

The Diantsman

AUGUST & SEPTEMBER 1997



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CALENDAR



August

- **15-16** 6th Annual Plant Sale, The Fells, John Hay National Wildlife Refuge, Newbury, NH; 603-763-4789.
- 17 Second Annual Rockingham County Open Farm Day; maps and information: Nada Haddad at 603-679-5616
- 20 MCH (Massachusetts Certified Horticulturalist) Day, Arnold Arboretum, Jamaica Plain, MA; 413-369-4731
- 20 UNH Woodman Experimental Farm Twilight Meeting, University of New Hampshire, Durham, NH; John McLean at 603-868-2345
- 20 Vermont Association of Professional Horticulturalists (VAPH) Summer Meeting, Equinox Valley Nursery, Manchester, VT; 802-253-8565.
- 21 Griffin Greenhouse and Nursery Supplies 9th Biennial Open House/Gala Golden Anniversary Celebration, 1619 Main Street, Tewksbury, MA; 508-851-4346.
- 22 Third Annual Maine Landscape and Nursery Association (MeLNA) Field Day, University of Maine, Orono; Paul Cappiello at 207-581-2918.
- 22 Meeting of the International Plant Propagators' Society, Eastern Region, University of Vermont, Burlington, VT; Leonard Perry at 802-656-2630.

September

4 "Backyard Tree Farming:" a fourpart series held on consecutive Thursday evenings in September, Urban Forestry Center, 45 Elwyn Road, Portsmouth, NH; preregistration information: 603-431-6774.

- 12-28 Eastern States Exposition,
 West Springfield, MA: 413-737-2443.
- 13 Lecture: "Building Stone Walls," Tower Hill Botanic Garden, Boylston, MA: Karen Probst at 508-869-6111. Ext. 20.
- 26 New Hampshire Chapter, New England Wild Flower Society, Meeting, 3 pm, John Hay National Wildlife Refuge, Newbury, NH; 603-763-4789 for directions.

October

- 9-10 Connecticut Greenhouse Short Course 1997, Four Points Hotel, Waterbury, CT; Connecticut Greenhouse Growers' Association at 203-261-9067
- 11 Workshop: "Forcing Bulbs for Winter," Tower Hill Botanic Garden. Boylston, MA; 508-869-6111, Ext. 20.
- 20-23 Annual Meeting: International Plant Propagators Society, Eastern Region, Newport, RI; Margot Bridgen at 860-429-6818.
- 25 Fall UNH-FFA Interscholastic Career Development Event, University of New Hampshire, Durham, NH; Dave Howell at 603-862-1760.
- 25-26 Connecticut State Agricultural Exposition, Hartford Armory, Hartford, CT: 860-566-4845.

November

14 Lecture/slide presentation: "North American Trilliums," co-sponsored by the New England Wild Flower Society, New Hampshire and Maine Chapters, and the John Hay Estate, 10am-noon, at the Urban Forestry Center, Portsmouth, NH; 508-877-7630. Ext. 3301.

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Cover

Daylilies, Packers Falls Road, Durham. 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, setup assistance is available at a nominal ferrec classified advertising is offered as a mem-ber 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	×	4 3/4°h	\$160	\$40
7'w	x	2 1/4°h	\$160	\$40
7°w	x	4 5/8°h	\$250	\$50
7°w	x	9 1/2"h	\$400	\$100

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

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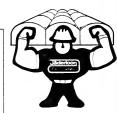
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Teach the Children: The Future of Our Industry Could Depend on It

Ann Hilton

For the last couple of years, I've had the pleasure of representing the New Hampshire Plant Growers' Association (NHPGA) to the Board of New Hampshire Agriculture in the Classroom (NHAITC).

NHAITC is part of a national effort to bring agriculture to students in the elementary grades. Many children today—especially in urban areas—know their food only as something that comes from a grocery store. NHAITC offers classroom materials, newsletters, a lending library, and training workshops to help teachers bring agriculture alive.

NHAITC has developed what they call a Barn Box. This Barn Box contains teaching materials on topics ranging from apples to milk to honey to maple sugar. The one area for which NHAITC still needed to develop a curriculum was plants-especially since horticulture has become the largest agricultural industry in New Hampshire. The NHPGA board felt that this gap needed to be filled and that the NHPGA could help. After some hunting, we found a set of 4-H publications for students from kindergarten through eighth grade called "Exploring the World of Plants and Soils." This is broken down into smaller areas of study; plant reproduction, soils, plant growth factors, pant characteristics, and growing and using plants. It comes with a teaching plan, so it can used as a complete unit that lasts several months or divided into smaller units-or even into single experiments. The set is very userfriendly-especially to teachers who fear they have black thumbswhich, I've found out, is one of the biggest obstacles to hands-on teaching about plants.

NHPGA is purchasing 65 of these sets for NHAITC. Fifty of them will go out to Barn Boxes already in schools. The rest will go into boxes yet to be sold. Donating these publications will prevent the cost of the Barn Boxes from increasing and make these teaching materials available to schools already with boxes. That's 50 elementary schools— think of how many children we will reach!

Our industry's future depends on people developing a love for growing plants. Introducing people to the plant word when they are young is key. So open your greenhouses to schools, take a project into the classroom, or donate supplies. Or, through NHAITC, donate a Barn Box to the elementary school in your town. The cost is \$140—which covers just the cost of the materials. For information on NHAITC and its programs, contact Lisa Oden at 603-224-1934.

And for more information, contact Ann Hilton at 603-435-6425.

FALL COURSES AT THE THOMPSON SCHOOL

The Thompson School at UNH, Durham, offers a wide selection of courses in ornamental horticulture, a portion of which are listed below. (Some courses have prerequisites—course work or experience.) The fall semester runs from September 2 through December 12, 1997.

- HT 205 Introduction to Plant Materials F 8-11am 2 cr
- HT 207 Plant Structure & Function MW 10-11am, T 10am-12 3 cr
- HT 215 Soils & Land Use MWF 11am-12, Th 10am-12
 - (Sept 2-Oct 17) 2 cr
- HT 217 Soils & Plant Nutrition MWF 11am-12, Th 10am-12 (Oct 20-Dec 12) 2 cr
- HT 227 Horticulture Facilities Management Hours arranged 2 cr
- HT 237 Pest Management: Weeds M 1-4pm (Sept 2-Oct 17)] cr
- HT 239 Pest Management: Control Applications M 1-4pm
- (Oct 20-Dec 12) 1 cr
- HT 240 Introduction to Floral Design TTh 2-5pm (Sept 2-Oct 17) 2 cr
- HT 243 Floral Design Seminar: Funerals TTh 2-5pm (Oct 20-Dec 12)
- HT 254 Water Management F 10am-1pm 2 cr
- HT 257 Woody Landscape Plants W 8-11am 2 cr
- HT 261 Interior Plants and Plantscaping M 6-9pm 2 cr
- HT 263 Landscape Construction & Maintenance W 11am-5pm 4 cr
- HT 275 Floricultural Crop Production TTh 8-10am 3 cr

You may enroll by phoning the Division of Continuing Education at 603-862-2015 or access on-line at www.learn.unh.edu. Make sure you get onto their catalog mailing list. For information on course content, the part-time degree program, or the Diploma in Landscape Horticulture, call 603-862-1035.

Appreciation Expressed

We would like to thank the Longacre family-husbands, wives, children-for hosting the NHPGA Twilight Meeting at Longacre's Nursery Center on Mechanic Street in Lebanon on June 18. Longacre's continues to expand and as it has reached the maximum capacity of its site, emphasis has gone into organizing the site itself-refining, rearranging, creating more efficient and attractive spaces- inside and out, and-of course-finding ways to accommodate the increased number of vehicles parking.

The tour was informative; the food, excellent; the openness and willingness to share is appreciated.

1997 New Hampshire Fairs

August 15-17 Cornish Fair, Town House Road, Cornish; Robert Bladen at 542-4622.

August 16-17 Belknap County Fair, Mile Hill Road, Belmont; Sue Roberts at 267-8135.

August 20-24 Plymouth State Fair, Exit 26 off 1-93; Russell Merrill at 536-1690.

August 27-September 1 Lancaster Fair, Route US 3, Lancaster; Paul Thurston at 788-4531.

August 28-September 1 Hopkinton State Fair, Contoocook Fair Grounds, Contoocook: Alan Hardy at 746-4191.

September 5-7 Hillsboro County Agricultural Fair, Route 13, New Boston; John Robertson at 588-6106.

September 11-21 Rochester Fair, 72 Lafayette Street, Rochester; Jeffrey Taylor at 332-6585.

September 25-28 Deerfield Fair, Route 43, Deerfield Fair; Jane Boucher at 463-7421.

October 11-13 Sandwich Fair, Center Sandwich; Earle Peaslee at 284-7062. Telephone area codes are 603.

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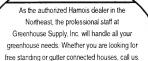
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Clarification

The 1997 session of the New Hampshire General Court has passed legislation (which has been signed by Governor Shaheen) that redefines the term "native" and restricts the use of the terms "local" and "locally grown" when used in reference to farm products. HB 291, which became effective June 9, 1997, clarifies these terms and seeks to prevent deceptive labeling of the place of origin of farm products.

The new law states that "native" can be used only on products produced in the state of New Hampshire and that the terms "local," "locally grown," and "locally produced" may be used only on produced soriginating in this state. In addition, the law deems the use of the words "our own" to be deceptive and illegal when used on any farm products that were not grown or produced by the operator of the retail location where they are offered for sale.

The legislature expressed strong support for this bill, which was a request of the Department of Agriculture, Markets and Food. By strengthening the labeling laws, the department means to assure consumers of the integrity of native, locally produced farm products.

If you have questions about the new labeling requirements or would like a copy of the law, you should contact Richard Uncles at the department's Bureau of Markets at 603-271-3685.

Events

Fourteen agricultural enterprises will be open to the public during the Second Annual Open Farm Day of Rockingham County on Sunday, August 17. There will be demonstrations, tours, hayrides, samples to taste, animals to pet, refreshments and ice cream. and plenty of

farm products for sale.

Participants include the Pinkerton Academy Horticulture Program and FFA Chapter (Derry), Saltbox Farm, Mill Valley Farm, and Berry Hill Farm (all in Stratham), and Goudreault Farm and Greenhouse in Plaistow.

Sponsors of this very family-oriented event include UNH Cooperative Extension, Rockingham County Farm Bureau, NH Department of Agriculture, Markets, and Food, Granite State Dairy Promotion, Natural Resources Conservation Service, NH 5 A Day for Better Health and the participating farms.

Maps and directions are available at the UNH Cooperative Extension Rockingham County Office.



UNH RESEARCH GREENHOUSE News

A major campaign for renovating the UNH Greenhouses, called Technology Showcase, is beginning this month. The goal is to attract donations of equipment (benches, fans, etc.) and services from greenhouse manufacturers. The aim is to make UNH a center for showcasing a diversity of greenhouse technologies (for example, ten types of benches) for students and members of the greenhouse industry. In return, the donating companies will be acknowledged with signage in the greenhouses, as well as our carrying background information on their products for interested growers.

The first four benches (two ebb-and-flood and two expanded metal) have been donated by AgroDynamics through the efforts of Tony Barendregt, Division Manager. Brass solenoid valves have been donated by Magnatrol Valve Corporation through Ron Laurence, a product specialist. We thank them for their contribution of these high-quality products for use in upgrading our facility for future and current growers of New England.

We appreciate your support in the Technology Showcase campalgn—contact me at 862 4525 if you know of a potential donor. Hosting future NHPGA meetings at UNH and next year's summer meeting, are important examples of our growing linkage with industry as we approach different manufacturers.

A new computer software package, called UNH FloraTrack, Is being nationally released for sale to greenhouse growers in July. The first part of the program is for graphically tracking the height of poinsettla crops. Future modules will cover height control of other crops, as well as nutrient and pest management. New Hampshire grower members of NHPGA will receive a 75% discount on the cost of the package, which will retail for around \$125.

Research this month in the greenhouses includes the start of a new project for monitoring nutrition of bedding plants, which will be a masters thesis project for student Jeremy Bishko, and height control and timing of Oriental and Asi-florum lilles. (June 30, 1997)

Paul Fisher, Assistant Professor of Ornamental Horticulture, UNH.

Call Nada Haddad at 603-679-5616.



The date's still to be set, but on one day on a weekend in late September, the New Hampshire Rose Society will hold its annual "Triple Six-Pac Rose Show," Basically, it's a chance to learn judging. Each person is allowed to bring 18 (or a "triple six-pac") of roses, which rose society members and other participants will look at and analyze. Guided by more expert judges, participants will be able to hone their judging skills. Held at Manny Brochu's in Concord, it's all very casual and a lot of fun. For information, contact Dave Jordan at 603-435-0306.



On Friday, November 14, a slide and lecture program on "North American Trilliums" will be held at the Urban Forestry Center, 45 Elwyn Road in Portsmouth, NH. Given by Mr. Frederick W. Case. one of the foremost authorities on trilliums and orchids, and cosponsored by the John Hay Estate. Newbury, and the recently revitalized Maine and New Hampshire chapters of the New England Wild Flower Society, the program will look at-among other things-fundamental structure and culture, propagation, related species, habitat, distribution, diseases, and appropriate companion plants.

After the program (from 10am until noon), an optional box lunch is available. This will give people an opportunity to speak personally with Mr. Case.

Mr. Case is the chairman of the science department of Arthur Hill High School in Saginaw, Michigan, where he's taught biology and ecology since 1953. An international lecturer on native plants and recipient of numerous awards, Mr. Case is the author of Orchids of the Western Great Lakes Region, recently reprinted by Cranbrook Institute of Science,



Pioneer Pointers

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ESTATE PLANNING. A number of years ago, federal tax credits for estate taxes meant that many New Hampshire farms had little concern over potential estate taxes. However, increased real estate values have left many farmers vulnerable to the so-called "death tax." Today, with federal estate tax rates as high as 50%, planning is essential. An appraisal is a valuable tool to ascertain potential real estate tax liabilities and will serve as the basis for the planning process.

GIFTING. Integral to many estate tax plans is gifting. Many farms make gifts of real estate to take advantage of this limited tax-free transfer. Gift tax returns are generally required for gifts of over \$10,000 and appraisals are used to support the value of the gift, especially when sizable.

ESTABLISHING A SALES PRICE. How much to ask when selling is a common question. Too low a selling price means lost dollars; too high a price usually means an extended selling time—which also translates into lost dollars.

TAX ABATEMENTS. Many assessors are unfamiliar with greenhouse and farm building costs and the depreciation factors that impact these structures. Inflated assessments mean higher real estate tax bills. Most towns require an appraisal to accompany an abatement request.

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and Trilliums, newly published by Timber Press.

This is a fine opportunity to hear an expert on one of New Hampshire's more exotic native flowers. To register, send §15 (New England Wild Flower Society members) or \$18 (non-members) to the Education Department, New England Wild Flower Society, 180 Hemenway Road, Framingham, MA 01701-2699. Add \$8 if you wish to stay for lunch. For information, phone 508-877-7630, ext. 3301.

A Soldier's Life

(Weekly Market Bulletin, June 11, 1997)

Sullivan County's new Extension educator in agriculture had scarcely started work in May when Uncle Sam called him to active duty in Bosnia. Capt. Steve Judd, a member of an army reserve unit, left in July for an indefinite tour in the troubled Balkan land.

The 1998 Carv Awards

The Worcester County Horticultural Society, in cooperation with the Massachusetts Nursery and Landscape Association continues to develop a program to highlight woody plants especially appropriate to New England. The criteria are that the plant must be hardy within two of New England's four growing zones, it must be appropriate for landscape use, it must be exceptional, season-extending and available.

A committee made up of horticulturalists from various New England nurseries, botanic gardens, and universities has honored four plants with a Cary Award for 1998. (All descriptions are from Dirr's Manual of Woody Landscape Plants, 1983 edition).

Hydrangea anomala subsp. petiolaris. This climbing hydrangea is an excellent vine-one of the best-for massive effect on brick or stone walls, arbors, or any free structure. (It becomes quite large and quite woody, so it needs ample support.) Hardy in zones 4 to 7, although somewhat slow to develop after transplanting, the extra cultural care required in its establishment is rewarded many times over in the glossy dark green leaves that stay green into late fall, rich cinnamon-brown bark (older stems develop an exfoliating character), and fragrant 6-to-10-inch white blossoms (late June. early July).

Ilex verticillata 'Red Sprite.' Although 'Red Sprite' was not among the cultivars listed by Dirr, 1. verticillata is commonly known as winterberry or black alder. Hardy in zones 3 to 9, this familiar 6-to-10-foot twiggy, multistemmed deciduous native to our swamps is best known for its bright red berries that ripen in late summer and last into January (depending on the birds). The species is susceptible to leaf spots and powdery mildew, prefers a more acid soil, requires a male and female for fruit set; the berries are spectacular, especially against the snow.

Maanolia x loebneri 'Leonard Messel.' Magnolia x loebneri is the result of a cross made between M. korbus and M. stellata (both among the earliest magnolias to flower and both hardy to zone 3), by Max Lobner of Pilnitz, Germany, before World War I. 'Leonard Messel' is a chance hybrid raised in Colonel Messel's garden at Nymans, Sussex. England: the 12 petals are flushed with a purple-pink line running along their centers; blossom peaks in late April.

Rhododendron vasyi. Pinkshell azalea grows 5-to-10-feet in height. habit is irregular upright; foliage (medium green in summer changing to light red in fall) is deciduous. Flowers are clear rose and bell-shaped, blossoming before the leaves appear (early to mid-May. Hardy in zones 4 through 8, it has no fragrance, but is spectacular when in flower.

For nomination forms (any person can nominate plants for this award) and information about promotional materials for the 1998 selections, write to The Carv Award: Distinctive Plants for New England, Worcester County Horticultural Society. Tower Hill Botanic Garden, 11 French Drive, PO Box 598, Boylston, MA 01505-0598. Or you can call Mic-hael Arnum at 508-869-6111, ext. 11.

1998 All-America Rose Selections

All-America Rose Selections has announced four winners-two hybrid teas, a grandiflora, and an ever-blooming shrub rose-for 1998.

'Fame!,' a vigorous grandiflora

introduced by Bear Creek Gardens, has 4 1/2-inch flowers with 30-35 petals. Deep pink blooms are lightly scented; foliage, dark green and glossy.

'Opening Night' is a "classic deep red hybrid tea rose." It grows upright to five feet and has dark green, semi-glossy foliage and slightly fragrant 4 1/2-inch flowers with 25-30 petals. Bear Creek Gardens is again the introducer.

'First Light,' an ever-blooming shrub rose introduced by DeVor Nurseries, is notable for a compact, rounded habit appropriate for more restricted areas. Clusters of spice-scented five-to-seven-petaled, light pink flowers with contrasting purple stamens stand out against bright green foliage.

"Sunset Celebration,' a hybrid tea introduced by Weeks Roses, has 4 1/2-to-5 1/2-inch, 25-to-30petal blossoms that vary in color from "apricot burnished with cream, amber-orange blushed with pink, and—occasionally—warm, rich peach," depending on locale. Fruity fragrance, deep green foliage, and long stems are other traite

These roses will be available to customers in spring, 1998. For more information (hardiness, etc.). contact All-America Rose Selections, 221 North LaSalle Street, Chicago, Illinois 60601; the phone number is 312-372-7090.

A Medal of Excellence

(Greenhouse Grower, June, 1997)

Each year Greenhouse Grower recognizes outstanding efforts by today's flower breeders by awarding a medal of excellence, 1997's medal has been given to American Takii's Fantasy Linaria series, "the most exciting new cool crop to hit the fall and early spring bedding plant market in a long time."

ELSEWHERE IN THE NEWS

While little linaria breeding has been done in the past, the Dutch breeder Kieft offers the plant in mixed colors ('Fairy Bouquet') Takii has taken Kieft's improvements a step further by breeding the plants to be more compact and floriferous and offering them in five distinct colors—yellow, blue, white, speckled pink, and magenta-rose. The flowers resemble tiny snapdragons, "the plants look stunning in beds and color bowls"

Injuries Reported

IPlugged In. the Newsletter of the Connecticut Greenhouse Growers Association, Issue 1, 1997)

The Connecticut Agricultural Experiment Station has received calls from at least three growers this spring reporting plant injury due to application of the herbicide Treflan (trifluralin) or Pennant (metolachchlor) underneath benches in their greenhouses

Todd Mervosh at the Experiment Station said these and other herbicides may be safe to use outside for weed control, but they should not be applied in greenhouses or other enclosed structures. Herbicide vapors can accumulate and injure plant foliage.

No preemergence herbicide is specifically registered for use in greenhouses. The only registered products for use on the floors of greenhouses are the postemergence herbicides Scythe (fatty acid solution). Reward (diquat), and Round-up (glyphosate). Round-up can only be applied when plants are not present in the greenhouse

Directory Available

The 400-page 14th Annual National Organic Directory, published by the Community Alliance with Family Farmers (CAFF), is now available. Topics covered in this comprehensive compilation include listings of organic farms, manufacturers and wholesalers, organic certifiers, and sustainable ag publications, a marketing guide, information on state and federal regulations, how to do business internationally... and much more.

The price is \$44.95, plus \$6.00 for shipping and handling. Mail your check to CAFF, PO Box 363, Davis, CA 95617. The phone number is 916-756-8518.



Too Lazy to Ask

In this day and age of electronic communication, it seems just a bit crazy that we don't let our customers know about our products.

With no disrespect to the employee wearing the bright-colored apron with your name emblazoned in big letters on it or to the one standing with the water hose, giving the plants an overdue drink—thus establishing the fact that they work here, who else would know or how else could you find out the information you need before making a purchase?

The market is awash with all kinds of plant markers, sign holders, and laminating machines that will protect pictures and pricing information from the elements.

After all, maybe there are a few more like me who are too lazy to ask and just walk off.

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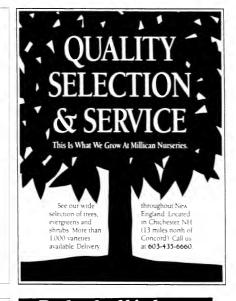
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Making Sense of It All

Dr. Stanley R. Swier

he ornamentals industry is undergoing a revolution. The tremendous demand for more environmentally friendly pesticides has spurred the development of a large number of new products. In categorizing these products, new terms have been developed. Hopefully, this article will help sort them out.

BIOLOGICAL CONTROL.

In classic biological control, an organism is released that parasitizes or eats the pest. In the ornamentals industry, you can buy ladybird beetles, predator mites, lacewings, Encarsia wasps, etc. I won't go through every natural enemy here, but there are several companies that specialize in rearing predators and parasites. The use of natural enemies has not been widely accepted in the industry for several reasons:

- the difficulty in understanding the complex relationship between the predator and prey,
- (2) the need for extensive monitoring.
- (3) the problem that the use of conventional pesticides to control other diseases and pests will often harm the natural enemy you're trying to promote, and
- (4) inconvenience.

We don't yet have cookbook methodology on how to use natural enemies for every pest and crop combination. Yet this is what most growers will need.

BIOPESTICIDES.

These products are either living organisms or toxins derived from living organisms. However, they use conventional spray methodology to be delivered to the target pest. Some are exempt from EPA and state registration because they are not considered pesticides, but multicellular biological control agents. Here are some examples.

Nematodes. Nematodes are small roundworms that are parasitic on many forms of soft-bodied insects. They are EPA-exempt from registration. The nematode doesn't actually kill the insect, but it carries a bacteria that does. Once the insect dies from the bacterial infection, the nematode feeds on the body. Two trade names that are familiar to you are XGnat and Scanmask. There are

also many small distributors of nematodes that don't use trade names, but use the name of the nematode (i.e., Steinernema carvocavsae). Nematodes that are distributed on a national basis are usually in some sort of dormant state and are mass-reared. In mass rearing, the quality of the nematode can suffer. I have been sent dead nematodes for my research. The reason I know is that check every batch. Another problem with nematodes is that storage life is short (three to six months). Nematodes also require a high volume of water in application, moist soil, and repeated applications. However, when properly used, nematodes can be an effective insect control agent. Be sure you are buying health nematodes. Check yourself to be sure they're alive! Also, some species are better soil nematodes, while others tend to be surface ambushers. Talk to your supplier or give me a call to determine which species to buy. A local supplier may provide more information and better quality control. Overall, nematodes have not been able to develop a large market and a major supplier (Biosis) has filed for bankruptcy.

Why would a greenhouse grower bother to learn how to use <u>Encarsia</u> wasps for the control of whiteflies when Marathon will do it very effectively and much more conveniently?

Bacteria. There are species of bacteria that are most commonly used. Bacillus thuringiensis subspecies kurstaki (Dipel, MVP) is primarily effective on small caterpillars. Bacillus thuringiensis subspecies israeliensis (Gnatrol) is primarily used against fungus gnat larvae. B.t.i. is also used against mosquitoes and blackflies in large-scale control programs on the New Hampshire seacoast. Formulations of these bacteria contain their endotoxins. not the actual bacteria. EPA considers them more like chemicals and they are not EPA-exempt. Unprotected workers must still obey a four-hour re-entry interval when using B.t. A new strain of B.t. (B.t. japonica bui bui) was being developed for Japanese Beetle larval control. Our results looked very promising. Unfortunately, Mycogen ran into some costly production and formulation problems and dropped development.

Fungi. Beauveria bassiana (Naturalis-O) is the most commonly used fungus in ornamentals Although insects are susceptible to fungi high humidity is often required to make the fungus grow. This same humidity may encourage plant pathogenic fungi to develop. Naturalis cant be tank-mixed with fungicides or used in a tank with fungicide residue. The use of fungicides may decrease its effectiveness.

Viruses. There are no commercially available viruses primarily because viruses rapidly degrade in light and are very species-specific (Narrow host range equals a small market)

BIORATIONAL PESTICIDES

These pesticides are chemicals from living organisms and have modes of action which are non-toxic to mammals. Spinosad is a new product that has not yet reached the ornamental market. We are looking at it in turf. Spinosad is a chemical extract of an actinomycete bacteria that kills some species of insects but has very low toxicity to mammals. Azadirachtin is a chemical extract from the neem seed. Apparently, this tree has developed its own insecticide against insects feeding on it. Azadirachtin acts as an insect growth regulator, has low persistence, and requires repeat applications. The trade names of this product are Triact. Azatin, and Neemazad.

LOW-RISK CONVENTIONAL PESTICIDES

The ornamental and turf industry desires low-risk yet reliable convenient luser-friendly and effective pesticides that can be applied with conventional equipment. The industry has found that growers are willing to pay more for such products because ornamentals and turf are high-value crops. An industry representative told me that European chemical company executives could not believe the money Americans are willing to spend to maintain a quality golf course. The best example of this new low-risk chemistry is imidacloprid. Imidacloprid is sold by Olympic as Marathon for ornamentals and by Bayer as Merit for

turi Imidacloprid has very low toxicity to mammals, is extremely effective, and can control insects for eight to ten weeks in ornamentals. Merit will control lapanese Beetle larva for a full season, Merit is sold under the Scott's label as GrubEx. Another product which is just got registered in turif market is halofenozide (Mach 2) by American Cyanimid and Rohm and Haas. Mach 2 acts as an insect growth regulator and has excellent persistence. As with Merit it will give full-season control of grubs and is so low risk that EPA put it on a fast track for registration.

here is unfortunately a negative aspect to the development of these new low-risk conventional pesticides. Why would a greenhouse grower bother to learn how to use Encarsia wasps for the control of whiteflies when Marathon will do it very effectively and much more conveniently? Why bother scouting as part of an IPM program if control is possible for so long? In other words there will be less grower interest in biologicals and possibly IPM Consequently, there will be less willingness for companies to spend money developing biopesticides which are often more inconvenient, often less effective, and more expensive. The market is ruthless. Over the last couple years, there has been bankruptov and downsizing of companies which specialize in the biopesticides. For the near future, biopesticides and biorationals will occupy a niche market until there is a change in attitude forced by government regulation or severe insect resistance to conventional pesticides. On a positive note, the ornamentals industry can expect to see some new chemistry with low toxicity that gives growers what they want convenience and performance at a reasonable price. This is great for the industry and the environment. I just hope that we don't regress and overly rely on these new pesticides while forgetting the basic principles of IPM.

Dr Swier is Extension Specialist/Entomology. Department of Plant Biology. UNH. Durham He can be reached at 603-802-1733.

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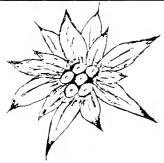
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$^{\prime}D$ avis Brook Farm

New Enterprise in an Industrious Landscape

The 1830s cape and barn sit on seven acres on a rural wooded road. Lilacs grow by the house: a brook bubbles nearby.

The setting seems idyllic-but most idvllic New Hampshire settings don't happen easily. Davis Brook runs below and to the right of the house; a fulling (a method using moisture, heat, and pressure to shrink and thicken cloth) mill once stood there-the milldam and foundations remain. Behind and to the left of the house, hidden by trees, is the main production area-two acres, cleared four years ago, now filled with containergrown material. A quarter acre, beside the barn, contains fieldgrown daylilies and, in one corner, a 15x45 hoop house

George Timm grew up in New York, in the Hudson Valley near West Point. He attended Cobbleskill Agi Tech, then transferred to Cornell, where he majored in nursery management. After graduation, he did just that-on Long Island for ten years, first at Panfield Nurseries, a 65-acre operation growing B&B and containerized material.

In 1989, George, his wife Rennie, and their sons Adam and Jacob moved to New Hampshire to be closer to Rennie's parents, living in Gilmanton Ironworks. Oddly, he's also closer to his own parents. Although they're still in the Hudson Valley, it's easier to visit them from Hancock than to drive the length of Long Island and through New York City.

The business was built methodically. They rented for a year while choosing their location; then they rented that for a year before buying. Timm sold nursery stock at House by the Side of the Road in Wilton ("I learned a lot-a great experience"); Rennie found work in the Contoocook River School District (she now teaches sixth grade science in Milford).

"When we started out, we were literally a back yard business-we grew vegetables where the daylilies are now. On Saturday mornings, we sold our produce at the Hancock Farmers' Market." Containerized shrubs were slowly added to what was offered. Davis Brook Farm's specialty became deciduous shrubs, shrub roses, and daylilies. Even within these limitations, there's a wide range of material.

BARE-ROOT STOCK-lilacs, shrub roses-arrives in April and is stored under the barn-in a space with granite foundation walls and dirt floor-until it can be potted. He buys MooDoo (the Vermont Natural Ag mix) in bulk and pots outside, at a table beside the pile. Stock is put into two- and three-gallon containers, overwintered in the field, and sold the following spring.

"Roses shouldn't be treated as an annual" and he chooses types for hardiness as well as for beauty. Personal favorites include 'Hansa:' the rugosa hybrids-white, pink, red; the Canadian 'Explorer'

`Alex Mackenzie.' `William Baffin, 'John Cabot'-all winter-hardy climbers. He grows Rosa alauca, a species

rose with pink flowers and mauve

Production's straight-forward: pots set on weed mat under an overhead sprinkler system; weeds in the containers controlled with a pre-emergent herbicide; probably because the surrounding mature forest isn't good habitat, no deer control is needed.

Timm's devised his own method for applying slow-release fertilizer: he carries a sack-slung like a mail sack-of what's being applied and spoons the correct amount into a funnel with a hose attached to the end. No bending's involved-this method's easy on the back

A LOT OF MATERIAL—hydrangea, potentilla...comes in the form of three-inch liners. It arrives in mid-May and is set outside, under the trees, to harden off until being put into one-gallon containers. They're overwintered, then repotted into twos and threes the following April. Some are sold later that same year; most are overwintered and sold the following spring.

CUTTINGS ARE TAKEN in July and August. Material includes hydrangea, spirea (eleven varieties-one favorite is Spirea x. bumalda 'Gold-flame,' a dwarf gold with red flowers; the foliage turns copper in the fall), weigelia, viburnum (eight varieties, including Viburnum sargentii 'Onondaga,' which has the unusual combination of green-tinged maroon foliage and purple flowers); Another favorite is Potentilla fruticosa 'McKay's White,' a sport of Potentilla 'Katherine Dykes'—Timm sees it as better—"more compact, fuller flowering"—than 'Abbotswood.'

Trays of cuttings in three-inch containers go into the hoop house and are kept under a mist line on a timer until rooted. They remain there for the winter—a propane heater keeps the temperature about at 30F. The following April. they're brought outside and set under the trees to harden off; in June, they're potted up into onegallon containers; they overwinter; in the following June, they're repotted again into either two- or three-gallon containers. They overwinter a third year and are sold the next

Timm built the hoop house, bending 24-foot lengths of 3/4-inch water pipe to create the frame, then covering it with double poly, when he started the business. At first, it had no heat, but it has always been used to overwinter cuttings and some of the more sensitive shrubs (Buddliea. Campsis).

THE DAYLILY stock block is the front quarter acre. The fans of half the block are divided each late August. Divisions are potted up in two-gallon containers, overwintered, and sold the following year. The undivided plants are next year's stock.

There are over 40,000 named lilies (about a third of these are yellows) and Timm's 1996 catalog lists 65 of the best. There's a wide range of colors (15 pinks, ten

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reds, etc.) and award-winners-'Luxury Lace' ("frilled lavender pink with apple green throat"), 'Red Rum' ("diamond-dusted, deep brick red with luminous vellow green throat"), 'Mary Todd' ("wide, heavy textured, ruffled, lemon vellow")...using a 35mm Pentac and close-up lens, Timm's creating photo albums of the blossoms of the lilies he grows. "What's in flower sells" and these will be given to Timm's customers buying a collection of lilies who want to show their own customers the blossom before the plant is in bloom.

Timm recently converted from a row system to a raised bed system. Ten times the material can be grown in the same area—a far more efficient use of a limited space. And in the last two years, he's begun hybridizing. This is more for his and Adam's own pleasure—"I suppose we're looking for that elusive blue."

The two acres behind the house is divided by a central road. On each side are 10' x 100' beds—four of them, then a road, four more beds, etc... Since the

land was cleared four years ago, production has doubled each year: the two acres are filled.

Davis Brook Farm had been a family operation until last year, when the first outside crews were hired. Crews—made up mostly of local high school students—come in early spring to help with the potting and again in August when cuttings are taken.

Represented by Chestnut Hill Marketing out of Chichester, Davis Brook Farm's strictly wholesale, selling to retail garden centers in Maine, New Hampshire, Massachusetts, and Vermont. Its one exception is a one-day "daylily extravaganza" held in July for members of the local community who want to come in and pick out their own. Timm sees it simply as a goodwill gesture toward the community and to those who used to buy from them at the farmers' market.

He leases (it's cheaper to lease) a twenty-foot van and delivers all material—each individually picture tagged—himself. He sees this as "the last step in the process" and as a way to meet customers and hear about their wishes and needs and for them to talk with the actual grower.

By October, the farm's preparing for winter, consolidating, putting down mouse bait, covering with Microfoam—"We like to be finished by Thanksgiving, before the first snow."

Winter's a time to think and to plan the new season. Currently, plans include continuing to try out new material, but there are none to increase the size of the operation: "There's always a place for a small nursery offering quality fairly priced that treats its customers well."

Davis Brook Farm is on Route 137S, Hancock, NH 03449; the phone\fax is 603-525-4728. In the past five years, our industry has been flooded with biological products that claim to have fungicidal, insecticidal, or bacterial control. In most cases, these claims are true—they do have some control and are biological in nature. The key word in this statement is "some."

The oldest product that fits into this category is Bacillus thuringlensis, commonly referred to as B.t. Marketed as Dipel or Gnatrol (Abbott Labs), this product is unique in that it is produced in fermenters, then killed. When the target pest consumes the compound from the bacilius, the pest is killed.

First developed in the 60s, it didn't catch on until the late 70s, when environmental concerns became an issue. The primary reason that B. thuringlensis was slow to develop in the market place was that its percentage of control of the target pest was low. Better products were more efficient and economical. This applies to many of the "new" products introduced today.

The problem with most biological pesticides is

that they have a narrow window of control. They work well in laboratory environments, but in commercial growing conditions, the real world takes over. Many of these products are living organisms and must be treated as such. If your soil media is too wet or too dry, they die; If temperatures—in storage or during use—fluctuate, they die. And finally, you will need a population of the pest you are trying to control before the biological will colonize and begin control. This means you have to lose a portion of your crop and maintain a population of the pest in order to continue the population of the biological. And often the application of an insecticide or functicide will kill the desired biological.

Be sure to ask for a comparison of with standard industry materials. Many times 60% control is touted, but standard products give 90% or better—not a very good exchange.

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



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G reenhouse temperatures are hovering close to 90 degrees. The temperature inside your WPS (Worker Protection Standard)-required PPE (Personal Protective Equipment) is around 120. Sound familiar? Have you been assaulting your thrips with chemicals to assure their demise? Have you been successful? Or are your thrips becoming resistant? How 'bout your aphids, your whitefiles, your gnats?

In twelve hours, after the lapse of your REI (Restricted Entry Interval), you can go back into the greenhouse and check it out. And, if you've sprayed thoroughly, including all plant parts—even leaf undersides, you may have a temporary victory.

Doesn't sound too glamorous, does it? For most growers I talk to, It's a real pain in the (expletive). In the ads, it sounds like peaches-and-cream; in real life, it's an arduous, labor-intensive, expensive ordeal. And the real kicker is that it doesn't always work: the results are often unpredictable.

Bio-control, like chemicals, is also unpredictable to a certain extent. We see an 85% success rate among our customers. It's good—but it's not 100%. Bio-control and

Integrated Pest Management practices tend to be more expensive as well—not that chemicals are cheap; however, labor-wise, they are much less of a drain. Instead of suiting up and spraying in the greenhouse for two hours in the sun, you tap bugs out of a bottle for ten minutes in the cooler evening or early morning hours.

The movement and use of blological pest control agents is regulated locally by state agriculture departments and, nationally, by the USDA. (Your blo-control distributor is legally required to obtain these permits for you.) Blo-controls are exempt from EFA regulation. Growers using blo-controls do not fall into the web of worker protection standards during those activities: no PPE; no REI.

What's in it for you? Well, If the reasons above aren't enough, one grower sald about his blo-control expenses: "Sure, they seem to cost more; and labor isn't an issue. because I don't pay myself anyway, but I figure I'll save a bundle on my cancer treatments someday."

Mike Cherim is president of The Green Spot, Ltd., The Department of Bio-ingenuity, 93 Priest Road, Nottingham, NH 03290-6204. He can be reached at 603-924-8925.



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Fifth grader at Great Brook School in Antrim planting blackberry bush in wildlife area. Photograph by Marilyn C. Wyzga.

Schools Landscape for Wildlife

Marilyn C. Wyzga

hildren around the state are using their heads and their hands to make a big difference for wildlife. They're hammering together bird boxes, raising butterflies, and deciding what trees to plant to provide homes for all kinds of wildlife as part of Project HOME, which helps schools turn their grounds into vital habitat.

Typical school grounds consist of flat, grassy lawns accented with a few flowers and shrubs, a beaten dirt play area, and parking lots that double as ball courts A closer look reveals wildlife activity. Most is small and common to us, like squirrels, butterflies, and birds, but some school grounds also provide habitat for deer, turkey, and even moose.

The National Wildlife Federation has been certifying backyard habitats for over 20 years. This type of landowner activity is one practical application of sustainable landscaping. Schools are finding their grounds can serve a similar role. It's not necessary to journey to the rain forest to see plants of interest or learn lessons of value. Instead, they are focusing more and more on studying their immediate surroundings, both to learn the local landscape and to save field trip costs.

The New Hampshire Fish and Game Department as-

sists schools with Project HOME. The program includes training workshops, the Homes for Wildlife curriculum guide, on-site help, and fundraising tips. Nearly 50 New Hampshire schools have participated in Project HOME since 1991, when Fish and Game developed the program in cooperation with UNH Cooperative Extension. These schools are now involved with an international network of organizations, agencies, and schools promoting schoolyard habitat.

There are practical ways in which the Green Community can become involved with these projects. Although there is extensive preplanning and study on the part of the school, your role is very specific. It is important for the schools to have access to different resources and viewpoints. You can be one of them, lending your expertise and providing materials.

Projects start simply, with the interest of one teacher or a group of students or parents. The school contacts Fish and Game to arrange a workshop. The six-hour training provides specific, hands-on activities for teachers and students to learn the basic concepts and practice the necessary skills for wildlife habitat enhancement. These include team building, map making, site inventory, learning about habitat, and exploring the

range of possible projects. We steer schools toward a year-round landscape that feeds into the curriculum year after year and away from the one-time planting. This stabilizes the project, provides for ongoing maintenance, and ensures continuation into the future.

Wildlife landscapes are used for teaching in all seasons, in all disciplines. Autumn is a good time to begin a site assessment. Students learn math and geography skills by mapping the schoolyard; they practice language skills in researching and keeping accurate records. Over the winter, they research, design, and plan. Spring offers new opportunities to survey migrant wildlife and newly emerging vegetation. By the end of the first year, an enhancement plan is in place. Then a school will often install a simple 'starter' project such as a butterfly garden. The physical nature of the digging, planting, and building appeals to children; they see the results of their actions for wildlife.

Wildlife landscapes are used for teaching in all seasons, in all disciplines.

Project HOME emphasizes a team approach. A successful school is most often one that gathers a team of diverse participants within the school community who will direct and support the project. Once the plan is in place, individuals can come in and help with specific parts.

For instance, Great Brook School in Antrim arranged visits from the Soil Conservation Service, Cooperative Extension, Fish and Game, Harris Center for Environmental Studies, and New Hampshire artists. Most worked with the students for an afternoon; some for several days. These experiences prepared the students to research, design, and implement their projects.

At Great Brook, these included designing and building a wetlands boardwalk, planting a wildlife area (with blackberry bushes, highbush blueberry, butterfly weed, phlox, bee balm, arrowwood, and lupine), and creating a butterfly garden and gateway they designed with a sculptor. The gateway is made of concrete embossed with students' drawings of wetland wildlife and archedover with pressure-treated wood in a pattern suggesting a sunrise. Annuals (such as marigolds and petunias) are planted around the base.

Harold Martin School in Hopkinton provides another example. Although their site abuts several diverse natural areas—including a wetland, woodlands, and fields—these teachers and students focused their efforts on the habitat immediately surrounding the school building, the area that lacked diversity.

Their planning team included school staff and parents. To complete the work, they involved the skills

and advice of a local landscaper, a stone wall builder, and Audubon Society educators. The landscaper helped students shape a river-like pathway of field stones interspersed with hand-printed concrete slabs. The pathwinds around butterfly and hummingbird gardens planted with annuals (pansies, johnny-jump-ups, and sunflowers), herbs (lemon balm and mint), and perennials (butterfly bush, lupine, columbine, and purple coneflower), and a native apple tree given by the local orchard. A stone wall between the gardens and the parking lot provides cover for small animals. Now in the third year of the project, the first grade visited a nursery to purchase shrubs that included highbush blueberry and spirea. Next steps include building a greenhouse and cleaning up debris in a small wetland.

Landscaping for wildlife is a good volunteer opportunity for the local garden center or vocational agriculture program. Favorite projects include planting butterfly gardens (which can be easily placed in any sunny area of the school yard lawn), leaving lawn areas unmowed to grow into meadows, designing nature trails and planting them with fruit- and seed-bearing plants (serviceberry, highbush cranberry, mountain ash), establishing bird habitat areas with feeders, baths, berry bushes, and cover plants, and installing nest boxes. Once projects are in place, the school has an outdoor study lab. Continued assessment of a project's success or failure and its impact on wildlife and human communities provides more opportunity for study and exploration.

Schools also need to know which garden centers and nurseries carry native plants, or can recommend acceptable cultivars. You may already carry some of the plants schools need. They will seek landscaping and design services from businesses that understand wildlife habitat gardening. You may be invited to give the students a demonstration of how to plant a tree or prepare a perennial bed. Although some schools have successfully won grants with which they may purchase services and supplies, funding is often an issue and donations of plants, tools, or services are appreciated.

Working with agencies, like Fish and Game, that administer the programs can help make links between the Green Community and the schools. We can identify schools to contact in your community or, if you let us know of your interest, we can direct schools to you. We can also provide lists of plants beneficial to wildlife.

Habitat loss is the number one threat facing wildlife in the world today. Project HOME is one way schools and their communities can start to turn that trend around.

Marilyn C. Wyzga is coordinator of Project HOME, New Hampshire Fish and Game's program for schoolyard habitat enhancement. For more information, she can be contacted at the NH Fish and Game Department, 2 Hazen Drive, Concord, NH 03301. Her phone number there is 03-271-321

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Hazy, hot, and humid...did we skip spring? Like the saying goes, if you don't like the weather in New England just wait a day and it will change. We certainly went from cool, cloudy weather to hot, relatively dry weather in a short period. The hot weather brings with it a 'new' set of seasonal problems.

The high humidity favors many fungal diseases. Although botrytis prefers cooler temperatures, BOTRY-TIS BLIGHT can be a significant threat when the evening temperatures are slightly cooler (55-70 F). High humidity and warm evening temperatures favor the development of turf diseases such as BROWN PATCH and PYTHUIM BLIGHT. Luckily, the relatively low rainfall has helped to keep a some of the fungal diseases at bay, but they are still there waiting for the right moisture conditions! DROUGHT STRESS symptoms are still very common on nearly all woody ornamentals (and will continue to be for the next year or two). Symptoms include tip dieback, small leaf and needle size, marginal browning (necrosis), and sudden wilting during high-temperature periods. Hemlocks and white pines are showing significant needle yellowing and browning as well as needle loss due to drought stress and winter desiccation. Drought-stressed trees and shrubs are more susceptible to winter injury and fungal tip blights and cankers (to say nothing about insect attack).

KABATINA DIEBACK on junipers has been the most common problem on junipers during the last two months. DIPLODIA (SPHAEROPSIS) TIP BLIGHT has been a common problem on Austrian and Scots pine. CYTOSPORA has been isolated from small CANKERS on maples and oaks. Although few samples with ANTHRACNOSE have been submitted to the PDL, there is plenty of evidence of infections on sycamores and ashes in the southern areas of New Hampshire (the wet weather during leaf expansion was ideal for infection). Elms are showing symptoms of DUTCH ELM DISEASE (DED), and many have died since June. (DED is accelerated by drought stress. The same pattern developed in the 1993 and 1996 growing seasons.) White birch, particularly B. pendula cultivars, are again being hit hard by BRONZE BIRCH BORERS (drought-stressed trees are more prone to attack). Check for the characteristic raised areas beneath the bark on the trunk and larger branches.

Drought-stressed trees

and shrubs are more susceptible to winter injury and fungal tip blights and cankers (to say nothing about insect attack).

Many Prunus spp showed damage this spring from SHOOT BLIGHT caused by Monilinia laxa. For the last several years, this fungus has caused significant dieback on flowering almond, cherry, and sour cherry and this year was identified on flowering quince. REPEATING SPRUCE RUST, a 'new' disease on spruces, was confirmed on two samples this spring. You can distinguish this rust from other spruce rusts by noting the time of year the rust pustules appear on the needles. The orange pustules of repeating spruce rust appear just prior to bud break. The pustules of all other spruce rusts do not appear on the needles until mid-summer. A few other diseases have also been common on woody ornamentals this season: PEACH LEAF CURL: RHIZOSPHAERA NEEDLE BLIGHT on firs; and LEAF and FLOWER GALL on azalea

Brown PATCH is already evident in some home lawns, thanks to the warm, humid weather, ANTHRACNOSE seems to be a prevalent problem on turfgrass, particularly on golf courses. SUMMER PATCH is also starting to appear in home lawns. Remember, proper turf management goes a long way towards preventing, or at least reducing, turfgrass diseases. Keep thatch to no more than an inch, use slow-release nitrogen fertilizer formulations, keep mower blades sharp and water deeply (I" per week).

The major problem in greenhouse crops was IMPATIENS NE-CROTIC SPOT VIRUS (INSV), specifically on impatiens and New Guinea impatiens. Suspect plants should be isolated and infected plants should be destroyed. Thrips control is critical for prevention and management of INSV. BACTERIAL LEAF SPOT on impatiens, caused by Pseudomonas, was detected in two samples. The leaf spots are tan with a light center, or infections may appear as dark, water-soaked areas between the veins. Infected plants should be destroyed.

The usual diseases, have begun to appear on annuals and perennials. SLEROTINIA STEM ROT was identified on marigold, but has a very wide host range. Sclerotinia is characterized by white, fluffy mold near the base of the stem and hard black sclerotia (they resemble rodent droppings) that form on and in the collapsed stems. Infected plants, as well as soil surrounding the roots, should be removed immediately. The fungus is favored by high humidity, so space or thin plants to allow for adequate air circulation. BOYTRYTIS BLIGHT was diagnosed on tulip (tulip fire), peony, and lily. PLANT BUG feeding damage is already evident on a wide range of plants. The damage, usually on the upper third of the plant, looks like clusters of orange leaf spots. When the leaf is held up to the light, the spots are translucent.

Most of the diseases that occurred during the last two months will continue to cause problems during the rest of the growing season, especially if we continue to have warm humid weather and fairly frequent rainfall.

If you have had problems with RHIZOSPHAREA NEEDLECAST on spruce in the past, remember that a second infection period often occurs during late August through early September, so you should apply a fungicide at this time. KABATINA DIEBACK on junipers should also be treated with fungicides during mid-August through early September. Remember, sanitation efforts, such as removing infected leaves, shoots, or whole plants, go a long way to prevent disease and insect problems.

As a final note, The Plant Diagnostic Lab will be closed from August 6 to 14. I will be attending a workshop followed by the annual plant pathology meetings in Rochester, NY. If you wish to submit plant material to the UNH-PDL for diagnosts, send samples (with a check for \$12) 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.

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The New Hampshire Coalition for Sustaining Agriculture

Bill Zweigbaum

upporters of agriculture in New Hampshire are joining forces to raise the profile and clout of agriculture as an industry. Agricultural producers frequently bemoan the absence of public perception about agriculture's importance to the wellbeing of our state. The Coalition is trying to take the cause to a higher level and focus on the less visible, long-term benefits agriculture provides to communities.

Imagine the benefit if every interview between a reporter and a farm spokesperson included an invitation to recognize the contributions to society that agriculture makes.

The New Hampshire Coalition for Sustaining Agriculture is an aggregation of groups that have come together in recognition of the benefit of repeating a common theme: that agriculture is a valued and vital part of New Hampshire's economy, environment, and communities. This theme connects all aspects of farm and forest promotion into a single focus. Consistent repetition of worthy attributes is the hallmark of creating a brand identity. Creating a presence in the public mind that agriculture is not just vaguely favorable, but clearly beneficial, to society is the key to sustaining agriculture in New Hampshire. As an industry, agriculture needs to plan ahead for a future of positive public

perception, not deal only with defensive issues. The Coalition hopes that ag-related groups will see the benefit of repeating this common theme of value when communicating their own unique stories to the public. Agriculture has a great story to tell and a sympathetic audience willing to listen.

Public demands on agriculture are bound to expand in the future. State and federal regulations on water quality management are destined to affect all types of agriculture. Public policy adopted to achieve social goals and the tools used to implement it (such as local zoning) may have direct or secondary negative effects. The coalition is trying to spread the message that the value of New Hampshire agriculture should not be mea-

A VISION FOR NEW HAMPSHIRE AGRICULTURE IN THE 21ST CENTURY

Agriculture is a valued and vital part of New Hampshire's economy, environment, and communities. A dynamic agriculture makes New Hampshire a better place to live, work, and visit. The future of agriculture in New Hampshire depends on profitable farms that can nurture families and be passed on to future generations.

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- employ the stewardship and management practices that protect the natural resources legacy of our farms and our state:
- rely on the social and economic support of local customers and communities that value their presence and products;
- provide skilled jobs and contribute to the state's economy; contribute a variety of recreational and cultural resources;
- are interdependent with a strong infrastructure of educational institutions and agribusiness that supports commercial and backyard agriculture.

sured solely in dollars. but also in social, cultural, environmental, and visual benefits. This message must be heard over and over by planning and zoning board members, town officials, government agencies, and the concerned public. If agriculture can collectively establish its value to society before such challenges arise, its interests will be considered as a matter of course rather than an afterthought.

We are proposing that all agricultural organizations weave "A Vision for New Hampshire Agriculture in the 21st Century" into their own message and help keep the effort expanding. This statement has been created to concisely define the vital qualities our state's agriculture must have for the future. It addresses issues that are important not only to producers, but to consumers, related industries (such as tourism), and educational institutions.

The Vision is meant to identify and promote the benefit and value that agriculture brings to society as a whole.

The Coalition can be contacted through Bill Zweigbaum, 302B James Hall-UNH, 56 College Road, Durham, NH 03824-3589, phone 603-862-4631; fax 603-862-0208.



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The next time a customer asks "Does this herb dry well?" be prepared with the answer.

For culinary use, it's best to dry them as quickly as possible in a dehydrator and store them in a container as soon as they are thoroughly dried. Much of the time, the dried herbs available commercially are better. Many are "freeze-dried" or at least dried quickly enough to allow the flavor to remain. It's difficult to air-dry herbs well at home. As romantic as it is to see them hanging from the beams of a ceiling or around a fireplace, are these the herbs-full of dust and spidersyou want to cook with? If you do choose to air-dry culinary herbs. store them as soon as they are crisp, finishing them off in an oven if necessary.

Herbs will dry in the microwave, but you'll need to stand right there, watching over each small batch. Lay the sprigs side by side, nor piled up or in layers. Paper towels should be underneath and loosely laid over the herbs to be dried. Then do the drying in small increments of 10-20 seconds, repeating until the herbs are crisp, but not overdone.

There are, of course, exceptions. The culinary thymes air-dry very well. One of my favorites is the oregano thyme. It dries green and flavorful and keeps its flavor and fragrance for a long time.

People have told me that if you have a frost-free refrigerator, you can hang small bunches of herbs inside along the walls and that the air that keeps the refrigerator free of frost also dries the herbs. I was amazed, but it works Simply hang them there until they are dry—which depends on how full your fridge is and how big the bundles. Small bundles work best.

Herbs should not be crushed until you are ready to use them, as the oils quickly dissipate from the crushed leaves' many surfaces. Simply put the dry sprigs in a container and close tightly, then store in a dark cool place. The best container is glass, as this won't take on the flavors of the herbs. Keep your eye on the container for a few days to make sure no droplets of moisture appear on the inside of the glass. If this happens, empty out the herbs and dry them a bit more—an oven on pilot light works well.

Many herbs are simply better when frozen. After first washing them and patting them nearly dry. I freeze chives, sorrel, tarragon, and parsley in small sandwich bags. (Don't forget to label them!) I usually freeze basil as pesto or at least with some olive oil to keep it from turning black. On a winter day, it's hard to beat a plate of pasta generously dollopped with emerald green basil pesto!

Of course, drying herbs is not just for the cook. The art of crafting leaves and flowers into wreaths, swags, and such has been around for thousands of years. Homes in the Victorian era in particular were filled with such art.

It's necessary to grow lots of different plants for this craft and to purchase some as well. The harvest begins as soon as the gardening season begins. Some plants must be harvested almost as soon as they make their blossoms because if you wait, the flowers open up too much and will be too fragile for use. Chive flowers are a good example. If you decide to use them, dry them when they are only partially opened.

A list of herbs used for crafts might include any of the following: alliums, dill flowerheads and seeds.

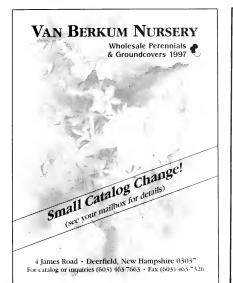
bay leaves and branches, baptista seed pods, bee balm, calendula, common sage, flax seed heads, loe Pye weed, lady's mantel, nigella (lavender, of course), common oregano (with a pink/purple flower), poppies, Queen Anne's lace, tansey... the list goes on. All are considered herbs; some have become weeds.

I recommend an excellent book on the subject, written by Barbara Radcliffe Rogers of Richmond, New Hampshire. The Encyclopedia of Everlastings covers just about everything and includes basic instructions on all the main methods of drying: air drying, silica gel and sand, pressing, and even drying by watering!

This last method is useful for a flower or leaf that needs to dry slowly in order to preserve its color or shape. It is placed in a container with only about two inches of water in the bottom of it. As the water evaporates, the stems (cut at an angle) absorb a little-which slows the drving process and preserves the color. I use this method totally by accident when I get so busy that I forget to take care of a bouquet. This is how I discovered that tulips and daffodils dry very well. It took nearly a month, but their color was excellent and a drop of glue at the base of each tulip held the petals fast.

There are herbs and flowers from all over the world that work well in dried arrangements and crafts, just as there are culinary herbs from everywhere for use in your kitchen. It excites me that such a world opened up to me so many years ago when I first discovered gardening. I hope you will help your customers discover the same world by helping them when they have questions.

Tanya Jackson, a well-known area herbalist, can be reached at 603-431-6774.





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