificate you are issued by this office is not a document that can be used to get stock into a foreign country. It has been tried. In most cases we are able to get the shipment released by discussing the situation with the government official at the point where the shipment is being held. Sometimes this does not work and the shipment is destroyed.

The field of regulatory horticulture is quite broad and encompasses more than just looking at plants. It requires expertise in many areas and diplomacy when dealing with people. The work we do is essential to the horticultural industry of New Hampshire and to the United States. The plant inspector coming to your place of business is merely a link in a long chain that allows shipments from New Hampshire growers to enter and flow through trade channels smoothly.

Dr. Siegfried E. Thewke is State Entomologist for the New Hampshire Department of Agriculture. Director of the Division of Plant Industry, he's at the State Lab Bldg., Lab. D, Hazen Drive, Concord, NH 03301; his phone number is (603) 271-2561.

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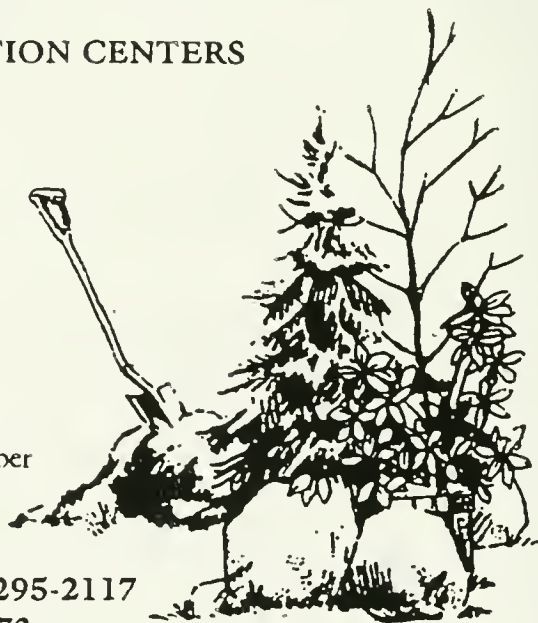
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LOW-KEY ABUNDANCE WAYSIDE FARM

Travelers on 113A in North Sandwich can be excused for not noticing the small field beside the road. The hills of the Sandwich Range just beyond; McCrillis up Whiteface is a mile away. But the land is being used—bags of peat are waiting to be spread; a rotary sprinkler is on. Across the road are greenhouses...plants displayed, a small sign. It's all fairly low-key—the owners don't like pushing their ideas onto people.

Originally, three greenhouses were set back near the house with an area of woods between them and the road.

Today, four houses (21x104, 17x96, 11x96, 14x96)—the major portion of Wayside Farm's greenhouse operation—have been built much closer to the road. Three are inflation busters; the 11x96 is taken down each fall to allow easier removal of snow.

A long narrow lath area runs in front of the four houses, connecting them visually.

In front of all this, trees have thinned and pea stone laid down. Potted perennials—shade plants under trees; sun-lovers in the open—and 4-pacs of annuals are displayed.

Ben Shambaugh does the growing; his wife, Lisa, works with customers.



THE NEWEST HOUSE

Ben designed the main house—the 21x104 built last year—with specific aims in mind.

Because of the wind gusting through Sandwich Notch in winter, it needed to be strong, so the frame is of 1 7/8-inch galvanized pipe. Trusses are every four feet and there are diagonal braces from each truss to both the rafter and the side support. Along with the trusses, there's support from x-bracing of aircraft cable at eave height.

However, to prevent condensation dripping on plants, there are no purlins.

The house was designed so that it could be covered with a solid material (at some point Ben and Lisa may get tired of changing poly). The roof pitch is 6 over 12—snow doesn't accumulate. The rafter pipes are straight, but each pair is connected by a piece of bowed pipe, creating a slightly curved peak—but if a 2x4 is placed on the present ridge line, this curve is removed and flat sheets of mate-

rial—polycarbonate, for example—could be used to cover the house.

A small office and sales area is built onto the front of this house. A wood stove makes it a cozy space in which to seed flats in winter. Up to ten cords are used to supplement oil heat.

There are homemade rolling benches. The propagation bench (non-rolling) along the north side of the house is heated by hot water provided by a heat exchanger on the wood stove. Hot water is held in a storage tank; convection circulates it through a loop of copper pipe to the heat exchanger and to a second loop connected to PVC pipe embedded in the gravel-filled bench. Temperature is held at 80 F. And mist is regulated by a double time clock system.

Four and a half-inch pots of zonal geraniums alternating with 3 1/2s of vinca fill two lines of roof gutter running the length of the house along the trusses. A submersible pump activated by a timer pushes the water from a barrel at the office end of the house through an ordinary garden hose which, in turn, feeds two trickle tubes at the upper ends of the gutters. The greenhouse is pitched 7/8 inches in four feet and the water runs downward to a cross gutter which drains back into the barrel. This year was the first time this system was used; "It works well," Ben says and he plans to expand its use next year, but as a trough system at bench level.



BEGINNINGS

Both Ben and Lisa moved here in the seventies. The farms and the way of life that went with them were disappearing from Ben's Massachusetts hometown and for Lisa, Washington, DC, seemed full of increasing traffic.

"We started Wayside Farm in 1981. We were really small then—we had one 14x50 greenhouse and three acres of vegetables; we sold our produce one day a week at the Farmers' Market in Conway. For awhile, we had a portable stand that we set up in Conway Village. This didn't work out as well as the farmers' market—the traffic was heavy, but mostly tourist.

"All-in-all, it worked out fine, except it was obvious almost immediately that there was a bigger market for flowers than for vegetables. So after two or three years, the vegetables declined. Now we grow only flowering plants."

PERENNIALS

The year begins when stock plants are dug from the field in November; tip and root cuttings of perennials are taken in December and January. The rooted plants go into the Cold House, The only one of the original three still by the Shambaugh's home up away from the road. The temperature is kept at 28 F. Because of its position (the end faces north) and the nature of the wind patterns, snow cover on the sides doesn't melt quickly. The snow surface reflects most of the light ("Last winter, I didn't water for two months.") and the low temperature holds even on warm spring days. But things are growing—clematis may show no top growth, but its roots are developing during this cold quiet time. In spring, these roots will support an explosion of top growth.

In March, top growth begins; by April, everything is outside in a holding area. This material is usually in 2 1/2- or 3-inch pots. In June it's lined out in the field. This is next year's crop.

Not all of the cleared land across the street is planted. Land is allowed to rest after each harvest, so maybe two acres of garden are in the five-acre field. Because Wayside's perennials are grown in a two-year cycle, these two acres are divided into smaller sections as well. There's 3/4 acre of shrubs and stock plants, the 3/4 acre that was harvested this year and about the same amount planted for next. This year, for the first time, Ben is planting a half-acre in beds rather than in rows ("a way of using space more efficiently"). Soil preparation included scraping off a foot of soil, adding 200 yards of sawdust and a tractor trailer-load of chicken manure, putting back the topsoil, and rototilling thoroughly.

The plants look good.

Ben and Lisa recently bought land that includes frontage on Cold River. This allows them to swim on their own land as well as irrigate (a submersible pump, a vinyl pipe to the rotating sprinklers).

Harvesting the current year's crop begins in April when bare-root divisions are dug and potted.

Ben has designed a "Lifter." A metal trough with a gouge-shaped front end and prongs in the rear is fastened underneath a small tractor. As he drives over the row, the gouge cuts through the soil under the plants, sifts it between the prongs (the soil is fairly gravelly, so this is easy to do), leaving bareroot plants ready to be carried to the potting trailer—a flat bed trailer with a three-yard wooden soil bin that is moved to wherever it's needed.

ANNUALS

Annuals are seeded (using a second-hand Niagara

seeding machine) in 288 trays from the end of November through March. These trays go—50 at a time—into a 5x2x7 germinating chamber. This chamber is in the office, along with the wood stove and a fish tank—making it "a very cozy place to be."

After Christmas, the operation moves into the two infestation busters. Annuals and vegetables are trans-

planted from the beginning of January through May into 8-06s and 10-04 extra-deep shared watering pacs. These have inside divisions only half the height of the pac that allow even watering while growing and easy division when planting.

Hanging pots are hung on eight 100-foot runs of pipe laid across the lower truss members of the new house. Later, in spring, the lath area is covered with 40% screen shade cloth and more hanging plants—in particular, fuchsias—are grown there ("except none of them stay very long").

Ben and Lisa make compost from a mix of sawdust, hen manure, cattle manure, and plant residue, then use this as a potting mix for their nursery and perennial plants. This year they also sold this for the first time. A bushel sold for \$3.95. You brought your own basket—and over 200 people did. "It went well for the first year—we may bag it in the future." Various combinations of peat, sand, vermiculite, sawdust and biomass are used for greenhouse crops. Slow-release fertilizer is incorporated and, for most crops, no other feed is needed.

Advertising has been by word-of-mouth—people (many of them serious gardeners) travel sixty miles or more because of the unusually wide selection of plant material. "We'd never planned to have customers here," Ben says, "but because of the farmers' market, people began showing up." There are two mailings each year to a 1300-name customer list. A list (using common names) of all material available at Wayside Farms sent in spring (for those who request it, a more detailed list, with latin names and some description of habit, is available) and in mid-summer, a flier listing the offerings in Wayside's annual bareroot daylily sale is mailed out.

The season ends on August 30. The family takes a vacation, then comes back ready to start the cycle again.

Ben hires part-time help, but he doesn't want to grow to the point where he sits in the office and the hired help is having all the fun. So he looks for innovative techniques that allow both the business to grow and him to do the work (one example: battery-powered computers hooked onto the watering hoses—these are more sophisticated than standard timers, being triggered by time, weather...a variety of factors).

Ben already grows over 1000 varieties of flowering plants. There are "several areas of more intense inter-

est:" a large selection of perennial geraniums—cranebills; a dozen varieties of mountain laurel—field grown (which is unusual for this area of the state; over 30 varieties of vegetatively propagated begonias (a lot of unusual ones acquired through the Massachusetts Begonia Society); and over 100 varieties—ivies, cascades, zonals (hard-to-find types like Blueblood, Highland Flash, Happy Thought, and Will Rogers)—of geraniums. Stock plants—in six- and eight-inch pots—for most are overwintered and sold as patio plants in the spring.

And the real expansion will be in the increasing number of varieties grown.

Ben stresses that "with the exception of patented material, we don't buy in. We raise and propagate everything ourselves. This is one of our real selling points—people know that what we sell has done well in this part of the state."

There will never be a lot of each, but there will be plenty of varieties to choose from. (B.P.)

Wayside Farm is on Whiteface Road in North Sandwich, New Hampshire 03259. The telephone is 603-284-6886.

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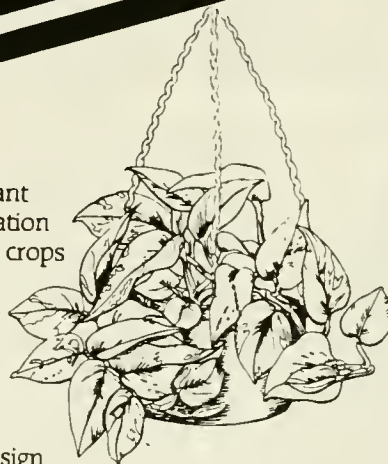
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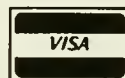
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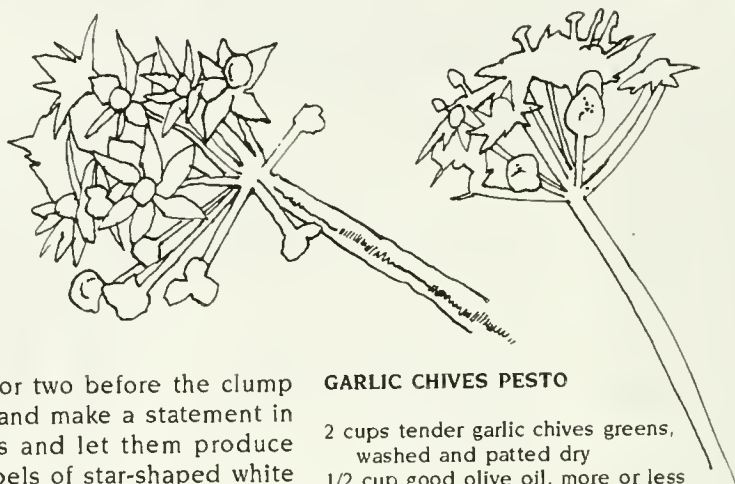
INTEREST IN HERBS IS INCREASING. More greenhouses and garden centers are growing and selling them; more people are using them in their gardens; their use in cooking is growing. Many people are looking for unusual herbs with different uses.

One of the best is Garlic Chives (*Allium tuberosum*). It is easy to grow, requiring little other than good soil, sun and moisture. Plants can be started from seed, but it will take a year or two before the clump is large enough to be really useful in the kitchen and make a statement in the garden. It's best to get good-sized divisions and let them produce seeds. Garlic chives flower in August, making umbels of star-shaped white flowers on two-foot stems. Bees love the fragrant flowers and good cooks like the flat-leaved greens from early spring to summer for salad and especially for this recipe that I adapted from *Organic Gardening* a number of years ago.

Another herb that I suggest for more culinary use is Lovage (*Levisticum officinale*). It is a dramatic garden plant, growing to a height of 6 feet, and slowly expanding into a notable clump. It likes fertile soil, sun or semi-shade, and adequate moisture. Early in the spring, its tender stalks and leaves have a strong and healthy celery flavor, wonderful in egg, chicken, or ham salad, and any other dish needing celery. The leaves are superb for flavoring soups and a fine Cream of Lovage soup can be made using a recipe for Cream of Celery soup and substituting lovage. One of my favorite uses is to take the hollow green stalk and use it for a straw in tomato juice or a Bloody Mary. A sprinkle of the minced tender leaves will also enhance both of these drinks. When lovage gets very tall and begins to go to seed, it yellows and gets tough. However, with a drastic haircut to the ground, some fertilizer, and a deep watering, it will grow up tender and flavorful again.

Anise Hyssop (*Agastache foeniculum*) is a little-known, under-appreciated garden herb that can create quite an effect in the kitchen as well as the garden. It is a member of the mint family, closely resembles catnip in height and appearance, and can become weedy if allowed to go to seed, although it does not creep and crawl all over as most mints do. I find that the smaller seedlings appearing in the garden are the most tender for culinary use, and they transplant easily to places where they can quickly fill in empty spots. The fragrance and taste is strong licorice/anise and the flowers are spikes of blue that are attractive in fresh arrangements and will dry well if picked before they set seed and fade. Cutting back also creates flavorful new growth. The flavor is an asset to fruit cups and salad or perhaps this unusual cheese spread

Another attractive licorice flavor plant is Sweet Cicely (*Myrrhis odorata*). This lovely fernlike plant is especially for those gardeners who deal with shade. It will burn out quickly in a sunny location, but thrives and grows to 3 feet in semi-shade and good moisture. The clusters of white flowers form shiny green seedpods that taste like licorice candy and the leaves were traditionally used in rhubarb and apple pies to add sweetness and unusual flavor. My favorite use is to mince the very young



GARLIC CHIVES PESTO

2 cups tender garlic chives greens,
washed and patted dry
1/2 cup good olive oil, more or less
salt to taste (optional)
freshly ground black pepper
several dashes Tabasco sauce
1/2 cup walnuts
(toast them for extra flavor)
1/2 to 1 cup fresh grated parmesan
cheese

Coarse chop the garlic chives, then put them in the food processor and add the other ingredients, processing until fairly smooth. (We prefer pesto with some texture—this is tasty spread on crackers and cream cheese. To freeze this pesto for winter use, leave the cheese out and add after thawing. It keeps its lovely green color and brings a taste of summer to long New England winters.

ANISE HYSSOP FRUITED CHEESE SPREAD

1 cup cottage cheese
1 cup cream cheese
1 tbsp fresh chopped anise hyssop leaves
and flowers
1/2 cup dried apricots and/or raisins,
chopped

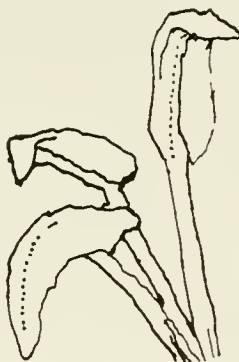
Combine all ingredients. This is most easily done in the food processor, adding the chopped fruits last and processing just to mix them in. Chill to blend flavors and serve on crackers or small party bread slices.

CHEDDAR, SAGE AND WALNUT TORTE

1/2 pound cream cheese, softened
3 TBSP fresh sage young sage
leaves, plus leaves for garnish
a few drops of Tabasco sauce
(to your taste)
1/2 pound sharp cheddar such as
Vermont Cabot, shredded
1 cup walnuts plus a few halves for
garnish

Process the cream cheese, sage and
Tabasco sauce until creamy. Line
2-cup round bowl with plastic wrap and
arrange the whole sage leaves in a deco-
rative pattern on the bottom of the mold.
Gently press in half of the cream cheese
mixture, then add the shredded cheddar
cheese, smoothing out the layer and
pressing it lightly. Add the walnuts, again
pressing lightly. Add the remaining cream
cheese, press and smooth the top and
fold the plastic wrap to cover.

Refrigerate overnight. To unmold, fold
back the plastic wrap, invert a plate on
top of the mold and flip them over to-
gether. Carefully remove the plastic wrap,
add a few little flower blossoms and wal-
nut halves to the sage leaf decorations.
Serve with nice crackers. This is just deli-
cious, looks difficult and is so easy!




seeds and tender leaves into fruit cup or apple
sauce, or simply munch one while at work in the
garden. This plant occasionally makes a new
seedling in the garden, but generally remains in
the same place for many years, not becoming
weedy or invasive at all.

Finally, one of the old standbys from parsley,
sage, rosemary and thyme is good old Garden
Sage (*Salvia officinalis*). We take it for granted at
Thanksgiving time and are just beginning to ap-
preciate its appearance and its fresh flavor for
cooking. In the garden its fragrant grey foliage

softens and enhances the plants nearby. The purple flowers are as tasty as
they are beautiful. It grows easily from seed and becomes a sturdy woody
plant for borders and accents. The secret is a severe pruning every couple
of years, right back into the woody branches. This encourages fresh new
growth and removes the lanky weak appearance of old woody parts. I have
recently begun to use the fresh leaves in cooking, and I find them superi-
or to the dry flavor. Go easy until your taste buds become acclimated,
but do try this recipe, adapted from a recent issue of *The Herb Companion*.
It is simple to make and elegant to serve.

Fall is the time to start cuttings of these plants and others; winter may
be the time to experiment with them in your cooking, choose a few favor-
ite recipes, and develop an unusual promotional campaign for spring.

Tanya M. Jackson is a member of the Herb Society of America, Northeast Seacoast Unit.
She lectures frequently for garden clubs and herb societies and teaches at Adult Education
and enrichment programs. She writes for several herb magazines and newsletters and her
bi-weekly column, 'How About Herbs?', is published in a local newspaper. Most days,
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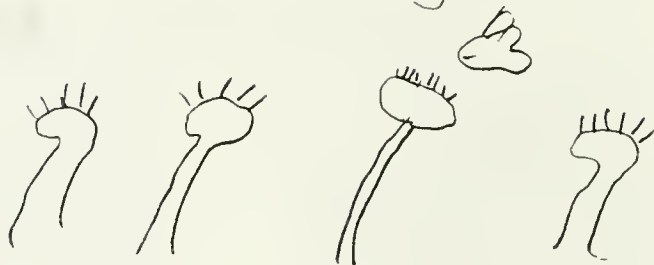
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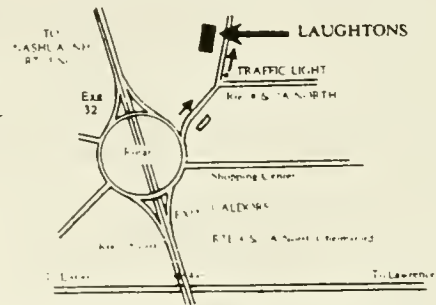
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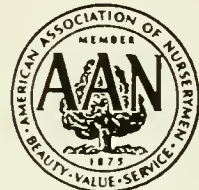
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WORTH REPEATING

continued from page 28

Solution. No simple solutions are used as examples; most of these are not appropriate for northern conditions.)

Ornamentals not adapted to wet soil conditions include: azalea, boxwood, dogwood, hybrid rhododendron, Japanese holly, juniper, ornamental cherry, and rose.

BOARD HIGHLIGHTS

Andrea, Bob, Chris, Henry, Peter and Roger met at Pleasant View Gardens on September 7.

Committee Reports were read and approved. Although attendance at the Summer Meeting was down from previous years, it was seen as a success. The auction raised over \$1,500.00 for scholarships.

The Pesticide Recertification Meeting (October 20) still needs one speaker. Bob Demers will make calls this week. Speakers and their topics must be sent to the NH Division of Pesticide Control 45 days before the event.

Plans for the Winter Meeting seem to be going well. Peter reported that it will be a joint meeting with the New Hampshire Landscape Association at The Granite Street Bar & Grill in Manchester on January 12. The featured speaker will be Elsa Bakalar, nationally-known author and designer from Heath, MA. Known for her imaginative use of color, she will speak on creating tapestry effects with flowers and texture. Other speakers include John Bryant, owner of Millican Nurseries, Chichester, NH, and Paul James, Landscape Manager, ABEX, Inc., Hampton, NH.

The board decided to invite Ed Person, LedgeWood Farms, Moultonboro, and Bill Stockman, Spider Web Gardens, Center Tuftonboro, to the next meeting to look into the possibility of their jointly hosting next year's Summer Meeting.

The Board decided to set up a separate account that will be the beginning of a special fund, the interest from which will be used for scholarships and for support of research particularly useful to NHPGA members. This is a long range project; more money will be added in future years. A financial planner will be invited to a future meeting.

Although we'll not be having our Winter meeting at Farm & Forest this year, it was decided to use our booth there more productively, to promote the products of our members. Plans include a listing of all members (maybe a map showing locations throughout the state), selling member-grown plant products, and designing several fact sheets about new varieties, unusual plants, plant care, etc. Hopefully these would stimulate visits to our members later in the spring. Roger will be working up ideas on the information sheets for next meeting.

Other problems.

Other factors can affect shrub livability. Excessive soluble salts from over-fertilization can injure or kill the root system of recently planted shrubs. Excessive, deep planting will place the root system at a level where there is less air available to the roots and thus, less oxygen. This can kill or injure a major portion of the root system.

CONCLUSION

During the initial establishment period, container-grown shrubs are in a more critical situation than is commonly realized. Disturbance of the root system and more careful attention to watering are the keys to reducing mortality. The use of a soil probe to evaluate soil moisture levels in the root zone should be a standard practice.

Plastic burlap must be removed from nursery stock when planting, in that it does not break down and roots cannot grow through it. Bemptro burlap (half plastic, half jute) should be heavily sliced, if not totally removed, for the same reason. All plastic rope, tags, grafting, and staking materials should be removed also, so that roots and branches will not be girdled.

We think that by buying top quality plants, planting correctly, and—most importantly—watering correctly in the first few months after planting, container-grown plants may be planted year round, if the ground isn't frozen, with almost 100% livability.



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Community Trees Are About People

Margaret Pratt Hagen

WHEN I FIRST got involved in New Hampshire's Urban and Community Forestry Program several years ago, I had a vision. The vision came partly from my Extension background and partly from working as a member of my town's conservation commission. The picture I had in mind was of a really good community shade tree program.

How did it work? Well, it started with a base of *really* enthusiastic volunteers. Volunteers so enthusiastic that they would form their own Community Shade Tree Committee. Volunteers so committed that they would have no trouble gaining cooperation and participation from the town selectmen, the planning board, the conservation commission, and even from the local green industry.

What would be the result of all this enthusiasm and cooperation? Well, pretty soon the Community Shade Tree Committee would have member representation from the conservation commission, the parks and recreation department, the department of public works, the town road agent and the town tree warden. This committee would put together a long-term shade tree plan for the community and the planning board would adopt it as part of the town master plan. The town's selectmen and conservation commission would see the merit of such a plan and support it monetarily. In addition, the Shade Tree Committee could pursue grant monies. The volunteer Shade Tree Committee (educated in tree planning, planting, and maintenance) could also do some of the work themselves. The remainder would need to be hired out to those with specialized skills: to local arborists, landscapers, nurserymen, and landscape architects.

Pretty soon the town would be the most attractive one around. The trees lining the streets, in the parks, and on the green would be healthy and vigorous. Young plantings would be in place to take over as old giants succumbed to age and road salt. No longer would the town have to pay overtime to remove storm-damaged trees in the middle of the night. Healthy, well-maintained trees would live longer, and over the long haul, the town would save money.

Sound naive? Like a really fantastic pipe dream? Well, it's not. A number of dedicated people have been working very hard over the last few years to



make the vision come true. This fall, the Society for the Protection of New Hampshire Forests will be training its third crop of volunteer community tree stewards. UNH Cooperative Extension staff will help teach the stewards, as well as act as a resource for towns. Towns will continue to benefit from the approximately \$65,000 in grant monies supplied by the Small Business Administration over each of the past three years. The New Hampshire Division of Forests and Lands will launch another season of educational programs from the Urban Forestry Center (Portsmouth) and other properties around the state. And the New Hampshire Community Tree Commission and State Forester Jack Sargent will oversee the whole shebang.

In November, a special project will come to fruition. In the Connecticut River Valley, representatives from twenty towns (on both sides of the river) will meet to discover for themselves how to put together a cohesive shade tree program for their community.

At a Saturday workshop, they will hear from towns which already have successful programs; they will learn about cost benefits, street tree inventories, master plans and maintenance techniques; and they will hear from representatives of the aforementioned groups about how they, as individuals, can best focus their efforts. In addition, each town will take home a notebook filled with practical how-to information and a book of color photos on selecting street trees.

The agenda for the workshop was based on extensive input from volunteers, public officials, and green industry professionals. Although various pieces of the puzzle have been in place for quite some time in a number of communities, this is the first opportunity to put all the pieces into place in a community at one time.

It's exciting to see a vision become reality, bit by small bit. Hopefully, we'll be able to transfer this particular small bit to the seacoast with a similar workshop next spring.

Margaret Pratt Hagen is Extension Educator, Agricultural Resources, Hillsborough County. Her address is #468 Route 13 South, Milford, NH 03055; her phone is (603) 673-2510.

Reducing Losses of Container Grown Plants in Landscape Plantings

Gerald Smith, Henry Clay, and John Gibson
Extension Horticulturalists, The University of Georgia

HEALTHY CONTAINER-GROWN shrubs with active roots can be planted in commercial landscape plantings and die within a short time. Here are some problem areas that often affect the survival of recently planted container-grown shrubs in Georgia:

Problem #1.

Rapid soil moisture consumption from container-grown plants.

Research from the University of California indicates that the soil of container-grown plants can lose moisture faster when planted in some backfill soils than when the same plant was growing in the container. If the plant is not checked frequently, it can die within a few days if conditions are favorable for rapid loss of moisture by transpiration through the leaves.

Problem #2.

Imbalance of top to roots.

Imbalance between root water absorption ability to leaf water loss is a major cause of death in recently transplanted container-grown shrubs. These plants transpire water through the leaves at a normal rate; however, their water absorption ability is greatly restricted due to the small area of soil that they occupy and thus are able to remove water from. Plants with heavy tops are especially susceptible to drought stress. Well grown container Japanese hollies such as 'Hetzi' and 'Compacta' are examples of shrubs that will die suddenly due to this problem. As plants expand the roots out into the backfill soil within two to three months, the problem becomes less critical.

Solution. Careful attention to recently transplanted shrubs during periods of high leaf transpiration (high temperature, high light and

rapid air movement, and low humidity) is important.

Problem #3.

Water holding capacity of container mixes.

Container mixes are ideal for producing high-quality shrubs in containers. These mixes, however, usually do not have ideal water holding capacity once the shrub is planted in the ground. Until the roots move into the surrounding soil, the shrub is very susceptible to drought stress.

Solution. Fortunately, the solution is simple, yet effective. Knocking the soil ball of the container-grown plant several times against a hard object will easily expose the surface root mass. When planted, these roots are immediately in contact with the surrounding soil which has a far greater water reserve than does the soil of the container mix. The removal of the surface soil is preferred to the older recommended practice of cutting the surface roots. If practical, the roots should also be spread out. The possible solution of growing the shrubs in a heavier mix is not practical for the grower since this would greatly increase root rot problems.

Problem #4.

Planting with the container soil dry.

Occasionally, container-grown shrubs are planted when the undisturbed container soil is dry with the assumption that the shrub can be watered later after it is planted. It can be extremely difficult to wet a dry container after it gets into the ground. The results are a plant in wet backfill soil, but with most of the roots located in an environment that is completely dry. Death or severe drought stress can result in a few days during hot weather.

Solution. Disturbing the soil ball

and thoroughly wetting the soil ball before planting will eliminate this potentially serious problem.

Problem #5.

Failure to direct water where needed.

Repeated problems have been encountered when overhead sprinklers were used to provide water for recently planted shrubs. Sprinklers tendency to wet a large area, but only to a depth of two to three inches. This provides very little useful water to the container grown plants.

Solution. Erecting a ring of soil around the plants and hand watering with a hose is the best approach during the initial period after planting. If a sprinkler system is used, the nurseryman should obtain a soil probe to determine how deeply the water has penetrated.

Problem #6.

Failure of roots to become established in the surrounding soil.

It is quite possible for the roots of a container shrub to make almost no development into the backfill soil if the backfill soil holds excessive water during wet periods and is thus poorly aerated. A combination of a heavy clay soil plus a planting site where water accumulates usually results in the most severe problem.

available in this situation. Probably the most practical one is to replant with shrubs that have greater tolerance to poor soil aeration.

Ornamentals which have average or above-average tolerance to moist soil conditions include: bald cypress, 'Bradford' pear, dwarf Chinese holly (*Cornuta rotunda*), red maple, sweetbay magnolia (*Magnolia virginiana*), wax leaf ligustrum, and weeping willow. (This article was written with southern plant varieties continued on page 26)

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PESTICIDE RECERTIFICATION MEETING

October 20, 1993

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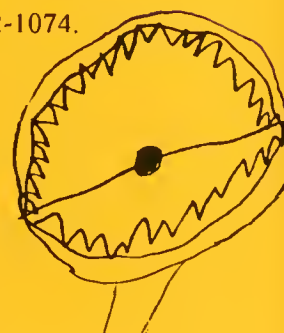
The New Hampshire Plant Growers' Association is offering a day of pesticide recertification credit to its members. It's planning to have five one-hour talks beginning at nine and ending at three with an hour lunch break (lunch is on your own) around noon.

Speakers (as of Labor Day) included Jim Zablocki, Grace-Sierra (whitefly control and disease pressure to expect in the winter months); Mary Anne Hartman, Whitmire Research Lab (IPM techniques, control of specific pests, new product update, re-entry intervals); and Cheryl Smith, UNH Extension Specialist, Plant Health (poinsettia diseases).

There's no charge for members; non-members pay \$15.00.

By now you have received a flier with full information. If you need credits (or just want to hear the talks), come to the Granite Street Bar & Grill on the 20th.

For more, contact Chris Robarge at (603)862-1074.



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