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DECEMBER 1997 & JANUARY 1998



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January

8-9 *New England Christmas Tree Pest Management Conference*, Keene State College, Keene, NH; Marshall Patmos at 603-352-4550.

9-11 *ERNA Expo*, Meadowlands Exposition Center, Secaucus, NJ; registration: 1-800-376-2463.

12-13 *Connecticut Nurserymen's Association Winter Meeting*, Acqua Turf, Southington, CT; 860-872-2095.

12-13 *Rhode Island Nursery and Landscape Association (RINLA) Educational Day and Trade Show*, Doubletree Inn, Newport, RI; Ken Lagerquist at 1-800-758-9260.

13 *Maine Landscape and Nursery Association (MeLNA) Annual Trade Show*, Sheraton Tara Hotel, South Portland, ME; Edith Ellis at 207-225-3998.

WEDNESDAY, JANUARY 14
New Hampshire Plant Growers' Association (NHPGA)/New Hampshire Landscape Association (NHLA) Joint Winter Meeting, Old Mill Restaurant, Epsom, NH; Tim Wolfe at 603-893-5858.

18 *FTDA Two-part Meeting: "Competitive Pricing" with Caylon Pyle/Design Competition*, Comfort Inn, Manchester, NH; Betty Covey at 603-893-4578.

21-22 *New England Fruit Meeting and Trade Show*, Sturbridge Host Hotel and Conference Center, Sturbridge, MA; Bill Lord at 603-863-3203.

22-24 *New England Grows!*, Hynes Convention Center, Boston, MA; 508-653-3009.

February

5 *Lawn Care Seminar*, Auburn, MA; Mary Owen at 508-892-0382.

6 *Maine Landscape and Nursery Association (MeLNA) Recertification Workshop*, Falmouth Country Club, Falmouth, ME; 207-225-3998.

6-7 *Farm and Forest Exposition*, Center of New Hampshire Holiday Inn and Convention Center, Manchester, NH; 603-271-3788.

10 *Agricultural Industry Job Fair*, Student Union Ballroom, University of Massachusetts, Amherst, MA; Elizabeth Wiernasz at 413-545-2222.

18 *VAPH Annual Winter Meeting*, Holiday Inn, Rutland, VT; Connie Gardner at 802-253-8565.

19-22 *The Rhode Island Spring Flower and Garden Show* ("Century in Bloom"), Rhode Island Convention Center, Providence, RI; Nancy Syme at 1-800-766-1670.

19-22 *The Seventeenth Annual Connecticut Flower and Garden Show* ("Watch Us Grow"), Connecticut Expo Center, Hartford, CT; 860-529-2123.

27 *Ecological Landscaping Association's Winter Conference*, Holiday Inn, Boxborough, MA; Nancy Askin at 978-897-7490.

March

3-5 *New England Regional Turf Conference*, Providence, RI; Contact NERTCS at 401-848-0004.

7-15 *New England Flower Show* ("Gardening Lifestyles"), Bayside Exposition Center, Boston, MA; 617-536-9280.

11-15 *Portland Flower Show* ("Poetry in the Garden"), Portland Community Complex, Portland, ME; 207-225-3998.

13-15 *Vermont Flower Show*, Sheraton Burlington Conference Center, Burlington, VT; 802-253-8565.

16 *Workshop: "Computer Applications and WWV for Ornamentals Firms"*, (sponsored by UNH Cooperative Extension), Cole Hall, UNH, Durham, NH; Nancy Adams at 603-679-5616.

17 *Workshop: "Computer Applications and WWV for Ornamentals Firms"*, College of Lifelong Learning, Lebanon, NH; 603-679-5616.

20-23 *"The Breath of Spring" Flower Show* ("Flowers in Wonderland"), Cheshire Ice Arena, Keene, NH; Steve Curtin at 603-355-6335, ext. 161.

22 *FTDA Wedding Design Show and Hands-on Workshop with Ned Davis*, Carbone's, Bedford, NH; Betty Covey at 603-893-4578.

23 *Workshop: "Computer Applications and WWV for Ornamentals Firms"*, Plymouth State College, Plymouth, NH; 603-679-5616.

25 *UNH Greenhouse Facility Tour*, Durham, NH, sponsored by NH Chapter, New England Wild Flower Society; Anne Moore at 603-964-1982.

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Winter: Great Bay; photograph by Rick Raymond

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
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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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FROM THE BOARD

Cultivate Your Character

Tim Wolfe

Many businesses have recently felt an increase in their competition. Whether from mass-merchandisers or new competitors, the economy is bigger than ever and so is the competition. How can you prevail in such an intense market? Well, you already possess one very effective tool. It's up to you to utilize it.

The character of your business can go a long way to retain, increase, and better your business. Webster's Dictionary defines "character" as "the aggregate of features and traits that form the individual nature of a person or thing". So how can this help your business? Make the sum of your business features and traits add up to create a positive impression on your customer.

When you walk into a store, is their someone there to greet you? Do they seem interested? Are they willing to offer assistance? What is the overall appearance of a store? Is it bright and inviting? Is merchandise cared for and presented in an inviting display? Each one of these considerations may seem very basic, but add them up and you are getting the overall perception of how people feel when they visit your business. Your customers have senses: stimulate them! You must go beyond just trying to get your customer to buy a plant. You are trying to create a unique experience for them. Use your products for their intended purpose. For example, display gardens should not only inspire your customers, but should also show that you know what you are doing.

How does this give you a competitive edge? You will become known for your "character". If people enjoy it, they will tell others and will return for the pleasant experience which your establishment can offer. This is merely one method of being competitive, but you may find that "cultivating your character" not only keeps you competitive but personally fulfilled.

Tim is at Lake Street Garden Center at 37 Lake Street in Salem. He can be reached at 603-893-5858.

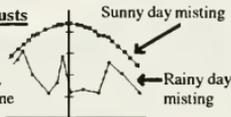
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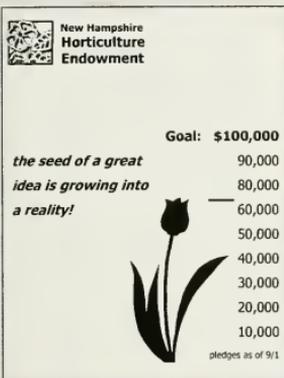
ENDOWMENT UPDATE

We've reached the 70% mark—\$70,000!!!

Peter van Berkum

For those of you unfamiliar with the New Hampshire Horticultural Endowment, this is a fund that will be used to pay for practical research projects in New Hampshire—projects that can serve our specific Green Industry needs. We are planning to raise \$100,000 by the end of the year.

In the month after the phone-a-thon, we took some time to regroup and rethink our plans. We made some calls on larger companies, seeing if they would be interested in supporting our fund. We would particularly like to thank W.H. Milikowski, Gold Star Nursery, and Bailey Nurseries in Minnesota for their generous contributions. We will continue making calls this month as we work our way closer to the \$100,000 goal. To put things on a more tangible note, we now have over \$25,000 invested in the New Hampshire Charitable Trust (which will be managing our money). Since most people are donating money over a three-year



period, this shows that people are not only pledging, but shelling out the money as well.

We've also started talking about setting up guidelines for grant proposals. We plan to spell out very specifically who can apply, what procedures must be followed, and how the grant information will be disseminated. Anyone with ideas on these subjects is encouraged to call or write Nancy Carlisle or myself. If things keep going as they have been, it's possible that we could make our first grant next year! Know of any good research projects that could help you grow your crops? Know of anyone who would like to contribute to the New Hampshire Horticultural Endowment?

Peter can be reached at 603-463-7663; Nancy Carlisle at 603-225-7218.

For those of you wishing to contribute, send checks made out to "New Hampshire Horticultural Endowment" to New Hampshire Horticultural Endowment, c/o Henry Huntington, Pleasant View Gardens, 7316 Pleasant Street, Loudon, NH 03301.

Recertification

On October 29, the NHPGA held its biennial pesticide applicators' recertification meeting at the Inn at Amoskege Falls in Manchester. A free service to members, this offers a large group of credits in a concentrated amount of time—a useful thing for many people.

This year, there was a morning session (for three credits) only, but attendance was solid and reaction fairly favorable.

We would like to thank the three speakers—Robert Kapinus, UniRoyal Chemical; Bill Romp, Mycotech; Samuel Wells, Olympic—for their time and the useful information. We also thank Robert Demers for organizing the event and Chris Robarge for handling the publicity and registration.

In 1998, a major opportunity to obtain credits will be at the New England Greenhouse Conference; the NHPGA will organize its next recertification meeting in the fall of 1999.

NOTICE—Bedding Plant IPM Training

Extension and research IPM staff in Maine, New Hampshire, and Vermont are planning two more bedding plant IPM training sessions this winter. Details were not finalized at press time, but we expect to offer one session in the White River Junction area. A second, nearly identical, program will be offered a few days later, probably in Portland, Maine. Both will run roughly from 9:30 to 3:30 and we will seek P.A.T. recertification credits. Watch for announcements—space will be limited.

—Alan Eaton, IPM Specialist
UNH Cooperative Extension
(603-862-1734)

Legislative Update: HB-170-Property Tax Exemptions for Certain Greenhouses

In the last two months, a great deal of work has been done on the bill to exempt temporary greenhouses from property taxes. After several meetings, a subcommittee that was appointed in the spring could not come up with agreement on the content of the bill or if the bill should be passed. Due to the lack of agreement, Representative David Hess, the chairman of Local and Regulated Revenues Committee, rewrote our bill and presented it to an executive committee with input from the Board of Tax Appeals and the Department of Agriculture. Although the NHPGA made recommendations to change some of the content of the bill, it was decided to leave the bill as it was amended by Representative Hess. The committee then voted on the bill, and it passed by a unanimous vote of 19-0. This is a step in the right direction, since it should easily pass the House when it is voted on in early January. However, there is content that needs to be changed, and we are hoping that this can be accomplished after the House sends the bill to the Senate for committee review and a final vote. As of now, this is how HB-170 reads:

I. New Section; Property tax exemptions for certain greenhouses. Amend RSA 72 by inserting after section 12-c the following new section:

I. Demountable, plastic-covered greenhouses shall be exempt from taxation if all the following qualifications are met: (a) removal of the demountable greenhouse will not affect the utility of the underlying real estate; (b) the demountable greenhouse is not permanently affixed to the underlying real estate with concrete or similar non-portable footings; (c) removal of the demountable greenhouse can be accomplished without damage to the greenhouse and will not render the greenhouse unfit for subsequent use as a demountable greenhouse; (d) the demountable greenhouse is specifically designed, constructed, and used for the culture and propagation of horticultural commodities; (e) the demountable greenhouse is not used for the retail sale of any farm or non-farm products.

II. For purposes of this section, the term "demountable, plastic-covered greenhouse" consists of: (a) frame work; (b) coverings; (c) portable electric appliances, the installation of which involves only the insertion of an attachment plug into a fixed receptacle outlet. The word "portable" does not include or apply to any type of fixed electrically operated or driven equipment; (d) benches; (e) a portable source of heat not fixed to the greenhouse or underlying real estate; (f) a portable source of ventilation not fixed to the greenhouse or underlying real estate; (g) a portable irrigation system.

III. Nothing in this section shall in any way change or affect the current use laws under RSA Chapter 79-A and the rules adopted furtherance thereof.

This act shall take effect April 1, 1998.

The main area of concern is the definition of "portable". When the word "portable" is used such as in the case of plugging in appliances, this is in direct conflict with building codes since equipment cannot be plugged into outlets. This entire section needs an overhaul and would be most clear if the components are listed as: (a) framework; (b) coverings; (c) heaters; (d) ventilation or cooling equipment; (e) benches; (f) irrigation systems.

There are some other minor changes that can improve the bill, but as of today, this is the status of HB-170.

—Bob Rimbol

For information and further updates, Bob can be reached at 603-629-9004.

Classified

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Horticulture Courses at the Thompson School

This is a partial listing of courses offered this winter at the Thompson School. The winter/spring semester runs from January 20 through May 11, 1998. Half-term I is from January 20 through March 13; Half-term II, March 23 through May 11.

- HT204 *Plant Propagation* T Th 8-9:30am and Th 2-4 3 cr
 HT227 *Horticultural Facilities Management* M 8-9am, lab arranged 2 cr
 HT234 *Pest Management: Diseases (Half-term I)* T Th 5:30-7pm and T 7-9pm or Th 7-9pm 2 cr
 HT236 *Pest Management: Insects (Half-term II)* T TH 5:30-7pm and T 7-9pm or Th 7-9pm 2 cr
 HT244 *Floral Design: Weddings (Half-term II)* T Th 5:30-8:30pm 2 cr
 HT246 *New Directions in Floral Design (Half-term I)* MW 5:30-8:30pm 2 cr
 HT256 *Horticultural Pruning* F 2-5 2 cr
 HT258 *Herbaceous Ornamental Plants* Th 10-12 2 cr
 HT266 *Garden Design & Culture (Half-term II)* W 10-12, 1-4 2 cr
 HT268 *Sustainable Planting Design T* 2-5 2 cr
 HT272 *Landscape Design Studio* F 12-5 4 cr
 HT276 *Bedding Plant Production (Half-term I)* W 10-12, 1-4 2 cr
 HT280 *Garden Center Management (Half-term I)* M 10-12, 1-4 2 cr
 HT284 *Nursery Production & Management (Half-term II)* M 10-12, 1-4 2 cr
 HT288 *Horticultural Business Management* MW 6-8pm 4 cr

You can enroll by phoning the Division of Continuing Education at 603-862-2015. For information on course content, the part-time associate's degree program, or the diploma in landscape horticulture, call 603-862-1035. Additional courses are offered at UNH through the Plant Biology Department.

Courses and Workshops

A course on Christmas tree pest management is being offered by UNH Cooperative Extension at Keene State College on January 8-9. The two days include talks on insects and diseases affecting all parts of the tree: foliage, twigs, stems, and roots; discussions on weeds: their identification and their control; and hands-on lab sessions. It looks like a great deal of information will be offered.

The fee is \$115; advanced registration is required by December 19. For further information, contact Marshall Patmos at 603-352-4550.

UNH Cooperative Extension, supported by a grant from New England Grows, is offering a one-day workshop entitled "Computer Applications and WWW Workshop for Ornamentals Firms" on three dates, each at a different location, in March.

The program is designed for people with minimal computer skills. Growers will be introduced to the basics of computer use and learn how to apply Windows-based general application software to business operations and marketing tasks. The fundamentals of searching the Web, using E-mail, and developing a homepage will also be explored. There will be both demonstrations and hands-on experi-

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ence, with "free" computer time allotted at the end of the day.

Dates and locations are: March 16, UNH, Durham; March 17, College of Lifelong Learning, Lebanon; and March 23, Plymouth State College, Plymouth.

You will receive a flier/registration form in the mail. There is a fee; preregistration is required. For more information, call Nancy Adams at 603-679-5616.

Showtime 98

The 1998 Farm and Forest Exposition will be at the Center of New Hampshire Holiday Inn and Convention Center in Manchester on February 6-7.

Plans are still evolving. Commodity groups meeting there have chosen speakers and topics. Subject matter is various and includes veg-

etable production, building a sheep barn, marketing goat milk, game farming, and aquaculture.

Herbs are covered: "Experiencing the Heart of Herbalism" (Carolyn Kelly and Susan Miller) is divided into three one-hour sessions: "Medicinal Herbs," "Herbs for First Aid," and "Herbs for a Healthy Lifestyle;" a mini-workshop on Friday night by Master Gardener Mary Riffle is on "Growing and Using Basic Culinary Herbs."

By February, the agenda will include much more: food, awards, displays, demonstrations; the Plant Growers Association will have a booth full, hopefully, of knowledgeable members ready to answer visitors' questions. The event should, as usual, be well worth attending.

For more information, contact Susan Rice at 603-271-3788.

In Keene, the Breath of Spring Flower Show will again be at the Cheshire Ice Arena. This year's dates are March 20-23; the theme is "Flowers in Wonderland;" 10,000 bulbs have already been planted. There will be displays and workshops; a special event (for which there is a \$5.00 charge) is a talk by Roger Swain, "Victory Garden" host, on Sunday, the 22nd, at 4:30 pm.

The Census of Agriculture

In 1992, there were 1,925,300 farms in the United States, 22,921 of them being in New England, and 2,445 of these being in New Hampshire.

The census of agriculture is taken every five years, in years ending in either "2" or "7." So this is the year. Near the end of December, a 1997



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Kiwi Corner

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Census of Agriculture questionnaire will be mailed to all farmers in New England (a farm is defined as "a place which produced and sold, or normally would have produced and sold, \$1,000 or more of agricultural products during 1997"). Christmas trees and maple sap are included for the first time.

The only source of agricultural data for many specialty commodities in New England, this information will show how agriculture has changed—how the Green Industry has grown—over the last five years.

So complete the forms—let's see where we stand. All information is confidential.

If you want more information or haven't received a form by January first, contact Aubrey Davis, New England Agricultural Statistics Service, 22 Bridge Street, Concord, NH 03302-1444 at 603-224-9639.

Bob Kennedy 1915-1997

Robert Charles Kennedy, 82, formerly of 18 Faculty Road, Durham, died Sunday, November 9, 1997, at the Edgewood Center in Portsmouth after a period of failing health.

He was born July 1, 1915, in Milford, Massachusetts, the son of Edward and Mary (Preston) Kennedy.

He received a master's degree from the University of New Hampshire and taught there for 41 years as a professor of plant science at the Thompson School. He was a member of the New Hampshire Plant Growers' Association.

A veteran, he served in Africa as an air traffic controller with the US Army Air Force during World War II.

The widower of Dorothy Grace (Franz) Kennedy (who died in 1986), he is survived by two sons, Roger C. Kennedy of Durham and Neal R. Kennedy of Dover, four brothers, three sisters, two grandchildren, and several nieces, nephews, and cousins.

With all the changes going on at the UNH greenhouses, we are setting up our program to give students more hands-on experience with a range of technologies. However, we recognize that there is no substitute for students going out into the 'real world' and getting their hands dirty. We have therefore added a new requirement for our Environmental Horticulture students at UNH—an internship in a nursery, public garden, or similar environment.

An internship is a supervised, on-the-job training experience. This is a paid position, where compensation varies depending on the business and responsibilities. An opportunity is provided for the student to learn more about career opportunities in the agricultural sector that interests him or her. During an internship, students:

- Integrate classroom theory with practical experience
- Understand how businesses work in practice
- Enhance future career prospects
- Partially meet education expenses through the salary received
- Improve human relations skills and gain independence

You as an employer will also benefit from taking on an intern. Specific advantages include:

- Intern students generally prove to be well-motivated and productive employees
- It gives you the opportunity to identify, train, and evaluate students who upon graduation may become career employees
- Intern students often free higher-paid professionals for other work
- It offers an opportunity to positively affect education in our state, enhance recruiting efforts, and develop a closer relationship with UNH

Internships can run at any time of the year. I am currently setting up a file of businesses and organizations willing to employ UNH interns. If you are interested, photocopy or cut out the form on the opposite page, fill it in, and return it to me: Paul Fisher, Dept. of Plant Biology, Spaulding Hall G-44, University of New Hampshire, Durham, NH 03824; Tel. 603-862-4525; Fax 603-862-4757; e-mail prf@hopper.unh.edu

Department of Plant Biology Internship Program Employer Information Survey

Semesters Spring: January 1-May 31
 Summer: June 1-August 31
 Fall: September 1-December 31

Person to contact _____ Title _____

Organization _____

Address _____

Street City State Zip Code

Telephone Number _____

Intern Job Title _____

Intern Job Description _____

Any courses or major required of student: _____

Any special skills required of student: _____

Date Intern Job Begins _____ Rate of Pay _____

Date Intern Job Ends _____

Work Hours _____

Do you have information/informational brochure about your company or internship?

Yes No (If you have information, please send).

Comments: _____

Please return a copy to: Paul Fisher, Department of Plant Biology, Spaulding Hall G-44, University of New Hampshire, Durham, NH 03824, USA.



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Speakers Announced

Adrian Bloom, president of Blooms of Bressingham Nursery, Norfolk, England, and Roger Swain, host of PBS-TV's *The Victory Garden*, will be keynote speakers at New England Grows, held at the Hynes Convention Center in Boston on January 22-24.

Mr. Bloom will speak on the topic of "New and Unusual Perennials." As president of one of the larger nurseries in Britain, he has traveled widely looking for new plants and has been instrumental in setting up a worldwide plant introduction network. He is the author of several horticultural books and has led his company to 21 successive gold medals at the Chelsea Flower Show.

Mr. Swain, biologist, gardener, writer, and storyteller, will join members of the Green Industry for a discussion of "Sound in the Garden."

For more, call 508-653-3009.

A New Location

The New England Greenhouse Conference, sponsored by New England Floriculture, Inc., is going through exciting changes. Its 1998 location, Worcester's Centrum Center in Worcester, Ma, is one of them.

The scale and convenience of the new location will make the conference larger than ever. The three-day (Oct 19-21) event promises educational seminars, well-known speakers, and a major trade show.

The New Hampshire growers' representative on conference board is Henry Huntington. He can be reached at 603-435-8361.

Winners

(*Greenhouse Grower*, November, 1997)

Although Georgia's climate is very different from that of New Hampshire, the four winners of the 1997 bedding plant trials at the University of Geor-

New England Grows Grants

Nancy Adams

Each year, New England Grows awards six \$4,000 educational grant awards to the New England Cooperative Extension systems. The requirement of this grant is that the funds must be used for services to benefit commercial horticulture within each state.

UNH Cooperative Extension used the New England Grows grant award in 1997 to support a one-day educational program entitled *Cultivating Your Best Assets: Personnel Management for Ornamental Businesses* which was attended by 35 people representing 22 New Hampshire ornamental businesses. Speakers covered such topics as: writing an employee handbook, health and retirement benefits, and motivating employees.

Additional uses of the 1997 grant included the purchase of a turf pest diagnostic CD-ROM for the UNH Plant Diagnostic Clinic, purchase of the computer software *Adobe Photoshop* to assist with digital imagery, and support for an upcoming series of computer workshops developed for New Hampshire ornamentals firms.

Plans are now underway for utilizing the 1998 New England Grows grant award. The UNH Cooperative Extension proposal includes developing a network of temperature-recording sensors located throughout New Hampshire to monitor growing degree days (GDD). GDD are used to monitor insect emergence which allows those in the landscape/nursery/ornamental businesses to more accurately time pest management strategies. This information will be compiled and presented weekly on a telephone answering system.

The grant will also enable UNH Cooperative Extension to develop and print a garden center evaluation handbook—a tool for those businesses interested in improving their marketing and customer relation efforts. Additional projects include purchasing turf and ornamental references for county staff, developing applied mycorrhizal research for the nursery trade, and supplementing speaker reimbursement for grower educational programs.

Nancy Adams, Extension liaison to the NHPGA, can be reached at 603-679-5616.

gia in Athens might also do well here.

Zinnia 'Crystal White' (American Takii) had clean white flowers showing above light green leaves. The foliage remained clean throughout the season, starting to discolor only in mid-September.

Ornamental Pepper 'Pretty in Purple' (Johnny's Selected Seed), more branched, not as compact as others, "looks good in the ground, but is outstanding in a container complimenting whites and pinks."

Coleus 'Red Ruffles' (the Sunflower series, available though most brokers) is an excellent plant for full sun, keeping its deep red color and ruffled chartreuse margins throughout the season.

Scaveola 'Outback Purple Fan' (Roger Elliott of Outback Nursery and Paul Ecke), a tough plant that "simply flowered and flowered and flowered," was "without doubt the best scaveola we've trialed."

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GOLDEN GARDENERS

An Increasingly Big Share Of Your Market

Margaret Hagen

One of the indisputable facts of life is that we're all getting older. In fact, by the year 2000, the number of older people living in this country is expected to reach at least 32 million. And although gardeners over the age of 65 may not drive garden sales the way baby boomers do, they control up to 75% (by some estimates) of our nation's wealth. And since this population segment will only continue to grow for many years to come, it makes sense to begin learning now how to cater to its needs and wants.

In the next 10 years, the number of Americans in their 50s will grow over 40 percent. Demographic studies show that spending power is also becoming more concentrated among those aged 50 and older.

Household income is highest for those aged 45 to 54. Households headed by people aged 55 to 64 have slightly lower incomes, but also fewer mouths to feed. After everyone is fed, clothed, and housed, those in the 45-to-64 age bracket have a household discretionary income of \$16,200 (calculated in 1994). Those in the 55-to-64 age group have the highest per-household-member discretionary income, averaging \$6500 in 1994 (*American Demographics*, January '97).

Figures from the National Gardening Association also show that the 50-and-older age group accounts for 37% of lawn and garden sales. And those currently retiring aren't quietly retreating from life. Thanks to today's knowledge about nutrition and exercise, most older Americans are working hard to delay the physical aging process. Many older gardeners are healthy, alert, and strong and they intend to stay that way.

Also keep in mind that Baby Boomers are moving into their 50s. They're ready to reward themselves for the long years they spent wiping up the apple juice spilled by their kids and paying extra car insurance while putting teenagers through college. Many will be looking for sophisticated furniture, food, travel, and hobbies. Why not begin to take them into account when evaluating your sales program? It really is no longer true that seniors never buy anything because they don't need much nor because they all have to scrimp and save.

Over the last five to ten years, many garden centers have started to carry products, run programs, and feature gimmicks that appeal to children (tomorrow's gar-

deners). An informal survey of 15 garden centers in southern New Hampshire found that no one is advertising or promoting specifically to seniors. Three offer a 10% discount on Tuesdays and two offer a 10% discount all the time. Five carry some equipment or tools to aid those gardeners with physical limitations. I think there's tremendous marketing potential here, but it's necessary to know a little bit more about the consumer you're trying to serve.

As we age, our vision declines. The lens within the eye thickens, yellows, and tends to absorb shorter wavelengths of light. Color sensitivity diminishes. Depth perception is poor. The most easily perceived colors are the brightest: yellows, oranges and reds.

There are a number of small things that can be done to make it easier for those with poor vision to have a positive shopping experience. The first thing you can do is make sure the lighting in your store is good. In fact, the more light the better. On signage, use a font size of at least 14 and make sure there is good contrast (black on white, black on yellow). Use printed type and keep in mind that blue and green backgrounds are the most difficult to see.

For people wearing bifocals or trifocals, depth perception can be difficult. Changes in grade need to be very clear (fluorescent strips on stair treads, etc). It's best to use ramps wherever possible to avoid potential problems. Flooring should be smooth to walk on, but not so smooth that it causes a slip. Consider adding handicapped access.

Because lifting can be a problem, JC Penny has put the larger sizes of its garden products on the middle instead of the bottom shelves. Because the print on bigger packaging tends to be larger, it's also easier to read. And think about posting signs instructing customers to ask for help with heavy plant materials or gardening supplies.

Keep your aisles at least three to five feet wide (older people like to walk side by side) and free of display material. Keep your hoses coiled and think about retiring those cute red wagons (the handles are a tripping hazard).

Remember the old adage that customers buy in direct correlation to the amount of time they spend in your store? Using garden furniture for function (a place to sit down and rest) as well as display could pay off in sales. Other amenities are restrooms, bubblers and

some shade that saves people as well as plants. If you find it difficult to view your store through impartial eyes, ask an older friend or relative to come in and critique it for you.

There are a number of garden tools and equipment designed for physically limited gardeners. The most popular seem to be various styles of carts on wheels with seats twelve to sixteen inches off the ground. You use these to scoot from one gardening task to another. Tool storage under the seat is an added convenience.

Tools with crooks in the handles (to save on back labor) or foam rubber handles (easier to grip) are also popular. Kneelers, long-handled grass sheers and bulb planters, self-watering planters with rolling casters, interlocking edging that pounds easily into the ground, and indoor growing units at waist level all save on physical wear and tear. Although these types of equipment and tools are generally higher-priced, it may be worthwhile to keep some in stock.

Of the older people I surveyed (both gardeners and nongardeners), the most often expressed thought was for "anything to make it easier." The most common desire was for planting beds at waist height. Low maintenance shrubbery, perennials that don't have to be divided and knowledgeable sales people were also high on the list. Bird baths and feeders, garden statuary, gardening books in large print, and sprinklers with easy-to-see settings were products people wanted to buy. Most said that senior discounts would bring them in, but knowledgeable sales people would bring them back. A few said they would cruise the aisles and price everything, but leave if the store didn't meet the prices of large discounters. Most wanted some kind of plant guarantee.

One thing to remember is that, by and large, this customer has time. It's best to use a soft style of selling and let the customer control the sales process. Seniors also appreciate being treated with courtesy and respect.

When marketing to older people, positive visuals of seniors (gardening by themselves, with others or with children) are effective. Advertising that features people in one's own age group is always welcome in this youth-oriented society. Also appreciated are stores that carry old-fashioned varieties which evoke childhood memories and feelings of security. And don't forget the possibilities of intergenerational gardening classes or projects. The garden center is an ideal spot for an outing with grandchildren.

Lastly, older consumers are interested in giving back to their community and their family. This group will make financial decisions in order to "give back." Involving your business in community projects could be a win-win situation for you and the local community.

And always remember: the current, more affluent, retirement generation is better able to enjoy life than retirees of the past. I certainly plan to do so. I'm sure you do, too. And I bet we'll both shop wherever someone caters to our needs.

Margaret Hagen is Extension Educator, Agricultural Resources, in Hillsborough County. She can be reached at 603-673-2510.



NOTES

Perennials have become all the rage in the last few years. It seems every grower of nursery stock or with greenhouse space has jumped into the fray. At this point in time, most varieties have been seeded or plugs will be shipped shortly for potting. An interesting observation is that most nursery growers tend to raise perennials as nursery stock and greenhouse growers, as an annual.

Though perennials can be raised in a small cell—like a flat, they will perform much better if given some room—such as a quart or gallon container. In most cases, you can get a higher return for plants raised in the larger container. If you are growing from plugs (which seems the most common avenue for perennial production), minimal heat at the time of transplanting is required.

Unless you plan on forcing your plants for early blooming (not necessarily a good thing for the consumer or for your late spring and summer business), a simple overwintering structure will suffice. Because these plants will eventually be shifted outside to grow on, a well-drained bark mix will give you proper drainage and weight. A controlled release fertilizer (CRF) either top dressed or incorporated into your mix works exceptionally well. Be sure to use a CRF that will release for you in the cool conditions in which you are actually growing this crop. Many greenhouse growers will use a liquid feed program—as in their annual production. If these plants go outdoors, liquid feed (unless on a drip system) can be very expensive and wasteful.

Whatever the case, most varieties require a very light feed program. Use only the low rate of a CRF; on a liquid feed program, 100-150 ppm of nitrogen every week or two is sufficient.

By shifting plant material outdoors, you harden off growth and, generally, get a better bud set, more lateral breaks, and a plant much more tolerant of adverse conditions.

Jim Zablocki is Technical Manager, Northern Horticultural Group, Scotts Company. He can be reached at 603-224-5583.

New England's Oldest Living Tree

David VanLuven

In 1434, when people still thought the sun revolved around the earth and Columbus hadn't yet been born, a tree took root in an isolated corner of what is now Rockingham County in the state of New Hampshire. This black gum (*Nyssa sylvatica*, also called black tupelo or pepperage) flourished through the centuries and last fall, scientists assisted by the NH Natural Heritage Inventory (NHNHI) discovered that, at the venerable age of 562, it is the oldest living tree in New England.

This black gum tops all of the previous oldest-tree contenders by 130 years or more. New Hampshire's previous champion is a 412-year-old red spruce growing in the White Mountain National Forest. Old trees in other New England states were also significantly outdated. Massachusetts' oldest known tree is 433 years old, Maine's is 428, and Vermont's, 419. The oldest tree in New York has yet to reach 400 years.

Several hundred other black gum trees, the oldest of which are 300 to 500 years old, share the ancient tree's swampy habitat. Identification of the old trees began several years ago when Dan Sperduto, ecologist with NHNHI, discovered that some of the trees had grown for nearly five centuries. It was not until late 1996, however, that the tiny rings of a pencil-thin core removed from the oldest tree were carefully counted.

The core from the oldest black gum tree was analyzed during the 1996 North American Dendroecological Field Week which was held at the USDA Forest Service Experimental Forest in Bartlett, New Hampshire. Researchers first mounted the core and smoothed it with 300-grit sandpaper. They then placed the core under a microscope which was attached to a computer. By magnifying the core between seven and ten times, the researchers were able to measure the width of each ring to within a fraction of a millimeter.

These tree rings are valuable for more than simply dating New England's oldest tree. They also provide a chronology that scientists can interpret to learn about historical climate trends and environmental conditions. Paul Krusic of Columbia University is working with the NHNHI and others to establish a link between climate change and the growth response of the trees. They hope the tree rings will yield new information on cli-

mate variations over the last 550 years and give insights into the changing environmental conditions New Hampshire's forests have endured.

Good luck and biology have allowed the trees to survive for so long. Black gum trees are naturally long-lived and are very resistant to disease. Their twisting grain and brittle nature limit the utility of their wood, so their commercial value is low. They also tend to grow in small, boggy basins perched high in watersheds where beavers are unlikely to flood or fell them.

Yet black gum trees are not invulnerable. Five years ago, beavers flooded a large black gum swamp in Rockingham County and killed over one hundred trees, some of which had survived for more than 500 years. Fortunately, hundreds of other trees in surrounding swamps survived. These trees are safe from beavers because their swamps lack the stream outlets that beavers might dam.

Black gum trees are common in the southeastern United States, but less so in New Hampshire, where they reach their northern limit. They typically occur as a few trees growing scattered in red maple swamps. Of particular interest to the NHNHI are swamps in which black gums are the dominant species, or at least grow in larger stands of twenty or more trees. The Natural Heritage Inventory is conducting a broad study, funded by the U.S. Environmental Protection Agency, of these New Hampshire swamps to identify these trees and help interested landowners protect them voluntarily.



The New Hampshire Natural Heritage Inventory (NHNHI) is a small state program in the Division of Forests and Lands. Our mission is to find, track, and facilitate the protection of New Hampshire's rare plants and exemplary natural communities. We are not a regulatory agency; instead, we work with landowners and land managers to help them protect

New Hampshire's natural heritage and meet their land-use needs. For more information or lists of the rare plants, animals, and natural communities in New Hampshire, contact us at: Natural Heritage Inventory/DRED, P.O. Box 1856, Concord, NH 03302-1856. Or call 603-271-3623.



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Diagnosing Plant Problems

Cheryl A. Smith

The diagnosis of plant problems can be a challenging task, requiring a basic knowledge of plant culture and physiology and environmental influences on plant health, as well as the ability to identify the possible causes. Developing a solution or remedy to the problem depends upon a proper diagnosis. The process of diagnosing plant problems generally consists of (1) recognition or perception of a problem, and (2) determination of the cause (or causes).

Symptom recognition

The first step in diagnosing a plant health problem is the recognition of symptoms. A symptom is any visible, 'abnormal' condition of a plant caused by biotic agents (living organisms such as diseases and insects) or abiotic agents (non-living or environmental factors). Before symptoms can be recognized however, the horticulturist must be familiar with the characteristics of the 'normal' plant. What may appear to be a symptom may actually be 'normal' for a particular variety. Common symptoms of plant diseases and disorders include leaf spots and blotches, yellowing (chlorosis), marginal browning (necrosis) of leaves, stunting, dieback, distorted growth, galls, leaf drop, stem cankers, wilt, and root rot.

Is there a pattern to the symptoms?

Once symptoms are noted, a general assessment should be made of the affected plant(s) and nearby healthy plants. A series of questions may be helpful in assessing the problem. Is more than one plant affected and is more than one plant genera or species affected? Where on the plant(s) did the symptoms first appear? Is the problem limited to the interior or exterior portions of the plant (or planting)? Are the symptoms very localized or are they widespread? Are several types of symptoms present? After making a general assessment, take a closer look at the symptoms. It is often helpful to determine the shape and pattern of leaf spots. Do the spots have concentric rings or a zonate appearance? Are the spots round or angular? Do the spots/lesions appear to be limited by the veins? Be sure to check the roots whenever possible. Symptoms of nutrient deficiency, marginal necrosis of leaves, and wilting are often symptoms associated with root rot.

If more than one plant genera is affected, the cause is usually due to an abiotic agent. If the symptoms are limited to a single species, the problem is more likely caused by a living agent. Keep in mind however, that a particular species of plant may be more or less sensi-

tive to chemical problems (micro-nutrient levels, soluble salts, pesticides). Symptoms appearing only on one side of a plant or planting or in a repeated pattern such as every two plants or every other row, are most likely caused by abiotic agents. Symptoms caused by biotic agents are more likely to be random in occurrence or pattern.

Are signs visible?

Signs are the actual visible evidence of pathogens and/or insect pests. A 15x or 20x hand lens is helpful for viewing fungal structures and insects or mites. Examine the symptomatic plants for fungal fruiting bodies (black or brown pinpoint-size structures) or fungal growth (molds or strand-like growth). Signs of insects include the insect itself (and all its life stages), cast exoskeletons (skins), webbing, or droppings (frass or honeydew). Finding evidence of a pathogen or insect may not lead directly to the cause of the problem, however. Sometimes abiotic factors can weaken a plant and predispose it to attack by pathogens and/or insects. For example, high soluble salts can predispose plants to root rot fungi and drought often predisposes trees to fungal tip blights or insect attacks.

How quickly did the symptoms appear?

Another aspect to consider is the time frame during which symptoms appeared. A record of the environmental conditions during that time period may also be useful in determining the causes of the problem. Once again, a series of questions may be helpful. How long has the problem existed (when did the symptoms first occur)? This is often a difficult question, as many problems seem to appear overnight. Symptoms caused by most biotic agents take several days or longer to develop. As always, there are a few exceptions: bacterial diseases can develop and spread rapidly and pythium blight of turfgrasses can spread significantly in 24 hours. The sudden appearance (one to two days) of symptoms, however, is usually caused by abiotic agents.

Record-keeping

Detailed record-keeping of general plant health at regular intervals (daily, weekly, etc.) will help trace the appearance of symptoms. Records are also helpful when trying to determine if particular management or cultural practices may have caused the symptoms. It is important to keep records of fertilizer and pesticide applications (date and rate), and watering practices, as well as the introduction of new plant material (they may be the

source of pathogens or insects). Any changes in the surrounding environment should also be noted. Have heating or cooling systems recently been activated? Do the vents from those systems blow on the planting? Is an outdoor planting located in a windy or frost-prone site? Has any construction or painting taken place nearby? Have there been extremes of moisture (drought/flood) or changes in light intensity? Questions such as these will help determine if the problem is environmentally-caused.

Diagnostic testing

Once a problem has been recognized and potential causes identified, it may still be necessary to submit plants to a diagnostic laboratory for confirmation or further identification. When plants are submitted for diagnostic testing, there are a few steps to follow to ensure an accurate and timely diagnosis. Include as much information as possible about the history of the problem (when symptoms were first noted, rate of progression, any visible pattern to the symptoms, percentage of crop or plants affected). It is also important to provide information on pesticide and fertilizer applications, and any changes in the growing environment. And, last but certainly not least, be sure to include the name and variety of the plant. Be sure to include a healthy sample for comparison purposes. If samples are submitted by mail, package the sample well to avoid shifting during shipment and mail the package early in the week or by overnight delivery.

There are several diagnostic kits available for in-house or on-site testing. For bedding plants and other greenhouse crops, Agdia Inc. (Elkhart, IN: www.agdi.com) produces the QTA-Tospo test kit for viruses. This kit tests for both impatiens necrotic spot (INSV) and tomato spotted wilt (TSWV), but does not distinguish between the two viruses. NEOGEN Corp. (Lansing, MI) produces the Reveal test kits for turfgrass diseases. The brown patch and pythium test kits are particularly useful since both diseases occur in hot, humid weather and produce symptoms that are easily confused. It is important to keep in mind that the results obtained from the test kits depends upon the sample tested. Be sure to sample symptomatic areas of the plant. Otherwise, the pathogen may not be present in detectable levels, resulting in a false negative.

Solutions to the problems

The best approach is to prevent problems in the first place. This may seem to be a rather obvious statement, but in reality, many simple practices that can prevent plant health problems are overlooked.

Sanitation techniques are the best prevention and control measures for problems caused by pathogenic microorganisms and many insects. Inspect all plant material when it is received. Don't hesitate to refuse any plants that exhibit symptoms of any kind. Start clean! Use clean, sanitized pots and sterile potting mix. Sanitize potting benches before each use. Sanitize cutting, planting and pruning tools before each use. Any tissues



The Griffin Guru

Winter's here and it's time to crank up the heat. If you haven't done so already, it's time to make those routine checks necessary to ensure that your heating equipment will function well when you need it most.

Here's a check list that will make the task easier.

1. Check equipment for any physical damage that may have occurred over the summer. This should include damage to sheet metal, fans and air movers, wiring, gas piping, and vent systems.
2. Check for cleanliness of heat exchanger and burners.
3. Check to make sure vent system is clear.
4. Check to make sure no obstructions block the air inlet or air discharge of equipment.
5. Ensure unit supports are secure and unit hangs level.

All this should ensure a warm, problem-free winter.

infected with pathogenic microorganisms can serve as a source of infection for nearby plants. Infected leaves or stems should be removed and destroyed. If a large portion of the plant is infected, it may be better to remove the entire plant. When pruning infected trees and shrubs, sanitize the cutting tools between each cut and destroy the prunings. When watering, avoid wetting the foliage as this splashes and spreads fungal spores and bacteria to adjacent plants.

Proper horticultural practices can help reduce plant stress. Match the plant to the site: shade-loving plants in shady areas, winter-hardy plants in exposed areas, etc. Remember, plants under stress are usually more susceptible to attack by both pathogens and insects.

The diagnosis of plant problems can be both frustrating and rewarding. It is helpful and at times necessary to have a collection of reference sources including plant, disease, and insect identification guides to aid in the diagnosis. As with any other skill, the more you practice, the more refined your skills will become. Remember, you can always send samples to a diagnostic lab for confirmation prior to selecting a management practice, so don't be afraid to hone your own diagnostic skills.

Cheryl Smith can be reached at 603-862-3841.

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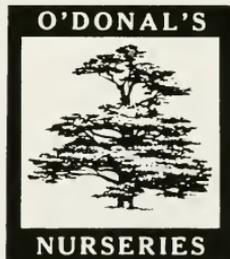
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Resistance and Residues

It's amazing that something that cannot be seen or detected can kill. But it can—and swiftly. I'm not talking about pesticides, but their residue.

Pesticide residue can be lethal. Not necessarily to humans or animals (no proof, right?) and not to the pests for which the substance was used, but to the little guys that surround us—the good bugs.

Resistance is a very real problem. Grower Bob says the spray he's using is supposed to be deadly, but the little (expletives) seem to get high on the stuff and come around asking for more. Bob's not been doing anything wrong—unless he's been using the same compound over and over without breaking up the regimen with different chemical classes, or not following the product's instructions. If so, he's giving the pests a chance to develop resistance.

Grower Bob's first spray was pretty effective: most of the bugs died. The second spray was supposed to be done five days later, but Bob held off for ten—the situation looked fine. The bugs that didn't get hit the first time did get their feet wet, but they survived. The second spray was a lot less effective.

Bob's in trouble. He decides to release insect predators. But these all die—killed by the residues from the first two sprays. The manufacturer says that the re-entry time is 24 hours, but that doesn't mean it's gone entirely. Even two months later, Bob released some ladybugs to combat an aphid flare-up. Within 24 hours, the ladybugs have died. The probable cause—pesticide residues. To avoid Bob's plight:

1. follow the instructions on the chemical's label to a tee;
2. alternate chemical classes to avoid resistance;
3. release good bugs only if you're using biorational products or if you've waited a period of time long enough to let the chemical break down fully.

For information about the exact residual periods of specific chemicals for use with beneficials, you're invited to call us at the number listed. Have ready the chemical name as well as the trade name. If possible, also provide the names of the good bugs you'd like to use.

Mike Cherim of The Green Spot, 93 Priest Road, Nottingham, NH 03290-6204, can be reached at 603-942-8925.

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Unintimidated by its larger neighbor, the foursquare wooden structure built fifty years ago is now a garden center. Surrounded by activity and color, it has adjusted well to its new situation.

Tim Lanphear started the business four years ago. He'd bought the old gas station On Route 9 in 1985 (he used his savings; there is no mortgage) and had rented it out while he himself worked selling reconditioned cars in various dealerships. Then the City of Concord decided that it didn't want a gas station situated above an easily contaminated city-owned wetland. Tim said, "Okay." The gas tanks, as well as two 10,000-gallon fuel oil tanks, were removed. What was left was an empty building on a 2.2 acre triangular lot.

Tim decided to go into business selling plants—he'd never done it before, but he liked plants—he'd worked at landscaping once. He decided "to just do it totally," learning as he went along. He kept the name, "The Ol' Speedway" ("People know where we are"), removed the hydraulic lift, cleaned up the place, and opened for business on Memorial Day weekend, 1994. It's a family business—his father, Dennis, and his step-father, Joe, are there full-time.

Antiques and collectibles were originally a large part of the business (something to sustain it in the off-season), but it was the plants that sold—and held Tim's interest;

today, plants account for 90% of sales. Most of the remaining collectibles are tools and farm implements people like to use as garden ornaments.

Immediately to the right of the old gas station, the land dropped steeply, down twenty-five feet to marsh. There was room to set up a 12'x42' wood-and-plastic display shelter (in October, it was filled with pottery and wicker items on sale), but little more. Raising the level of the land to that of the road became a major objective. Tim put out a call for clean (no cement or plastic) fill. This spring, a stone retaining wall was put up at the back of the property, solidly stabilizing the newly created ground.

Enough land has been created to put up a 17'x64' greenhouse and create a perennial display area, a place for bagged goods, and additional parking.

The land slopes to a lower area where perennials (until July first) and then mums are grown on weed mat and with drip irrigation. Here also, landscapers are allowed to dump leaves and brush—this will someday be compost; there's also a pile of topsoil removed when the gas tanks were taken out. Tim uses this mixed with Pro-Mix in flower beds by the road. And a well—only 28 feet deep, gives "all the water I need."

"ANNUALS AND perennials will be our specialty." They sow seed by

hand in January, start it on the sunny side of the greenhouse; cuttings (without rooting hormone) are on the shady. Seedlings are transplanted into 48-plug flats.

In winter and early spring, the 6'x64' outside display tables become cold frames. Short pieces of PVC pipe set into the ground alongside the tables hold ribs onto which a ridge pole is fastened. This PVC pipe frame is then covered with plastic. These cold frames hold the flats of new seedlings as well as bare-root stock potted in one-gallon containers—stacked two-high. On warm days, the plastic on one side is folded back. In summer, the plastic's removed completely. In May, the seedlings are planted in one-gallon containers for sale later that season. ("I don't grow anything that doesn't bloom the first year.")

In late fall, any perennials left are pruned back, set on weedmat, and covered with microfoam. Next spring they will be repotted into two-gallon containers.

Although they grow as much as they can themselves, space is limited. Most material is bought in. They buy in all bedding plants; they grow only 150 hangers and buy in the rest; many of their perennials come from Ledgeview Greenhouse in Loudon.

Vegetables—"just the basics: corn, tomatoes, peppers, cukes, squash—summer and zucchini"—come from McQuestin Farm in Litchfield. Winter squash, pumpkins, Indian corn, and gourds are available in the fall.

Herbs are big year-round—the

display shelter is filled with 2500 in spring. In October, "people are buying things they can take indoors," and the greenhouse contains a fairly comprehensive collection of culinary herbs. Many are in clay pots; some, like curry, are in hanging baskets. No chemical pesticides are used on these—instead, such things as vegetable oil, a red pepper mix, baking soda, or a garlic solution keep the plants pest-free.

IN CONTRAST to the wide-open open-air market atmosphere outside, the shop interior, with its dark furniture and glass cases of tiny objects, seems introspective, almost museum-like. A few antiques remain, but the emphasis is on silk flowers, dried arrangements, miniatures, collectibles (Boyd's Bears), crafts, Maine Candle Company products... Walls are white; light is softer; there's lots of wood; dried roses hang from the high ceiling (we're lucky—the drop ceiling is only a foot-and-a-half from the original garage ceiling. You wouldn't have this height in an ordinary shop"); there's a scent of potpourri. The choice is deliberate: "We're aiming toward a more elegant, Victorian look."

DENNIS HAS always worked for himself: for the last 16 years, also in reconditioned car sales. He and Tim buy through the major wholesale producers in the area (Pleasant View Gardens, D.S. Cole Growers, Lavoie Farms, Boucher's Greenhouse). They want quality, but also a good price, and their background makes them comfortable working out a deal on overproduction, a canceled order, a line that's not selling—then buying in bulk to give their own customers the benefit of the low price per unit. Although people will always want geraniums and mums, many look for the unusual, "so this works out well. And if I buy in bulk, I don't have to sell

And once people
buy once,
he works hard
to keep them coming back.
"If a family buys
a big pumpkin,
I'll give a little one
to the kids
—no charge....
If the bill comes to \$20.95,
\$20 will do.
They'll be back."

out to make money." And the unexpected is what makes the place interesting.

This summer, Dennis went to a bankruptcy auction in Holden and ended up buying an entire lot—120 pieces—of concrete statuary. The deal was good; the mix, eclectic—nymphs and madonnas, gargoyles and fishermen. The price was right and it's selling. He'll have more next year.

Finances are computerized, inventories are not—"things happen too fast."

Open seven days a week throughout the year, they count on unusual items, specials, and heavy trade on winter holidays to get them through the off-season. Last Valentine's Day, they sold 7000 roses. This Christmas, along with wreaths and 1200 trees, there are "kissing balls"—five-inch styrofoam balls covered with sprigs of balsam and decorated with ribbon and ornaments. Four women are creating 600 of them on a piecework basis.

"Keep your costs down:" this adage is acted upon in many ways. Tim points out a cooler: "I got it used. It works fine. New, it would have cost ten times as much." He

uses found objects in practical ways: nothing's fancy—benches are made of old pallets, snow fencing, cement blocks. As long as the quality of the material on them is high, no one seems to mind. The front gardens function as production beds—rows of coneflower and shasta daisies can be dug and sold or divided and grown as next year's crop. Cut flowers that don't sell are hung from the shop ceiling to dry. Some are used in arrangements; others are sold by the bunch.

Tim advertises heavily—once a week throughout the year—in the *Concord Monitor* and less often in some of the smaller local papers. In spring and at Christmas, he advertises on radio as well. Radio? He's not sure if it's worth it... "now that people have found us, the best advertising is word of mouth..."

...and color. "Pansies don't sell this time of year," Dennis says as he points out a display of fall dish gardens, "but I bought these for color. We need color to attract customers. If we sell them, that's fine, but that's not why I bought them."

There's color and texture everywhere: banners, pumpkins, mums, statuary, old farm equipment...one side of the shop is covered with wagon wheels, oxen yokes, cross-cut saws. Out front are the gardens: a rail fence along the front, a viburnum hedge behind part of it; flower gardens—lamb's ear, delphinium, verbena, coneflower, coreopsis—along the rest; a flagstone walk is planted with white creeping thyme ("you can step on it without hurting it...") Dennis plans to add pictures of the plants in bloom so people will be more inclined to buy them when they're not in flower.

The houses and display areas are built perpendicular to the highway, so there's lots of visible activity—people want to stop.

Dennis stresses the importance of attitude: "If you want to sell fifty mums, buy fifty; if you want to sell



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500; buy 500." And once people buy once, he works hard to keep them coming back. "If a family buys a big pumpkin, I'll give a little one to the kids—no charge. They'll be back. If the bill comes to \$20.95, \$20 will do. They'll be back."

THERE'S BEEN a lot of changes in the first few years. More are planned. Tim will continue filling in the land (Steeplegate Mall—which includes a Home Depot—is being built down the road—"once they break ground, I'll get all the fill I need"); gardens will be extended along the entire frontage and he sees other gardens—lilies, hosta, a shade garden—in back. Inside the shop, a new full-time florist and a Telaflora delivery service are already changing the tone.

But plans include more than flowers. He hopes to build a 1500 square-foot addition onto the present shop and, connected to that, one large greenhouse space, to be used for retail sales. With this wall of structures fronting the road, it will be important to find ways to retain the visual excitement currently there.

"Correct taste" is fine, but it can also be dull. Hopefully, all this new energy and willingness to try anything once won't dilute into the predictable. May the unexpected survive—it has a good chance to do so right here. (BP)

The Ol' Speedway is at 347 Loudon Road, Concord, NH 03301. The phone number there is 603-226-0977.



Pioneer Pointers

Tax Planning

Don't be surprised by an unexpected liability next spring! Income tax planning is the key to avoiding the unpleasant news next March or April that you have a large tax liability which could have been reduced had you known about it before year's end.

Everyone can benefit from tax-planning. There have been major changes to the tax laws, which will affect your 1997 returns. This is the time to see how some of these changes affect you.

INCOME AVERAGING In 1998, 1999, and 2000 provides farm producers a choice to spread all or part of their farm income from the current tax year and move it evenly over the three previous years. All income—except gains from sale of land—is eligible; this applies to both individuals and partnerships. Planning is required for the 1997 tax year.

LOWER CAPITOL GAIN RATES are in effect for transactions after May 6, 1997.

Generally, the income tax rate on capital gains is reduced to 20% for gains that would otherwise be in a tax bracket greater than 15%. The income tax rate on capital gains that would be in the 15% bracket is reduced by 10%. However, assets must be held for more than 18 months to qualify for these new rates. For most assets held for more than five years, there is a 2% reduction in rates.

SELF-EMPLOYED BUSINESSES are allowed to deduct 40% of their family's health insurance costs in 1997. The deduction eventually increases to 100% by the year 2007.

Other tax law changes affect student loan interest, new IRA accounts, and more. If you are not happy with the size of your tax liability or refund, now is the time to do something about it.

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So Much to Do... So Little Time!

*James Boone, Michael Brownbridge, James F. Dill,
Alan T. Eaton, Bruce L. Parker, and Margaret Skinner*

Integrated pest management (IPM) is a multi-faceted approach for managing pests to maximize suppression while reducing growers' reliance on chemical pesticides. The Northern New England Greenhouse IPM Implementation Program, a tri-state research/education initiative between Maine, New Hampshire and Vermont, was started in 1995 with support from the U.S. Dept. of Agriculture. The long-term goal of this program is to encourage growers to use IPM for production of greenhouse ornamentals, helping them to improve pest management efficiency and reduce chemical pesticide use. A Research Advisory Group was established, made up of researchers, extension specialists and growers from the three states to guide grower outreach activities. The group's first accomplishment was a survey of current IPM practices and pesticide use.

Summary of Survey Results

PEST PROBLEMS. Growers were asked to rank the severity of their pest problems over the past three years. Among the insects, fungus gnats and aphids were rated highest—as extreme or major pests by 15-17% of the growers. Seven percent considered thrips to be a major or extreme problem and 4% ranked whiteflies in these categories. All of the insects listed were rated at least as minor pests by 17% of the growers. In contrast, less than 3% of the growers considered diseases to be extreme problems. Botrytis, damping off, and powdery mildew were rated as moderate problems by about 15% of the growers and about 19% considered virus a minor problem.

SCOUTING. Most growers (96%) indicated that they try to identify their pest problems. About half use a hand lens and obtain assistance with identification from extension or state experts. When asked which pests their scouts could identify, over 60% could identify the adult stages of all major pests on the plant, but less than 50% could recognize the immatures. Less than 50% could identify the pests on a sticky card. Between 60-70% of the growers could not identify bacterial diseases, virus, nutrient deficiencies, or salt toxicity.

Almost 50% of the growers said they scout their

plants daily for pests, and 30% scout weekly. About half use yellow sticky cards, and 31% check them daily; 19% weekly. Though traps were commonly inspected, most growers only checked for pest presence or absence. Though many growers scout their crops, only about 10% maintain records of what was found. About 60% use information from scouting or sticky cards all or most of the time when making management decisions; 10% never use such information.

USE OF IPM. The table below lists IPM practices currently used by growers. The most commonly used practices (by over 50% of growers) include: scouting, sticky cards, inspecting plant shipments, chemical pesticides, spot pesticide treatments, disinfection of growing area, using new or clean containers, and weed control. About 14% felt the greatest factor limiting adoption of IPM was a lack of knowledge on the subject and 8% couldn't risk the economic loss. When asked why implementing IPM was important, about 23% listed that it was cost-effective in the long run and reduced the risk of environmental pollution.

PESTICIDES AND BIOLOGICAL CONTROL. Most growers (76%) use hand-operated pump sprayers; a few use motorized hydraulic or electrostatic sprayers. When deciding what pesticides to use, most growers (74%) rely on past experience. Less commonly, they use recommendations by extension or state specialists or other growers, the New England Greenhouse Pest Management Guide, grower magazines, or advice of a company rep. Many growers (51%) evaluate the effectiveness of pesticide applications based on routine scouting; 13% inspect flagged plants before and after application. Forty-seven percent of the growers noted that in the past three years, chemical pesticides failed to achieve satisfactory control sometimes; 17% said chemical pesticides had never failed them. Low consumer tolerance for damage or insect infestation was the most important factor limiting the reduction in chemical pesticide use. Fourteen percent cited a lack of knowledge about alternatives as the most important factor and 11% felt the risk of economic loss as the most important.

About 72% of the growers have never used any form

of biological control; 20% have used it sometimes. Of those who have used biological control, 8% indicated that this method failed about half the time to achieve satisfactory control. About 3% of the growers felt that biological control failed most of the time; which was the same percentage of growers who felt chemical pesticides failed them most of the time. Seventeen percent of the growers cited a lack of knowledge on how to use biologicals as the major factor limiting their use of this management approach.

GROWER NEEDS. When asked how Extension or state departments of agriculture could best help growers implement IPM, 26% listed the preparation of pest fact sheets as the most important, 14% cited organizing educational programs, and 13% selected establishment of a professional IPM advising service. Biological control was listed as the most important area of research needed to help growers implement IPM by 15% of the growers. Research on development of local guidelines for IPM and resistant cultivars were considered the most important research needed by about 12% of the growers. The compatibility of pesticides and biological control agents was listed as the second most important area of research by 16% of the growers.

What Does the Future Hold?

A high proportion of the growers said a lack of knowl-

edge about IPM limits their implementation of this approach. Thus education and training must be the primary focus of our program. Based on grower responses, hands-on training given to small groups in half- or full-day sessions is the best educational method. Planning is underway now for Greenhouse IPM workshops for growers in the three states to be held in February. These hands-on workshops will cover basic IPM techniques, including scouting, identification of pest (diseases and insects) and beneficial organisms, how to USE biological control, and what's hot for new chemical pesticides. In addition, production of a practical guide to IPM for growers of greenhouse ornamentals and bedding plants is also planned.

What Can Growers Do?

Participate in the upcoming workshops! The goal of this Greenhouse IPM Program is to meet the needs of growers in their efforts to produce plants more efficiently with less chemical pesticides. Suggestions to help us achieve this is most appreciated. Growers are encouraged to communicate ideas to the authors.

James Boone, Michael Brownbridge, Bruce Parker, and Margaret Skinner are at the University of Vermont, Burlington; James Dill is at the University of Maine in Orono; Alan Eaton is at the University of New Hampshire, Durham. He can be reached at 603-862-1734.

IPM ACTIVITIES USED REGULARLY BY GROWERS IN 1995

IPM Activities	No (% of growers)	Yes (% of growers)
Scouting	9.0	89.8
Sticky cards	41.6	57.2
Inspection of plant shipments	23.5	75.3
Plant washing	75.3	23.5
Professional pest identification	77.1	21.7
Indicator plants	69.9	28.9
Water recycling	94.6	4.2
Drip irrigation	79.5	19.3
Chemical insecticides	46.4	52.4
Spot pesticide treatment	39.8	59.0
Natural enemies	74.7	24.1
Pesticide with short residual activity	57.2	41.6
Pesticides least toxic to biologicals	72.3	26.5
Disinfection of growing areas	41.6	57.2
New or clean containers	24.7	74.1
Rotation of pesticide classes	62.7	36.1
Biological pesticides	75.9	22.9
Fallow crop space	90.4	8.4
Crop rotation	86.7	12.0
Soil testing	82.5	16.3
Foliar testing	91.0	7.8
Water testing	77.7	21.1
Pest resistant cultivars	86.7	12.0
Screening over vents	88.0	10.8
Weed control	27.1	71.7



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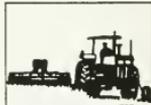


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Well, we certainly lucked out this autumn in regards to warm temperatures and Indian summer. It was nice not to go from 70 degrees to snow in one week (although anything is possible in New England, so perhaps I should keep my fingers crossed).

Things have been relatively quiet during the last two months and there have been only a few problems worthy of note from samples submitted to the Plant Diagnostic Lab. PHYLLOSTICTA NEEDLE BLIGHT was diagnosed on concolor fir. The current year's needles were yellowing. The infected needles will turn brown and cast by the time new growth begins in the spring. The extended cool, wet weather this past spring favored the development of this disease. A New Guinea impatiens sample tested positive for IMPATIENS NECROTIC SPOT VIRUS (INSV). Although black ringspots and wave-like patterns were visible on the leaves, the most notable symptom was the black, zonate discolorations on the stem. Spring infections by RHIZOSPHAERA are still causing needles to discolor on spruces. The affected trees should be marked for fungicide applications in the spring. Several arborvitae samples were received with browned needles at the tips of the branches caused by ARBORVITAE NEEDLE MINER. These plants should be targeted for insecticide applications next spring.

The dormant season is the time to check woody ornamentals for evidence of TIP BLIGHTS and CANKERS. Check junipers for TIP BLIGHTS (the base of the discolored twig should have a slightly sunken, gray canker) and prune out the infected twigs below the canker. Heavily infected plants may require a fungicide application next spring to protect the

The dormant season

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TIP BLIGHTS and CANKERS.



new growth. Prune dead branches and twigs on other trees and shrubs to remove potential sources of infection for next spring. Wind breaks should also be erected during the next month to protect evergreens from WINTER DESICCATION.

For turfgrasses, SNOW MOLD fungicides should have already been applied to those infection-prone areas. It is still possible to get an application on before the ground freezes and/or the first snowfall.

There are a few potential problems on greenhouse crops that we should watch for during the next several months. ROOT ROTs are a common problem occurring on a wide range of plant material that includes poinsettias, geraniums, and bedding plants. Plants showing symptoms of nutrient deficiency, marginal browning of leaves, stunting, or wilt should be considered suspect. Remove the plants from the containers and check the roots for brown or black lesions or water-soaked, mushy roots. Severely infected plants should be discarded. The remaining plants should be treated with a fungicide drench. BOTRYTIS BLIGHT is another disease that is prevalent on greenhouse crops during the winter months. High relative humidity favors the disease, thus techniques aimed at lowering humidity levels (e.g., venting) and improving air circulation (e.g., plant spacing) are usually effective in reducing the damage

caused by botrytis. Strict sanitation, particularly removing senescent plant tissues can also help to reduce botrytis blight.

I wish all of you have a happy and plant-healthy holiday season!

If you wish to submit plant material to the UNH-PDL for diagnosis, send samples (with a check for \$12.00) to: The UNH Plant Diagnostic Lab, C/O Dr. Cheryl Smith, Plant Biology Department, 241 Spaulding Hall—UNH, Durham, NH 03824. Samples should be accompanied by an identification form (available from your county Cooperative Extension office). Cheryl Smith is the UNH Cooperative Extension Specialist in Plant Health, and can be reached at 603-862-3841.

HOW ABOUT HERBS

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These problems, he states, rarely occur with normal dosages and one would simply stop taking it if symptoms appeared. There seem to be no other dangers associated with St. John's wort and, as always, care and moderation of use are good ideas. Herbal medications can be just as potent as any other.

It is possible to transplant this herb to one's perennial garden, although other hypericums are more suited to such a location. It can be started from seed, cuttings, or division done in the fall. It spreads by runners, but is seldom invasive on a large scale and can be controlled by pulling. The flat panicles of bright yellow blossoms are attractive throughout midsummer and the dark reddish brown seed heads provide winter interest—especially if you're growing a medicinal garden.

Tanya Jackson, a well-known area herbalist, can be reached at 603-431-8011.

St John's Wort

Tanya Jackson

Everybody gets the blues. Most of us bounce right back, but for some, the blues become depression and medication becomes necessary.

St. John's wort is the cure of the moment for depression, weight loss, and a number of other problems. It's the herbal answer to Prozac and Fen Phen and is literally flying off the shelves of health food stores, drug stores, and even Wal-Mart. It's the discovery of the decade—or more accurately, the *rediscovery*.

What is this St. John's wort? Scientifically known as *Hypericum perforatum*, the plant is a hardy, but short-lived, perennial native to Europe, Western Asia, and Northern Africa that has become naturalized in much of North America. It grows in meadows and woodlands and along roadsides. You'll find it described in any wildflower book or weed list.

Its common name honors the Christian saint, St. John the Baptist. It is said to bloom most profusely on his birthday, June 24, although it actually blooms throughout most of mid-summer. The legend goes on to explain that the leaves bleed red on August 29, the day St. John was beheaded. In maturity, the leaves do develop red spots, the flower petals turn red when crushed, and red oil does seem to ooze from the crushed plant. An olive oil extract using leaves and flowers of St. John's wort soaked for several weeks is red in color. This oil, found in any health food store, is used to help reduce the inflammation of arthritis and to induce healing in wounds. It's also highly valued in the treatment of hemorrhoids (Varro F. Tyler, *The Honest Herbal*, quoting from his studies of herbal usage in Germany).

Seventeenth-century herbalist John Coles wrote that St. John's wort fell into a list of plants included in The Doctrine of Signatures. According to this doctrine, a plant's appearance gives clues to its medical value. Coles, pointing out that the "little holes" (glands) of the leaves resembled pores, recommended the herb for skin problems of all sorts, including "hurts and wounds and inward bruises." It was used as early as the time of the Crusades to treat battle wounds, probably because of its antibacterial and astringent properties. Other useful products from the plant are a volatile oil, a resin, tannin and flavonoids, and a dye. The plant has been used to treat bedwetting and urinary troubles, nervous coughs, gastric problems, anemia, and worms. It has served as a pain killer, sedative, and analgesic. It has even been said to help repair damaged nerve tissues. And a number of herbalists have long credited it with inducing and increasing a sense of well-being (*Rodale's Illustrated Encyclopaedia of Herbs*, 1987).

This ability to sooth, relax, comfort, and uplift is what brings St. John's wort its present popularity. A tea or tisane prepared from St. John's wort and taken in small doses throughout the day is described as an effective "nerve tonic," useful in times of anxiety, depression, and unrest. It's listed as a help for insomnia in several references and on a number of labels. But its most popular use today is as an aid to combat depression. About one person in five in America suffers from depression of some sort and many would rather not depend on a drug such as Prozac. More people are looking at

alternative treatments and choose St. John's wort as an herbal answer to their problems. The method of taking the herb has also become easier. No time to make a tea and sit quietly sipping it? A display at the Concord Wal-Mart recently featured a brand name called Sundown Herbals with a "standardized extract of 0.3% Hypericin" in gelatin capsule form to "assist in mood enhancement by promoting a calming and soothing sense of well-being." Two capsules taken two or three times daily was the recommended dose and a quality B-complex was suggested in combination with St. John's wort "to promote further well-being."

On October 18, *The Portsmouth Herald* carried a short item from the Associated Press telling of St. John's wort's use as a weight loss supplement. This has also caused sales of the herb to soar, especially since two popular weight loss drugs were recently pulled from the market. The new "Herbal Phen Fuel, Diet Phen, and other Saint John's wort blends are designed to replace the now unavailable Diet Cocktail Fen-Phen." According to this article, many doctors are now enthusiastically prescribing this herbal remedy.

Is this herb as safe as it seems? Pharmacognosist Varro F. Tyler, Ph.D. (*The Honest Herbal*, 1993) warns that people who take the herb for extended periods of time should be aware that there is a possibility of inducing photosensitivity—a condition in which exposure to direct sunlight could cause dermatitis, inflammation of the mucus membranes, and more toxic reactions.

continued on page 31

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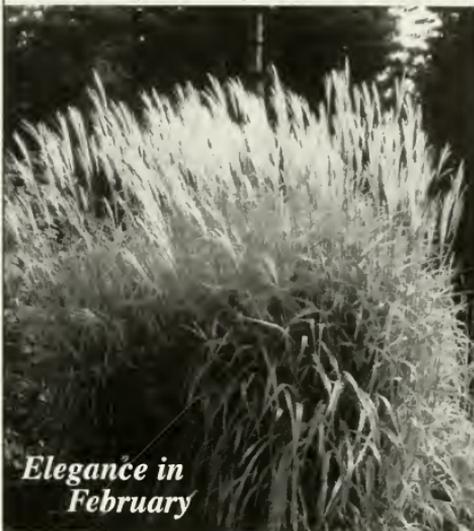
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Register for the NHPGA/NHLA Joint Winter Meeting and Think Spring!

The meeting is being held on Wednesday, January 14,
at the Old Mill Restaurant in Epsom.

IN MID-NOVEMBER, THE PROGRAM LOOKS LIKE THIS: EIGHT O'CLOCK—registration, coffee, juice, Danish, muffins; at 8:30, the annual business meeting. The first speaker, a representative from Blooms of Bressingham, is at nine; Mary Reynolds, NH Division of Forest and Land, will speak on tree-planting standards at 10; after a short break, Bill Lord, fruit specialist, UNH Cooperative Extension, will discuss the use of fruits in the landscape.

After a buffet lunch (pasta or tossed salad, sliced roast beef with sauce bordelaise, vegetable lasagna, oven-roasted potatoes, green beans with almonds, rolls, drinks, and for dessert—cookies and brownies) there will be brief updates on the Horticultural Endowment and some of Extension's activities; Stan Swier, entomology specialist, UNH Cooperative Extension, will speak on biological pest controls and some of the new "softer" pesticides; the final speaker of the day will be landscape designer Chris Fenderson discussing the use of woody plants in northern landscapes.

It sounds like a full day with some familiar faces presenting ideas that can be put to practical use. (And the windows will be covered, so the slides will be seen.)

Cost is \$35 for non-members, \$30 for members, \$24 for each additional person with a member. Checks (made payable to New Hampshire Landscape Association) should be sent to Guy Hodgdon, 18 Debbie Lane, Eliot, Maine 03903.

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