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**CALENDAR**

**June**

18-19 (Friday: 5-8pm; Saturday: 9am-2pm) Eleventh Annual Pocket Gardens of Portsmouth Tour, sponsored by South Church, 292 State Street, Portsmouth, NH; 603-436-4762

28 New Hampshire Plant Growers Association Twilight Meeting/Garden Center Evaluation Workshop, Spider Web Gardens, Center Tuftonboro, NH; Ann Hilton at 603-435-6425, workshop information: Dave Sceave at 603-225-5505

26 “Hay Day”—a family day at The Fells, John Hay National Wildlife Refuge, Newbury, NH; 603-763-4789

27 Rose Society Show, Nashua Mall, Nashua, NH; 603-673-0754

**July**

10-14 Ohio Florists’ Association Short Course, Columbus, OH; 614-487-1117

14 Connecticut Nurserymen’s Association Summer Meeting, Burnett’s Landscaping and Salem Country Gardens, Salem, CT; 203-445-0110

15-16 Coastal Maine Botanical Gardens: “Hidden Treasures of the Boothbay Peninsula,” 10am-4pm; 207-633-4333

21 Massachusetts Nursery and Landscape Association Summer Meeting, Forest Park, Springfield, MA; 413-369-4731

21 “Cruise into Lake Sunapee’s Past,” 4:30-6:30pm, Sunapee Harbor; information and reservations: Friends of John Hay National Wildlife Refuge at 763-4789

22 Open House, W.H. Milikowski, Inc., 10 Middle River Road, Stafford Springs, CT; 1-800-243-7170

**August**

4 New Hampshire Plant Growers’ Association Summer Meeting, Pleasant View Gardens Pembroke Facility, Pembroke, NH; information: Robert Demers at 603-625-8298

11 New England Nursery Association and Rhode Island Nursery and Landscape Association Joint Summer Meeting, The Glen Park, Portsmouth RI; 508-653-3112

13 Benefit Auction, The Fells, John Hay Memorial Wildlife Refuge, Newbury, NH; 763-4789

14 Eighth Annual Plant Sale, The Fells, Newbury, NH; 603-4789

15 Annual Open Farm Day—Rockingham and Strafford Counties; for participating farms, map, schedule of events: UNH Cooperative Extension Rockingham County (603-679-5616) or Strafford County (603-749-4415)

18 Vermont Association of Professional Horticulturists (VAPH) Summer Meeting, Vergennes, VT; 802-865-5979

20 Maine Landscape and Nursery Association (MELNA) Fifth Annual Horticultural Field Day, Rogers Farm, Orono, ME; 207-225-3998

25 Open House, Griffin Greenhouse and Nursery Supply, 1619 Main Street, Tewksbury, MA; 978-851-4346

**September**

15-18 Forty-Ninth Annual Meeting of the Eastern Region of the International Plant Propagators’ Society, Minneapolis Airport Marriott, Minneapolis, MN; Margot Bridgen at 860-429-6818.

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Cover: Pleasant View’s Pembroke Facility, photo by Rick Raymond; this page: “...faces carved in the apple trees.” 1999 Breath of Spring Flower Show, Keene, photo by Steve Curtin
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The Best Way to “Guarantee” Success
TIM WOLFE

Recently, my family’s retail garden center has been grappling with the question of whether or not to guarantee plant material. Some of the biggest problems we have in deciding to do so are the reasons why people return plants. These include improper watering, improper fertilization, poor choice for the location, and mechanical damage. These are all issues that could be avoided and, if avoided, would give the plants a good chance for survival.

So how do you get your customers to understand and practice the correct concepts of plant care? Educate, educate, educate! I feel as though I’m constantly clobbering new and unknown customers with these basics. It seems as though the most commonly asked question is, “How much do I water it?” Well...that depends on a lot of things. Is the plant going into a container or in the ground? What time of year is it? What is the plant’s exposure? What are the soil conditions? What is the weather that day? Week? Month? Then, keep in mind that, as the plant grows, its requirements change as well. All these questions must be asked to arrive at a general answer. Then the customer still has to process the information and—more importantly—go home and practice it!

I am also often presented with brown branches or burnt foliage. After discussing water conditions, we move on to investigate fertilization. I used to recommend incorporating granular fertilizer into the planting hole until one day, a customer insisted that she had planted a row of arborvitaes according to my instructions. Yet the whole row was failing. Baffled, I drove to the site to investigate. Upon removing one of the plants from the ground, I found a quarter-inch layer of 10-10-10 fertilizer directly on top of the root ball! Now, I stress the use of fertilizer after backfilling.

From this experience, it is evident that employees need to be very clear when giving advice and instructions.

Advising customers on material selection is no exception to this either. Again, a customer’s success is quite often determined by the questions asked of them. Many people want to put that hanging impatien on the lamp post in full sun. After they go away for a weekend in July, they come home to find it sunburnt and dried out. Then they give the already compromised plant a foliar feed on a 95-degree day to try to save it. This pushes it to beyond salvageable, so it comes back to the garden center. The customer’s disgruntled and so am I! Our label recommended it for shade-to-part-shade: they put it in the sun. Even though they ignored a clear label, I am held responsible and so is my business. Why couldn’t they have picked a geranium?

I am also often held responsible for mechanical damage. An unknowing home-owner uses his line trimmer around the base of his newly planted cherry tree. After a couple mowings, the tree is completely girdled. Even though I know the tree left here in good condition, the customer insists the plant should be guaranteed.

In summary, you will need to know how and if you “guarantee” your plants. No matter what your decision, remember that educating your staff and customers can only help bring success and enjoyment in gardening—and save you a lot of headaches!

Tim Wolfe is at Lake Street Garden Center in Salem. Should you note a peculiar crinkling on your petunia leaves, Tim can be reached at 603-893-5858.


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Horticultural Endowment Update:
Grant Applications Available

After a successful fund-raising campaign, The New Hampshire Plant Growers’ Association has established a Horticultural Endowment to actively support scientific research and education in the field of ornamental horticulture. The primary goal of this endowment, in keeping with our donors’ wishes, is to benefit the New Hampshire horticulture industry and, secondarily, the industry at large. The Association now invites all horticulturists and researchers in related sciences to submit applicable grant proposals for funding.

Projects may include (but are not necessarily limited to): basic and applied research; equipment to aid in research and education; and travel, training, speakers or events affiliated with research. Grants will be awarded on the basis of the project description, including the project objectives as well as methods, procedures, materials, equipment, and personnel involved in the project. Grant monies available for the 1999 awards total $2,500.00.

Individuals submitting research proposals must be faculty members, students, or qualified employees of institutions engaged in horticultural research and education. Grants will be awarded to eligible non-profit organizations, colleges and universities, horticulturists, and research institutions, as well as innovative industry and public-private collaborative projects.

The deadline for proposal applications is October 1, 1999. Grant awards will be announced by December 1, 1999. Grants will be awarded on an annual basis, subject to review and renewal. Although approved for funding for only one year at a time, grants will be considered for renewal upon receipt of a renewal application.

Interested individuals must complete the Endowment’s application form. A copy may be obtained by writing: New Hampshire Plant Growers’ Association, Horticultural Endowment Fund, 7316 Pleasant Street, Loudon, NH 03301.

If you are interested in contributing to the Endowment itself, please contact Henry Huntington at (603) 435-8361 or Peter van Berkum at (603) 463-7663. Contributions to the Endowment are fully tax deductible and may be pledged over a period of up to three years. The purpose of the New Hampshire Horticultural Endowment—and a long-held aim of the New Hampshire Plant Growers’ Association—is to promote improved floriculture practices.

1999
NEW HAMPSHIRE FAIR DATES

JULY
23-25 Stratham Fair; Martin Wool at 772-4977
29-1 North Haverhill Fair; David Keith at 989-3305

AUGUST
3-8 Cheshire Fair, North Swanzey fairgrounds; Sandra Amadon at 357-4740
20-22 Cornish Fair; Robert Bladen at 542-4622
21-22 Belknap County 4-H Fair; Sue Roberts at 267-8135; Concessions: Ginny Clifford at 524-4398

SEPTEMBER
1-6 Lancaster Fair; Paul Thurston at 788-4531
2-6 Hopkinton State Fair; Alan Hardy at 746-4191
10-12 Hillsboro County Agricultural Fair (fairgrounds in New Boston); John Robertson at 588-6106
17-25 Rochester Fair; Jeffrey Taylor at 332-6585
30-3 Deerfield Fair; Jane Boucher at 463-7421

OCTOBER
9-11 Sandwich Fair; Richard Papen at 284-7062

For information, contact the New Hampshire Association of Fairs and Expositions, 25 Capitol Street, PO Box 2042, Concord, NH 03302-2042 or visit their web site at http:\\www.nhfairs.com.
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Farm Day Expands

The Annual Open Farm Day will be held on Sunday, August 15, and has expanded to involve agricultural enterprises in both Rockingham and Strafford counties.

The mix (over thirty participants) is eclectic and includes, along with such places as Goudreault’s Farm and Greenhouses (Plaistow) and Saltbox Farm (Stratham), the UNH Dairy Teaching and Research Center (Durham), the New Hampshire Farm Museum (Milton), Elliott and Williams Roses (Dover), and Little Bay Buffalo Company (Durham). The diversity could create an interesting day.

For a copy of a comprehensive flier listing all farms, a map, and a schedule of events and activities, call UNH Cooperative Extension Rockingham County (603-679-5616) or Strafford County (603-749-4445) or Flag Hill Winery at 603-659-2949.

StandUp Gardens

StandUp Gardens, Ltd., a new business in Portsmouth, New Hampshire, is expanding the pleasures of gardening. StandUp Gardens specially designs table-height gardening systems-on-wheels. Basically, they consist of a 3'x4' green fiberglass container ten inches deep (there is a drain valve for excess water) set onto a portable frame. A wooden trellis or arbor can be added. Two of these gardens, highlighted by the Florida chapter of the American Horticultural Therapy Association, are now on exhibit for the sixth annual International Flower and Garden Festival at Disney’s Epcot Center in Orlando.

President and founder Paul Harris says, "We try to make the joy and beauty of gardening available to people who have been denied these pleasures by the constraint of physical limitations." These systems are specially tailored to individuals who have difficulty bending to ground level. Last year, StandUp Gardens, Ltd., received a LifeSpace Design Award from the American Health Care Association’s Provider Magazine. The StandUp Garden is also the first product ever endorsed by the American Horticultural Therapy Association.

Several models and finishes meet a variety of design requirements. StandUp Gardens, Ltd., is
at 34 Patterson Lane, Portsmouth. For information, call 1-800-867-8263.

**Spring Shows Revisited**

**THE BREATH OF SPRING**

Flower Show at The Cheshire Fairgrounds Arena in Keene (March 26-29) saw a 10% increase in paid attendance this year—8617 people. There was no keynote speaker, but workshops, coordinated by Bruce Clement, Cheshire County Cooperative Extension, were well-attended. The most commented-upon exhibit was a floral display showing Dorothy’s early travels through Oz (this year’s theme was “Flowers Over the Rainbow”): four munckin houses surrounded by “hollyhocks, roses, tulips, hyacinths, fountains, and a bridge;” then, a six-foot-tall scarecrow in a field of four-foot high corn...and the Tin Man in the orchard...faces carved on the apple trees; and finally, the “gloomy castle (lots of stonework) where nothing but the hat of the melted witch remains.”

The tentative date for next year’s show is March 24-26—three full days. For more, contact Steve Curtin at 603-355-6335, extension 161.

**THE SEACOAST FLOWER, HOME, AND GARDEN SHOW** (Durham, March 26-28) also saw a marked increase in attendance—“over 16,000,” compared with “around 13,000” last year. The increase was due in part to the larger number of nurseries and landscape firms setting up displays. Twenty-three of them were there—in the lobby, on the arena floor, on the concourse—and more are hoped for next year.

Next year’s dates are March 24-26. For information, call 603-356-7750.

**THE NEW HAMPSHIRE ORCHID Society’s show** (March 18-21 in Nashua), although at the same time as the New England Flower Show, was also “a great success.” The trophy donated by the New Hampshire Plant Growers’ Association for “Best Cut Flower Display” was awarded Ford Flower Company of Salem. Designed by Cookie Santerre, the tabletop exhibit held a spectacular display of Oncidium “Gower Ramsay,” the “dancing lady orchid.” (Ford’s designers also created cut flower arrangements that were intermingling with the Windham Garden Club exhibit at the show.) This year’s trophies were orchid pots hand-crafted by Orchid Perfection of
Positive Developments

The FFA Career Development Day held at UNH on April 16 had one of the highest recent turnouts as students from eight schools tested their skills in a variety of events. In Agricultural Mechanics (welding, small engine technology, practical problem-solving, a written exam), Fall Mountain had the highest team score. Mark Bowen (Fall Mountain), Adam Laurent (Exeter), and Jon Palmien (Fall Mountain) had the highest individual scores.

In the Landscape/Nursery events (plant ID, potting, pruning, equipment maintenance, landscape drawing, written assistance, a general exam), the team from Exeter had the highest score; Somersworth was second; Coe-Brown, third. High individual scorers were Nick Davis (Exeter), Dan Henderson (Somersworth), and Chris Pool (Exeter).

Floriculture events included plant ID, plant disorder diagnosis, floral design, sales, problem solving, and a general exam. Alvirne had the highest score, followed by Dover and Winnisquam. Becky Moore (Dover), Colleen Sparks (Alvirne), and Jill Coulter (Alvirne) had the highest individual scores.

Congratulations. Winning Teams represent New Hampshire in national events in Louisville in the fall.

The robust turnout certainly added to the day’s overall success. But its success came from the work of many people—Dave Howell, Jeff Huntington, various Thompson School instructors...the list is long. These people should be thanked. Their efforts to perpetuate New Hampshire’s agricultural traditions in this time of change and innovation deserve applause. And support.

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KIWI CORNER

Paul Fisher

Hopefully you've had a wonderful spring of sales, with loads of customers leaving your gate with their trunks full of beautiful plants. As you begin to count the money, and even think forward to next spring, it can be difficult to know what plants were most profitable and which lines you might increase or eliminate in the future. Do you know how much it cost to produce each of your plant products? If you do, you're ahead of the game.

Cost accounting is a very useful method that adds up the costs of production in order to help you make strategic and pricing decisions. The kind of questions that can be addressed by cost accounting include: Should you buy in snapdragon plugs or grow your own? Should you keep your own stock plants or buy in cuttings? Should you increase your number of hanging baskets or focus more on cell-packs?

A key concept in cost accounting is the difference between overhead (fixed) and direct (variable) costs.

Examples of overhead costs are advertising, property taxes, management salary and benefits, land and truck rental, and utilities such as heating. These costs basically remain constant regardless of the crop and number of units produced.

Direct costs include the pots, seeds or cuttings, media, production labor, and other inputs that can be allocated to each unit produced, and directly increase as you grow more 8-inch mixed baskets, etc.

To calculate the cost of producing a plant product, for example, a 4-inch geranium, you can go through the following steps.

1. Look at your annual income statement and add up all overhead costs that cannot be split off as direct costs (e.g., $100,000). If you have a diversified farm or business, figure out what proportion of that $100,000 can be allocated to the greenhouse operation (e.g., half of the total $100,000, or $50,000, in greenhouse overhead costs).

2. Calculate the number of square feet of bench space (e.g., 7200 sq. ft. in our hypothetical farm), and the number of weeks in the year you run the greenhouse operation (e.g., 40 weeks). Divide the total greenhouse overhead cost by the bench area times the weeks operated (e.g., $50,000 divided by (7200 x 40) equals $0.17).

3. That figure ($0.17 in the example) is the square-foot-per-week cost (i.e., the cost of operating each square foot of greenhouse for one week). The square-foot-per-week cost is incurred by your business, regardless of whether or not you are growing a plant on that bench space.

4. For each product you grow, calculate the overhead cost of its production by multiplying the square-foot-per-week costs times the number of weeks of production times the square footage required per container. For example, a grower might produce 4-inch geraniums for eight weeks at a 6 x 6-inch spacing (which is 0.25 square feet). With a square-foot-per-week cost of $0.17, the overhead cost for 4-inch geraniums would be $0.17 times eight weeks times 0.25 square feet, or $0.34.

5. Now add up all of the variable costs for each product: for example, the geranium cutting, the pot, fertilizer, media, insecticide, fungicide, and labor. Note that it can be hard to calculate the fertilizer, insecticide, or fungicide costs, but these are usually insignificant in terms of the overall cost. When calculating labor costs, be sure to

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include any benefits or taxes that you pay as an employer when adding up the hourly wage. (Incidentally, the average hourly wage in the Northeast region for greenhouse labor was estimated at $8.15 in a recent survey by Greenhouse Grower magazine.) In our geranium example, we will assume that all direct costs add up to $0.50.

6. Add the overhead and variable costs together ($0.34 plus $0.50 equals $0.84). Estimate what proportion of losses result from second-grade plants or plants that are not sold (e.g., one plant in 20, or 0.05). Multiply the overhead plus variable costs by one plus proportion of losses (e.g., $0.84 times $(1+0.05) equals $0.88) to give the total cost of production.

7. Subtract your total production cost for the product from the sales price to calculate the per unit profit (e.g., $2.49 sales price minus $0.88 production cost or $1.61 profit). Multiply the number of units sold times the net profit to calculate your net income (e.g., 1000 geraniums times $1.61 equals $1610).

Everyone’s costs are different, and the geranium example is for illustration purposes only. You need to go through this process to calculate your own square-foot-per-week costs (probably somewhere in the range of $0.15 to $0.30) and variable costs.

There are a couple of reasons that I have presented this topic. First, there are few better pieces of information that you can have at hand than knowing your costs of production. The second reason is that our floriculture research program here at UNH is beginning to focus on tools for financial analysis and on greenhouse investment decisions.

PL Light Systems, a company that produces high-pressure sodium lighting systems for greenhouses, is generously funding a new research project here at UNH. The project will examine the economics of installing greenhouse lighting systems for growers in the northern United States and PL Light Systems will be supporting a new graduate student, Caroline Donnelly, to work in this area. Another student, Linda Bilodeau, will be working on her master’s degree this fall in another greenhouse lighting-related project. I am sure Caroline and Linda will generate a lot of useful information to share with our industry and I am excited about working with them over the next two years.

Paul Fisher, Department of Plant Biology, Spaulding Hall G-44, University of New Hampshire, Durham, NH 03824, can be reached by phone at 603-882-4525, by fax at 603-862-4757, or by email at prf@hopper.unh.edu.
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The Plantsman
Research/Extension Awards Announced

New England Floriculture, Inc., sponsors of the New England Greenhouse Conference, recently announced the recipients in the 1999 Research/Awards Program. This program is designed to fund projects of benefit to the greenhouse industry planned and organized by researchers and Extension personnel throughout New England. The total amount of money given was $14,000. The following projects received this year’s awards.

“Comparison of Controls for Powdery Mildew on Garden Phlox,” Leonard Perry, University of Vermont

“Effect of Harvesting Technique and Genotype on Cut Flower Production of Alstroemeria,” Mark Bridgen, University of Connecticut

“Improved Irrigation Management for Ornamental Lily Growth,” Paul Fisher and Rosanna Freyre, University of New Hampshire

“IPM Fact Sheet Series: Specialty Crops, Herbaceous Perennials, Herbs, and Vegetable Bedding Plants,” Tina Smith, University of Massachusetts, and Leanne Pundt, University of Connecticut

“Studies on Leaf Yellowing in Cut Stems of Oriental and Asiatic Lilies,” Susan Han, University of Massachusetts

“Use of Red Plastic Mulch to Increase Stem Length of Field-Grown Specialty Cut Flowers,” Lois Berg Stack, University of Maine, and Mary Wiedenhoeft, Iowa State University

“Video-Conferencing Series for Greenhouse Growers,” Paul Lopes and Tina Smith, University of Massachusetts

Congratulations to all recipients.

A Landmark Study
(News to Use)

New England Nursery Association (NENA) is encouraging across-the-board participation in a landmark study of the economic impact of the New England Green Industry. This project is in response to a need expressed by the state association leadership for a broad-based regional survey that accurately de-
terminates the economic value of various sectors of the environmental horticulture industry.

The report is being funded with a $10,500 grant from HRI, along with matching funds from NENA. Dr. Leonard Perry, University of Vermont, and Lois Berg Stack, University of Maine, are the lead researchers for the project. The survey will be mailed to about 10,000 Green Industry professionals in September.

The final report will be published in early 2000 and will provide regional as well as state statistics. Suggested guidelines as to how to use the results to benefit the state associations will be distributed to the states' leadership.

For information, call NENA at 508-653-3112.

Meeting Announced

The Eastern Region of the International Plant Propagators' Society will hold its 49th annual meeting at the Minneapolis Airport Marriott in Minneapolis, Minnesota, on September 15-18, 1999.

For information, contact Margot Bridgen at 860-429-6818, her fax number is 860-429-6665; e-mail, mbippser@neca.com. The IPPS website (www.accessone.com/ipps/er-usa/er_ipps.htm) gives full tour and program information.

A Birthday Celebration

The American Society of Landscape Architects (ASLA) officially launched their “100 Parks, 100 Years” program, the centerpiece of its centennial celebration, on April 13 at a press conference at Ballou Senior High School in Washington, DC.

The program is a series of projects throughout the country designed by members of local ASLA chapters. Designs include school playgrounds, “Alzheimer’s gardens,” and highway beautification. The chapters work with the communities and give the resources needed to see the projects through to completion. The goals are “to revitalize American neighborhoods, beautify community gathering places, and showcase the skills of landscape architects.”

Of the 105 projects announced, five are in New England: two each in Massachusetts and Rhode Island, and one in Connecticut (Old North Cemetery in Hartford). Both Massachusetts projects—North End Park and New England Greenway Project—are in Boston. The Rhode Island Projects are the Rhode Island Veteran’s Home Master Plan (Bristol) and a Wetlands Learning Outdoor Classroom at the University of Rhode Island in Kingston.

For more information, contact Deb Sherno at 202-216-2329 or visit the ASLA website (www.asla.org).
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**The Green Spot**

**The Question** (recently submitted by a New Hampshire grower): “When should predators be introduced? Is it too late after an insect population has appeared?”

**The Green Spot’s Answer:** “Predators, as the name suggests, prey on smaller or less capable—and tasty—organisms. (For example, a ladybug is a predator which feasts on aphids.) Taking this into account, it is in the predator’s best interest to have prey available when released. Therefore, it is not TOO late. However, it is often in the grower’s best interest to release very early on in the infestation. Don’t wait until pest populations are massive—it may be too late to effectively and economically turn the situation around. This logic applies not only to biological pest control, but to any form of control, including that obtained by chemicals.

“Parasitoids (parasitic mini-wasps, etc.), on the other hand, since they respond more favorably to smaller infestations, are often used just prior to the expected onset of a pest population. In other words, the are used preventively and during periods of very light infestation (or to supplement any predators on the site). They should not be used to (or expected to) turn around high pest numbers. Their “too late” comes much sooner than that of predators.”

The Green Spot, Ltd., would like to extend an invitation to readers of this column to submit their questions about biocontrol and IPM. All questions submitted for publication must be addressed as follows:

The Green Spot, Ltd., Published Q&A, 93 Priest Road, Nottingham, NH 03290-6204

Or you may wish to submit your query by email. If so, please put “Published Q&A” on the subject line of your transmission. Address to: Info@GreenMethods.com

All questions will be answered. If not in the column, the Green Spot, Ltd., will call you, so please be sure to put your name, company name, and phone number on the submission. (Written consultation for purposes other than this column is a billable service.) And continue to call 603-942-8925 for regular consultation, which is free by telephone. Call for details.

Mike Cherim is president of The Green Spot, Ltd.

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The Plantsman
Jack-in-the-Pulpit
Arisaema Triphyllum

NANCY SURETTE

Reprinted from the Vernal Equinox, 1999, issue of Granite Trowel, a Master Gardener publication.

I was just cleaning out some cabinets and ran across a report I did on the Jack-in-the-pulpit for the Flora of New England class at the Garden in the Woods in Framingham I did some years ago. I remember choosing this plant for my research because I thought it was an odd-looking piece of vegetation that always made me giggle.

For starters, as part of the Arum family, it has a hooded spathe flower (pulpit) and a slender spadix (Jack) in the middle. It is a monocot with distinctly parallel veins. Like its relative, the skunk cabbage, it emits a rancid odor to attract insects for pollination, but I generally do not detect an odor while walking in the woods. Then there is this odd characteristic of changing its sex from year to year. More on that later.

This is a wonderful woodland plant to observe through the season. You should have plenty to choose from if you have rich, moist, acid shade. Select a healthy plant and watch it change from week to week. The plants first spear their way to the surface in late April by pushing forth in a tight pointed curl to break through the soil. Within a few days or so, they unfurl their leaves and expose the hooded flower.

Not infrequently, some pulps will quickly acquire a nasty-looking rust disease which looks like sprinkled mustard powder. These plants will wither and die and should be removed. Not to worry: rich woodlands will produce many healthy ones too. I have often come across large plants with stalks almost two inches in diameter and at least two feet tall.

The pulps will flower for several weeks, then the vegetation will die back, exposing a swollen spadix.

Peel back the outer layer and you will find a tight grouping of green seeds. Watch your woodland floor change from green to red as the seeds mature in the fall, giving you visual interest and food for the birds.

Now about that sex thing. The sex of the Arisaema tryphillum may change several times throughout its life. The plant doesn’t flower at all the first year, but as it matures, it produces male flowers first. If the plant becomes robust in later years, it switches to producing female flowers. At this point the sex may change from year to year depending on growing conditions. The vigor of the plant in the previous year is the best indicator of the likely sex of the plant of the next season. Male flowers appear after poor years, and females after good years. Generally a female plant has two sets of trifoliate leaves. The only way to be sure is to take the flower apart and to look at the pistol and stamens.

It’s not the smartest plant to munch on in the wild. Eating it raw is poisonous, but the Native Americans used to boil the corms and tolerate the peppery taste caused by the calcium oxalate crystals, hence the common name of “Indian turnip.”

This is a common native with an uncommon lifestyle. I think I’ll just admire the plants through the year and stick with fiddleheads for sustenance.


Nancy Surette, principal of Seedling-Naturescapes, a landscape design/consulting firm in Windham, NH, can be reached at 603-893-7904.
MAPLE LEAF GARDENS
A Concern for Quality

Both Erik and Joan Pierce grew up in the mid-west. They met at Ohio State, where Erik was a business administration major. He worked awhile in the electronics field, but wanted to go into business for himself and wanted it to be a greenhouse.

The patterns of thinking honed by these experiences inform their decision-making. A location was chosen by narrowing the options in a logical manner. They both liked New England. At the time (1976), New Hampshire, of the six states, seemed most prosperous. Concord was a population center without a lot of retail growers nearby.

A 33-acre piece of land—a working farm with house and barn, vegetable fields, farm stand, and small greenhouse—on Clinton Street seemed the best of the properties available. “It was a good choice:” with churches, schools, playing fields, a nature preserve all around them, the street is still rural in character.

That first summer—the summer of ’77, the retiring farmer planted a crop for them before he left. And they put up their first greenhouse—a 30’x60’ double-poly—and went into business full-time.

For the first few years, Joan admits, it was a struggle (“lots of macaroni suppers”), finding a balance between what worked for them and what brought the customers back.

Today there are three houses. Their designs evolved out of use over time; all were constructed by Erik himself. The largest is U-shaped, with two wings—30’x60’ (the main retail area) and 20’x100’ (put up last fall and replacing the greenhouse that came with the farm)—connected by a 16’x72’ crosspiece. Between the retail area and the crosspiece is a 30’x40’ space for work and storage. The crosspiece and second greenhouse are used for seed germination. From this area, beginning in late winter, material moves outward, gradually filling the rest of the range.

The frame is wood, pressure-treated in the pieces that touch the ground; ribs are four feet apart, purloins are bolted onto the ribs; DynaGlas—a polycarbonate—is fastened to the purloins. Erik sees this as fairly permanent, eliminating the time and expense needed for maintenance and replacement. The structures are modified quonset-style houses: Erik created six-foot-high straight sides to prevent snow build-up; the roof is still curved—the DynaGlas has followed the curve without shattering.

Two sets of wall shutters, as well as the overhead doors, at the front of the retail section work with five fans set into the rear wall of the crosspiece to cool the entire unit.

A second house is a 36’x56’ wooden frame covered with DynaGlas. Hinged panels on all four walls open outward, cooling and creating cross ventilation. “For some reason—I don’t know why—seed geraniums grow beautifully here.” So this is the house’s main crop, set in four-inch spacer trays. This house is also open to customers. Hangers are also grown here.

The floor of the main retail house is cement; all others are crushed stone. Some benches are peninsular-style; others are simply spaced evenly down the length of a house; all are expanded metal on wood frame bolted onto wooden legs. The relatively small spaces—filled with textures of wood and stone—are orderly and clean and, in themselves, seem an advertisement for the quality of the material grown.

The third production area is a 15’x84’ wood frame and DynaGlas structure in which vegetable transplants are grown on ground cover. The temperature is kept cool—no higher than 53F days. But from mid-March, the sun warms the house and there’s little need for daytime heat.

Greenhouse production space is around 9000 square feet. But this is doubled by the use of cold frames. There are six 10’x16’ frames that can be heated with propane-fed salamanders. In April, they’re filled with eight-inch perennials. A tarp holding the heat in at night rolls up during the day.

There’s an equal number of smaller unheated frames. An unheated frame 3 1/2 feet-wide runs the length of the retail house. In April, most were filled with pansies in white Tote Trays. Plastic rolls down at night.

Erik sees wholesale and retail as two distinct ways of doing things. Maple Leaf is retail and is
open for two high-sales periods of the year. It opens at Easter (although Erik sees Easter as limited: "Churchgoers like a lily on the altar, but there's no real tradition of plant-giving for this holiday.") for the spring trade—bedding plants, perennials, hangers. It closes in mid-June, then reopens in late July, this time as a farm stand selling produce, cut flowers, and mums. It closes for the year at the end of September.

Two years ago, they decided not to be open for the Christmas season—the decision was pragmatic: poinsettias and trees no longer made a worthwhile return. "Farmers here never learn—they produce the same crop year after year and complain about how little they make. Why? 'We always have,' they say. As the wholesale price for trees drops, it causes a glut—they pour in—everyone sells them—no one makes much...and there's no aftermarket."

He uses two brokers. He buys smaller amounts from several suppliers, which gives him the ability to change sources without threatening an entire year's production: "Sometimes suppliers can get too large—they don't necessarily lose quality, but they lose accurate timing."

Current suppliers include Yoder (he likes their miniature dahlias), Knox Nurseries, and QuickStarts. He comments on a tray of portulaca with three or four tiny plants in each plug: "This is the way they should be—each plug will give the customer a good full plant." About a tray of marigolds, he notes that each cell contains only one seedling—"a perfect 208."

Although 75% of the crop is grown from plugs, seeding is important for smaller amounts and unusual material. This is very straightforward, without bottom heat or enclosed containers.

He uses three types of bagged media. Medium is not only any one of the three, but any combination of the three as well.

He hand-waters, spot-watering whenever necessary, and feeds through a centrally located dosatron. The Concord water supply has an 8.9 pH, so acidity is brought down through feeding.

He controls growth through pruning, timing, and temperature. The six cold frames give Erik six choices for night-time heat—allowing him to push along some material, hold back on others. He uses no growth regulators: "I sometimes have to prune back heavily to get the growth regulators out of their systems. Once it's eliminated, the plants take off."

Because he demands that the material he buys be clean, and because the houses are shut for so much of the year, there is rarely any need to spray.

Quality is the driving factor; quality and variety is what he can offer that mass marketers can't. His goal is a healthy plant that will do well for the customer for the entire season. Size is important—he uses three-pacs for vegetables; zucchini is sold in hills; each cell-pac of basil contains four seeds.

All hangers are twelve-inch. They may be started at smaller sizes, but are grown at the final spacing. Combination plantings—a variety of complimentary colors and textures in a single pot—sell well. Color Bowls—hangers, pots, and ovales—have become popular.

Quality is his responsibility: he will not grow more than what he can personally handle. "To have a way with plants is instinctive, something that can't be taught. If you're a good grower, you can't multiply that factor by simply hiring more people."

Although a few people come up from Massachusetts, most customers are local: Manchester, Weare, New London. There has never been any serious advertising or marketing. An ad appears in the local newspaper twice a year, once to announce Maple Leaf's spring opening, once to announce its reopening in July.

In late June, once they've pretty much sold out, the retail house is transformed: "Is this the same building?" some people ask. A black/white shade material covers the roof; the wood and wire benches are removed; new benches are brought in. The second phase of the retail year begins.

The Pierces sell produce—Erik grows six acres of vegetables—"the basics: corn, tomatoes, peppers: whatever I can harvest myself" (again, the question of quality is a factor in deciding amount). He buys in the rest from Rodonis Farms in Litchfield.

A major aspect of the summer business is cut flowers. A local gardener, Maureen Ireland, has developed her own business at Maple Leaf, to mutual advantage. She grows a wide variety, but concentrates on sunflowers—20 types ("these are the most popular—people call in their orders in advance"), snapdragons, asters, zinnias, and cosmos. Planted on a plot behind the barn, Erik helps with the growing. The flowers are sold at the farm stand (Maple Leaf receives a small percentage of the money she makes) pre-made bouquets. These are extremely popular—an attraction—and she often sells up to sixty a day.

A third aspect is mums. Erik grows these outside, hand-feeding, with the same attention to detail.

ATTENTION TO DETAIL defines Maple Leaf in all seasons. There seems to be no problem in selling more than what is currently grown, but Erik feels expansion could diminish the quality he has worked so hard to achieve. The size is manageable and quality remains high. (BP)

Maple Leaf Gardens is at 147 Clinton Street, Concord, NH 03301.
Harvesting Peonies for a Lasting Cut Flower

KAREN GAST

Years ago, herbaceous peonies were common as seasonal cut flowers. They were used often for weddings and funerals and other early summer occasions. Before horticulturists could manipulate growing conditions to produce crops "out-of-season", fresh cut-flower consumers were limited to what was "in-season". As we discovered how to grow crops out-of-season, we ended up with those for which flowering could be most easily induced. Customers forgot about the seasonal flowers, including peonies, which fell out of favor. They got relegated to the backyard landscape and were harvested only to decorate family graves for Memorial Day.

In the heyday for peonies, before World War II, trainloads of fresh-cut flower buds were shipped out of Kansas and southern Indiana and Missouri into Chicago and other large metropolitan areas. Peonies did so well in transport because they can be harvested in the soft bud stage, which travels much better than an open flower, and can be stored reliably on cold temperatures (32-36°F) for up to four weeks. Even with these great attributes, their seasonality caused them to lose favor in the marketplace.

Several thousand cultivars of herbaceous peonies are out there somewhere. Most are not in the trade and a lot do not make good cut flowers. A good cut flower must have strong, long stems; the harvested flower buds must open off the plant and open quickly, in less than a day; the petal color must be stable; and the opened flower must have a vase life of at least five days. Being fragrant is good, but not as important. There are many shades of pink and red, as well as white, from which to choose.

Harvesting peony buds at the best stage is a skill that takes practice and can be done during only the harvest season, so practice time is limited to a short period once a year. After four years, I am still learning new cultivars and have to renew my skill every year. In general, the bud should be marshmallow-soft when you press on it with your fingers. I prefer to place the stem between my first two fingers and then use my thumb to press down on the flower. This helps me determine the hardness of the center of the bud. Most buds will not open if the center is still hard. Other

"The first known printed picture of the peony," from *Herbarius of Arnoldus de Villanova*, published in 1484.

PIONIA

Epónia calida & fissa in secundo gradu. Cuius radix in medicinis ponitur cum reperitur in receptis eligenda eli illa quae nigra existit continua non per forata. & in hyeme colligitur & per annum feruat. Virtetum habet occultam contra epileptiam & suspenfam collo praefert ab epileptiasteante Galie no experto de quoad puero cuius collo talis radi radix appetit erat & non patiebat radice n, subtracta flas

The Plantsman
people just press on either side of the bud with their thumb and two fingers. The technique depends how you are trained and how it feels to you. Singles, Japanese, and semi-doubles are harvested harder, and reds are harvested softer with a true petal flagging. "Flagging" is when the petal is unfurled a bit from the bud.

Each cultivar is a bit different. As you work with them, you get to know when they are ready. Many late cultivars may look ready with big and colored buds, but they are rock hard until the end of the season. Kathryn Hill, manager of Craigmore Peonies Partnership, Timaru, New Zealand, has written a great manual covering how to harvest peonies for the beginner. She includes specifics on several cultivars (See Recommended Resources for details on how to get the manual).

Cutting peonies in the bud stage gives you the longest vase life. If you want to use the flowers immediately, cut—under water—one inch from the stems, then strip the leaves off the bottom two-thirds of the stem. Floral preservatives extend the vase life a bit more compared to water, but water is sufficient for the home gardener. If you want to keep your peonies for a later date, how you handle them depends on how long you want to store them and what cultivar they are. If you are going store them for more than a week, you should place them dry in polyethylene bags. I use two-gallon self-sealing bags, which hold two bunches of five flowers fairly well. The stems need to be cut short enough so the bag can be sealed. The flowers should be dry when placed in storage to prevent disease problems. For one week of storage, my research shows that the best methods depends on the cultivar. 1 stored flowers dry in polyethylene bags, in water, and in floral preservative. Some cultivars took longer to open after being held in floral preservative.

Sometimes a treatment made the flowers bigger, but they lasted a short time. With most, treatment did not make a difference, although the flowers held in water and floral preservative looked better coming out of storage.

I have successfully stored peony flowers for 12-14 weeks using a pretreatment of floral preservative and silver thiosulfate. However, the vase life was very short, only a day or two. A Kansas grower stored flowers for 19 weeks with minimal loss, less than 25%. She did tell her buyer that they would last only a day, but the buyer was happy to have peonies in October.

In my four years or so of working with peonies, I can now make some recommendations on which cultivars have the best vase life. My best reds include 'David Harum,' 'Felix Supreme,' 'Felix Crousse,' and 'Philippe Rivoire.' My best whites are 'Festiva Supreme,' 'Dr. F.G. Brethour,' 'Henry Sass,' and DH1460. The best pinks are 'James Pillow,' 'Mister Ed,' 'Raspberry Sundae,' and 'Sarah Bernhardt.'

Illustrations from The Peony, Alice Harding, The Timber Press, Portland, Oregon.

Karen L.B. Gast, Ph.D. is an associate professor and extension horticulturist at Kansas State University, Manhattan, KS. She received her doctorate in plant science from the University of New Hampshire in 1988.

Recommended Peony Resources

The Peony, Alice Harding updated by Roy G. Klehm, Timber Press, 133 S.W. Second Avenue, Suite 450, Portland, OR 97204.


Peonies, Allan Rogers. Timber Press, 133 S.W. Second Avenue, Suite 450, Portland, OR 97204. Has listing of peony sources.


American Peony Society, Mrs. Greta Kessenich, 250 Interlachen, Hopkins, MN 55343.

Kansas State University Agricultural Experiment Station Reports of Progress. Production and Postharvest Evaluations of Fresh Cut-Peonies, Karen L.B. Gast.

1995 KSU-AES SRP 767
1996 KSU-AES SRP 791
1997 KSU-AES SRP 818
1998 KSU-AES SRP 820
Sitting in the Shade
JEFF WARSCHAUER

Warren Buffet once said, "Someone is sitting in the shade today because someone planted a tree a long time ago. Today, many growers are reaping the fruits of their vision for excellence over the years. To keep pace with the changing world, it is critical to keep abreast of the many options and continue evolving your approach to business.

What are the latest trends in greenhouses for commercial growers, landscapers, and garden center managers?

Structures
What's new in greenhouse structures? Many customers find wide span-houses to be a great advantage to their growing environment. The Nexus 42' Vail or the Nexus Big Sky with the 6' x 8' sealed glass system, are two options that you will see in many operations. The new naturally ventilated greenhouse, the Zephyr™ offers a solution for natural ventilation because it is designed and constructed to meet regional snow load ratings. The Zephyr™ uses a top mounted roof vent, allowing air to escape at the highest point in the greenhouse. The Nexus Convertible Roof combines the retractable roof with the proven technology of the Nexus Vail peak design. The Convertible allows growers to take advantage of full-sun growing conditions for crop hardening while having the ability, to close the roof during inclement weather. A secondary shade system can be added for shading the crop and for heat savings.

Headhouses are multipurpose structures, usable for shipping and growing. You can cost justify your next headhouse expansion (on a peak style greenhouse) by adding a clear or translucent cover enabling shipping and production January through June and growing an additional crop in the summer months.

Automation
In recognition of the pressures to reduce costs facing growers today and the problem of greenhouse labor availability at any price, Nexus has become the only full spectrum North American greenhouse supplier, putting all automation for greenhouses and greenhouse structures under one umbrella. Many growers want their complete growing environment to be designed, manufactured, and serviced by one company. Nexus will be the North American representative for HAWE Systems International, one of the largest containerized bench system manufacturers and for Vissefintional Trade and Engineering, a leader in automated equipment such as transplanters and seeders.

Energy Shade Curtains
These automated curtain systems are used to reflect much of the sun's energy —solar energy, thus reducing heat in the structure by as much as 15°F in summer. During the winter months, curtains can be closed to save as much as 20 to 25 percent of your heating cost. This obviously is dependent upon how much the shade is kept closed. Many different shade factors and colors are available. It's important always to consider fire-retardant cloth as an option.

Venting/Cooling
Many options are available for natural and mechanical cooling. Other than traditional cooling fans, wet pad systems, and roof side vents, newer systems (such as the Nexus retail self-contained cooling system) are available. These allow for evaporative cooling in a remote self contained unit, offering full access to walls for display and less noise than traditional fans and pads. Be sure to always consider required maintenance on these options as well as location' noise level, and additional associated costs such as electricians, installation, and energy usage.

Retailing is Detailing
Retail selling of plants has become another profit center for many of our commercial growers. It used to be that a grower could just put up a small structure near their nursery and people would stop to buy flowers. Now the grower is competing with very elaborate retail environments as commonplace as the grocery store. In order to compete, customers must have the same comfort and ease of shopping that they find in other places. Many of the design and building rules have changed over the last few years. Here are several of the things that are new in retail structures and why.
• Storefront glass has been a big enhancement for many retail operations. Putting a bank of windows on the front or side of the greenhouse allows you to maximize the use of internal area for retail displays. You can coordinate the color flashings on your greenhouse to match your decor.
• Open-air canopy areas are a wonderful way to display hardgoods and perennials. Hard-roof canopies instead of shade cloth allow you to have much more usable space and extend your season. You can show plants in spring, bird baths in summer, and Christmas trees in the winter. These covers are fairly inexpensive.
• Opening of side walls is becoming more common. Many retailers desire the "Open Market Look," but want to be secure. By opening the side walls in the greenhouse, you can achieve both of your goals. The side walls can be closed down at night for security, or for inclement weather, or with a change of season. Taller greenhouse sides can be constructed to make a cooler greenhouse.

So, let's plant a tree today so that you will be able to sit in the shade tomorrow.

Jeff Wenschauer is vice-president of sales, Nexus Corporation.

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Well, if it’s not one thing, it’s another! Lack of water seems to be the problem this year (at least until the rains in early May). But we haven’t hit June yet...let’s hope it’s not a repeat of last year. The cooler temperatures kept things rather slow during April, but the buds and flowers really popped once the weather warmed over the first two weeks of May. If we stay relatively dry, the disease problems of last year will hopefully become just a memory.

**Woody Ornamentals**

Compared to last year, this has been a relatively dry season during bud break and leaf expansion. Thus, the incidence of anthracnose and blight should be much less than last year (although we can always expect some anthracnose on the typical hosts such as maple and sycamore). Although I haven’t yet seen any samples of Ascochyta leaf blight on lilacs, it’s worth repeating the description of the disease since it was the most common problem on lilacs last year. Ascochyta has two phases, a shoot blight in the spring (which resembles bacterial shoot blight) and a foliar phase causing necrotic leaf spots and marginal blight during the summer and early fall. Dead shoots and branches should have been pruned prior to bud-break and fungicides should be applied through leaf expansion (copper fungicides combined with a thiaphemate-methyl product work well). Thinning dense bushes will also help reduce disease severity.

Shoot blight of Prunus species, caused by the fungus Monilinia, has been very damaging the last several years, so protective fungicide sprays may be warranted on nursery stock and valuable landscape specimens. Fungicides should be applied when the blossoms opened and followed by two additional applications ten days apart. If blight does occur, dead shoots should be removed during dry weather to prevent further spread of the disease.

Cedar rust galls were producing telial horns (the jelly-like, orange growths) during the rainy period of May 4-8. Susceptible deciduous host (apple, quince, Amelanchier, hawthorn) could have been infected during this time. In most cases, control consists of eliminating the alternate host or applying fungicides to the deciduous host (practical for nurseries and orchards only, due to cost effectiveness).

**Greenhouse Crops**

Since bacterial blight and Southern bacterial wilt of geraniums seems to be on everybody’s mind this spring, I thought it would be worthwhile to point out the similarities and differences between bacterial blight, caused by Xanthomonas campestris pv. pelargonii and Southern bacterial wilt, caused by Pseudomonas solanacearum.

**Similarities:**
1. Both bacteria can cause geraniums to become chlorotic and/or develop necrotic (dead) wedges in the leaves, develop totally necrotic leaves, or wilt.
2. Both bacteria can kill geraniums.
3. Both need to have infected/symptomatic plants rogued out as soon as possible after confirmation by a diagnostic lab (testing for Pseudomonas takes a couple of days longer than testing for Xanthomonas).

**Differences:**
1. Only Xanthomonas (bacterial blight) can cause 1/16"-1/8" diameter, round, brown spots.
2. Xanthomonas (bacterial blight) only infects plants in the Geraniaceae (geranium) family, while Pseudomonas (Southern bacterial wilt) has a wide host range, especially foliage plants.

The most important thing to do when suspicious plants are first noticed is to send plants for testing and isolate the remaining symptomatic plants. I have tested (via Agdia Testing Labs) over 80 samples this year for bacterial blight and all were negative. The dozen samples tested for Pseudomonas were also negative. It’s important to remember that infected plants can’t be cured.

Verbena has had several problems this spring. The most common problem has been Phytophthora stem canker and root rot. The symptoms include brown cankers at the base of the stems, wilting, and root rot symptoms similar to Pythium (the cortex of the root sloughs off easily when pulled gently between the thumb and forefinger). Infected plants should be removed and the remaining plants should be drenched with fungicides used for control of Pythium. Ascochyta leaf spot and blight has also been common. The symptoms include necrotic leaf spots and stem browning similar to that caused by Phytophthora. Avoid wetting the foliage when watering and space plants to allow for good air circulation.

Alfalfa mosaic and cucumber mosaic virus were both diagnosed on Nemesia. The symptoms included distorted foliage, white line patterns, and ringspots. Virus-infected plants should be destroyed (don’t take cuttings from infected plants). Other diseases and problems that have been diagnosed this spring include Pythium root rot on osteospermum, iron and manganese toxicity of geraniums induced by low pH, crown gall on argeranthes causing stem galls, and lots of edema on ivy geraniums.

**Herbaceous Ornamentals**

Botrytis blight was the most significant problem during June and early July of 1998, particularly on bedding plants, Asiatic lilies, and peonies. Be sure to adequately space to
allow for good air circulation between the plants. Overhanging branches from nearby trees should be pruned to reduce shading and promote the rapid drying of wet foliage. If overhead irrigation is used, water early in the day to allow the leaves to dry prior to nightfall. Fungicides will be necessary if we have periods of prolonged wet weather. Management of leaf spot diseases is the same as that of Botrytis blight.

Turf

Snow molds have not been as much of a problem as in previous years because of the lack of snow cover (at least in southern areas). For turf that has been hit by snow mold, rake the dead and matted blades from infected areas to allow for new growth. Spring applications of fungicides are NOT effective. Red thread and pink patch usually appear on lawns during late-May and June (and again in September). The diseases are most common on perennial ryegrasses and fine-leaf fescues, but can be found on other turfgrass species as well. Infected lawns have a pink-reddish cast when viewed from a distance. These diseases only infect the leaf blades, thus are not very destructive and rarely require chemical control. Collect the clippings from infected areas, avoid late-day watering, and maintain pH at 6.5-7.0. Leaf spots and blights and brown patch are also common diseases that appear during warm weather. Several cultural practices can help to reduce these warm weather diseases. Avoid excessive use of water-soluble nitrogen fertilizers, especially during hot weather. Mow high to avoid plant stress and only remove 1/3 of the blade at each cutting. Avoid broadleaf, phenoxy herbicides in areas with leaf spot problems. And, of course, don’t water late in the day.

If you wish to submit plant material to the UNH-PDL for diagnosis, send samples (with a check for $12.00) to: The UNH Plant Diagnostic Lab, C/O Dr. Cheryl Smith, Plant Biology Department, 241 Spaulding Hall-UNH, Durham, NH 03824. Samples should be accompanied by an identification form (available from your county Cooperative Extension office or by calling 862-3200). Cheryl Smith is the UNH Cooperative Extension Specialist in Plant Health, and can be reached at 603-862-3841 or e-mail ceryl.smith@unh.edu.
Twilight. One poet—I don't know who—called it l'heure bleu. The interval when birds do their evening ballet in the sky, then sing their chicks to sleep. The white flowers in the garden gleam, as others disappear into the building darkness. This is why Vita Sackville-West planted her white garden—for enjoyment at twilight. Fragrance intensifies—it's time to enjoy garden aromatherapy.

Aromatherapy has enhanced homes for hundreds of years. It's one of the most traditional uses for aromatics. In medieval times, "strewing herbs" were scattered over the packed dirt floors to make the house smell better and keep it free from germs. In Victorian times, ladies would provide a different potpourri for each room of the house. All sorts of essential oils have been vaporized to get rid of unpleasant odors, prepare a room for meditation, or create an intimate mood. Now, let's take it a step further—into our gardens at twilight.

Plants other than herbs come to mind. The "lemon daylily" (Hemerocallis flava) has pale yellow petals that glisten and a lemon-honeysuckle scent that is delightful. Daylilies are enjoying great popularity right now, with new cultivars turning up every day. They're just about the easiest of the cultivars to grow and a mass of them is most impressive. But for fragrance, be sure it's the old-fashioned H. flava and not H. fulva (the common orange daylily) that you are choosing.

If you want to be certain to have twilight fragrance, plant Nicotiana. Considered an annual, it reseeds readily, so once you plant it, you'll always have it. The fragrance holds off all day, waiting for the softer light. Celia Thaxter, famous for her gardens on the Isles of Shoals, mentions nictotiana and its perfume in her writings. The tubular flowers open and release their sweetness as dusk approaches. Focus on the white varieties so you can see them as well as smell them, but all nicotianas are deliciously fragrant and hummingbirds love the red ones.

At Cypress gardens in Florida, I saw my first brugmansia. It was as big as a tree! We can only grow it as an annual or in a pot to keep inside in winter. The huge trumpets hung all over it and the evening fragrance was overpowering. Some people say it smells like bath soap or cheap perfume. Others think it smells like lilies. There are several colors—peach, yellow, pale pink, but the whites (Brugmansia x candida and B. suaveolens) have the most fragrance. At the Family Patch in Scarborough, Maine, owned by the radio garden personality, Paul Parent, you'll find as number of good-sized brugmansia and smaller sizes for sale. If you REALLY want perfume in your garden, consider this plant and bring it inside for winter.

Old-fashioned stock (Matthiola longipetala) is the night-scented variety, four-o'clocks (Mirabilis jalapa and M. longiflora), and English wallflowers (Cheiranthus) are all very fragrant. They are not often grown nowadays and you may have to search for seed, but they are worth the effort.

I picture a screened gazebo surrounded by a border of old-time plants such as these. I'll slip away to it for my twilight meditation and l'heure bleu will not be blue at all, but glowing with happiness.

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

This spring, our testing lab in Allentown, Pennsylvania, and I have both noticed that many geranium growers are experiencing unusual pH drop. What makes this so difficult is that geraniums left on their own with neutral water and no additional fertilizer will cause the pH of the media to drop. Geraniums and a few other crops—celosia, begonia, dianthus, tomato—have this unique ability to alter the pH on their own.

Most growers in the Northeast have fairly pure water with pHs lower than what most plants need. Because of this, growers here need to monitor their media in order to insure that the pH remains in the 5.8 to 6 range. Geraniums compound the problem with their natural ability to lower pH.

Geraniums grow best at a pH of 6 or slightly higher (many other spring bedding crops can grow in a wider range). Iron toxicity is usually the first sign that a geranium is growing in too low a pH: leaf-bronzing indicates that too much iron is available. By raising the pH, you will reduce the availability of iron. By using calcium-based fertilizers such as calcium nitrate, 15-0-15, or 15-5-15 in your feed program, you will insure that the pH stays in a satisfactory range.

Jim Zablocki, Technical Manager of the Northern Horticultural Group, the Scotts Company, can be reached at 603-224-5583.
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NEW HAMPSHIRE PLANT GROWERS' ASSOCIATION

1999 Summer Meeting

Pleasant View Gardens Pembroke Facility
North Pembroke Road (Off Route 106), Pembroke, New Hampshire

As of mid-May, the Summer Meeting was still evolving, but elements already in place indicate it will be a full day, centering around the state's most recent state-of-the-art production facility, PVG's 65,000-square-foot Nexus Big Sky—completely automated (flood floors, environmental controls, etc.). It's something certainly worth seeing.

Events include: complete tours of the facility, the Tailgate Trade Show, visits to The Ol' Speedway and other nearby NHPGA members, educational displays (Paul Fisher will discussing some of his work in bedding plant production), and the Scholarship Auction with Peter Callioras, auctioneer.

The noon meal is a Pig Roast, but along with pork, beef and turkey will be served as well. (There will be plenty to eat.)

Cost is $20.00 for both members and non-members. A flier with more details will be sent shortly. For information, contact Robert Demers at 603-437-6336.

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