American Horticulturist

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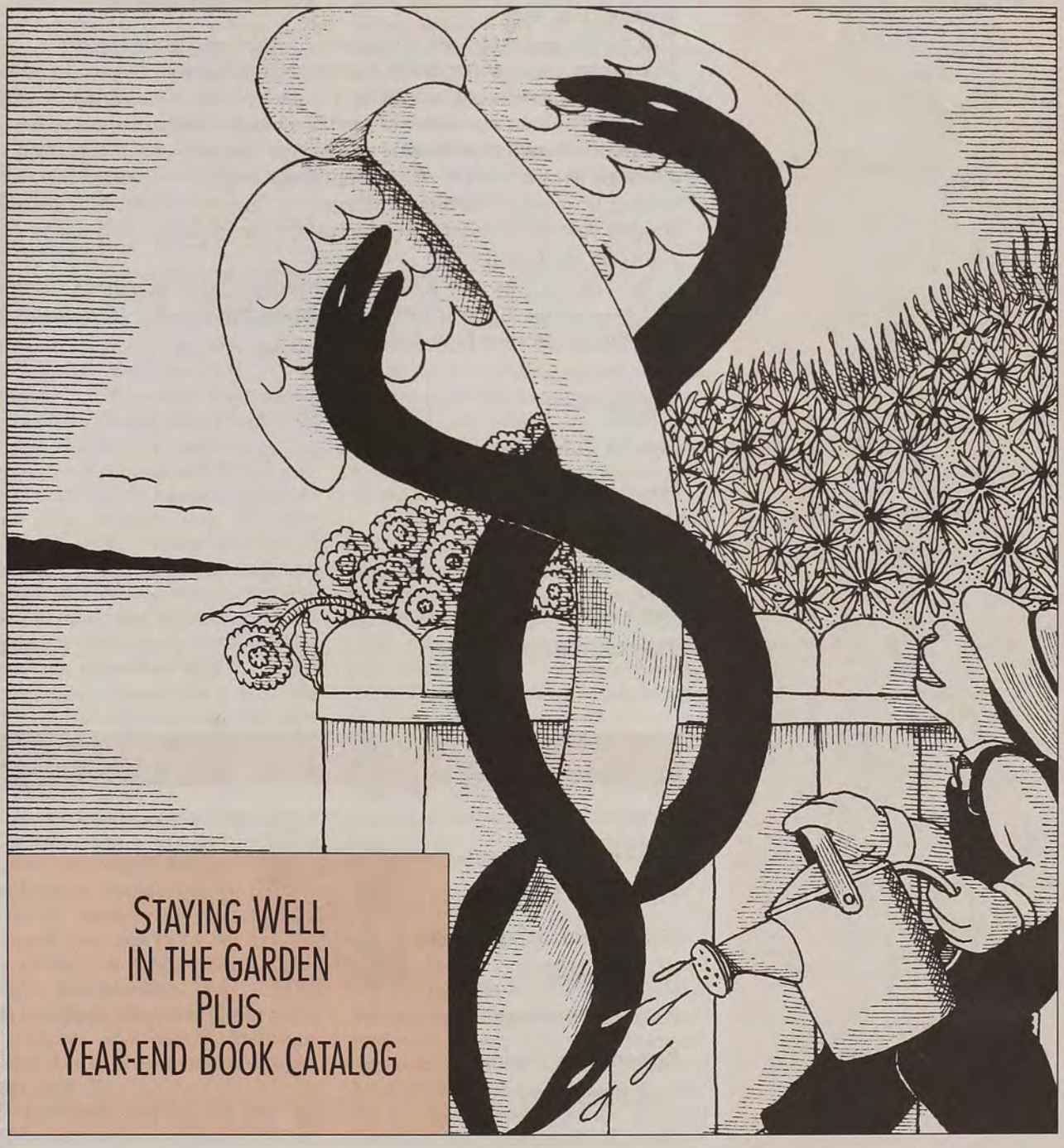

STAYING WELL
IN THE GARDEN
PLUS
YEAR-END BOOK CATALOG

MARGARET SCOTT

American Horticulturist

Volume 73, Number 11 November 1994

ARTICLES

Wishing You Well

This month you won't see our regular "Plants and Your Health" department because our entire feature section is about health. In addition to what gardening can do for you as exercise, we also report what doctors say about a number of gardening health hazards: poison ivy and its relatives, Lyme disease, and allergic reactions to insects. And although trees can make our surroundings healthier—cooling the air, helping us relax, pumping out oxygen—a Tucson allergist found there's another side to the story when he studied the impact of non-native plants on the pollen count in that city.

Also in this issue you'll find an expanded, end-of-year book catalog and a report on this year's youth gardening symposium, co-sponsored with the Montessori Foundation.

DEPARTMENTS

MEMBERS' FORUM

Dear Members:

Normally we fret a bit about whether we will have any words to fill this space. As a group, you tend to be a bit . . . uncommunicative. So we wonder: Are they quiet with contentment, or somnolent with boredom? When John Floyd, a member of our Board of Directors, proposed the two-page survey printed in our September issue, we were a tad skeptical about how many responses we were likely to receive. "John," we whined, "we're even asking them to use their own stamps!"

The results have surprised, cheered, and fascinated us beyond measure. About 400 of you had returned your surveys as of this writing. Many took the time and trouble to add something in the "comments" section at the end, suggesting very specific ideas for articles.

Although it will be some weeks before we have all the results, some trends seem very clear. By far, the majority of you who prefer one publication's format over the other like the color magazine best, although news edition fans feel very strongly about it. "There are lots of glossy-paged design magazines with articles about 'Know Your Hostas,' but very few publications that gather current information as efficiently as the AHS news edition," one respondent wrote.

In terms of subjects that you would like to read about, two requests have come in so loud and clear that we are already asking writers around the country to get busy on them.

While most readers seem to appreciate our current emphasis on plants, a large number would also like to read about landscaping. In the next two issues of our magazine, they can expect to see some articles on landscaping principles and prejudices. Further in the future, we would like to try to help members with specific landscape problems. Let us hear about them; send photographs!

We heard from members all over the United States, but those of you in Florida and the Southwest seem to feel particularly left out when our articles focus on plants. Those who retire to USDA Zones 8 and 9 need to learn to garden all over again, they tell us; and gardeners in the mountain states and the desert want to read more recommendations for drought-tolerant plants. (Some members in parts of the Northwest reminded us that while their winters are rainy, they need plants that will make it through their dry summers.) We've put out a call for more articles from those states.

Other suggested topics may result in the development of new bulletins from our Gardeners' Information Service (GIS). These bulletins—for which we charge only enough to cover our reproduction costs— one means through which we currently try to address basic gardening information needed by less experienced gardeners. A list of all topics covered in GIS bulletins can be obtained by sending a self-addressed stamped envelope to our Education Department.

A number of your comments related to AHS programs other than publications. Many of you commented on how valuable you find our Annual Free Seed Exchange and our discount Book Program.

We will try to answer more specific questions in our January "Members' Forum." (Since the survey promised anonymity, writers will not be identified.)

In the meantime please remember: We are always glad to hear from you. We hope that the survey will be just the beginning of our dialog!

—Kathleen Fisher
Editor

Correction

In our September issue, Violet Dawson was incorrectly identified in an article regarding an AHS award presented at the "Show of Summer" sponsored by the Garden Club of America at the Chicago Botanic Garden. She is a past president of the National Council of State Garden Clubs.

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GARDENERS' INFORMATION SERVICE

Q: ***Should I fertilize bulbs when I plant them this fall or should I wait until the spring when they start to grow? And what kind of fertilizer should I add?***
—M.C., Charlotte, North Carolina

A: Yes, you can add some fertilizer, especially phosphorous and potassium, when planting bulbs in the fall. Muriate of potash and a superphosphate are good choices to provide these nutrients, or you can choose a commercial fertilizer such as a 0-10-10, which contains phosphorous and potassium but no nitrogen. High levels of nitrogen will feed your foliage rather than encourage flowers. If in the spring you notice that the bulb foliage is becoming yellow, this is when you might add some extra nitrogen by using a more balanced fertilizer such as 10-10-10.

Fall fertilizer is best added into the planting hole rather than on top of the soil. Make sure that the fertilizer is well mixed with soil from the planting hole so it can't burn the bulb's basal plate.

Some organic fertilizers that are useful for providing phosphorous to bulbs in fall include bone meal, colloidal phosphate, and rock phosphate. Potassium sources include granite meal, greensand, kelp meal, and unleached wood ashes.

No matter when you apply your fertilizer, always follow package directions or use the amounts recommended by professionals as the result of a soil fertility test.

Q: ***I love chrysanthemums and would like to know about different species and cultivars that I might try in my garden. Can you suggest nurseries that offer various kinds of chrysanthemums?***
—T.P., Grand Junction, Michigan

A: There is incredible variety in the color, height, flower form, and habit of chrysanthemums. Their flowers come in tassel, spider, threadlike, and pompon forms. Some are best for flower arranging and others for bonsai. Here are several nurseries that specialize in mums:

Mums by Paschke, 12286 East Main Road, North East, PA 16428, (814) 725-9860. Catalog free.

Huff's Garden Mums, P.O. Box 187, Burlington, KS 66839-0187, (800) 279-4675. Catalog free.

King's Mums, P.O. Box 368, Clements, CA 95227, (209) 759-3571. Catalog $2.

Sunnyslope Gardens, 8638 Huntington Drive, San Gabriel, CA 91775, (818) 287-4071. Catalog free.

Q: ***How hardy are freesia bulbs and when is the best time to plant them? Do they need any special conditions for growing?*** ***—D.S., Mobile, Alabama***

A: While most freesias are suitable only for greenhouses, you live far enough south to grow them outdoors. The best time for planting freesias outdoors is early fall for flowering the following spring. If you want a succession of these fragrant flowers, next year plant their corms at two week intervals from September through November.

They need a sheltered site in full sun or very light filtered shade with a well-aerated soil, preferably a sandy loam.

The corm tips should be about an inch below the soil surface, about one and a half to two inches apart. They can be covered over winter with a light mulch such as pine needles.

You could also plant a ground cover that would help insulate the freesias and provide an attractive background for their flowers. Candytuft *(Iberis sempervirens)*, creeping phlox *(Phlox subulata)*, or bugleweed *(Ajuga reptans)* would do well as companions to freesias. Freesias respond well to a light complete fertilizer feeding about once a month during the active growing season.

Gardeners north of USDA Zone 8 can pot corms in late summer or early fall, keeping them outdoors in full sun until just before frosts are expected. They should then be brought indoors to a cool, well-lighted area. They need nighttime temperatures of 45 to 50 degrees while their foliage and flowers are developing. High temperatures or low light can cause the plants to become weak and leggy.

The corms should be planted close together in a soilless potting mix. Don't allow the soil to dry out, but don't overwater, which will cause the leaves to yellow. It usually takes at least three months from the time you plant the corms in the fall until flowering.

Sources for freesia corms include: Wayside Gardens, 1 Garden Lane, Hodges, SC 29695, (800) 845-1124; Messelaar Bulb Company, P.O. Box 269, Ipswich, MA 01938, (508) 356-3737; and McClure & Zimmerman, 108 West Winnebago, Friesland, WI 53935, (414) 326-4220. All of these catalogs are free.

—Maureen Heffernan
Education Coordinator

USE YOUR GIS

The American Horticultural Society's Gardeners' Information Service has developed informational materials that explore more than 30 gardening subjects, including butterfly gardening, xeriscaping, moss gardening, organic fertilizers, soil preparation, children's gardening resources, lists of public gardens by state, and plant sources. Prices for the bulletins range from 50 cents to $6.

To receive a complete list of GIS publications, send a self-addressed, stamped envelope to: GIS Catalog, 7931 East Boulevard Drive, Alexandria, VA 22308-1300.

MAIL-ORDER EXPLORER

Sensuous Selections

Some mail-order nurseries tantalize potential customers with catalogs so colorful they are nearly hypnotizing. Northwoods Retail Nursery in Canby, Oregon, puts out a simple black-and-white catalog that plays instead on senses like taste and smell—offering a veritable cornucopia of exotic and unusual fruiting and fragrant ornamental species selected for easy care and disease resistance.

Owner Kathy Fives is the driving force behind Northwoods' customer-oriented, environment-friendly approach to growing and selling plants, a philosophy stated in the front of every catalog and, more important, borne out by the experiences of customers. Although Northwoods concentrates on plants suitable to the climate of Canby, a bedroom community for Portland nestled in the foothills of the Cascades, Fives says much of her stock thrives elsewhere. "A lot of the fruit trees are on hardy rootstocks and will grow in other parts of the United States," she says. Among these are apples 'Sweet Sixteen', a cold-hardy, scab-resistant cultivar, and 'Anna', adapted for the Southwest and Florida. With more and more orders coming in from across the United States, Fives is adjusting her offerings "to make our mix more appropriate for all regions."

Customers say Fives is quick to tell them which plants won't make it where they live. Says John Campbell, a defense contractor living in Annapolis, Maryland, who has been relandscaping a two-acre plot: "If you want to get a plant from Kathy that is not hardy in your area, she will stop you." He laughingly recounts that Fives "is obsessed with whether I can get evergreen huckleberries to grow here. A couple have died, but she sends more and refuses to charge me for them." The evergreen huckleberry *(Vaccinum ovatum)* is listed hardy to minus 10 degrees, but seems troubled by the summer heat in Annapolis.

Huckleberries are about the only Northwoods' plant Campbell has not had success with. His Northwoods' favorites include medlars *(Mespilus germanica* 'Macrocarpa'), regent serviceberry *(Amelanchier alnifolia)*, and several varieties of kiwi *(Actinidia* spp.), of which Northwoods has 20 cultivars. Campbell has also planted lingonberries *(Vaccinum vitis-idaea)* and wintergreen (*Gaultheria procumbens*) around an 18-by-24-foot pond.

Fives first became involved in horticulture in 1981, when she started a cut flower business called Fives Flowers that she still runs as a sideline. In 1984 she developed a retail and mail-order service at Northwoods, then primarily a wholesale nursery. In 1992 the nursery split into separate retail and wholesale businesses, and Fives and her staff spent most of last year establishing the retail nursery at its new site.

Along with kiwis, Northwoods' most popular offerings are American persimmons *(Diospyros virginiana)*; a low-chill raspberry called 'Bababerry' *(Rubus sp.)*; pawpaws *(Asimina triloba)*; and figs *(Ficus carica)*. Fives' personal favorites include fragrant ornamentals like harlequin glory-bower *(Clerodendrum trichotomum)* and Carolina allspice *(Calycanthus floridus)*, and various jasmines and honeysuckles.

Dwarf fruit trees and multi-fruiting trees are also among Northwoods' best sellers, she says, because "people want more types of fruit, but don't want the extra work of a big tree. The big draw is that you still get a nice size crop off these trees, and with dwarf trees you can pack a lot of fruit into even a small garden."

Mike Magee, an oncologist in Nashville, Tennessee, likes Northwoods' dwarf trees because, he says, "I don't have a plantation, just a one-acre lot." According to Magee, Nashville is not ideal for apple growing, but he has done well with 'Liberty' grown on dwarf rootstock. "One of the things I like about Northwoods is you always know what rootstocks you are getting—some of the other companies seem to think you don't need that kind of information." He also likes Northwoods' Asian pears *(Pyrus pyrifolia)*, including the 'Shinko', 'Hosui', and 'Chojuro' cultivars, which he finds crunchier and tastier than their European counterparts. 'Shinko' is also resistant to fireblight, which Magee says is common in Nashville.

Asian pears, along with other dwarf fruit trees, are also popular with Michaela Roessner-Herman, a writer living in Tehachapi, California, at an elevation of about 4,300 feet in the southern Sierras. "I especially like the unusual trees like medlars, and a Japanese raisin tree *(Hovenia dulcis)* I have received from Northwoods," says Roessner-Herman. Fruit trees "are a little bit of a stretch for us because summers are so much hotter and drier" than is recommended for the trees, she says, but hers have done well there.

Fives' commitment to the welfare of her customers extends to offering a wide selection of natural pest and disease controls, organic soil amendments, and books on pest control. "I really feel strongly about not using strong chemical pesticides, and I think a lot of other people feel that way too," she says.

With the nursery established at the new site, Fives has been able to plan new offerings for 1995, which she says may include plants with medicinal value, conifers, and some unusual new ornamental grasses. Meanwhile, her customers are eagerly looking forward to the new Northwoods' catalog. Campbell says he has purchased from a number of nurseries, but hasn't found anything to match Northwoods' quality and service. "In four seasons I haven't got one plant from Kathy without elaborate instructions, and if something does go wrong it gets taken care of." *—David J. Ellis*
Assistant Editor

To make your landscape more edible, request a free catalog from: Northwoods Retail Nursery, 27635 South Oglesby Road, Canby, OR 97013; telephone (503) 266-5432; or fax (503) 266-5431.

CONSERVATIONIST'S NOTEBOOK

The Cressy Creek Clue

On the campus of Virginia Polytechnic Institute and State University (Virginia Tech) in Roanoke is a memorial to Peter Feret, a tree geneticist at the university who died in March 1993 at 48. The memorial is surrounded by saplings of Virginia round-leaf birch *(Betula uber)*, an endangered species native to southwest Virginia that Feret and other conservationists brought back from the brink of oblivion.

The story of the round-leaf birch reads like a mystery novel, loaded with subplots. Its currently hopeful prospects are a testament to successful cooperation between government organizations, research institutes, private conservation groups, and dedicated individuals.

Distinguished by its singular round to slightly oblong leaves, the round-leaf birch has dark, aromatic bark and grows to a maximum of 45 feet. With an average life span of 50 years, the round-leaf, like other birches, is a pioneer species that invades recently disturbed areas but is eventually overshadowed by taller and longer-lived trees. It is closely related to sweet birch *(B. lenta)* and yellow birch *(B. alleghaniensis)*, with which it is often associated. Its known range is extremely narrow—a half-mile stretch within the floodplain of a creek at an elevation of 2,700 feet in Smyth County, Virginia.

A forester, William W. Ashe, identified the tree in 1914 and published a brief description in 1918. Believing it to be a new variety of sweet birch, Ashe named it *B. lenta* var. *uber.* In 1948, Merritt L. Fernald, director of Harvard University's Gray Herbarium, reclassified it as a separate species.

Botanists now believe Ashe may inadvertently have headed the round-leaf toward extinction by misidentifying the creek along which he found it. Ashe cited its location as being along Dickey Creek, near the town of Sugar Grove, but when it wasn't found there in the 1950s and 1960s it was presumed to be extinct.

The round-leaf was resurrected through some botanical detective work by Peter Mazzeo, a botanist with the U.S. National Arboretum in Washington, D.C. In the early 1970s, Mazzeo became curious about the tree's fate and sought out all the existing dried herbarium specimens. He noticed that the notes accompanying an undated specimen collected by Horace B. Ayres, another forester and occasional Ashe associate, listed Cressy Creek as the source. Mazzeo hypothesized that Ashe could have confused Cressy and Dickey creeks, two small watersheds a little over a mile apart that flow parallel before draining into the Holsten River near Sugar Grove. In 1974, Mazzeo published his findings in the hope, he says, that someone would follow up on the information.

And, says Mazzeo, "Lo and behold, at least one person took me seriously, and he found it." On August 22, 1975, Douglas Ogle, a biology professor at Highlands Community College in Abingdon, Virginia, found a small cluster of the trees on his second search of the Cressy Creek area. Ogle used abandoned railroad and cart tracks as a guide to areas that Ashe and Ayres were likely to have passed through. Mazzeo and other botanists went to Smyth County to confirm Ogle's findings, bringing three seedlings back to the arboretum.

There were only 41 remaining birches, 18 of which were reproductively mature at the time. Two of the mature trees were in the Mount Rogers National Recreation Area in the Jefferson National Forest, but most were on two private land holdings.

Representatives of the Forest Service, the U.S. Fish and Wildlife Service (FWS), Virginia Tech, the National Arboretum, and the Virginia Department of Agriculture and Consumer Services, along with the two landowners, met in May 1977 to develop a management plan for the birch.

F. G. MEYER

The distinctive foliage of the round-leaf birch.

On April 26, 1978, the round-leaf birch became the first tree species listed as endangered under the federal Endangered Species Act of 1973. A year later it was also protected under the Virginia Endangered Plant and Insect Species Act. At the behest of the FWS, Virginia Tech in 1982 drafted a recovery plan for the round-leaf birch. According to Richard Kreh, senior research associate at the university's Reynolds Homestead Forest Resources Research Center, Critz, Virginia, and a colleague of Feret's, the plan gave highest priority to maintenance and expansion of the natural population, followed by establishment of additional populations in the wild, research to determine why the species was endangered, and preservation of germplasm. "One of the major components was for us to do some breeding and propagating work, both vegetatively and sexually," says Kreh.

Not only is round-leaf pollen viability low (Kreh calls it "dismal"), but flowers of the existing trees were being inundated by sweet birch pollen during the short breeding season. When cross-pollination occurred, sweet birch genetic characteristics, including leaf shape, were dominant. For that reason, researchers initially kept

round-leaf birches away from sweet birches to encourage development of pure round-leaf seeds.

Despite the efforts of all involved, the recovery plan's top priority of preserving the original trees proved difficult. "The natural population is still in decline for a number of reasons," says Kreh, citing vandalism and the birch's poor reproductive abilities. Only 11 of the original birches remain.

Feret's legacy to the round-leaf is the propagation program he, Kreh, and Terry Sharik, now at Utah State University, developed at the Reynolds research center. It yielded enough seedlings to plant 20 stands of 100 birch seedlings on national forest land near the original site between 1984 and 1987. Kreh says the seedlings, produced by inoculating round-leaf flowers with pure round-leaf pollen, are doing well. "We are evaluating those populations and they are growing and preparing to reproduce." In addition, more than 1,000 specimens produced from the propagation program have been distributed to 150 arboreta and research facilities around North America and the world.

The success of the recovery program led to the proposal last December to reclassify the round-leaf birch as threatened rather than endangered at the federal level. Although the reclassification will not significantly alter the protections in place for the tree, according to Debbie Mignogno, assistant chief of the FWS's Endangered Species Office in Hadley, Massachusetts, it is symbolic of the tree's progress toward recovery.

Meanwhile, the trees growing on the Virginia Tech campus are a testament not only to the invaluable genetic research of Peter Feret, but to the cooperative efforts of a diverse team who made the recovery process for the round-leaf birch a success.

—*D. E.*

Because the round-leaf birch is still an endangered species, its sale and propagation are controlled, and it is illegal to possess the tree without a permit from the Virginia Department of Agriculture and Consumer Services. A limited number of surplus trees from the propagation program are sometimes made available for scientific, biological, or educational purposes. Written requests may be sent to the Reynolds Homestead Forest Resources Research Center, P.O. Box 70, Critz, VA 24082.

Feel the Berm

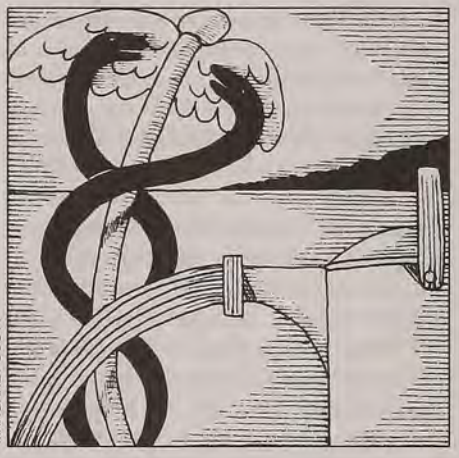
Sure, there are hazards associated with gardening: poison ivy, insect bites, muscle strain, sunburn. And of course, you might always step on a rake or prune your thumb instead of your shrubs.

But as we all know, gardening is really one of the healthiest hobbies there is. It gets us out into fresh, if sometimes polluted, air, and studies show that exposure to nature has measurable psychological benefits. Hospital patients heal faster if they can see a landscape; people looking at trees and grass tend to feel carefree and friendly, while people looking at buildings and cement tend to feel sad, angry, and aggressive. If we grow edibles, gardening also tends to encourage better nutrition.

Gardening can even be a top-notch physical work-out. Barbara Ainsworth, an exercise physiologist at the University of North Carolina, led a group of researchers in devising a system to quantify the amount of energy used in various physical activities, from rugby and roofing to making the bed. They found that gardening activities use as much energy as low-impact aerobics, playing volleyball, or walking briskly (see sidebar, page 9).

The Ainsworth study looked at metabolic rates, but gardening activities can also work out most of our muscle groups. Jeffrey P. Restuccio, a computer salesman and gardener (he evaluates new plants for Rodale) living in Cordova, Tennessee, has formalized this observation in what he calls the Dynamic Gardening approach to fitness. In 1992 he self-published a book on the topic, illustrated with cartoons by his mother. So far, he has sold about a fifth of his 5,000 copies and is still waiting for the call to appear on a major talk show. "And I can't get bookstores to put a gardening book in the fitness section," he laments.

To follow Restuccio's advice, he observes, "requires you to unlearn your usual approach to gardening." He recommends a regimen that closely follows the rhythm of an aerobic exercise program: begin by stretching, then do some light weeding, spend 10 to 15 minutes at a more strenuous exercise like turning the compost or tilling, and then go back to a slow activity to cool down. Rather than spend a marathon weekend relandscaping, break the activities into shorter chunks of 30 minutes to two hours.



MARGARET SCOTT

For those who seek maximum muscle toning, he adds circuit training to the routine: a combination grape arbor/pull-up bar or a sit-up board amid the ornamental grasses. This means you can save money otherwise destined for a health club fee or Stairmaster to buy a couple of rare conifers or a chipper/shredder.

Even if you don't go the circuit-training route, his book raises one's consciousness of gardening's potential for weight reduction, body building, and cardiovascular fitness. He offers charts of calories expended—you can burn 200 calories with 40 minutes of planting, weeding, mulching, cultivating, and harvesting, he says—and an analysis of what major muscle groups benefit from various gardening activities. Turning compost is a dandy, working wrists, forearms, biceps, deltoids, shoulders, back, legs, and that woman's bane, a drooping gluteus maximus.

"You will have to make a concentrated effort to bend from the legs instead of the back," Restuccio says, and you'll need to learn to weed and rake with both right and left hands. You'll probably also want to re-examine your tools. "The standard hoe is very hard on the back," he says. "A scuffle hoe lets you move your feet and make a gliding motion with your leg muscles."

Restuccio says his book has been criticized for trying to do too much, since he also tackles the superiority of fresh fruits and vegetables, visualization exercises for stress reduction, integrated pest management, and gardening with children. He has three youngsters, ages three months, seven and 10 years. "So many of their friends are overweight," he says, "and the schools either emphasize athletics or exercises like jumping jacks. Wouldn't it be great if we could have Dynamic Gardening clubs in all of the schools?"

Fitness the Dynamic Gardening Way *is available from the AHS Book Program for $10. To order, please see the book service order form on page 16.*

Tips for Tiller Elbow

Repetitive motion injuries are almost inevitable for most gardeners due to the types of chores we have to do. Overdoing tasks can stress muscles, tendons, bones, or nerves. Some often-injured areas are:

✦ **Fingers:** Continuous pushing with one finger can cause inflammation of its tendons. Avoid repeatedly pressing your fingers or thumb against spray bottle triggers and tool handles, or slow the rate of the pressing repetitions. Wrap your thumb around tool handles rather than along the handles. Use tools and gloves with anti-slip surfaces, and grasp, rather than pinch, objects. If you do chores requiring your arms to be above your shoulders, such as tree pruning, you may have some swelling or numbness in your ring and little fingers. Tackle overhead jobs in small doses, allowing your muscles to relax so they don't press against the nerves.

✦ **Hands/Wrists:** Repeated gripping activities, such as hand pruning, or carrying heavy objects between your thumb and fingers, can cause tendinitis in your thumbs and wrists or the increasingly diagnosed carpal tunnel syndrome. Use non-pinching hand positions when carrying heavy objects. When doing a chore requiring repeated squeezing, keep your wrist unbent and rest every half hour to stretch your muscles. Again, anti-slip surfaces may help.

✦ **Elbows:** Repeated grasping and twisting, such as when stabilizing a heavy wheelbarrow or power tool, can cause an inflammation of the tendons on the outside of the elbow (also known as tennis elbow). Avoid using tools requiring sharp twisting motions, and rest often or stop completely if the chore becomes painful.

✦ **Shoulders:** Reaching overhead for long periods at a time can cause inflammation of the shoulder tendons and bursae (fluid-filled sacs between the tendons and the bone). The bursae become inflamed and swollen with fluid (bursitis), causing pain when the shoulder is moved. Lower your work area so that your hands are below your shoulders. If tree pruning, rest often or have someone assist you.

If any of these symptoms appear the next time you are pruning, raking, weeding, or doing other repetitive-movement chores, you might want to see your family physician. Sometimes exercise will help strengthen muscles so you can perform repetitive movements without injury. In other cases, you may need to adapt your working position or try a more "user-friendly" tool.

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EFFORT EXPENDED IN GARDENING AND OTHER ACTIVITIES

Activity	Energy Expended (Sitting Quietly = 1.0)
Lawn and Garden	
Clearing land, hauling branches	5.0
Digging, spading, tilling garden by hand	5.0
Gardening or tilling with heavy power tools	6.0
Mowing lawn, riding mower	2.5
Mowing lawn, hand mower	6.0
Mowing lawn, power mower	4.5
Planting seedlings or shrubs	4.0
Planting trees	4.5
Raking lawn	4.0
Bagging grass or leaves	4.0
Trimming shrubs or trees, manual cutter	4.5
Trimming shrubs or trees, power cutter	3.5
Walking, applying fertilizer or seeding a lawn	2.5
Watering lawn or garden	1.5
Weeding, cultivating garden	4.5
Other Activities	
Bicycling, stationary	5.0
Jogging, general	7.0
Running, 6 mph (10-minute mile)	10.0
Golf, pulling clubs	5.0
Skateboarding	5.0
Sky diving	3.5
Tennis, doubles	6.0
Volleyball, competitive	4.0
Brisk walking	4.0
Swimming laps, slow	8.0
Cross-country skiing, moderate	8.0
Downhill skiing, moderate	6.0

For more information, write to Dr. Barbara Ainsworth, Department of Physical Education, Exercise and Sport Science, CB #8700, Fetzer Gym, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-8700.

Nasal Nuisances

Arizona is still widely perceived as the Great Escape State for those who suffer from pollen allergies. But landscaping with non-native plants, as well as their unintentional introduction, has Tucson residents sneezing and wheezing along with the rest of us.

Between 1930 and 1980, the population of that southeastern Arizona city increased tenfold, and allergy-causing plants kept pace. Dr. Jacob Pinnas, a practitioner at the Allergy Center of Arizona, says most of the region's native flora rely on insects and other animals for pollination. Most of the offending plants have lightweight pollen that is spread by wind and easily inhaled.

According to a study Pinnas co-authored with Mark Sneller and Harry Hayes in the *Annals of Allergy* last year, Tucson residents were trying to establish lawns of alien Bermuda grass as early as the 1920s. Ornamental planting began in earnest in the 1950s, when pine and privet were popular choices. As land was disturbed by development, members of the goosefoot family, like Russian thistle; the amaranth clan, including pigweed; and various composites, including non-native ragweeds, proliferated. Juniper and elm made their appearance in the 1960s, when the pollen count from mulberry, olive, and cottonwood also increased significantly. A 1975 study showed the incidence of hay fever at 41 percent among native Tucson residents and 56 percent among migrants, compared with 15 to 20 percent in the rest of the country.

In 1984 Pima County, where Tucson is located, passed an ordinance making it illegal to plant or sell mulberry or olive trees, and declaring Bermuda grass a nuisance. Pinnas is encouraging other jurisdictions to pass similar ordinances.

It now appears that Tucson's pollen count is on the decline, say Pinnas and his colleagues, partly as a result of "social swings to 'natural environments' and acceptance of a desert lifestyle."

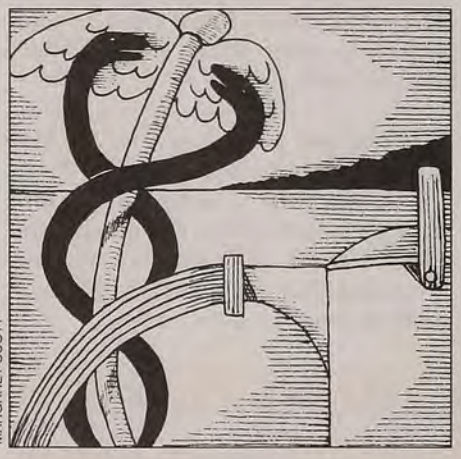
However, they conclude by suggesting that a recent local movement to plant 500,000 new trees in the Tucson basin, "as part of a national movement 'to improve air quality,'" may instead create new health hazards. "Deliberate planting of known allergenic trees," they write, "raises ethical questions related to responsibility on the part of civic leaders and developers."

The Latest on Lyme

Since Lyme disease first grabbed national attention a decade ago, it has remained relatively isolated geographically. Although the tick-borne ailment has been recorded in every state except Alaska and Montana since 1984, it is most prevalent in Northeast coastal states from Massachusetts to Maryland, in north central states such as Wisconsin, Michigan, and Minnesota, and on the West Coast.

In those regions it remains a public health concern, since a vaccine is at least three years away. Of a number of diseases that ticks can carry, Lyme disease is the most common. It is also hard to diagnose and can be crippling if left untreated.

But its incidence is not high enough to warrant curtailing outdoor activities. "Nationwide there are a lot of tick species, but only a few of them are associated with disease," says Dennis White, an epidemiologist with the New York State Department of Health. "The chances of disease transmittal from any one tick bite is rather small."



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Two major pharmaceutical companies are testing Lyme disease vaccines. Connaught Laboratories, Swiftwater, Pennsylvania, and SmithKline Beecham, headquartered in Philadelphia, began field trials this year. Results are expected within a year, but even if the vaccines prove to be safe and effective, their approval by the federal Food and Drug Administration is unlikely before 1997.

In 1993, New York State had the most reported cases—2,761 out of a nationwide total of 8,185—but Connecticut had the highest per capita incidence, with 41 cases for each 100,000 people. Even within states the disease is highly localized. In 1988, 44 percent of all confirmed U.S. cases were acquired in Westchester and Suffolk counties of New York.

Lyme disease is caused by the spirochete *Borrelia burgdorferi,* a corkscrew-shaped bacterium transmitted principally by the deer, or black-legged, tick *(Ixodes scapularis,* formerly *I. dammini)* in the northeast and north central United States, and by the western black-legged tick *(I. pacificus)* in the west. A tell-tale sign of this multistage inflammatory disease is a two- to eight-inch rash or blotch appearing one to six weeks after exposure. Roughly circular, it may have a clear center, giving it a "bull's eye" appearance. But this diagnostic clue appears in only 60 to 80 percent of cases. Flu-like symptoms such as fatigue, headaches, and fever sometimes occur in the early stages. Left untreated, the disease may result in chronic symptoms such as joint swelling, severe headaches, arthritis, and nervous system and heart disorders months or years later.

In endemic areas, health officials recommend a multifaceted preventive approach.

Ticks prefer shaded, moist, sheltered areas frequented by host animals like deer and mice, so they tend to inhabit wooded areas between yards, woodland edges, and unmaintained borders. Piles of untended stone, wood, or brush are also high-risk areas.

David Weld, executive director of the American Lyme Disease Foundation, advises gardeners to minimize potential habitat for host animals by clear-cutting wild or naturalized areas in late fall. "We recommend that people with perennial gardens do a thorough clean-up in fall to reduce places where the mice that can

THE RISK TO ROVER

Although humans must wait for approval of a vaccine against Lyme disease, a vaccine for dogs has been available since 1990. Created by Fort Dodge Laboratories, Fort Dodge, Iowa, the vaccine is called the Borrelia Burgdorferi Bacterin. Although the vaccine is recommended by many veterinarians, some researchers say vaccinations are warranted only for dogs that spend a lot of time outdoors in Lyme-disease endemic areas. Their studies show that dogs have a lower infection rate and suffer less severe and more temporary reactions to the disease than do humans.

Richard Weitzman, a veterinarian in Potomac, Maryland, says the vaccine "has shown in tests to be quite effective in preventing the disease." In the past six years Weitzman has seen an increased number of dogs with Lyme disease, but adds that they respond well to treatment with antibiotics. "The fortunate thing about Lyme disease is if you can catch it early, it is treatable," he says.

F. T. Satalowich, past president of the National Association of State Public Health Veterinarians, says the main symptom of canine Lyme disease is several days of a characteristic lameness—"the dogs look like they're walking on eggs." But even in areas of high incidence, he says, only five to seven percent of dogs are infected. "The risk really isn't there." Satalowich says veterinarians should take into account the risk of Lyme disease in their particular area and the likelihood of tick exposure in individual dogs before prescribing the vaccine. "Unless you're talking about a field or hunting dog in an endemic area, the chances of dogs coming into contact with infected ticks is very small."

Cats apparently are little affected by Lyme disease. Some researchers feel this finding may be linked to cats' near obsession with their personal hygiene. "Cats are unique animals—they rarely get ticks," says Weitzman. "I have yet to read anything about Lyme disease in cats."

carry the ticks hide," he says. If gardeners can't bear to crop their naturalized areas, Weld recommends keeping a wide path clear for walking.

In wooded or naturalized areas, gardeners should dress appropriately and use insect repellent. "Wear light-colored long pants and long-sleeve shirts and tuck everything in," says Kathy Orloski-Snider, an epidemiologist with the Fort Collins, Colorado, field office of the U.S. Centers for Disease Control and Prevention.

Recommended repellents are those containing DEET (N-diethyl-meta-toluamide), which in concentrations of less than 30 percent can be sprayed on either skin or clothes, and permethrin products, which should only be sprayed on clothes. Weld stresses the importance of following product directions, especially when spraying children. The repellent should cover shoes, socks, pant legs, and sleeves—any clothes likely to touch the ground or low vegetation. "If you don't put on repellent, ticks will crawl up to the back of your neck or head," says Weld, noting that 17 percent of Lyme disease researchers who wore protective clothing but did not spray were infected.

Gardeners in high-risk areas should keep long hair tied up, frequently inspect pets and clothing for ticks (light-colored clothes make them easier to spot), and keep outdoor clothes tied in a plastic bag until they are washed.

Studies have shown that ticks must be attached for at least 24 hours before they can transmit Lyme disease. An attached tick should be removed carefully with a pair of tweezers, grasping it as close to the mouthparts as possible, and saved for possible identification by a state or county health department or local Extension agent. The wound should be cleaned with an antiseptic and a physician consulted if any Lyme disease symptoms appear within a few weeks.

There are two periods in the tick's two-year life cycle when humans are most at risk—at the nymph stage in spring and summer, and at the adult stage in fall. Eggs are laid in fall and hatch into larvae the next summer, attaching to small mammals and taking a blood meal in which they may pick up the *Borrelia burgdorferi.*

In fall, the larvae molt into nymphs, which emerge the following May through July. About the size of a poppy seed, they attach to horses, dogs, cattle, rodents, and humans, feeding for three to five days. If they pass the disease along to that mammal, it can infect other feeding ticks. Researchers estimate that 80 percent of Lyme disease cases are spread by the almost invisible nymphs.

Adult deer ticks are about the size of a sesame seed, with oval, flattened bodies. They are most active in October and November, but can be found in winter when temperatures are above 35 degrees. Their preferred host is white-tailed deer, but they also attach to dogs, humans, and livestock, feeding for seven to 10 days. While adult ticks more commonly are infected with the Lyme disease spirochete than the nymphs, humans are less likely to get the disease from them because the adult ticks are more easily detected.

SOURCES

The U.S. Centers for Disease Control and Prevention, Atlanta, Georgia. Lyme disease hotline, (404) 332-2573. To receive faxed information, telephone (404) 332-4565.

The non-profit American Lyme Disease Foundation, Inc., Somers, New York. Physician network, (800) 876-LYME.

The non-profit Lyme Disease Foundation, Inc., Hartford, Connecticut. Disease information, (800) 886-LYME.

Insect Allergies

Approximately one-half to one percent of the population is genetically predisposed to develop severe allergic reactions to insect stings, according to Dr. David F. Graft, chair of the insect allergy committee of the American Academy of Allergy and Immunology.

An initial sting causes these people to develop excess antibodies that work against them when stung again. They break out in hives, feel dizzy from a drop in blood pressure, and have trouble breathing. "Some people have a mild reaction the first time and hope it won't happen again, but it will," Graft says.

A sensitive person can be given a five-year course of injections that is "almost 100 percent effective," he says, or they can carry an epinephrine injection kit to use when stung by bees, wasps, or ants.

Graft says there are about 50 deaths in the United States annually from allergic reactions to Hymenoptera family members.

About 10 percent of the population has what Graft calls "large local reactions," in which a bite will cause swellings of more than two inches that last longer than 24 hours. These are not related to the more systemic reactions and should be treated with ice, over-the-counter antihistamines, and perhaps a short course of a corticosteroid. "Some people put meat tenderizer on bites," he says. "But it's possible to become sensitized to it" so that it will cause an allergic reaction.

Don't Blame Peat

The peat moss industry has been beleaguered of late by charges that their product is not environmentally responsible (see "Is Peat P.C.?," *American Horticulturist,* December 1993). Now rumors are connecting peat moss to a rare disease-causing fungus.

The disease, cutaneous sporotrichosis, is caused by the fungus *Sporotrichum schenckii,* found on soil, plants, and wood. It is also commonly found on sphagnum moss, the living form of peat sold in long strands and used primarily to line hanging wire baskets.

The fungus usually enters the body through some kind of abrasion—it's sometimes called rose growers' disease—forming a bump that can become ulcerous. More lesions may form along the lymph system, and in rare cases, pulmonary disease can develop.

Gerry Hood, president of the Canadian Peat Moss Association, says there have been no reported cases of the disease being linked to peat moss, the dead layer of sphagnum mined from peat bogs and used to amend garden soil.

The disease can be avoided by simply wearing gloves, washing hands and arms after gardening, and watching cuts and scratches to make sure they heal promptly.

The Dread *Rhus* Rash

According to dermatologists, there is one garden-related agony that 85 percent of us can expect to suffer sooner or later: the itching rash and oozing blisters caused by urushiol, the oil found in members of the *Rhus* genus—poison ivy, oak, and sumac.

Yet misperceptions about this allergic reaction continue, even among doctors.

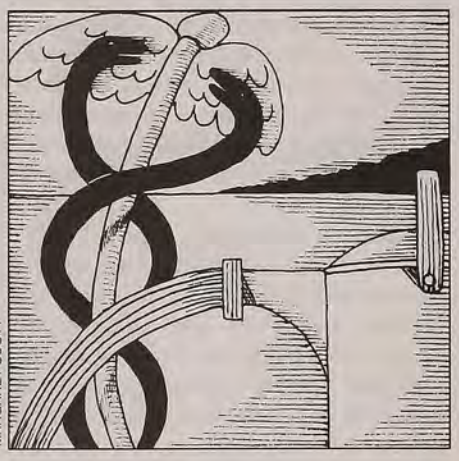
The most dangerous of these myths is that there is currently a shot or pill that will prevent the reaction. "None of the products that have been on the market have been proven effective," says Dr. Vincent Beltrani, head of the contact dermatitis committee of the American Academy of Allergy and Immunology (AAAI), "and they can have some serious side effects. We've had reports of four deaths caused by renal shutdown."

Researchers at the University of Mississippi have been working on a vaccine that, like earlier efforts, works through hyposensitization—introducing a tiny amount of ester-enhanced urushiol into a sensitive individual. It showed promise with guinea pigs, and two years ago was released for clinical trials. But after a year, the firm that bought the rights to it pulled out, according to Thomas Sharpe, associate director for research services and technology transfer of the university's research institute of pharmaceutical sciences.

"We're working to license it to another company and continuing to do additional development," Sharpe says. "We believe from our animal data that it could be effective for as long as a season, but it's difficult to extrapolate since humans have a different life span."

Beltrani says it would be "revolutionary" if an effective hyposensitization vaccine is found. Unlike allergies for which there are vaccines, the reaction to poison ivy involves a T-cell response. "There has never been any T-cell mediated disease helped by hyposensitization. It would uncover a whole new wave of medical treatment," he says.

Probably the most persistent myth about poison ivy is that scratching the blisters will "spread" the sores. The rash



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is spread by direct contact with the urushiol; the blisters contain the body's own serum. "In people who are especially sensitive, the dermatitis may spread five centimeters instead of one, but that doesn't mean the spread is systemic," he says. We're sometimes fooled because we contact the oil on something other than the plant: our gardening tools, our mate's hands, our children's clothes, our pets' fur. And many of the blisters won't show up for four days or so after initial contact. The reaction is stronger where our skin is thin, like the face and genitals, which is why it's so easy for us to spread the oil with our hands; palms and soles rarely react.

Even on dead plants, the oil can remain for several years. Be careful about what you snatch up to feed into the chipper/shredder, and by all means, don't add poison ivy to the compost.

The best treatment is to wash with cold water—soap may actually help spread the oil—within 15 minutes of contact. Products sold for use after contact with the oil are no more effective, according to Beltrani.

As for so-called shields to be applied when a gardener or hiker expects to come in contact with the weeds, he says, "We are still looking for the ideal barrier cream." The most effective, according to the AAAI contact dermatitis committee, is Stokogard, distributed by a company in South Dakota (see below).

In regard to the folk remedy of rubbing the oil off with plantain or jewelweed, the jury is still out. "Where I come from in New York, the farmers swear by jewelweed," says Beltrani. "I've asked them to bring some in so we can test it, but they never have. So the evidence is still anecdotal."

Once your body tells you it's too late for preventive measures, you may want to run to the doctor for an oral course of prednisone—a steroid hormone with effects similar to cortisone—if you have a history of severe reactions; Beltrani says he usually won't prescribe it once the reaction has run a few days of its course.

Beltrani warns against a prescription called the Medrol Dose Pack, which treats poison ivy with prednisone taken orally for 10 days. The problem is that the allergic reaction normally continues for 14 to 21 days. "The hormone doesn't treat the allergic reaction," he explains. "It virtually paralyzes the body so that it doesn't respond." Once the paralysis wears off, the itch is back, usually feeling worse than when it was first treated.

A tepid oatmeal or baking soda bath will dry the blisters, and a cold shower or compress will bring some relief. "Cold is an anesthetic and anti-inflammatory," Beltrani says. "Heat is a vasodilator that will bring red blood cells into the rash area and possibly even perpetuate it."

Old-fashioned calamine lotion is more effective than over-the-counter hydrocortisone creams, according to the AAAI committee, which calls the latter too weak to have any effect.

If there's any good news on the poison ivy front, it's not a medical breakthrough but an observation: according to the AAAI committee, those of us who reach adulthood without becoming sensitized to *Rhus* plants have only a 50 percent chance of developing the allergy. There is even a slim chance that we can lose the allergy later in life. The question is: How do we dare to find out?

For information on obtaining Stokogard pre-exposure cream, which sells for a suggested retail price of $5.99 for two ounces, call (800) 328-2935.

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The Thunder Tree, *Pyle*	HOU 894	$17.95
Thyme On My Hands, *Grissell*	TIM 103	$12.75
Treasures of the RHS: 350 Years of Botanical Illustrations, *Elliott*	TIM 994	$35.50
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Waterscaping: Plants and Ideas for Natural and Created Water Gardens, *Glattstein*	GAR 994	$17.00
Weed Seeds of the Great Plains, *Davis*	UPK 194	$22.50
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YOUTH SYMPOSIUM ATTENDED BY 450

"Out of the Classroom and Into the Garden," the August 5 to 7 youth gardening symposium co-sponsored by the American Horticultural Society and the Montessori Foundation, drew some 450 educators, horticulturists, and others from around the country.

The three-day event consisted of two days of seven keynote presentations, 40 workshops, exhibits, and social events at the Doubletree Conference Center in Arlington, Virginia, and a final day at River Farm, the AHS headquarters site.

Most participants agreed that a highlight was a keynote presentation by Bill Lucas, director of England's Learning Through Landscapes Program.

In the vast majority of schools, Lucas began, there is no "out of the classroom and into the garden." Said Lucas: "In fact, it is much more like 'out of the classroom and into a prison yard surrounded by a chain-link fence.'" The murmurs of agreement grew loud as he juxtaposed slides of prisons with frighteningly similar schoolyards and playgrounds.

It was in response to such impoverished landscapes that he founded Learning Through Landscapes (LTL). In just four years, LTL has worked with more than 10,000 schools in the United Kingdom and has developed curriculum materials for using the schoolyard as an interdisciplinary outdoor classroom. According to Lucas, "LTL has become synonymous with a movement that has reasserted the value of experiential learning outdoors, the power of landscape, and the need to reconnect young people to the soil, to share with them the value of growing things."

Schools that have adopted LTL's philosophy may have an arboretum, a butterfly garden, a cornfield, a formal garden, a hen house, a group of attractive seats, a math trail, an orchard, a pond garden, a recycling center, sculpture, a sensory garden, a weather station, a wildflower meadow, or a windmill. Many have several of these features.

JOHN CLOGAN

An Herbal Discovery Cart was one of 15 exhibits at River Farm on the final day of the youth gardening symposium.

Lucas cautioned against the "consumerism" approach to landscaping—i.e., wanting a trendy final product without consideration for how well it will fit an existing site or who will be using and caring for it.

He received a standing ovation as he concluded: "If we as educators provide inaccessible educational environments in our schools and community sites, then wittingly or not, we demonstrate an uncaring attitude toward the very children on whom the survival of the planet depends. It is LTL's fervent hope that, by stopping the rot in schools, we can help ensure that we learn to value each other and care for the wider environment."

In another keynote presentation David Kahn, president of the North American Montessori Foundation, reviewed the history of community and school gardening programs in the United States and Europe beginning in the early 20th century. Children then reaped many developmental benefits from having gardening more central to their lives, he said, and he urged the audience to create similar opportunities for today's youth.

Margaret Cozzens, director of elementary, secondary, and informal education for the National Science Foundation (NSF), delivered a keynote address on funding opportunities available through the foundation. She said the NSF is aggressively looking for high-quality educational plant and gardening programs to support, and offered grant guidelines and tips for writing successful applications.

In addition to four other keynote speakers, there were over 40 workshop and "New Idea" presenters. Workshops included:

✦ "A Quiet Revolution on Swedish Schoolgrounds." Gareth Lewis and Max Kern Hansen, directors of Sweden's *Skolans Uterum* (The Outdoor Classroom), described the transformation of Swedish schoolgrounds into beautiful

and creative outdoor classrooms. Their efforts have resulted in similar programs in neighboring countries.

✦ "Creating Wild School Sites." Suzy Gilley, who directs a Project Wild program in Richmond, Virginia, gave suggestions for transforming school and community sites into landscapes that attract and sustain wildlife.

✦ "Across the Curriculum—Growing Hope in Times of Despair." Suzanne Wright and Gail Lobenthal described how Sprout Scouts, based in San Antonio, Texas, has started gardening programs for inner-city youth.

Topics in the 10-minute New Idea presentations included composting with worms, topiary, plant propagation projects, and using a CD-ROM horticultural program in the classroom.

Symposium coordinator Maureen Heffernan called the weather on the meeting's last day "a miracle." Said Heffernan: "This has been the ultimate fiery, sweaty Washington summer. But we had unbelievably glorious weather. After two days in a seemingly hermetically sealed hotel, it felt like paradise."

Participants spent the morning touring the Children's Garden Project. "We can't believe how wonderful these gardens are" and "I wish I'd brought more film" were frequent comments.

The 15 hands-on workshops and exhibits set up on the grounds included two "Discovery Carts," on herbs and integrated pest management, by Kristin Dill and Ellen Rhoades, graduate students from the U.S. National Arboretum. Others included seed starting, composting, tree planting, flower arranging, perennial gardening, soil preparation, organic gardening, and plant dyeing. The most popular workshops centered on animals: worm composting, raising butterflies for gardens, and how to attract and keep bats in gardens.

Mary Appelhof, author of *Worms Eat My Garbage,* was one of several "pied pipers" at the symposium who always seemed to have a group trailing after them asking questions. She dispensed information and insights on the importance of worms, worm bins, and worm composting. Pearl Fryer, who gave a demonstration on topiary, also developed quite a fan club. Heidi Hughes, education coordinator with the American Bat Conservation Society, draped bats from her shoulders as she explained how a garden can be made to attract these beneficial flying mammals. Many participants came in for a closer look or to touch the bats. Ken Duffy, designer of River Farm's new Bat Cave Garden, was on hand to answer questions.

The symposium ended with a truly climactic butterfly release. The group gathered in a large circle around Judith Levicoff of Magical Migrating Monarchs in Jenkintown, Pennsylvania, who was holding several plain white envelopes. She explained that the offspring of the monarchs they contained would migrate to overwinter in Mexico. These international ambassadors show us, she suggested, that where nature is concerned, there are no political borders.

One of the butterflies flew straight for the nose of a tall gentleman, contentedly remaining there until several participants took advantage of the photo opportunity. The others fluttered up and out of sight, seeming to embody the sense of hope for the future that ran like a thread throughout the symposium.

The first AHS-sponsored symposium on youth gardening held in the Washington, D.C., area a year ago drew some 500 people.

To receive a printed copy of the full 1994 youth symposium program, send a self-addressed, legal-sized envelope with 29 cents postage to the Education Department at the AHS address. All indoor presentations were tape-recorded, and cassettes are available for sale. If after reviewing the program guide you would like to order one or more tapes, call the Education Department for price information.

JOHN CLOGAN

"I wish I'd brought more film" was frequently heard as participants toured River Farm's children's gardens.

'95 SYMPOSIUM IN PASADENA

The third annual youth gardening symposium sponsored by the American Horticultural Society is scheduled for June 27 to 30, 1995, at the Pasadena Conference Center in Pasadena, California. It is being planned in conjunction with the California Arboretum Foundation for the Arboretum of the County of Los Angeles.

There will be two days of speakers and workshops at the conference center and one day of special events at the Los Angeles county arboretum and tours of outstanding area gardens.

A call for papers will be published in the January 1995 *American Horticulturist* news edition, and full registration information will be published in the March news edition.

SWEDEN HOSTS SCHOOL GARDEN CONFERENCE

Maureen Heffernan, AHS education coordinator, will represent the American Horticultural Society at an international conference on developing school gardens May 8 to 10 in Malmo, Sweden.

The conference, "Unlimited Schoolgrounds," is being planned by the Swedish group *Skolans Uterum* (Outdoor Classroom) and England's Learning Through Landscapes, together with the City of Malmo. Over 1,000 delegates from throughout the world are expected to attend. The theme will be how to make, use, and maintain school gardens, as well as how to develop schoolgrounds more creatively for interdisciplinary activities.

Heffernan will describe what AHS is doing to promote horticultural education for youth in the United States.

Malmo is in the south of Sweden one hour by ferry from Copenhagen International Airport. The conference will be reasonably priced and include opportunities for garden tours. For more information, write *Skolans Uterum,* Box 22106, S-104 22 Stockholm, Sweden; call 08.650.94.91; or use E-Mail, max-hansen@public.se.

REGIONAL HAPPENINGS

Mid-Atlantic

✦ **Nov. 12. Four 18th-Century Virginia Gardeners.** Lecture. Monticello, Charlottesville, Virginia. Information: (804) 984-9822.

✦ **Nov. 13-14. Southern Christmas.** Lecture. The State Arboretum of Virginia, Blandy, Virginia. Information: (703) 837-1758.

✦ **Nov. 13. Fall Camellia Show.** U.S. National Arboretum, Washington, D.C. Information: (202) 245-2726.

North Central

✦ **Nov. 12. A Gardener's Eye For Design.** Lecture/discussion by Viki Ferreniea. Chicago Botanic Garden, Glencoe, Illinois. Information: (708) 835-5440.

✦ **Nov. 14. Terrarium Treasures.** Workshop. Cleveland Botanical Garden, Cleveland, Ohio. Information: (216) 721-1600.

✦ **Nov. 16. Seasoned Advice for Achieving Spectacular Results in the Midwest.** Lecture by Marylyn Satchjen, author of *Marylyn's Garden*. Olbrich Botanical Gardens, Madison, Wisconsin. Information: (608) 246-4716.

✦ **Dec. 9-Jan. 8. Holiday Floral Show.** Krohn Conservatory, Cincinnati, Ohio. Information: (513) 352-4080.

Northeast

✦ **Oct. 29-Nov. 20. Chrysanthemum Festival: Under the Big Top.** Longwood Gardens, Kennett Square, Pennsylvania. Information: (800) 737-5500.

✦ **Nov. 3. Personal Space and the Garden.** Garden Trends Lecture. The Horticultural Society of New York, New York. Information: (212) 757-0915.

✦ **Nov. 5. Landscaping with Herbs.** Lecture by Jim Wilson. The Arnold Arboretum of Harvard University, Jamaica Plain, Massachusetts. Information: (617) 524-1718, ext. 162.

✦ **Nov. 5-27. Francesca Anderson Art Exhibit and Fall Flower Show.** Brooklyn Botanic Garden, Brooklyn, New York. Information: (718) 622-4433.

✦ **Nov. 16. The Natural Habitat Garden.** Lecture by author/photographer Ken Druse. Delaware Center for Horticulture, Wilmington, Delaware. Information: (302) 658-6262.

✦ **Nov. 19. Wildflowers in Winter.** Workshop. The Bartlett Arboretum, Stamford, Connecticut. Information: (203) 322-6971.

✦ **Dec. 3. Holiday Magic with Michael Skaff.** New England Wild Flower Society, Garden in the Woods, Framingham, Massachusetts. Information: (508) 877-7630.

✦ **Dec. 10. Garden Walk: Needling Questions About Conifers.** Wave Hill, Bronx, New York. Information: (212) 549-3200.

Northwest

✦ **Nov. 19. Women in Horticulture Conference: Profiting from Integrity.** The Association for Women in Landscaping, Seattle, Washington. Information: (206) 525-7844 or (206) 937-2815.

South Central

✦ **Nov. 5. Garden Winterizing.** Tour with Warren McCoskey. Botanica, The Wichita Gardens, Wichita, Kansas. Information: (316) 264-0448.

Southeast

✦ **Nov. 5. The Steeple Chase at Callaway Gardens.** Pine Mountain, Georgia. Information: (800) 282-8181.

✦ **Dec. 4-31. Poinsettia Display: From Lowly Weed to Lofty Adornment.** Atlanta Botanical Garden, Atlanta, Georgia. Information: (404) 876-5859.

✦ **Dec. 3-4. Christmas at the Manigault House.** Sponsored by the Garden Club of Charleston, Charleston, South Carolina. Information: (803) 723-2926.

✦ **Dec. 5-21. Christmas Insider and Winter Garden Tours.** Tryon Palace Historic Sites and Gardens, New Bern, North Carolina. Information: (919) 638-1560.

Southwest

✦ **Nov. 11-12. Las Aranas Weaver's Guild: Fibers Fantastic.** Albuquerque Garden Center, Albuquerque, New Mexico. Information: (505) 296-6020.

West Coast

✦ **Nov. 3-6. Fall Plant Festival.** Huntington Botanical Gardens, San Marino, California. Information: (818) 405-2100.

SINO-ST. LOUIS

The newest additions to the Missouri Botanical Garden won't be seen in the regular garden tour, but the 62,500 mounted, pressed specimens of Chinese plants received in May make the garden's collection of Chinese specimens the largest outside China.

The acquisition was made possible by the Flora of China project, a joint Sino-American effort to revise, condense, and translate into English China's catalog of plants, which began in 1959. This is no small task, considering that China currently has around 30,000 species of vascular plants, 7,000 of which have horticultural importance and 5,000 with medicinal uses. One such plant, *Trichosanthes kirilowii*, a member of the gourd family found only in China, is being studied for its strong activity against the HIV virus.

This is the first significant collection of Chinese specimens made available to the West since the 1930s. The St. Louis garden, one of the world's major centers for the study of Chinese plants, will use the plants in research related to the Flora of China project and other studies of East Asian plants.

URBANA-CHAMPAIGN DEDICATES TEST GARDEN

The University of Illinois at Urbana-Champaign recently dedicated its new Miles C. Hartley Selections Garden, the first step in the development of the university's 160-acre arboretum project. The Hartley Selections Garden was named in honor of the late University of Illinois graduate and former faculty member and was funded by his family.

The arboretum, which will be solely funded by donations, is to be a setting for research in plant sciences as well as fine and applied arts. It will be divided into three main sections—the core, the collections, and the habitats. The Hartley Selections Garden will be the focal point of the core area, which will include a formally organized group of display gardens. The collections area will consist of primarily woody plants in an informal parklike setting with trails weaving through them. The habitats represented at the arboretum will include woodland, savanna, and wet prairie.

The University of Illinois has been a test site for the All-America Selections (AAS) since 1966. The Hartley Selections Garden is an expanded version of the original AAS test site, designed to be more aesthetically pleasing for visitors who wish to learn more about the latest experimental varieties of bedding plants and vegetables.

NEW BUTTERFLY CENTER FOR HOUSTON

Nearly 2,000 butterflies recently took center stage at the Cockrell Butterfly Center, the newest attraction at the Houston Museum of Natural Science. Unlike many zoo exhibits that separate people and animals with glass or bars, the butterfly center provides an interactive experience between the visitors and the butterflies. Allowed to roam free in the center, the butterflies form a swirling mass of color as they investigate the plant life and any visitor wearing a brightly colored shirt.

The butterflies' new home, a cone-shaped glass tower 70 feet tall and 105 feet in diameter, comes equipped with attributes of a tropical rainforest, where some of the butterflies might be found in nature. Visitors enter the center through an underground, cavelike opening and emerge behind a curtain of water created by a waterfall that drops 40 feet from an overhanging cliff. The tower's hot and humid air is necessary for both the tropical plants and the butterflies.

According to Claire Hagen Dole, publisher of *Butterfly Gardeners' Quarterly,* butterflies are cold-blooded insects that use sunlight to warm themselves. Their delicate bodies are particularly at risk in rain or hail, which can easily knock them to the ground. For this reason butterflies will take cover on cloudy days, sensing a possible rain storm.

Over 150 species of plants were chosen for the rainforest, either because they are important components of a Central American rainforest, because they are sources of important tropical products for humans, or because they are good sources of nectar for the butterflies.

Butterflies in the center will include many tropical species as well as some that are native to Texas and other parts of the United States. With a life span of only about two weeks, the butterflies have to be constantly replaced. In order to maintain up to 75 different species in the center, the museum staff will raise 30 percent of the butterflies locally and import the rest from butterfly farms in Central and South America and tropical Asia.

In addition to the live butterflies, the center houses the Brown Hall of Entomology, which showcases a collection of dried insects that includes several thousand tropical butterflies, moths, and beetles.

For more information about the Cockrell Butterfly Center, contact the Houston Museum of Natural Science at (713) 639-4600. For information on the Butterfly Gardeners' Quarterly, *write P.O. Box 30931, Seattle, WA 98103.*

1995 NATURAL GARDEN CALENDAR BY KEN DRUSE

The American Horticultural Society is pleased to offer "The Natural Garden" by Ken Druse as its 1995 calendar selection. Druse's influential book, *The Natural Garden,* in its fifth printing, is the winner of both writing and photography awards from the Garden Writers Association of America. Druse also received the American Horticultural Society's Horticultural Writing Award in 1993.

Druse advocates creating gardens that mimic what is best in nature's designs. The Natural Garden wall calendar is a splendid adaptation of Druse's gardening philosophy.

The calendar is 12" x 12" and includes full-color photographs throughout. AHS members pay just $7.75 for one calendar (retail price, $8.95), plus $1.50 for shipping and handling. Each additional calendar is only $7 postage paid. Virginia residents, please add 4½% sales tax.

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THE PHONY BURLAP MENACE

Gardeners planting balled-and-burlapped trees are often told that it's safe to leave the burlap on if it's the real thing, but to remove it if it's plastic—usually green or white and hard and shiny. Larry Kuhns, a professor of ornamental horticulture at the Pennsylvania State University, is warning consumers about a synthetic burlap that's almost impossible to distinguish from the real thing. "It's brown and soft, and especially if it's been held in wood chips a while, it looks completely natural," says Kuhns.

Even experienced professionals can be fooled, he says. "Where I hear about it most, as a state Extension specialist, is from developments where all the trees have died after five or six years because the developers put in a lot of cheap trees from nurseries that weren't too reputable, just to meet code."

If you have any doubt about the authenticity of your burlap, burn a small piece of it, Kuhns suggests. If it's plastic, it will bead up rather than burn up. Real burlap, even when treated with copper compounds to retard decomposition, will disintegrate in two to eight months, and roots will grow through it even sooner, he adds.

A PAD EXPERIENCE

In the September *American Orchid Society Bulletin*, two Texas members report a serendipitous growing method that other gardeners might like to try.

Ed Wright and Bill Tippitt write that when someone gave them some four-inch plants intended for an orchid society raffle, they set them on a bench and temporarily forgot about them. For reasons no one seems to remember, the bench was partly covered with urethane-foam carpet padding.

When the plants were rediscovered, plants that had been set on the padding had grown much faster than those on the bare bench beside them. Wright and Tippitt then tried a larger piece of padding with more plants and again got spectacular results.

Next, some fellow gardeners persuaded them to add lights to the set-up. Plants are set on top of a pad cut to fit inside a cookie sheet. The pad is soaked to wick water to the plant, and a small fan blows across the surface to create an ideal environment for plants that like low temperatures.

Wright and Tippitt say the padding seems to work best with small plants and hanging baskets. Results are less dramatic for larger plants.

They write: "An especially rewarding test has been the use of carpet pad in a program at the San Antonio Botanical Gardens," where they are trying to re-establish *Spiranthes parksii,* Texas' most endangered orchid species. "Two of our 10 plants were placed on carpet pad, and they have shown great improvement in growth and appear to be holding leaves longer than is normal for this species. We hope the extra leaf time will produce sufficient food for a great blooming and heavy seed set next autumn."

1995 AAS WINNERS

It was an all-ornamental year for All-America Selections (AAS). Each year since 1932, the non-profit group has been choosing the best seed-grown flowers and vegetables for the home market, and for 1995, the winners are two petunias and a gloriosa daisy.

The petunias are 'Celebrity Chiffon Morn', a soft pastel pink with a cream-colored center, growing 18 inches tall with 2 1/2-inch blooms, and 'Purple Wave', described as the first petunia suitable for a ground cover. It grows to six inches tall or less but spreads up to four feet, and has reddish-purple, two-inch flowers. Both are said to be drought-tolerant.

Rudbeckia hirta 'Indian Summer' is a cultivar of an annual black-eyed Susan, a native of the eastern United States. Its outstanding characteristic, says AAS, is growth to three or four feet with a basal branching habit so that it doesn't need staking. The golden flowers are six to nine inches across and may be either single or semi-double.

NOMINATE A NATIVE

If you hurry, you can still get in your 29-cents' worth on the newest award of the Garden Club of America (GCA). The Montine McDaniel Freeman Horticultural Medal will also be the GCA's first to honor a plant rather than a person.

The nominated plant should be an unusual North American native plant or its cultivar that enhances the landscape and attracts wildlife and/or is effective for environmental uses such as erosion control. For further information or nomination forms, contact Mary Ann Streeter, 598 Madison Avenue, New York, NY 10022, (212) 753-8287.

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