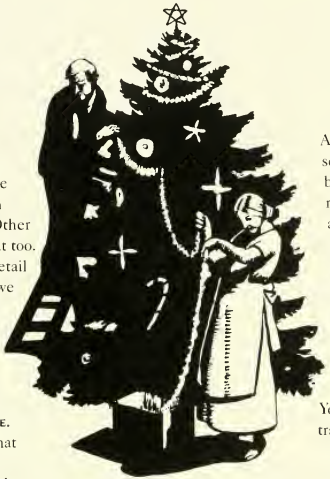
THE FUTURE OF BUTTERNUT
Will it share the fate of the American Chestnut?
See Page 17.

The Plantsman

NEW HAMPSHIRE PLANT GROWERS ASSOCIATION / OCTOBER & NOVEMBER 1995

What do you want for Christmas?



You Want Someone Who is Responsive to Your Needs
At Sibgo Tree Company we offer a wide variety of high quality Christmas Trees. Other tree companies can say that too. But, since we *also* have a retail Christmas Tree business, we know what retailers want. What sets us apart is our understanding of *your* needs. We know what *you* want from a supplier.

You Want to Keep It Simple.
You are looking for trees that are ready to go. Our trees arrive individually wrapped. All you have to do is remove the wrappers and set the trees out. No broken branches. And since our trees are basal pruned, you and your customers will not have to hassle with any additional trimming to fit the tree to the stand.

You Want Quality.
We offer heavily needled trees that have been pruned to achieve a traditional, yet natural form. The sturdy branches and carefully shaped profile offer room and support for your customers' valued Christmas ornaments.

You Want Freshness.
The later a tree is cut, the better it is able to retain water. (Did you know that if a tree loses 40% of its moisture it will never recover?) Since our trees are grown in New Hampshire and Vermont, they are not shipped long distances. This means that the trees can be cut later in the season. In addition, after cutting, we do everything we can to minimize loss of moisture. For example, we interlock the tops of the trees after cutting to prevent drying.

You Want Variety.
We grow blue balsam, known for its lovely color, fragrance, and good needle retention. Fraser, another favorite at our plantation, also has good needle retention. And this year we will be offering something new: frasam, a fraser-balsam cross. White, scotch, and red pine, and white spruce are also available.

You Want On-time Delivery.
We guarantee on time delivery—on the day *you* have scheduled to receive your order, not the day before or the day after.

You Want the Number of Trees That's Right for You.
You can order either 25 trees or a trailer load.

Have We Missed Anything?
Call 800/694-8722 or 603/237-5702 and ask for Mike Godzyk. He would love to talk to you. While you're on the phone, schedule an appointment to visit us and inspect our trees. This summer...or anytime. Or if you don't have time in your busy schedule to visit us, we'd be happy to visit you.

Sibgo Tree Company

We know what you want for Christmas!
800/694-8722 or 603/237-5702
FAX 603/237-8439
COLEBROOK, NH

CALENDAR

October

❦❦❦ WEDNESDAY, OCTOBER 18 NHPGA *Pesticide Applicator Recertification Meeting*, UNH at Manchester, 400 Commercial Street, Manchester, NH; information: Bob Demers, Jr., at 603-625-8298.

OCTOBER 20 *New Hampshire Campground Owner/Managers Conference*, Margate Resort, Laconia, NH; for information: Mike Sciabarrasi at 603-862-1700.

OCTOBER 25 *Association of Cut Flower Growers, Inc., Growers School* (in conjunction with the ASCFG National Conference), Baltimore, MD; 216-774-2887.

OCTOBER 25-26 *New England Biotechnology Conference*, Portsmouth NH; information: Otho Wells at 603-862-3208.

OCTOBER 28 UNH FFA *Invitational Interscholastics*, UNH Plant Biology and Thompson School Greenhouses, Mast Road Extension, Durham, NH; for information: Dave Howell at 603-862-1760.

November

NOVEMBER 2-5 *International Plant Propagation Society* (IPPS) *Eastern Region Annual Meeting*, Hartford Sheraton, Hartford, CT; 203-429-0533.

NOVEMBER 7 *Vermont Association of Professional Horticulturists* (VAPH) *Fall Meeting*, Vermont Technical College, Randolph, VT: information: Jane Wilkening at 802-253-2350.

NOVEMBER 8 *Turf & Grounds Management Seminar* (jointly sponsored by UNH Cooperative Extension and Dartmouth College) Alumni Hall, Hopkins Center, Dartmouth College, Hanover, NH; information: Tom Buob at 603-787-6944.

NOVEMBER 7-8 *Massachusetts Nursery & Landscape Association Business Short Course*, Westboro Marriott, Westboro, MA: Rena Sumner at 413-369-4731.

NOVEMBER 16 UNH *Cooperative Extension Greenhouse Pest Control Seminar*, Old Mill Restaurant, Epsom, NH; for details: Stan Swier or Faye Cragin at 603-862-1159.

December

DECEMBER 12-14 *New England Vegetable & Berry Conference*, Sturbridge, MA; Otho Wells at 603-862-3208.

January

JANUARY 4-6 *Christmas Tree Pest Management Course*, Keene State College, Keene, NH; information:Marshall Patmos at 603-352-4550

JANUARY 9-11 ERNA's *Best Trade Show*, Concord Hotel, Kiamesha Lake, NY; 203-872-2095.

JANUARY 10 *Maine Landscape & Nursery Association* (MeLNA) *Annual Meeting*, Augusta Civic Center, Augusta, Me; Edith Ellis at 207-225-3998.

JANUARY 16 MeLNA *Annual Trade Show*, Holiday Inn by the Bay, Portland, Me; 207-225-3998.

JANUARY 16-17 *Connecticut Nurserymen's Association Annual Meeting*, Education Seminar, & Trade Show, Aqua Turf, Southington, CT; 203-872-2095.

❦❦❦ WEDNESDAY, JANUARY 17 *New Hampshire Plant Growers Association/New Hampshire Landscape Association Joint Winter Meeting*, Old Mill Restaurant, Epsom; information: Peter van Berkum at 603-463-7663.

JANUARY 21 FTDA *District Meeting*, Elliott & Williams Roses, Dover, NH; for details: Debra Defreze at 603-474-3020.

JANUARY 23-24 *Rhode Island Nurserymen's Association Education Day and Trade Show*, Doubletree Inn, Newport, RI; information: Ken Lagerquist at 508-761-9260.

JANUARY 26-27 *Farm & Forest Exposition*, Center of New Hampshire Holiday Inn & Convention Center, Manchester, NH; information: Mary Ellen Pitman on Wednesdays at 603-271-3788.

February

FEBRUARY 1-3 *New England Grows*, Hynes Convention Center, Boston, MA; 508-653-3009.

COVER: Butternut on James Austin's Farm in Rochester, New Hampshire. The photograph, by Mary Torcello, was taken on September 7, 1995.

CONTENTS

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

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

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

Notice

An FTDA Designer Certification Testing Session is being planned for January. As of September first, no date had been set. The testing will be for three levels—Junior, Senior, and Master—and includes plant ID (Latin names) and hands-on design work. For more information and a list of suggested reading material, contact Debra Defreze at 603-474-3020.

A Summer Visitor

A few weeks ago, I was hired by the USDA Forest Service as a consultant to coordinate a program in pesticide education. The program would train a forest health worker in all aspects of pesticide education, including personal protection equipment, first aid and safety, worker protection laws, and how to read a label. The course would last nine days, after which the student would return to Kenya to set up a similar program in his country. I am a commercial pesticide applicator for research and demonstration purposes and a member of the pesticide education committee and I hope to acquire a degree in adult occupational education with a minor in plant biology, so the job was perfect for me. Also, I work for Dr. Stan Swier, the UNH Cooperative Extension Pesticide Education Coordinator and Dr. Alan Eaton, the UNH Cooperative Extension Integrated Pest Management Coordinator. Like most members of Cooperative Extension, they are invariably supportive when working with the public and I knew that I would be able to count on not only Stan and Alan, but other Cooperative Extension specialists as well. So, with this in mind, I agreed to be the program coordinator.

Gregory Mbita (he prefers to be called Mbita) arrived on August 26th. He spent many hours in the classroom and out in the field. Dr. Jim Mitchell and Steve Bunker from the UNH Kingman Farm gave a demonstration on calibrating a boon sprayer. They also demonstrated the proper use of personal protection equipment. Bill Lord, a UNHCE Fruit Specialist, and Alan Eaton gave Mbita tours of different agricultural sites, pointing out problem areas as well as IPM techniques. Denis Souto of the USDA Forest Service gave Mbita and students from the Thompson School a tour of the UNH woodlands to discuss forest health issues. Cheryl Smith, a UNHCE Plant Health Specialist, spent a day with Mbita demonstrating disease identification techniques in the lab and in the field. John Weaver gave Mbita information on biological control programs currently being tested at UNH. Between field trips, Mbita watched educational videos and attended lectures on various aspects of pesticide education. He was in-

vited to a graduate student get-together for students from other countries and visited Portsmouth, Manchester, and several other towns throughout New Hampshire

As Mbita's visit came to an end, we discussed the program and its effectiveness. We both agreed that two weeks is not enough time to fully grasp all elements of the program. However, we both felt that we managed to accomplish a great deal in the time that we had together and hope that this is just the first step in creating pesticide education programs for developing countries. We both felt that although each country has its own particular problems and needs, it is important to remember that the pesticide practices of one country have the potential to affect us all.

Faye Cragin
Plant Biology Department

Welcome New Members

BALL SEED COMPANY
11 Willey Creek Road
Durham, NH 03824

BARRETT GREENHOUSE & NURSERY
694 Old Homestead Highway
Swansey, NH 03446

EARTHGRO, INC.
Route 207, Box 143
Lebanon, CT 06249

J.P. BARTLETT COMPANY
578 Boston Post Road
Sudbury, MA 01776

ROADSIDE FARMER
Route 16
Wakefield, NH 03872

SEACOAST SCHOOL OF TECHNOLOGY
40 Linden Street
Exeter, NH 03833

TYNGSBOROUGH GARDENS
PO Box 504
Tyngsborough, MA 01879

UNCLE TIM'S TREE FARM
RR2, Box 1C
Parker Street
Canaan, NH 03741

FROM THE BOARD

QUALITY CONTROL & STANDARDIZATION

Why We Need ISO 9000 In the Horticulture Industry

Robert C. Rimol

It seems, lately, that many companies are obtaining their ISO 9000 certification.

What is "ISO?" The International Organization for Standardization (ISO) is an agency representing the national standards bodies of 91 countries. The American National Standards Institute (ANSI) is the member body representing the United States. ISO is made up of approximately 180 technical committees. Each committee is responsible for one of the many areas of specialization that range from asbestos to zinc. The purpose of ISO is to promote the development of standardization, facilitate the exchange of goods and services, and develop cooperation in technical and economic activities.

The ISO 9000 Series is a set of five separate—but related—international standards on quality management and quality assurance. They are generic—not specific to any particular products, but they can be used by both manufacturing and service industries. These standards were developed to effectively document, implement, and maintain the quality system elements within a company.

In other sectors of agriculture and some sectors of horticulture, there are similar quality-control standards that have to be met. However, to fill these voids in the Green Industry, quality control goals should be broken down into groups (Nursery, Bedding Plant, Cut Flowers, Garden Centers, etc.). Within these groups, categories could include Plant Material, Shipping Standards, Pesticide Use, Marketing (signs, etc.), or any number of other categories. This could improve consumer confidence and result in higher per capita Green Industry spending; this could open up doors for expansion of smaller and medium-sized operations; this could give more guidance to entrepreneurs starting their own businesses. And a safer, cleaner, more efficient working environment would help the overall business climate of the Green Industry.

I know you are probably saying, "Easier said than done. And how are we going to get everyone to agree on what constitutes quality?" And do you know what? You're absolutely correct in your analysis. However, if we are going to keep horticulture on an upward trend, we are going to have to pursue quality and standardization goals to make ourselves more enticing to everyone from today's consumer to young people thinking about starting a career.

On a per capita basis, our industry is growing, but we still do not rank very high, especially if compared with the Green Industries in other countries with similar economies. ISO certification takes time and an investment in money, but a recent survey revealed that, although initial investment is heavy, ISO-registered companies of all sizes showed impressive annual savings from their improved quality and efficiency.

Meeting guality goals may be challenging, but our industry can meet the challenge.

For more information, Bob can be reached at 603-425-6563.

For a Positive Start to the New Year....

For the third year in a row, a successful, intensive two-day Christmas tree pest management course will again be offered at Keene State College in Keene, New Hampshire. The dates are January fourth and fifth.
This course is of value to anyone—beginner to experienced grower—involved in the Christmas tree industry. Scheduled instructors include: Dr. John Ahrens, Connecticut Agricultural Experiment Station; Ms. Barbara Burns, Vermont Dept. of Forests & Parks; Tom Durkis, NH Dept. of Agriculture; Ron Kelley, Vermont Dept. of Forests & Parks; Dr. William Merrill, Pennsylvania State University; Dr. Cheryl Smith, UNH Cooperative Extension; Dr. Stanley Swier, UNH Cooperative Extension; John Turmel, Vermont Dept. of Agriculture; Ms. Nancy Wenner, Pennsylvania State University.

Appropriate pesticide recertification credits are awarded from NH, VT, MA, CT, and RI, with special arrangements for other states.

Course cost of $105 includes parking, breaks, reference materials, and lunches for both days. Pre-registration is required. To reserve a space, send a $25 (US funds) deposit made out to "UNH Cooperative Extension" to 33 West Street, Keene, NH 03431. Enrollment is limited.

For more information, contact Marshall Patmos at 603-352-4550.

New Product

(from GMPro, June, 1995)

David Murray, founder and owner of TAK Equipment, Inc., and vice-president of Murray Farms Greenhouse, Inc., in Penacook, NH, has designed an aluminum trough subirrigation system that accommodates 1020 flats. He trialed his system at ten growing operations in the Northeast this spring, furnishing the participating growers with equipment and guidelines. The trials appear to have worked out very successfully; official results are being released.

Lath House—Pleasant View Gardens, site of this year's Summer Meeting. (photo: Tammy Hathaway)

TAK already produces aluminum trough systems for 3-to-8 1/2-inch potted crops.

Dave says he turned to subirrigation for three reasons: saving time, protection the environment, and creating a lasting impression ("Customers—whether wholesale or retail—are impressed when you stay one step ahead or on the cutting edge of technology").

For information: Dave Murray's at TAK Equipment, Inc., 111 River Road, Penacook, NH 03303; the phone there is 603-753-8250; the FAX, 603-753-1156.

Liaison Announced

Nancy Adams, Agricultural Educator, Rockingham County, has been asked to be an official liaison between the New Hampshire Plant Growers Association and the Cooperative Extension.

It's felt that separate unrelated programs were counterproductive and that, in this period of both expanded access to information and diminishing resources, a more coordinated focus would be a more efficient use of both organizations' resources and a better service to the Green Industry in New Hampshire.

Immediate goals include coordinating events sponsored by both organizations and publicizing these in the newsletters of both as well.

We look forward to working with Nancy. Members with ideas and suggestions can contact any board members (phone numbers on page seven) or Nancy at 603-679-5616.

New Service

Atlantic Greenhouse Systems (AGS), a full-service greenhouse construction company based in Searsmont (mid-coast), Maine, is beginning to extend its sevice area into New Hampshire and other parts of New England.

Owner Will Walton began his craft as a carpenter while in college, then developed a career in the field, establishing himself as a builder. His introduction to greenhouses came in the early 1980s when he worked with Vanderhoeven, Inc., a Dutch company, as a project supervisor. When he returned to Maine, he incorporated greenhouses into his construction business. After a four-year hiatus, during which he was coordinator for an agricultural development project, he returned to private enterprise and began AGM in 1992.

Small (owner Walton and two full-time employees), but growing, AMS offers "construction, renovation, and repair capability, and work with any and all types of structures, glazing systems, and equipment. Our projects range in size from small repairs or modifications to turnkey facilities, with most falling somewhere in between." Something for everyone.

For more, 207-342-5351.

Showtime '96

The theme of the 1996 Farm & Forest Exposition, to be held at the Center of New Hampshire Holiday Inn & Convention Center in Manchester on January 26-27, is "Regarding Sustainable Agriculture: Preserving our Farms and Forests for Future Generations."

It's earlier and a day shorter this year (because of the primary, the hotel is "booked for media"), but the same variety of displays, meetings, and talks is being organized. For information, contact Mary Ellen Pitman on Wednesdays at 603-271-3788.

Around New England...

New Publication

Planting and Maintaining Sustainable Landscape: A Guide for Public Officials and the Green Industry, developed by a group of faculty and specialists of the University of Massachusetts Extension, is newly available.

The guide contains current, research-based information on fertilizers and fertilizing trees, shrubs, and lawns; the fate of pesticides applied to lawns; and a review of lo-maintenance trees, shrubs, and turf grass species. Also included are in-depth reviews of proper planting and maintenance of trees and shrubs, public tree planting, integrated pest management, and coastal landscaping, as well as a comprehensive list of recommended plants for a variety of locations.

To order, send check or money order to Bulletin Center, Cottage A, Thatcher way, University of Massachusetts, Amherst, MA 01003. The price is $7.50 a copy. Make checks payable to the University of Massachusetts.

New Management

John Bragg, Executive Secretary of the Massachusetts Nursery & Landscape Association resigned his position this summer to move north to Maine to run a real estate business formerly operated by his wife's family. His position at MNLA is being filled by Rena Sumner. For information about MNLA and its activities, you can write Rena at PO Box 387, Conway, MA 01431, or call her at 413-369-4731.

We wish both John and Rena the best of luck in their new situations.

Vermont Awards

The NENA Young Nurseryman of the Year is V.J. Comai, The South Forty Nursery, Shelburne, VT. This annual award, sponsored by the New England Nurserymen's Association, is given to an individual in the horticulture industry who has not reached 35 years of age, is involved in his/her state and/or regional association, has contributed to the growth and success of their company, and has given a positive image to the public of what our products and services can do for them.

The Vermont Association of Professional Horticulturists (VAPH) Horticultural Achievement Award went to Elmer Brown, The E.C. Brown Nursery, Thetford.

The VAPH Student Award went to Fred Smith, Jr., of Norwich. He's been attending UVM part-time while running Fred Smith's Lawn Service, a complete landscape and maintenance service.

The VAPH Environmental Awareness Award, given to "an individual or firm that has implemented unique practices which contribute to the protection of the environment," went to Jim & Mary Musty, J.M. Landscaping, Bradford, VT. Congratulations.

VAPH is also pleased to announce that the speaker at its Fall Meeting (Vermont Technical College, Randolph, on November 7) will be James Urban of Urban & Associates of Annapolis, Maryland. Mr. Urban will lead an all-day workshop entitled "Trees in the Urban Landscape: Design Solutions to Difficult Situations."

Mr. Urban's visit has been jointly sponsored by several groups and his topic, a less-than-usual one for Vermont, has provoked a great deal of interest.

Preregistration is not a requirement (although without it, you may not get lunch). For more information, contact Jane Wilkening via VAPH's new address (PO Box 64878, Burlington 05406) or phone number (802-253-2350).

Motor Vehicle Legislation

(from AAN *Update*, July 24, 1995).

AAN announces that Rep. Bill Zeliff (R-NH) has introduced legislation (H.R.1885) to clearly define federal regulatory policy for commercial motor vehicle standards by standardizing the weight threshold level at 26,001 pounds (Gross Vehicle Weight Rating—GVWR).

Currently some federal regulations apply to all commercial vehicles weighing more than 10,000 pounds, while other rules apply only to vehicles weighing over 26,000 pounds. The resulting patchwork of reporting and recordkeeping requirements is seen as both confusing and costly to light- and medium-duty service and delivery vehicle operators, such as growers, landscape contractors, and

retailers. AAN is a member of a coalition pushing for passage of H.R. 1865.

Networking On-Line

from Greenhouse Grower August 1995

While "home pages" specific to the horticulture industry are cropping up on the Internet, two Canadian growers have set up their own electronic bulletin board for growers. Developed by Mark Thiessen of Thiessen Greenhouse Flowers Ltd. and Dean Thiessen of Pyramid Farms, the Greenhouse Bulletin Board provides growers an informal forum in which to exchange ideas along with several services which include free classifieds, electronic mail, industry information, an on-line supplier trade show, electronic buying and selling of plants, and a directory profiling greenhouse industry members.

All you need is a computer and a modem to participate. To receive a disc to get on-line, contact Mark Thiessen at 800-550-7933. Even if you don't want to get on-line, you can still be included in the directory by faxing your business card and a short summary of your business to Thiessen at 519-926-2089.

AAS Bedding Plant Winners

For 1996, All America Selections is honored to introduce two AAS Bedding Plant Award Winners. Petunia f1 hybrid 'Heavenly Lavender' is an improved double multiflora petunia. The large buds unfold into 2 1/2-to-3-inch fully double blooms. The lavender color is unique; other varieties with double lavender blooms are veined; this AAS winner is not. Heavenly Lavender' will bloom 5-to-7 days earlier than other comparable varieties. The plant habit in packs exhibits improved uniformity and compactness. Normal petunia culture is recommended for pack or pot production.

Petunia f1 hybrid 'Fantasy Pink Morn' begins a new class of petunias about two-thirds the size of a normal petunia. The new class is 'millitiflora' (meaning 'many small blooms'). 'Fantasy Pink Morn' needs to be kept actively growing throughout its production cycle because of its naturally compact habit; growth regulators should not be necessary. It blooms earlier than other multifloras and holds longer in packs extending shelf life at retail stores. The plant flowers when about three inches tall, so it's adaptable to three- or four-inch pot plant production.

For information, contact AAS *at* 1311 *Butterfield Road, Suite* 310, *Downers Grove* IL 60515; *the phone number is* 708-963-0770.

Dwarf Perennials

Dana M. Sansom

Before the beginning of each semester, I clean my office. I put all the papers into folders and all the folders into the file cabinet. My floor gets washed and it almost looks like someone with good organizational skills worked there. Anyone who has seen my office around mid-semester will know what a falsehood this is. It goes from those neat files to a kind of blender effect—everything skewed, running together in general chaos. I don't find this mess particularly bothersome, so it always surprises me that I need such order in my gardens.

There are gardens in which every plant or group has to have its own space and each individual plant is orderly and neat; in other gardens, groups combine and flow together and plants are scattered throughout and not in group formation.

When I first started designing gardens, everything had to be like the first type. Each plant had to be spaced correctly and there had to be extra spacing between groups. The plants themselves had to be orderly. I didn't use plants that flopped or spread or needed to be staked and started buying all sorts of compact plants to use in my gardens. I became a dwarf perennial fanatic.

Since then, I've seen many gardens and realized both methods can be successful. But my love for dwarf perennials has remained and I'd like to discuss a few of my favorites.

Before I do, there are a lot of terms we hear used for dwarf plants, including "rock garden plants," "compact or dwarf perennials," "alpine plants," and "saxatiles" and I would like to clarify these terms.

A "rock garden plant" is any plant that will thrive in a rock garden situation. "Rock garden" is a very loose term and is really any garden in which plants are grown among rocks. A rock garden can be an area of natural rock outcroppings; it can be a person-made garden with rocks such as tufa that are brought in and used with a gravel mulch, or it can be a stone wall with plants growing in it. It can be a trough garden (a trough being a cement or stone basin that is used for growing alpine or other dwarf plants). Leo Blanchette of Blanchette Gardens, Carlisle, MA, custom-makes these troughs. or you can make them yourself—the *Burpee American Gardening Series* has an excellent book on rock gardening and in it is a recipe for making toughs adapted from one from the American Rock Garden Society. Its only drawback is that it tells you to cure the trough for three months and I don't know about you, but I'm not sure I have that much patience!

A rock garden can be in the sun or the shade. It can be made of any combination of trees, shrubs, ground covers, and herbaceous plants or just one of these groups. Most of the time, it's in full sun in well-drained rocky soil.

I've seen some wonderful rock gardens in my travels. In Toronto, Canada, Hillside Gardens was an amazing rock garden encompassing many acres. It's a beautiful combination of conifers and deciduous trees, sweeps of perennials and masses of annuals, all situated among massive outcroppings rising above the pond at the base of the hill. Garden in the Woods in Framingham. Massachusetts, has a small rock garden of good quality using mostly perennials. Smith College, in Northampton, Massachusetts, has an excellent combination garden that includes some incredible troughs,filled with three-inch birches and elms, two-inch *Chamaecyparis*, and exceptional alpine perennials.

As time has gone by, homes and gardens have gotten smaller, due to the price of labor and the economy. Also, most people have less time for gardening. Therefore, plants which are more compact and easier to maintain have become popular. In the last ten years, breeders have introduced many compact (or dwarf) perennials. Many of these do well in rock garden situations, but they are not necessarily rock garden plants and usually do well in the conditions that their larger parents did. They are used for rock gardens, along the front of a border, as accent plants, as ground covers—in many ways. There's always a space for one of these.

An alpine plant "is a plant that comes from tree line at high elevations. They're adapted to cool summer temperatures, a short growing season, and continuous snow cover all winter." These are used in rock gardens, but many of them are difficult to grow, especially in hot areas.

A saxatile plant "grows among rocks, usually in mountain areas, but not necessarily alpine areas." These are many times sold as alpine plants, but are more adaptable and easier to grow and are more commonly used in rock gardens.

Although I have a budding interest in alpines and saxatiles, my main focus has been on dwarf perennials, which I use in both rock garden and border situations. There are so many wonderful plants that it's hard to pick a favorite. However, *Aruncus aethusifolius* does come to mind. What a beautiful plant this is. It has a mounded form growing only 8-to-12-inches (as opposed to *Aruncus dioicus*, which grows to 4-to-6-feet). I have one planted in front of a rock next to my walk and it is enjoyable in all seasons. Its flowers are small, dense, white spikes and

its foliage is ferny. It has great fall color, with reds, oranges, and yellows all on one plant. It's a good plant for retail sales or landscape use because it's hardy, reliable, and almost maintenance-free.

Allium senescens glaucum is an unusual allium which has been introduced into New Hampshire by van Berkum Nursery in Deerfield. It's grown and sold as a perennial rather than as a bulb , although it does have a dense mat of bulbous roots. It is excellent in a rock garden or cracks and crevices because it does well in full sun and well-drained soil. It's called 'Circle Chives' or 'Twisted Onion' because its 4-to-6-inch blue-green leaves twist and it grows in a circular form. I have it in a small area between a rock outcropping and my walk and it works well there because it's a slow grower. It's also valuable for its late-blooming lilac-pink flowers in August and September. Not spectacular, they're delicate and long-lasting.

The *Astilbe simpicifolias* are also notable. *Astilbe simpicifolia* 'Sprite' was the Perennial Plant Association's 1994 Plant of the Year—and for good reasons: a 12-15-inch compact growth habit, bronze foliage, and pale pink flower spikes. 'William Buchanan' was one of my first *simpicifolias* and—with glossy foliage and 8-inch growth habit—one of my favorites. It's good for a small garden or close-up viewing and its white flowers help brighten up a shady spot.

There are many compact geraniums worth growing—two of these are P. *cinereum* 'Ballerina' and P. *dalmaticum*; *Aquilegia flabellata* 'Mini Star' is an excellent six-to-eight-inch violet columbine; *Arabis sturri* (Dwarf watercress), with its tight green foliage and white flowers in May, is a rock garden staple...the list goes on and on...

Leo Blanchette has one of the best selections of these plants nearby and it's very worthwhile to go down and see his gardens. And van Berkum Nursery has many compact plant varieties and some great display gardens.

Trying some of these compact plants is worthwhile—both as items in a retail garden center and in landscape use. Retail customers think they are "cute" and they make good finish plants for landscape jobs. Happy plant hunting.

Dana Sansom is an associate professor of horticulture at the Thompson School of Applied Science at UNH, Durham. She can be reached at 603-862-1036. Anyone who is interested in rock gardens or rock garden plants should consider joining the American Rock Garden Society, PO Box 67, Millwood, NY 10546.

Z notes

THERE'S BEEN MUCH SAID RECENTLY ABOUT the merits of compost in a soil mix. The primary purposes of a mix for container-grown plants are air and support. Virtually any media—bark, sand, old tires—will support a plant: air becomes the limiting factor.

The most desirable amount of air space for root development is 13-18 percent. Anything less than this severely restricts growth. Not only does root development suffer: so does the actual plant.

Compost—like soil—has a very high water-holding capacity. It can fill the air pockets the same way field soil does in a container.

A rooted cutting or seedling will actually develop more slowly—and may never compare—to one planted in a conventional soilless mix. Also, if the plant remains in the container for more than a few months, the mix in which it's growing may begin to collapse or degrade. This is why sphagnum peat, bark, sand, vermiculite, and perlite are primary amendments: they are very stable.

There can be other problems. When porosity decreases, water-holding capacity increases, making a perfect environment for disease. Some composts, because they are not sterile, contain pathogens or weed seed. Some composts—especially those containing grass clippings—have a pH too high for most needs. The most serious problem can be the high levels of micronutrients. Sometimes these are toxic; sometimes, they create an imbalance that affects other nutrients needed for plant growth.

The problem is that compost can be unreliable.

The fewer variables one has in production, the easier it is to produce a consistent product. Whatever benefits compost has can be overshadowed by the risks. If you decide to pursue plans to use compost as a major component in your mix, I'd recommend trying it out over a period of time and in a variety of situations in order to get a realistic evaluation.

Jim Zablocki, Territory Manager, The Scotts Company. Northeast, can be reached at 603-224-5583.

EACH *morning, I would pass a horse-drawn milk wagon making its daily rounds....Horses are also used to pull plows, grain harvesters, & supply wagons. With expensive gasoline & farm machinery, it makes economic sense for small farms to utilize horse power when ever possible.* **CONTRAST** *this with other farms which operate using the latest equipment & cultural techniques. One greenhouse producer of cut orchids, lilies & gerberas had rolling benches, automatic curtains & modern watering equipment.*

Glimpses of POLAND

Nancy Adams

Travel can be one of the most exhilarating, frustrating, exciting, and exhausting experiences possible. I was reminded of this once again when I traveled to Poland recently for a six-month work assignment.

My trip to Poland was coordinated by USDA Cooperative Extension in Washington, D.C., and funded through U.S. Aid for International Development (US AID). Officially called the "Polish-American Extension Project" or PAEP, it's a four-year effort to assist the Polish Extension Service in working within market-driven economic principles and practices. In reality, it has become much more diverse in its scope, reaching into areas such as personnel management and leadership development. When the project ends in December, 1995, approximately 50 U.S. Extension personnel will have worked in most of the 47 Polish provinces.

Each PAEP team sent to a specific province consists of an U.S. Extension specialist in agricultural economics and a county-based Extension educator, like myself. During the six-month period, my co-worker, Verne House from Clemson University, and I worked directly with the Cooperative Extension director and his staff in the province of Czestochowa. Fortunately, the project provided us with two full-time translators, computer equipment, and cars.

Car travel in a foreign country is always a dangerous proposition. My second day during our orientation included a driving lesson around the busy Warsaw city streets. Heads kept swiveling as we narrowly avoided crisscrossing tram buses, wild rotary circles, and oddly positioned traffic lights. I felt fortunate to escape after six months with only one accident and no bruises. Even Boston traffic seems tame in comparison!

Agriculture continues to play a key role in the politics and culture of Poland. While we think of Communist agriculture as large, cooperative state-run farms, over 80% of Polish farmland has always remained in private ownership. These small, family-owned operations form the backbone of Polish agriculture.

Visits to Polish farms and rural communities offer interesting glimpses into centuries-old traditions. Draft horses are still a primary source of agricultural power for much of the country. Each morning, I would pass a horse-drawn milk wagon making its daily rounds. Since many farms only have 1-3 milking cows, large refrigerated milk-collection tankers are not practical. Horses are also used to pull plows, grain harvesters, and supply wagons. With expensive gasoline and farm machinery, it makes economic sense for small farms to utilize horse power whenever possible. Their long-term economic viability, however, remains in question as the country struggles with a global marketplace.

Contrast this with other farms which operate using the latest equipment and cultural techniques. One greenhouse producer of cut orchids, lilies, and gerberas had rolling benches, automatic curtains, and modern watering equipment. Frequent trips to The Netherlands and Denmark keep her abreast of new developments in greenhouse production. She commented that at today's prices for fuel, land, bank loans, and labor, she could not afford to start farming today in Poland. She feels her economic advantage will allow her to remain competitive into the future.

Agricultural communities have been at the center of federal domestic economic policy. When urban factories and businesses closed, rural areas absorbed these displaced workers and offered them a safe haven with extended family. The government now faces the difficult challenge of trying to encourage rural economic development to maintain and support this population, much of which is unemployed. They fear that a widespread exodus to cities will create many of the same urban problems currently experienced in inner-city America.

One key impediment to economic development is inadequate infrastructure. For decades, central government controlled the distribution and price of agricultural goods and services. Now that this structure no longer exists, agricultural businesses are having difficulty finding markets, moving goods to market, and pricing goods. The concept of a middleman or broker for goods is just now being better understood and accepted. Sound familiar?

There is no doubt in my mind that Poland will prosper in the coming years. Their historical position as a net exporter of food remains intact. The sense of entrepreneurship is alive and well. The younger generation is looking forward to an exciting future in the free world. And the government is striving to maintain a balance between reform and stability. Overall, a very positive picture is taking shape around harsh economic and social realities.

For those who have never traveled outside the United States, I would highly recommend a trip "abroad". It will help sharpen your senses, encourage you to rethink your biases, improve your mental flexibility....or perhaps break it, and renew your appreciation for America. You know, we really do live in the land of opportunity.

Nancy Adams is UNH Cooperative Education Agricultural Educator, Rockingham County. She can be reached at 603-679-5616.

THE FUTURE OF BUTTERNUT

Mary Torcello

"I remember when..." is a phase often heard when talking with people about trees such as American chestnut and American elm, two species devastated by disease. Recently, I have heard that same phase used for butternut. It sent a chill down my spine. A disease is attacking butternut throughout its native range. Records have shown that tree numbers have been declining over the last 25 years, but many people believe that there is still time to fight back.

Butternut (*Juglans cinerea*), a cousin to black walnut, is not a common species. In the forest, butternut trees almost never grow in pure stands. Since it cannot grow in shaded conditions, it requires openings in the forest canopy to naturally regenerate. Most often, butternut can easily be found growing in bottomlands along stream banks and fields of rich loamy soils.

Traditionally, butternut was planted on farms and in yards because of its usefulness. The nuts were used for food, the husks for cloth dyes, and the wood for furniture and cabinetry. Also, it was a favorite material of wood carvers. In addition to being a valuable commodity, butternut provides excellent wildlife food and is an important biological component of our forest.

TRADITIONALLY, BUTTERNUT WAS PLANTED ON FARMS & IN YARDS... THE NUTS WERE USED FOR FOOD, THE HUSKS FOR CLOTH DYES, & THE WOOD FOR FURNITURE & CABINETRY... IT WAS A FAVORITE MATERIAL OF WOOD CARVERS & PROVIDES EXCELLENT WILDLIFE FOOD...

What is this culprit that is placing our native butternut in jeopardy? It is a non-native fungus (*Sirococcus clavigignenti-juglandacearum*) called the "Butternut Canker" whose exact origin is unknown. It was first reported in Wisconsin in the 1960s. Today, infected trees are found from Maine to Minnesota, and south to the Carolinas and Arkansas.

The fungus causes multiple branch and stem cankers that eventually girdle the tree. Canker infections start through leaf scars and buds, open bark fissures, and wounds. Cankers on branches cause sunken discolored areas that are usually elliptical in shape. On the tree stem, the canker can cause a patch of black liquid ooze in springtime that later becomes sooty in appearance. Under the stained bark is the dark ellipsoid canker. It's common to find cankers at the base of trees and on exposed roots. In some cases, infections can weaken the tree enough to make it susceptible to other problems, which in turn add to the demise of the tree. Sections of the tree crown can die back (however, this symptom can be caused by other factors).

There is no known control for this disease. However in landscape settings, actions can be taken to help an infected tree. Watering the tree in times of drought and preventing wounds with yard equipment can decrease stressful situations for the tree. Removing dead trees is recommended (they act as reservoirs for the fungus), especially if the trees pose a hazard to life and/or property.

The visual impact of losing butternut trees is not as impressive as that caused by the decline of the American chestnut from the chestnut blight fungus. American chestnut was found in great numbers in hardwood stands across the East, while butternut is typically an uncommon species across its range. Unlike the infectioned American chestnut, infected butternut trees may take a number of years to die—and some trees can survive infections. However, given naturally low populations of butternut in the forest, there is concern about maintaining a genetically viable population. Wisconsin and Michigan report significant numbers of live butternut are decreasing.

Currently butternut is listed as a Federal Category 2 Candidate on the Endangered and Threatened Plants list. In this category, species in question have some evidence of vulnerability. Collecting more information on the status of butternut would help to determine if it is truly a threatened species under the Endangered Species Act.

A "Butternut Coalition" of state and federal government agencies, conservation organizations and concerned individuals now meet to discuss the conservation of butternut. These groups bring together the most current knowledge about butternut and the disease. Current efforts focus on conservation and the propagation of genetically disease-resistant trees.

But it is difficult to tell genetically resistant trees from ones that are not. Timber harvesting guidelines are available which target salvaging dead and heavily infected trees (non-resistant to the fungus), and saving possible disease-resistant butternut in the forest. In 1992, Minnesota placed a moratorium on the harvest of healthy butternut within the state. In 1993, the USDA Forest Service placed a similar harvesting restriction on the National Forests. The trees that remain may then be candidates for collection of their genetic material.

Candidate trees for retention need to be healthy in appearance and free of cankers or have been able to

outgrow any infections. The trees must be within 100 feet of a known infected tree to have been adequately exposed to the fungus. Collected material from candidate trees is deposited into "clone banks" (where the material is grafted to walnut rootstock and planted back into the field) to be used as a resource for resistance testing. Several clone banks are located in New England. Researchers continue to collect candidate butternut material from all over its natural range to preserve a wide genetic base.

Another area of work includes cataloging insects frequently found on butternut and studying their role in wounding trees and vectoring this disease among butternut populations. Also, researchers are developing silvicultural techniques to help regenerate butternut in the forest. Still other scientists are hoping to develop ways to quickly cultivate and propagate resistant varieties and to distribute adequate numbers of seedlings across different ownerships. Currently butternut cultivars are available, but their resistance is uncertain.

What will the future hold for butternut? We won't lose butternut completely, but the full impact of this disease-tree relationship and its place in time is unknown. Many people are hopeful that this magnificent species will not take its place in history next to American chestnut or American elm—two trees that are "remembered" fondly by many people.

Mary Torsello is a forest pathologist at the USDA *Forest Service in Durham,* NH. *She can be reached at* 603-868-7719.

Tips from the Griffin Guru

C.O.D. or Charge It

FOR ONE REASON OR ANOTHER, MANY SMALL growers do not wish to have an open charge account with their supplier.

As a supplier, we wish to accommodate those of you who are part of this group. When time allows after your order has been rounded up, priced, and any shortages noted, we place a phone call to advise you of the amount of the transaction.

The problem is that should you be called away or not at home when the truck arrives, our drivers are instructed not to leave the order.

A simple solution is to use either your Visa or Mastercard when you place your order. Except in the case of a controlled product such as a pesticide (which must be signed for), your order will be left as scheduled.

Working with the customer is very important to us.

THE APHID
A *Day in the Life...*

I'm an aphid. Green Peach they call me. It's 8:15 am. For an hour now, I've been contentedly sucking away at the juices of the leaf upon which I sit. I've stopped eating for the moment though. I hear this strange tapping sound on the leaf above me. The smell of alarm is strong in the air—a ladybug is about. It's making me nervous, for the ants which protect me—for the mere price of my honeydew—are not to be found for the time being. It's just me and my family—alone and in grave danger.

I can see the ladybug now. She jumped down to our leaf from the one above. She's looking at my sister. She takes her. My sister gives me one last look. Her mouth forms an "O" of terror and surprise. As fast as it began, it's over.

The ladybug pauses to lay some eggs, all the while looking at my brother. A look of adoration? I think not.

Just as I begin to slip quietly away, I hear a humming sound—like rapidly beating wings. My terrified mother looks up and I follow her shocked stare. What I see makes me stop in my tracks. It's a parasitic wasp—not much bigger than I, but deadly all the same. She's landed next to Mom, but—I can tell—it's my younger brother she wants. She gets him too. Jabbed him with her ovipositor. Ouch! That must have hurt.

Oh, no—I'm next! The ladybug and the wasp are bickering over who will have me first. Much to my dismay, I realize there's no place to run, no place to hide. Surely I'm a goner. Now resigned to accept my fate, I turn to kiss my (expletive) good-bye.

Suddenly the leaf darkens. What's happening? Night? No, it's still early. Is it a shadow? A human shadow? Yes—it's the grower! And he's got the sprayer. It's my lucky day. The ladybug and wasp see him too. They try to flee, but spray suddenly covers all of us.

The ladybug is belly-up; the wasp, an unsightly heap: neither any longer a threat. Me? I'm okay. The spray doesn't bother me. I'm resistant.

I am Aphid; I am invincible; I am free to feed another day. Man, I wish those ants would get back here though.

Mike Cherim, author of this short, off-season anthropomorphic drama, is from The Green Spot, Ltd., a New Hampshire company supplying biological pest control agents and associated pest and disease management supplies nationwide. He can be reached at 603-942-8925.

MERRYMEETING GARDEN CENTER

A *Good Spot; a Promising Venture*

ELMER SMITH was a legend. For thirty years—from the time he moved up from Massachusetts, Smitty ran a farm stand near the corner of Route 11 and Depot Road, in New Durham. He sold the crops he raised on the ten acres there and on other fields he farmed nearby.

In 1985, he sold the business. After two years as an organic farm, it was sold to a heavy equipment repair company which removed the top soil near the building and replaced it with gravel. After that company left, the place remained vacant.

WHILE ALL THIS was going on, Les Turner was going by the old farm stand every day on his drive to work. Dean of Academic Affairs at the Technical College in Laconia, he was tiring of administration and beginning to think about doing something different. He began assessing the property's potential. Nothing had been put into it for forty years: there was no water, no heat, no electricity, but the stubby 'L'-shaped red-clapboard structure—a salesroom and a garage—was sound. The land—now grown up to weeds and brush—didn't actually front Route 11: the strip along that road—owned by the same person—would probably be sold for strip mall development someday. But the ten acres included an acre and a half of mature blueberry bushes and a small pond around which Smitty had been experimenting with cranberry production.

Les had never run a garden center. But having made a career in education, formal courses didn't intimidate him and he signed up for a couple in floriculture at the Thompson School in Durham. He asked a lot of questions. He was still interested. He decided to lease the property.

The first projects were basic: to heat the sales area, he installed two mobile home heaters—each 70,000 btus—facing in opposite directions; he had a well dug, put in a flush toilet; he rebuilt the remaining greenhouse—a 20x24 wood frame and glass house attached to the back side of the salesroom.

In April, 1994, without fanfare, Merrymeeting Garden Center opened for business, offering plants for Easter.

By Mother's Day, he'd put up what he calls the "high hoop house"—basically a 17x96 hoop house from Ed Person (Ledgewood Farms, Moultonboro), on a two-foot high base—perpendicular to Depot Road. He bought in bedding plants and hanging baskets and sold those in the front half while raising a crop of tomatoes (mostly "well-known outdoor types") in back.

IT'S A GOOD SPOT—Depot Road is the main road to Merrymeeting Lake for its large summer community. At Thompson School, it was suggested that he capitalize on the location—to focus on the retail side of things rather than the growing. This year, he had Ed Person custom-design a second house—a 28x40 display house which was built parallel to the road onto the end of the sales area. Aluminum frame and poly and twelve feet to the ridge line, it's a spacious structure with generous aisles and simple wooden benches—but the important feature is that the side facing Depot Road is glass, creating a display window that catches the attention of people driving by.

This arrangement of structures creates a large 'U' with the open end facing the street. This 'U' is filled with display gardens. With the exception of a 10x90 holding bed alongside the hoop house, most of the beds are gently mounded, with no barriers to hold the soil in place ("basically, it's soil I brought from out back and put on top of the gravel"), and planted with perennials and small trees. The path to the main door goes through an arbor; a small lath house (with a fiberglass covering under which people can still do potting when it rains) is another focal point.

There's a practical side to all this—Route 11 is higher than the land around it and the beds act as berms, diverting water coming from the highway. Not a serious problem, but "it's nice to have less mud in the spring—and less salt."

What sells? "Whatever's in blossom. When delphiniums are in flower, I sell delphiniums."

BY JULY FIRST, the tomatoes planted in the hoop house (black plastic, drip irrigation) in mid-April are producing and the emphasis shifts toward the vegetables.

This year he's growing a full house—greenhouse as well as outdoor types; but they're growing too well—the feed soaked up by the dirt floor in the retail section combined with the compost he added this year ("I should have had a soil test taken") has produced tall plants—but not a lot of fruit.

He grows more tomatoes, along with other vegetables (peppers like competition, he says: planted close together and without much feed, they're heavy producers), on two acres outside, using black plastic

and rotary sprinklers. Deer haven't been a problem since he put up an unobtrusive high-voltage electrical fence (from the Gallagher Company in New Zealand) to which he attaches strips of aluminum foil smeared with peanut butter to attract the animals to the shock. He recognizes he can't grow everything and buys in to give customers a well-rounded choice.

He emphasizes Merrymeeting's diversity: there are piles of AllGro compost and pine and spruce bark mulch for sale; the garage, from which Smitty ran his entire business, holds pallets of growing media and fertilizers, along with a selection of planters and baskets and Adirondack chairs.

Crafts in the shop include birdhouses and a genuine best-seller—a hand-crafted free-standing "aircraft-steel" holder for hanging baskets made by Little Farm in Chichester. But most crafts move slowly and "will only be here until I find something better."

Parallel to Depot Road and extending the length of the property is a strip of pick-your-own cut flowers—which he sells by weight—four dollars a pound. ("It's simpler than counting stems.") He's trying different types: some didn't do as well as others (a tall ageratum wasn't as tall as the catalog said; no one liked a tricolor salvia; `Tall Chief' celosia didn't begin to bloom until late August—"we're learning"), but the rudbeckia (both `Indian Summer,'a "Perennial of the Year" and `Goldilocks') edging the road is spectacular.

NOTHING HAD BEEN DONE with the blueberries since Smitty left. Again after asking advice—this time from Bill Lord, UNH Cooperative Extension fruit specialist, Les began bringing the patch back into production. He rented a rotary cutter to clear out brush, then went in and began cutting out the heavy wood in the plants themselves. He spread sulphate to increase acidity, fed the plants 15-10-10, and put down mulch. ("Weeds are a problem—if we took all the weed seed out of our soil here, I swear the whole place would settle three inches...")

The mix of early, middle, and late producers has given a two-month picking season—and "this year's crop was amazing—Smitty knew what he was doing." Customers have three ways of buying: they can buy berries already picked, pick their own at 75 cents per pound, or pick, giving Les half and paying nothing. People were still picking the first week in September.

This fall, he's taking another Thompson School course—this one in weed control ("we spend more money on controlling weeds than any other aspect"). And he continues to work out new ideas with a growing network of knowledgeable people: "people—those in the industry in particular—have been wonderful, willing to share informa-

tion and make suggestions."

THIS YEAR, he began some annuals—marigolds, calendulas—from seed in the small greenhouse and bought in plugs for 8000 impatiens and 2000 petunias. 'Purple Wave' (the first seed-produced spreading petunia) was a best seller, but perennials seem to be emerging as a point of focus. Last year, he bought in perennial plugs and discovered people like big plants. So he's begun field-growing them. Day lilies are becoming a specialty (50 varieties), with 500 in the ground, others in pots, and 2000 being planted for next year's sales. Less common perennials—yellow flag (*Iris pseudacorus* 'Variegata,' Japanese iris (*Iris ensata* 'Azure')—are beginning to appear.

But he realizes that being new and in a good spot will no longer be enough. To make the place more attractive to customers, his wife Nathalie, the art teacher at Farmington High, brightened the shop with a mural of landscape and flowers. The outside sales area is being reorganized to make finding plants easier—perennials are being arranged alphabetically by common name and a complete list is available. And Les hopes to reorient the production gardens—partly for efficiency, partly for visual effect—with rows perpendicular (they are now parallel) to the road. Perennials will be grown in heavily mulched blocks (to cut down on weeds).

There's plenty to do before Merrymeeting Garden Center reaches the level Les wants—but today—sunny, with traffic heavy on Depot Road, rudbeckia bright in front and blueberries still heavy with fruit, the venture seems promising. (B.P.)

(Les and Nathalie Turner are at Route 11 and Depot Road, New Durham, NH. The phone is 603-859-3030.)

Notice

Last year the NHPGA scholarship application base was expanded. Now, NHPGA members and their immediate families (spouses and children) who are pursuing an associate's or bachelor's degree in a horticulture-related field at any institution can apply.

Application is simple—basically filling out a one page form and writing (briefly) about how you became interested in horticulture and what your plans are after schooling.

For forms and information, call Chris Robarge at 603-862-1074. Completed applications should be received by November 15; decisions will be made at the December board meeting; checks will be presented at the Winter Meeting on January 17.

It looks like mother nature has decided to give us a little (I emphasize "little") reprieve from the drought! It rained for the first time in a month last night (9/7), and more is predicted for the next 24 hours. Needless to say, the drought in the Northeast is a hot topic (no pun intended). During the last three weeks, I have been seeing increasing symptoms of drought stress on all plant material that has not received supplemental water. There are several symptoms of drought stress now evident besides the obvious symptoms of wilting, marginal burning, and reductions in growth and yield. Many plants are showing nutrient deficiency symptoms because the nutrients are unavailable for absorption by plant roots without sufficient soil moisture. Many trees and shrubs have chlorotic leaves and premature leaf drop is evident in most species. Although the yellowing and shedding of the older needles of conifers is normal in the fall, more than one year's complement of needles will be shed by trees under drought stress. The younger needles will turn reddish-brown. Additional symptoms on woody plants may include twig dieback and cracks in the stems and trunks. Shrinking of the stems is also common with herbaceous plants. Another, often over-looked, problem associated with drought is over-watering. In several instances, recently transplanted material has been overwatered.

It is important to keep in mind that a prolonged drought usually has long-term (2-3 years) effects on plant health. Drought-stressed plants are more susceptible to diseases, insects, and winter injury. For instance, **powdery mildew** will have more of an impact than usual this year because the fungus draws moisture (what little there is) from the leaves. Spider mite populations have exploded this summer due to the hot, dry conditions. Many conifers appear "bronzed" due to spider mite feeding damage. A good source of additional information on the effects of drought on trees and shrubs can be found in an article by Robert Childs and Melissa Castonguay in the August 10, 1995, issue of *Tree News* (UMass).

It is important to keep in mind that a prolonged drought usually has long-term (2-3 years) effects on plant health. Drought stressed plants are more susceptible to diseases, insects, and winter injury.

Although the drought is, and will continue to be, the major plant health problem during the 1995 growing season, there were a few other problems during June and July as well. We may not have had much rain, but we certainly had high humidity for much of the summer. **Botrytis** was a problem on most herbaceous plants. Botrytis stem cankers were common, and flowers were particularly hard-hit where overhead irrigation was used. Several cases of **fusarium stem rot** of delphinium and one case of **fusarium wilt** of chrysanthemum were diagnosed. Plant bug feeding injury was very prevalent during July on a wide range of herbaceous plants. Plant bugs typically cause brown or tan necrotic spots, often several in a localized area, that have a darker "dot" in the center (the actual feeding site). The feeding usually occurs near the top of the plants. Spider mites and aphids have also caused problems on a wide range of hosts.

Viruses have been more prevalent this year than in recent years, partly due to the increase in insect pressure. Viruses diagnosed included **peony ring spot** on peony, **tomato spotted wilt** and **tomato mosaic** on tomato, and **watermelon mosaic-2** and **squash mosaic** on cucurbits. **Angular leaf spot**, a bacterial disease, was diagnosed on melons and pumpkins. Rainy periods and overhead irrigation help to spread the angular leaf spot bacterium.

The usual summer diseases on turf, **brown patch** and **pythium**, have not been as much of a problem this summer because of the lack of moisture. We haven't escaped unscathed, however. Heat and drought stress have been a primary problem, particularly on shallow or sandy soils. **Anthracnose** is a common problem on stressed turf. **Summer patch** was diagnosed on three turf samples in the last month, and one case of **take-all** was diagnosed in July.

Diplodia tip blight was diagnosed on scotts and Austrian pine. Several juniper samples were received with **kabatina twig blight** and one with **phomopsis tip blight**. The honey locusts have taken a beating this year from **honey locust plant bugs** and **gall midges.**

What can we look forward to in the next couple of months? Certainly we can expect the development of more problems associated with the drought. If we get several periods of rain, we can expect some of the turf diseases such as **brown patch**, **leaf spot**, and **pythium** to occur. Remember that late autumn is the key time for fungicide control of snow mold on turf. Now is the time to apply fungicides for control of **rhizosphaera needlecast** on spruce.

If you are growing snapdragons, be sure to scout the crop and get a fungicide on at the first sign of gray fungal growth on the undersides of the leaves. The lower leaves of poinsettias should also be examined regularly for **powdery mildew**. Look for small chlorotic or yellow lesions on the upper surface of the lower leaves, then check the underside for the white to gray growth of the fungus. It is good practice to carry a small zip-loc bag around to put infected or suspicious leaves in. If any powdery mildew infections are found, fungicides should be applied immediately—be sure to get good coverage on the undersides of the leaves.

The most important thing to consider during the next two months is

UPDATE

Amendments to the Federal Worker Protection Standard

Bob Wolff

In response to comments and petitions made by various interest groups and organizations, EPA named revisions to five elements of the Worker Protection Standard (WPS). Amendments were made that affect worker training requirements and the responsibilities of crop advisors. Exceptions were granted regarding certain limited-contact activities and for irrigation activities. EPA has also issued a final policy statement allowing reduction in restricted entry intervals (REIs) for certain low-risk pesticides.

The most important aspects of the changes that are likely to affect growers in New Hampshire are summarized below. You should address any questions regarding the standard to your appropriate state agency. In New Hampshire, it is the Department of Agriculture Markets and Food, Division of Pesticide Control, 603-271-3550.

Rule Amendment Regarding Training Requirements

WPS requires that agricultural workers be given pesticide safety training if they are to be working in areas that, within the previous 30 days, had been treated with pesticide. The original standard allows a 15-day grace period. Under the amendment, this reverts to a 5-day grace period on January 1, 1996.

The amended standard imposes an additional requirement that workers who have not been trained receive at least basic pesticide safety information prior to entering any treated area. Such workers would still have to be given the full training before their 6th day of work in such an area.

The basic safety information (which is not the same as training) must tell workers that pesticides may be on or in plants, soil, or irrigation water, or drifting from nearby applications. Workers must also be advised to prevent pesticides from entering their bodies by :

- ¶ Following all directions and/or signs about keeping out of treated or restricted areas
- ¶ Washing before eating, drinking, using chewing gum or tobacco, or using the toilet
- ¶ Wearing work clothing that protects the body from pesticide residues
- ¶ Washing/showering with soap and water, shampooing hair, and putting on clean clothes after work
- ¶ Washing work clothes separately from other clothes before wearing them again
- ¶ Washing immediately in the nearest clean water if pesticides are spilled or sprayed on the body, and as soon as possible thereafter, showering, shampooing, and changing into clean clothes.

Finally, these workers must be told that they will be given full training within five days. This information may be presented orally or in the form of written material.

Note, for those of you who have the EPA "Protect Yourself from Pesticides" safety poster, the above outlined safety information is identical to the information on the poster (except for the requirement to inform workers that they will receive full training with five days).

Rule Amendment Pertaining to Crop Advisors

The amendment exempts licensed or certified crop advisors and persons performing crop advisor tasks under their direct supervision from WPS requirements pertaining to personal protective equipment (PPE), decontamination, and emergency assistance. It is the responsibility of the licensed crop advisor to make determinations as to what PPE and decontamination supplies, etc. will be appropriate to conduct the tasks safely. This information, plus information about any pesticide products that might have been applied, method and time of application, REI, etc., must be conveyed by the crop advisor to each person under his or her direct supervision prior to entering the treated area. Furthermore, under the amended rule, a worker who is a certified crop advisor need not be given pesticide safety training for workers, provided that requirements for certification included the pesticide safety training components of WPS.

Exception for Early Entry Restrictions for Limited Contact Activities

This exception, which went into effect on May 3, 1995, relaxes some of the restrictions on early entry activities where a worker's contact with treated surfaces will be minimal and limited to feet, lower legs, hands, and forearms. Under this exception, workers may perform early entry tasks for up to 8 hours in 24 (as opposed to the previous limit of only one hour in 24). They must, however, wear either the personal protective equipment specified for early-entry activities on the pesticide label, or at least coveralls, chemical-resistant gloves, socks, and chemical-resistant footwear. They must also wear eyewear where eyewear is required by the label for early entry.

It is important to keep in mind that all other requirements pertaining to early-entry activities are still in force:

- ¶ No hand labor tasks may be performed
- ¶ The need for the task could not have been foreseen nor delayed
- ¶ No entry will be allowed for the first four hours, and until any applicable ventilation criteria have been met

- ¶ The workers must be informed of the pesticide safety information that is on the label.

Remember also that workers must receive pesticide safety training before they engage in any early-entry activities.

Early entry is not allowed when expressly prohibited by the pesticide label. Also, this exception does not apply when the pesticide label requires that workers be notified of pesticide application both by posting treated areas and provide oral notifications ("double notification").

One additional requirement under the exception is that the workers be informed orally or in writing of the following

- ¶ The establishment is relying on the exception for limited contact activities
- ¶ No entry be allowed for the first four hours, and until ventilation criteria and any label-specified inhalation exposure levels have been reached
- ¶ The time in the treated area can not exceed eight hours in any 24

Exception for Early Entry Prohibition for Irrigation Activities

The terms and conditions of this exception are virtually identical to those that apply to the limited contact activity, except that in this case the activity specifically pertains to irrigation tasks that could not have been delayed.

Policy Regarding Reduced Restricted Entry Intervals for Certain Pesticides

EPA has issued a final policy statement that allows registrants (manufacturers) of certain low-risk pesticides to reduce the restricted entry interval from twelve hours to four. To date, there are more than 100 active ingredients that meet the lower toxicity criteria, making them candidates for the reduced REIs. Just because they are on the list of candidates, however, does not mean that the change has actual been made for a given product, and the user will have to refer to the actual label of the pesticide to determine the restricted entry interval. If a pesticide is on the list, but the actual label states 12 hours as the restrict entry interval, the user is bound by the twelve-hour interval.

Look under the "Agricultural Use Requirements" heading on the pesticide label for the restricted entry interval (unless the interval differs for different crops or uses, in which case the interval will be given under the directions for use pertaining to each crop and/or use to which it applies). Remember, you are bound by the requirements of the label of the pesticide you are using and the label should be your primary source of information regarding application instructions and restrictions.

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preventative measures to reduce the impact of diseases next season. SANITATION is the most important. Remove all crop debris and destroy it if you know that diseases were a problem. Composting often does not kill the pathogen in the debris, thus, when it is used as a mulch, the pathogen is reintroduced into the crop. Be sure to protect woody ornamentals against winter damage and desiccation.

Thanks for your cooperation while I was away at the APS meetings (and some much-needed time off). The meetings were informative - I learned several new diagnostic 'tricks' and I picked up a few new references. The needlecast workshop at Penn State was great!

If you wish to submit plant material to the PDL *for diagnosis, send samples (with a check for* $12.) *to: The* UNH *Plant Diagnostic Lab,* C/O *Dr. Cheryl Smith, Plant Biology Department, Nesmith Hall,* UNH, *Durham,* NH 03824. *Samples should be accompanied by an identification form (available from your county Cooperative* Extension). *Cheryl Smith is the* UNH *Cooperative Extension Specialist in Plant Health, and can be reached at* (603) 862-3841.

PPGA HIGHLIGHTS

Humane Society Helps Refute "Poison Poinsettia" Myth

(from PPGA *News,* July 1995)

A 1994 SURVEY OF 1,000 ADULTS CONDUCTED by Bruskin/Goldring Research for the Society of American Florists indicated that half of Americans still believe poinsettias are toxic—despite scientists' proof 24 years ago that a 50-pound child would have to eat more than 500 leaves to exceed experimental doses that found no toxicity.

The poll showed 50% believed poinsettias are toxic if eaten. Only 16% knew correctly they are nontoxic. 34% didn't know. 57% of women said poinsettias are toxic, compared to 42% of men. Americans living in the Northeast believe the myth in higher numbers (57%) than those living in the West (44%).

Anti-myth progress is being made, however. The Humane Society of the United States (HSUS) will not longer warn that poinsettias are poisonous to pets, thanks to SAF's Florist Information Committee (FIC). After misinformation was cited to the HSUS in *PetSmart* magazine, the FIC sent letters providing correct information. "The HSUS will be sure to alert pet owners that their favorite holiday plant is not toxic..." writes Rachel Lamb of the HSUS.

A History of Herbs & Families

There's a new addition to our family—a little grandson. This is always an exciting time—when a new little person joins the family tree—and it got me thinking about the importance of herbs to families throughout history—especially herbs for babies and new mothers—and grandmothers too.

Perhaps the most important herbs for babies were catnip and fennel. I remember my mother making "catnip and fennel tea" for colicky babies. This warm mild tea fed in a bottle soothed the fussy little one and soon put the child to sleep. Fennel (*Foeniculum vulgare*) is important by itself as well. Its feathery leaves, golden blossoms, and flavorful seeds are all known to increase milk in nursing mothers, relieve flatulence, and sooth the digestive system. And it is certainly attractive in a garden.

Catnip (*Nepeta cataria*) may give your kitten a high and cause him to act a little wild, but in people, this member of the mint family works just the opposite. It soothes and lulls and sends tension out the window! A new mom might like to try this tension-releasing steam recipe: Bring four quarts of water to a boil, then add one or two handfuls of fresh herbs (catnip leaves and flowers, chamomile leaves and flowers, hops, and jasmine), and let steep, covered, for 20 minutes. Sit in a quiet place and breathe in the steam from the herbs, placing a towel over the

head to get the most benefit from the steam. Carefully inhale the delicious aroma. Afterwards, rinse face with clear cool water and feel refreshed and relaxed.

Chamomile (*Matricaria recutita*) is another important herb for babies. Remember how Peter Rabbit's mama made him some chamomile tea and put him to bed after he had such a big scare in Mr. MacGregor's garden? Chamomile is known as "the sleepy-time tea." I would be careful about feeding anyone chamomile tea as some people are allergic to it, but a "baby sleep pillow" is mentioned in several old herbals. This pillow combines the sleep-inducing properties of chamomile and hops with fennel. The dried herbs might be crushed and mixed into the stuffing for a small pillow for a baby to hug while drifting off to sleep. (Hops flowers are mentioned in nearly every old herbal in relation to relaxation and sleep.)

Denise Diamond, author of *Living with the Flowers: A Guide to Bringing Flowers into Your Daily Life*, writes of her grandmother, who had an old-fashioned stoppered glass bottle that contained a brown liquid she called her "cure-all." Denise remembers that it smelled strongly of lavender (*Lavendula vera*, or English lavender, has the strongest scent). Anytime she hurt herself, her grandmother would lovingly dab a bit of this cure-all on the hurt. She always felt better and, of course, enjoyed her grandmother's attention. I have made a bottle of lavender oil for that purpose as well. Lavender has been used throughout history as an antiseptic, so it would be good for bites, cuts, bruises, and general childhood maladies. Perhaps most important would be love with which it is administered.

Finally, the well-known herbalist Rosemary Gladstar, in her book *Herbal Healing for Women*, writes of the use of herbs that lift the spirits. Herbs such as borage flowers, hawthorne berries and flowers, lemon balm and roses, chamomile and hibiscus flowers, and lavender blossoms have long been used to celebrate life. One can use a recipe from Rosemary's herbal, or mix and blend the herbs into delicious personalized formulas that create tasty and uplifting blends. You might carry a few good herbal books such as this one at your nursery and share the pleasures and joys of herbs with your customers and friends.

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

SUMMER MEETING '95

PLEASANT VIEW—AUGUST 4—The day was cloudy, with a promise of thunderstorms, but this year, the clouds were welcome because they kept the heat down. It was a full day with a good turnout and plenty of vendors. Members had a chance to tour Pleasant View (people who hadn't been there in awhile were surprised at how much it had grown) and Millican next door was welcoming visitors as well. In addition, a PPGA Geranium Seminar, with participants and breeders coming from around the country, was beginning at Pleasant View that afternoon. So members had a chance to meet these people as well.

At noon, Perillo's offered another of its all-you-can-eat barbecues and after lunch, at our annual auction, Peter Callioras, of Auction Professionals, once again successfully raised the money that becomes the NHPGA scholarship fund.

The big door prize, the balloon ride for two, was won by Joan Dedman of Woodinville, Washington, one of the PPGA Seminar participants, who generously donated it to the scholarship fund. So it was auctioned off — with the result being that on some clear day, Dave Murray and his invited guest will be riding the air currents high above us all and seeing New Hampshire from a unique perspective.

Daniel English, of Jolly Farmer Products, won the radio and Jackie Gosselin, the Ball Red Book.

Once again, there are many people to thank. Heading the list would be our hosts, Jon, Jeff, and Henry Huntington. Others would be Chris Robarge, who handled registration; the Board members who helped with publicity and organization; Rick Perillo, for the fine meal and for the contribution to our scholarship fund, Peter Callioras, our excellent auctioneer; and all the vendors who contributed merchandise to the auction.

Next year, New Hampshire will be hosting the NENA Summer Meeting. Date and place are still to be announced, but once again summer will be the time to visit with friends and meet new people.
(photo: Tammy Hathaway)

VENDORS INCLUDED: Bailey Nurseries; Ball Seed Company; B.E. Supply; Bobcat of New Hampshire; Bramen Company; Cavicchio Greenhouses; Charter Oak Landscape & Nursery Sales; Christmas Farms; Conrad Fafard; The Conard-Pyle Company; Davis Brook Farm; D.S. Cole Growers; Exportation Daniel Sage (Blue Star Peat); First Pioneer Farm Credit; Florists' Mutual Insurance Company; Fred C. Gloeckner Company; Gold Star Sod Farm & Nursery; Greenleaf Nursery Company; Griffin Greenhouse & Nursery Supply; Harry Stoller & Company; Hop River Nursery; Imperial Nurseries; Jolly Farmer Products; J.P. Bartlett; Knoxland Equipment; Knuttel Nursery; LAN Nursery; Laughton's Garden Center; Liberty International Trucks; Millane Nurseries; National Embroidery Company; Northeast Nursery; Northern Nurseries; Orchard Equipment & Supply; Pargro; Pot Specialists; Quansett Nurseries; Rimol Associates; Roaring Brook Nurseries; Robert W. Baker Companies; Rosaire Pion & Son Greenhouses; Rough Brothers; Sharon Sales; Smithers Oasis; Spence Farm; Sterling Bag; Sungro; Syracuse Pottery; TAK Equipment; Tuckahoe Turf; Van Bloem; Vaughan Seed; Vermont Natural Ag Products; Wageman Insurance; W.H. Milikowski; Western Maine Nurseries; and Winding Brook Turf Farm.

SUPPORT THESE PEOPLE—THEY SUPPORT THE NHPGA.

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