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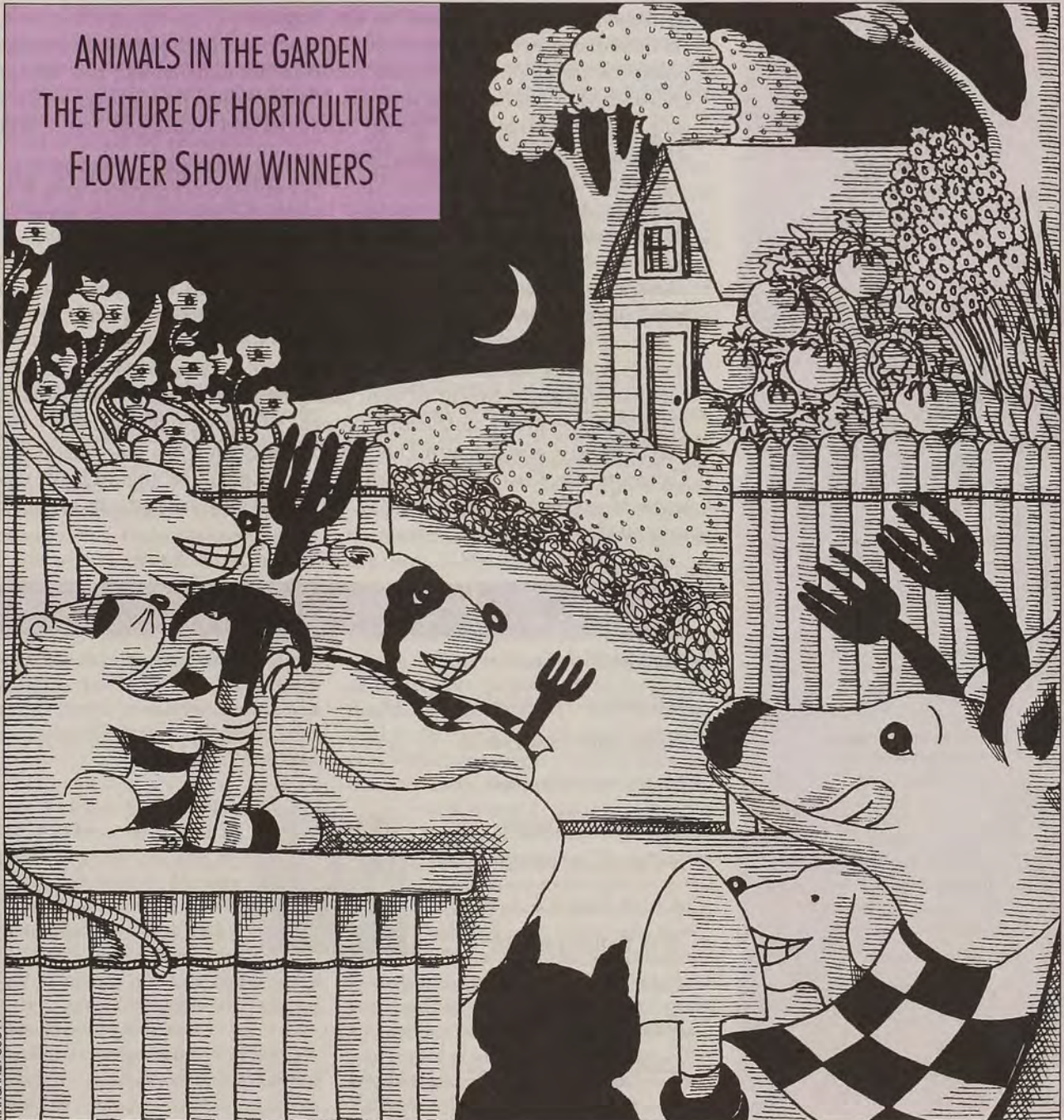
American Horticulturist

July 1995

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ANIMALS IN THE GARDEN
THE FUTURE OF HORTICULTURE
FLOWER SHOW WINNERS



MARGARET SCOTT

American Horticultural Society

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ARTICLES

Things That Go "Chomp" in the Night

As boundaries between urban and rural are lost in the sprawling hodgepodge of development we call suburbia, human habitat has steadily encroached on that of other animals. Many of them have proven remarkably resilient, adapting to human behaviors and landscapes and making the most of fragmented ecosystems.

Some of us people, on the other hand, aren't so flexible. We've got a half-acre, and by gosh, it's our right to have lettuce and hosta. Suddenly, those critters that were so cute in Disney cartoons are the enemy. We don't want to hurt them; we just want them to go away. While our staff doesn't have *the* solution, beginning on page eight we round up some generally gentle weapons with which you can defend your turf.

If you call the American Horticultural Society later this month you may find a new telephone system that will allow you to leave voice mail for the intended recipient of your call when that person is unavailable. Technology is pretty unfriendly, though, so during our regular hours—8:30 a.m. to 5 p.m. Eastern Time—you'll be talking to a real person first. Callers to our Gardeners' Information Service will be able to leave messages of any length 24 hours a day. We hope you'll take advantage of this upgraded service.

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MEMBERS' FORUM

A Pox on Norway Maple

The March issue [on invasive plants] was right on target. About time, too. Not enough was said about the Norway maple, *Acer platanoides*, though. We live in a wooded lake area where one of our neighbors planted this tree about 15 years ago, and it is a pest—a total mess.

The roots grow up to three times the spread of the tree's crown, sometimes above ground, large and thick. They have the power to break up sidewalks, driveways, garage floors, and retaining walls. The roots grow vigorously in the moist soil around sewer and water lines, clogging them and leading to costly repairs. They also present a hazard to natural gas lines.

Native to Europe, the Norway maple can grow to 90 feet. Our local power company lists it as noncompatible with transmission lines.

In early spring, masses of yellow flowers are followed by seeds that sprout not only in earth, but in gravel paths, driveways, and cracks in concrete. The seedlings are a serious threat to native plants in our forests.

The dense foliage of the crown inhibits ground vegetation. Under the canopy eventually will be bare ground, subject to erosion. The tree is also strongly allelopathic, preventing the growth of other species of plants through the release of toxic substances. Ultimately, an entire woodland will be transformed to Norway maple. Yet it is still being offered for sale by catalogs and garden centers. Go figure. *Virginia Gross*
Monroe, New York

Because they are fast-growing trees that tolerate urban hardships such as pollution, salt, alkaline soil, and drought, Norway maples were at one time highly recommended for street plantings. But they have proven susceptible to fungal diseases and show a tendency to spread into natural areas and outcompete native species.

Nina Bassuk, program leader of the Cornell Urban Horticulture Institute at Cornell University in Ithaca, New York, says that

overplanting of the trees, especially in the Northeast, has contributed to the problem. "In many cities in upstate New York, including Rochester and Ithaca, they are the dominant tree species," says Bassuk.

Last year, staff at the Scott Arboretum at Swarthmore College in Swarthmore, Pennsylvania, conducted a vigorous campaign to eradicate Norway maples that were crowding out vegetation in woods surrounding the campus.

George Ware, a forest scientist recently retired from Chicago's Morton Arboretum, says studies have shown that Norway maples "do compete a little unfairly by secreting an inhibitory substance." But Ware suspects that the reason other plants fare poorly beneath Norway maples is related more to the dense shade created by the trees than to allelopathy.

"A Gardener's Perspective"

I just joined AHS and have so far received three of your publications. I'd like to say that I'm somewhat taken aback by the thrust of your recent articles on invasive plants. Although I don't want to minimize the problems that some localities no doubt experience when a horticultural exotic escapes and becomes a weed, I'm surprised and disappointed by your failure to present a gardener's perspective on the matter.

I live in the desert Southwest. My first experiences with gardening here taught me that plants described as "non-invasive" tend to shrivel up and die their first summer. Twelve years ago, I planted a Japanese honeysuckle by the front door of my moth-

er's house. (This is the dreaded *Lonicera japonica* so reviled in your publications.) We sometimes groan good-naturedly over the tenacity of its runners, but it provides pleasant year-round greenery and has attractive, fragrant flowers. It has spread only a few yards in 12 years and shares its bed with some English ivy (another object of your contempt) and a beautiful stand of *Viola odorata*. This area of the yard is a refreshing escape from the brown desiccation of the surrounding



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desert and requires little maintenance.

Frankly, I'm less alarmed at the prospect of garden plants naturalizing themselves than I am at the thought of federal and state laws banning useful ornamentals from our nurseries and gardens. I know that's not the politically correct and ecologically fashionable opinion. The current snob fad in gardening is xeriscaping with natives; banning anything that might make the desert a little greener fits right in.

I certainly think municipalities and large estates should consider the ecological consequences of their landscaping decisions, but a home gardener should be able to plant a specimen of *Hedera helix* 'Buttercup' to brighten a shady fencepost without becoming an enemy of the state.

If your editorial practices continue to convey the message that home gardening is an irresponsible activity that must be controlled by government bureaucracy, I will consider taking my subscription money elsewhere.

Tom Tadfor Little

Los Alamos, New Mexico

The American Horticultural Society is an educational organization, not a political group. We don't feel that English ivy or any other plant should be banned. Our intention is to inform members of the tendency of some plants to become overly aggressive in certain situations, and that these tendencies have an impact beyond just making more work for the gardener. In our March articles on pest plants, we noted that plants that are a problem in one geographic region may not be a problem in others, and that potential pest plants pose less of a threat on small, carefully maintained properties.

Many specialty catalogs offer a wide array of plants especially adapted to desert environments, but perhaps none of these meet the aesthetic need many of us have for a green ground cover. We'd love to hear from other Western members on this one.

Politics, Not Medicine

Although formally trained in plant sciences and a long-time gardener (mainly wildlife gardening), I only recently joined AHS. The information content of your articles is generally high and the topics timely and interesting. I was distressed, however, by the article "Fighting for Phytotherapy" in the January "Plants and Your Health."

China's continued reliance on traditional medicine has nothing to do with the alleged virtues of herbal remedies. Until early in this century the Chinese, having lived for hundreds of years in a closed society, believed theirs was the oldest and most civilized cul-

ture in the world and that all other peoples were uncouth barbarians. When modern Western achievements in science and technology became known to them, the effect was collective culture shock. After the revolution, their leaders were acutely aware that they couldn't begin to provide Western medicine to China's vast population. They pursued a policy of encouraging traditional Chinese medicine, reasoning that 1) something was better than nothing, 2) it would prevent the people clamoring for something their leaders were unable to provide, and 3) it would restore China's badly damaged self-esteem. These were cold-blooded political judgments unrelated to the efficacy or relative merits of traditional Chinese medical practices. If preventive medicine were really at the top of China's priority list, they would be pursuing a vigorous policy of childhood vaccination.

Furthermore, the traffic in endangered body parts (e.g., rhinoceros horns and tiger bones) and the vicious slaughter of our own bears in Alaska for the Asian gallbladder trade (another traditional remedy) should make anyone who cares about the environment and species preservation a bitter foe of traditional Asian medicine.

That said, it should be noted that many cultures worldwide use native plants with true medicinal value. Their potential is enormous, and they should be studied in an objective, systematic manner as rapidly as possible before the remaining indigenous practitioners are lost to us. In that sense, China has done the world a favor by preserving their knowledge. However, no real scientist would assume that something is effective merely because it has been used for generations.

I cultivate an herb garden myself and love the gems of herbal lore behind the plants. I brew peppermint and chamomile tea and use lamb's ears against bee stings because I find that it works as well as store-bought ointments and is usually handier. The unvarnished truth about the usefulness of plant-based products is impressive enough. Why confuse the issue with pseudoscientific romanticizing?

Sieglinde Neuhauser
Albuquerque, New Mexico

PLEASE WRITE!

"Members' Forum" is your department. Send your opinions—and your gardening tips—to the Editor at 7931 East Boulevard Drive, Alexandria, VA 22308-1300. Letters will be edited for length and clarity.

GARDENERS' INFORMATION SERVICE

Q: One of the exhibitors at our spring garden show displayed a few pots of what was labeled only as Mexican heather. The attendant was unable to tell me anything about it. I was very much intrigued by it so I bought one plant. Can I put it in my perennial garden and will it overwinter in this area? —J.G., Hempstead, New York

A: Mexican heather may be Mexican but it's not a heather. *Cuphea hyssopifolia*, also known as false heather or elfin herb, is a member of the loosestrife family and is a native of Mexico and Guatemala. It will tolerate little or no frost and definitely will not survive the winter outdoors in Long Island. It is not fussy about soil but likes a sunny location and is most suitable for rock gardens or flower bed edging—not very easy with only one plant! You might be able to start more from seeds or cuttings.

C. hyssopifolia is a small, dense shrub that grows one to two feet tall. The many branches have narrow, hairy leaves on very short stalks and tubular flowers that range from violet to white. It's easy to see why it's compared to heather.

Q: My neighbor has a weirdly interesting shrub that she calls Harry Lauder's walking stick. What can you tell me about it? —J.L., Silver Spring, Maryland

A: The twisted, curling branches of Harry Lauder's walking stick do give it a fanciful appearance. It is a cultivar of the European hazel or filbert, *Corylus avellana*, quite appropriately called 'Contorta'. The British music hall entertainer Sir Harry Lauder carried a contorted walking stick as his trademark, and thereupon hangs the common name.

This specimen shrub grows 10 feet tall and may spread a bit wider. Its light green leaves can also have a twisted appearance. It doesn't produce fruit but does have showy catkins in late winter. Winter is when it is especially attractive in the garden because its twisted branches have the most visual impact.



They're often cut for flower arrangements. It has tolerated temperatures to 13 below zero, so could be grown in USDA Zone 6 and possibly into Zone 5.

Q: Is there a way of controlling slug eggs in my compost pile? I don't want to spread the eggs into my garden beds when I use the compost.

—S.L. Salinas, California

A: Slugs and garden snails like to chew just about all vegetable matter and may leave eggs behind if they go after kitchen scraps and weeds tossed in your compost. They leave eggs in protected places and often bury them in soil or moist organic matter. The egg mass—whitish, spherical eggs encased in slime—looks a little like tapioca. If you have enough space, you might try a solarization technique recommended in Rodale's *All-New Encyclopedia of Organic Gardening*. This will kill insects, nematodes, weed seeds, and some disease organisms that may be harbored in "cool" compost piles:

In a sunny area in midsummer, spread out the soil or compost you believe to be contaminated to a depth of six to 12 inches over an area of bare soil. Around the area, dig a narrow trench about six inches deep and cover the compost with a sheet of clear plastic. Press the plastic into close contact with the compost and seal the edges by filling the surrounding trench with soil. After one to two months, the pests should have been killed by the heat while any earthworms will have migrated down into the soil below. It's worth a try.

Q: Can I grow Shirley poppies in my area? I've been told by some gardeners that Shirley poppies are perennials while others say they're annuals.

—L.A., Newark, New Jersey

A: Although the more familiar Oriental poppies are hardy perennials, Shirley poppies are annuals that in areas of mild win-

ters reseed themselves. They therefore might be perennial residents in your garden, although they will not be true to form. The Reverend W. Wilks of the Shirley vicarage in England developed Shirley poppies in the late 1800s from *Papaver rhoeas*, sometimes called the corn poppy or field poppy. This is the poppy of the World War I poem "In Flanders Fields." The flowers can be red, pink, white, or peach and also come in double forms. The seeds should be planted outdoors, covered, in late fall. They are tiny and will be easier to handle if mixed with twice their volume of fine sand.

—Neil Pelletier, Director
Gardeners' Information Service



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PLANTS AND YOUR HEALTH

Gardens for Alzheimer's Patients

Thanks to advances in health care and greater attention to physical fitness and nutrition, Americans are living increasingly longer lives. The flip side of this positive statistic is that more people are living long enough to develop degenerative neurological disorders such as Alzheimer's disease.

Recognizing the benefits of horticultural therapy in a wide range of settings, some health care practitioners are using or developing innovative therapeutic programs for Alzheimer's patients. Horticultural therapy shows particular promise in helping Alzheimer's patients recapture memories and in reducing agitated or aggressive behavior by getting patients outdoors and providing a form of light exercise.

Alzheimer's is the most common of a group of diseases, collectively known as dementias, in which microscopic brain abnormalities cause a gradual loss of memory and other cognitive faculties. Of the estimated four million Americans with Alzheimer's disease, the largest proportion is among those 85 years or older. It is estimated that 40 to 60 percent of nursing home residents suffer from some form of dementia. Normally, a patient's physical and mental functioning deteriorates progressively, a process some practitioners consider analogous to a reversion to childhood. Life expectancy for Alzheimer's patients is five to 10 years from the onset of the disease.

Caring for dementia patients can be difficult for extended care facilities because the patients' needs and abilities are often different from those of other residents and can change rapidly. "Institutions are at a loss about what to do with Alzheimer's patients," says Maxine Jewel Kaplan, a horticultural therapist at the Ruth Taylor Geriatric and Rehabilitation Institute of the Westchester County Medical Center in Valhalla, New York.

A study involving Alzheimer's patients in five nursing facilities in British Colum-

bia, Canada, published in the summer 1992 edition of *Healthcare Management Forum*, found that incidents of violence, as well as falls and behavioral problems, decreased slightly from one year to the next at facilities where patients had access to exterior garden areas. At institutions without gardens, violent incidents increased nearly 700 percent, and total incidents increased by more than 300 percent in the same time span.

Kaplan's facility is building a courtyard garden that will provide sensory stimulation and an exercise and relaxation area for all patients. She plans to use the garden as part of her program for Alzheimer's patients and is seeking a grant to document the effects of this therapy. "I'm really excited about this garden," she says. "There will be raised beds, a water fountain and wind chimes for sensory stimulation, and winding pathways that have a change in texture to denote seating areas for visually handicapped patients."

In the past, Kaplan has integrated horticultural therapy into her programs for Alzheimer's patients by helping them start seeds indoors, then planting the resulting seedlings where patients can see them growing from their windows. When the plants are ready for harvesting, Kaplan plans activities or meals around the plants to emphasize the patients' involvement with growing them. "Most of these people lived in the country when they were young, or had grandparents in rural areas, so they all have some memory of working out in the garden. This brings back good memories for them," she says.

Based on her experience using horticultural therapy with mentally disabled people, Stephanie Shull, program coordinator at Manor Care South, a nursing home in York, Pennsylvania, developed a similar program for Alzheimer's patients. "We try to do as much as possible to bring memories back from our patients' pasts, and gardening seems to be one of the skills they are able to maintain," says Shull.

Kathy Hughes, a master gardener with

the Pennsylvania State University's Cooperative Extension Service, helped Shull's patients grow flower and vegetable seedlings and transplant them to raised beds. At the end of the season, patients gathered flowers, sunflower seeds, and ripe tomatoes, and Hughes showed them how to press flowers.

The growing use of horticultural therapy programs has stimulated a corresponding interest in landscape designs appropriate to the needs of specialized groups. Robert Hoover, a landscape architect with the Portland, Maine, firm Studio L.A., specializes in research-based designs for health care facilities. Recognizing that Alzheimer's patients have changing and sometimes conflicting needs, Hoover believes that the design of therapeutic gardens should incorporate what he calls "remembrance therapy"—elements designed to correspond to the emotional and cognitive abilities of patients at different stages of the disease.

In a paper titled "Healing Gardens and Alzheimer's Disease" in *The Healing Dimension of People-Plant Relations: A Research Symposium*, published by the University of California at Davis in 1994, Hoover enumerates elements he took into account while designing three therapeutic gardens for Alzheimer's patients in mild, moderate, and severe stages of the disease at a long-term care facility in Portland.

Hoover advises anyone planning such gardens to consider in the design process such criteria as safety and security, way-finding and orientation, sensory stimulation, and nontoxic plantings. He says that using these techniques to design gardens that conform to the emotional and cognitive levels of dementia patients can raise their quality of life immeasurably. "We're setting up research questions to be answered and developing scientific data to prove what a difference can be made in the lives of these people," says Hoover. "We're trying to show that this type of garden is not an amenity for these patients, but is therapeutic and *needs* to be done."

—David J. Ellis
Assistant Editor



MAIL-ORDER EXPLORER

Primrose Path Well-Trodden

Although many gardeners are drawn to the Primrose Path nursery in search of *Primula*, they soon learn that primroses are just one feature of Charles and Martha Oliver's balanced offering of rock garden, alpine, and woodland plants.

The nursery name is the product both of Martha's background in English literature—she borrowed it from a passage in Shakespeare's *Hamlet*—and of the couple's own affection for the genus. Of the 75-odd genera in their current catalog, the 23 primrose selections make up the largest listing.

Marie Skonberg, who lives in Ouzinkie, Alaska, located on the southern coast about 250 miles south of Fairbanks, says she has been ordering from the Olivers since they started business. "I found them at a time when I was looking for sources for primulas, and we've been doing happy business ever since." Skonberg grows a mixture of alpine, rock garden, and woodland plants in her USDA Zone 7 garden, but she has a special fondness for primroses, of which she has around 300 types and counting. She says the Primrose Path "has a great group of the candelabra-type primroses, and their [*Primula*] japonicas self-seed all over." Like most other customers interviewed, Skonberg praised the Olivers' packaging and delivery procedures. "A lot of companies don't pay any attention to how they mail things, but they are really conscientious about that."

Nancy Goodwin, owner of what was formerly Montrose Nursery but is now a display garden in Hillsborough, North Carolina, says she likes the Primrose Path because of her interest in superior forms of native wildflowers that do well in the East. "Primroses were what first led me to their catalog, but I like just about anything they are growing." Goodwin is well-known for her breeding work with cyclamens, heucheras, and foamflowers (*Tiarella* spp.), and the Olivers offer several of her selections, including *Heuchera*

'Montrose Ruby', a strain of seed-grown plants featuring purple leaves marbled with patches of silver gray.

When the Olivers moved in 1972 to 100 acres of farmland and abandoned coal-mine workings near Scottdale, Pennsylvania, just southeast of Pittsburgh, they ran a drinking-water testing laboratory. But with their keen interest in plants and a lot of space to work with, it wasn't long before the idea of starting a nursery took hold. In 1985 the couple started growing plants in earnest, and their first catalog was issued the following year. Only about two acres of the property is used for the nursery, mostly around the farmhouse where thick, rich soil is the legacy of nearly two centuries of conscientious gardening. It took some heavy mulching, however, to convert a nearby woodland area—where the soil consisted of compacted mine fill that Charles describes as a "dreadful mixture" of clay, broken shale, and coal—into shade beds for plants such as foamflowers and wood ferns.

Taking advantage of Charles's doctorate in genetics, the couple ventured into breeding and so far have introduced about 25 plants into the trade, including a number of primroses, phloxes, and foamflowers. Among them is *Tiarella* 'Tiger Stripe', a cross between three distinct forms of foamflower that has dark red veining in the leaves and light pink flowers. Terra-Nova Nursery, a wholesale nursery in Portland, Oregon, is now selling 'Tiger Stripe' and other Primrose Path introductions propagated by tissue culture.

The Olivers have also developed a series of heucherellas, which are produced from a cross between *Heuchera* and *Tiarella* species. "We offer white and pink hybrids [\times *Heucherella alba* 'Pink Frost' and 'White Blush'], which are quite unusual," says Martha.

Jack Ferreri, a free-lance writer in Verona, Wisconsin, who describes himself as "a rock gardener with a weakness for primroses and shade-loving alpinists," has been ordering from the Olivers for about seven years. Fer-

ri's favorites include penstemons, tiarellas, heucheras, and heucherellas. "They offer heucherellas with some very interesting coloration on the foliage—there's a lot of interest in those right now."

From his garden in the Berkshires of western Massachusetts, Norman Singer, past president of the American Rock Garden Society and a retired arts administrator at the Lincoln Center in New York City, says, "I'm especially interested in their *Primulas*, but they also have a fine selection of saxifrages and phloxes." Singer's favorites include *Phlox* \times *rugellii* 'Charles' Passion', a hybrid between *P. divaricata* and *P. amoena* that yields a mounded plant with purple flowers, and *Primula vulgaris* subsp. *sibthorpii*.

Robert Bartolomei, curator of the native plant and rock gardens at the New York Botanical Garden in the Bronx, particularly likes selections the Olivers have developed from plants found in the shale barrens, a geologic region just east of the Appalachian Mountains. "What's interesting about these plants is that many of them would be very good for rock gardens—not enough of our natives are explored for that," says Bartolomei.

Charles says the shale barrens lie in the rain shadow of the Appalachians and thus support drought-resistant plants "similar to ones you might find on the Western Plains, like prickly pear cactus." Among the plants the Olivers have developed from shale barrens plants are the crowsfoot sedum (*Sedum ternatum* 'Larenim Park') and several cultivars of drought-resistant moss phlox (*Phlox subulata* subsp. *brittonii*), including a compact clone with pale lavender flowers called 'Green Ridge'.

A plant-hunting trip to England is in the works, and the Olivers say they will continue to look for new plants to add to their repertoire.

—D.E.



For a catalog, send \$2 to: The Primrose Path, R.D. 2, Box 110, Scottdale, PA 15683. The Olivers don't accept credit cards or telephone orders. Orders received in the summer will be shipped in September.

The War on Bambi

It should be news to no one that deer damage has become a major headache for gardeners—more costly in terms of plant damage than insects, disease, or clumsy house painters. At the turn of the century, America's deer population had dwindled to a half-million. Now an estimated 13 to 15 million of them are roaming about our nation, many in suburban and even urban areas where there is little in the way of scruffy browse to sustain them, but plenty of juicy rhododendron buds and 'Casablanca' lilies. A recent release from Cornell University reported up to 90 deer per square mile in metropolitan Rochester, New York.

Attempted solutions fall into several broad categories: fear, sensory deterrents, barriers, and plant selection (see sidebar, page 9). Unfortunately, solutions in the first two categories stop working over time—the deer simply get used to the noise or the foul smell and help themselves to your yews again. Deer may munch even the most bitter-tasting plant if they are hungry enough. And fences are expensive and need frequent maintenance. But we'll offer what we've heard in each category, since even a temporary solution is better than no solution.

Fear

These ploys are intended to make deer think they're in imminent danger of attack by a human or other predator.

♦ **Radios.** Some gardeners have had luck rigging up a radio to go off at times that deer are most likely to feed. You may want to try hard rock or rap, however. One gardener recently reported on the Internet that deer in his neighborhood were fascinated by classical music, particularly Chopin.

♦ **Dogs.** We recently heard about some orchard owners who were scaring deer off with several dogs kept in bounds by the invisible fencing that works via an electronic signal on the dogs' collars. But this solution, like many others, seems destined to be short-lived. In March 1993 we reported on the success the Morris Arboretum in Philadelphia was having with Beanbag, a Jack Russell terrier that was



frightening deer from their rose garden. Before the issue was off the press, Beanbag had been retired. In his second year on patrol, he had become too familiar to the deer to be effective.

♦ **Irregular sorties.** You like to stroll around your garden anyway, so try to time these visits to deer hours—morning and evening, preferably while talking loudly to a companion—or yourself. This won't work, of course, where deer have become tame enough to look over your shoulder while you read the seed catalogs.

Sensory Deterrents

The goal here is to apply something directly to plants to make them taste bad (a contact deterrent) or, in the garden, to make the air smell bad (an area deterrent).

Contact deterrents work best on new plantings, the experts note. Once deer have acquired a taste for your new hedge, these are less likely to have an effect. There are commercial products and homemade brews. The homemade products have, of course, not been studied for health hazards or toxicity, and even the "natural" commercial products could have long-term effects on plants if used repeatedly.

♦ **Hot sauce.** Try a mix of one or two teaspoons of tabasco sauce or a solution of hot peppers mixed with two tablespoons of an anti-desiccant to help the hot sauce adhere to the leaves, mixed in a gallon of water. There is a commercial equivalent

called Miller Hot Sauce that is said to repel other mammals as well. A Connecticut study found it only a third as effective against deer as other commercial products.

♦ **Egg spray.** Blend two eggs in a gallon of water and spray on the foliage. Some users swear they can't detect the smell; others find it unpleasant. The commercial equivalent of this is Deer Away, which is made from rotten whole egg solids. It is said to be effective for up to two months, but is considered one of the most expensive of the repellents.

♦ **Hinder.** A number of sources recommended this product, a liquid made of ammonium soaps of fatty acids, which is also used to keep rabbits from girdling young trees. Concentrate can be bought in quantity for about \$15 a gallon. It is said to be safe for using on edibles—although as with all products, the directions should be followed carefully. It needs to be reapplied every two to three weeks, but still appears to be the least expensive of the commercial products. (One study found it ineffective when used in corn fields. Deer studies are predictable only in their lack of consistency.)

♦ **Bath soap.** Bars need to be hung in the garden about every 10 feet, a la "soap on a rope," or hung in cheesecloth or panty hose. Studies indicate that there is only a tiny bit of difference in effectiveness between soap brands (you never see this used as a selling point in television commercials, do you?). There is some dispute over whether the soap should be a deodorant soap, removed from the wrapper, or kept wet.

♦ **Human hair.** Some gardeners collect clippings from their hair stylist's floor and hang them in bags around the garden. Experts suggest that dirty hair is more effective than freshly shampooed. The Arboretum of the University of Wisconsin-Madison uses bags of human hair to protect valuable specimens. This and the soap approach work only where deer aren't yet used to the presence of humans.

♦ **Milorganite.** A study at Cornell University found that this composted sewage sludge from Milwaukee, normally used as a fertilizer, repels deer when used at the rate

of five pounds per square foot one or two times a month. However, it appears to have the most pungency and, hence, effectiveness when the weather is warm and humid.

Barriers

♦ **Relandscaping.** Particularly if you own a sloping property, an expensive but elegant solution is to design your entire landscape around this problem. In the March issue of *Green Scene*, the publication of the Pennsylvania Horticultural Society, designer Jeffrey R. Chorba wrote about taking advantage of deer's reluctance to climb cliffs by creating sunken and raised beds retained by boulders. He has also found that tight masses of shrubs around a property's perimeter will discourage deer from moving in closer.

♦ **Plant protectors.** It may be easier and cheaper to fence individual plants than your whole garden. Bird netting may be sufficient for small shrubs, but chicken wire or plastic is usually recommended. The fencing should be close enough to the shrub that deer can't jump inside, but far enough away that the deer can't reach the foliage. Plastic tree tubes may protect saplings from the antler-rubbing of bucks.

♦ **Tripper-upper.** Galen Gates, manager of horticulture collections at the Chicago Botanic Garden, says they have found that a quick fix is using chicken wire—"just unrolled, so that it's still springy"—simply laid on the ground around prized plantings. The deer apparently don't like the unstable footing this creates.

♦ **Double fence.** Because deer avoid small enclosures, a single low fence may protect a small vegetable or herb plot. If you need to fence a larger area, it may work to build two relatively low (four feet) fences some five feet apart. Deer realize they will be trapped if they jump the outer fence.

♦ **High, slanted fence.** One article suggested a six-foot fence, but most authorities agree that a large deer can easily jump eight feet. Additional psychological discouragement can be achieved by slanting the fence away from the garden at a 30-degree angle.

♦ **Electric fence.** If you have children living anywhere near you, this solution is not an option, but you might want to consider it for an isolated area, especially where valuable crops need protecting.

Researchers at both the University of Wisconsin-Madison and the Maryland Cooperative Extension Service report a high degree of effectiveness using a relatively inexpensive, single-strand polywire fence.

Polywire is a plastic filament wire interwoven with strands of stainless steel. A sin-

gle strand is suspended about 30 inches above the ground from three- to four-foot-long fiberglass rods placed 30 to 50 feet apart. Aluminum foil flags are attached to the wire with tape or clips, and the undersides of the flags are baited with peanut butter. When the deer try to eat the peanut butter they receive a shock and become conditioned to avoid the area.

To prevent fawns from walking under the wire, two wires can be used, one at two feet from the ground and the other at three feet.

Information from the Maryland Cooperative Extension Service suggests that an electric charger with two joules of power is needed for 6,000 feet of fence wire. An AC-powered charger is the least expensive and needs the least maintenance, but battery or solar power may be more practical in a rural area. The cost of materials for a two-strand fence big enough to enclose three

acres—including the jar of peanut butter—was estimated at less than \$300.

—Kathleen Fisher
Editor

SOURCES

Electric fence supplies:

West Virginia Fence Corp., U.S. Route 219, Lindside, WV 24951, (800) 356-5458.
Waterford Co., Box 1513, Fort Collins, CO 80522, (970) 482-0911.

Commercial repellents:

Necessary Trading Co., One Nature's Way, New Castle, VA 24127-0305, (703) 864-5103.
Worm's Way, 3151 South Highway 446, Bloomington, IN 47401, (800) 274-9676.

RESISTANT PLANTS: A NICE CONCEPT

Although the idea of landscaping with "deer-resistant" plants is an attractive one, we fought the idea of listing such plants for two reasons. First, even the people who compile such lists warn that deer when hungry will eat most anything. But the better reason is that among eight lists developed by nursery owners, designers, Extension agents, and garden writers, there is little if any agreement. Plants that appear on one list as "deer resistant" crop up on another as "deer favorites." Opinion is divided about hollies, for instance, although the American holly (*Ilex opaca*) is generally considered resistant, as are other spiny varieties.

A very general rule is that deer will tend to avoid prickly twigs and leaves, and herbaceous plants that are bitter or toxic. Thus a plant with a medicinal use, such as foxglove, is a good candidate. But this is another aspect of gardening for which there is, alas, no substitute for your own experience—or at least that of your immediate neighbors.

In the interest of doing *something* to assist the deer-plagued, however, we have compiled the following list. If a plant appeared on even two of our lists, we offer it for your consideration.

Generally Deer Resistant

Trees and Shrubs

Berberis (barberry)
Buddleia (butterfly bush)
Buxus (boxwood)

Cotinus (smokebush)
Myrica californica (wax myrtle)
M. pensylvanica (bayberry)
Nerium (oleander)
Osmanthus
Picea (spruce)
Pinus (pine)
Robinia (locust)
Spiraea (spirea)
Syringa vulgaris (common lilac)

Herbaceous Plants

Achillea (yarrow)
Ageratum
Aquilegia (columbine)
Begonia
Coreopsis (tickseed)
Digitalis (foxglove)
Echinacea (purple coneflower)
Ferns
Iris
Paeonia (peony)
Stachys byzantina (lamb's ears)

Generally Favored by Deer

Trees and Shrubs

Euonymus
Rhododendron
Taxus (yew)
Thuja (arborvitae)

Herbaceous Plants

Hosta
Hemerocallis (daylily)
Lilium (lily)
Pelargonium (geranium)
Rosa (rose)

A Cavalcade of Critters

Deer seem to get most of the bad press when it comes to animal damage in the garden, but smaller mammals—notably rabbits, squirrels, groundhogs, moles, gophers, and raccoons—can also wreak a lot of havoc.

The only sure way to keep many of these critters out is fencing designed specifically for the pest in question. Vegetable gardeners usually find it worthwhile to protect their crops with fences, but ornamental gardeners are always on the lookout for less unsightly ways to preserve their plantings.

When you discover decapitated or shredded plants, your first task is figuring out what creature to blame. Daytime marauders are often sighted, but other times it takes some close observation of the type of damage inflicted and the finding of tracks or droppings.

♦ **Rabbits.** Even nongardeners who have read Beatrix Potter's stories about Peter Rabbit know what members of the family Leporidae can do to beans, peas, cabbage, and lettuce. In winter and early spring, when not much green leafy material is available, Peter and his clan are also likely to damage ornamentals. Rabbits may nibble newly emerging foliage on shrubs and the lower branches of trees, prune tender twigs, or even strip bark from young trees. Rabbit damage can be distinguished from deer damage by the clean, angled cuts they leave; deer tend to leave jagged cuts and will browse above the one and a half feet rabbits can reach.

Rabbits will feel less welcome if you keep pet dogs or cats outdoors and eliminate brush and tall grass that rabbits use for cover. You may want to protect shrubs and trees with cylindrical wire cages or plastic tree tubes. A less expensive option is hardware cloth, burlap, or even aluminum foil wrapped around the trunk. One gardener we know has used two-and-a-half-gallon water jugs with the tops and bottoms cut out to protect small shrubs and seedlings.

♦ **Tree squirrels.** These acrobatic rodents feed on nuts, buds, seeds, fungi, and fruit,



and some species have an unfortunate taste for tree bark or the tender tissue just underneath. In the Pacific Northwest, tree squirrels are known to girdle the tops of redwoods, Douglas fir, and pines. Other vulnerable trees include sycamores, beeches, and oaks. Squirrels have caused so much damage to redwoods at Longwood Gardens in Kennett Square, Pennsylvania, that groundskeepers installed electrified collars around tree bases. You can protect young trees with tree tubes or wire cages, and possibly discourage squirrels from climbing larger trees with a two-foot band of sheet metal or smooth plastic wrapped around the trunk six feet from the ground. Obviously, adjoining trees will need the same treatment or squirrels will easily jump the gap.

Home remedies for keeping squirrels from beds and containers include mothballs, hot pepper sauce mixed with an equal amount of water, blood meal, and thorny branches. The first three have to be applied frequently. Tiger urine has also been found to repel squirrels and raccoons, which respond to the high sulfur concentration in the excrement of predatory animals. Researchers are currently developing synthetic chemicals to produce the same effect.

♦ **Chipmunks.** These endearing ground dwellers can cause garden damage disproportionate to their size. They have a fondness for flower bulbs, particularly crocuses, and occasionally eat or uproot seedlings. Protect seedlings or bulbs by covering them

with fine netting, or cover bulbs with a heavy-duty wire screen and mulch. This should also work for squirrels.

♦ **Groundhogs.** Also known as woodchucks or marmots, these wily beasts are the bane of vegetable gardeners everywhere, able to outwit all but the best fencing systems by either tunneling or climbing. They prefer crop plants and fruit but may occasionally snack on tender perennial shoots, or chew or claw the bark of fruit trees. Try sprinkling ground-up hot peppers or spraying a hot-pepper solution on the plants. (Note: Hot pepper on edibles may give them an inappropriate zest, and it is unknown whether long-term heavy use could have toxic effects on plants.)

♦ **Voles and moles.** Voles are tiny, burrowing vegetarians that sometimes eat flower bulbs, roots, or tubers of plants such as lilies and hostas. Voles sometimes damage fruit tree roots, which can be protected by wrapping the bottom part of the trunk to about six inches below the soil line with fine-mesh hardware cloth.

Less troublesome than voles, moles are most notorious for the unsightly raised mounds caused by their tunneling under turf. In searching for earthworms and grubs, moles may burrow into garden beds and uproot or damage plants and bulbs. To protect small flower beds, try burying hardware cloth or fine wire mesh around the edge, at least 12 inches deep with a perpendicular lip bent toward the outside of the bed.

Mole-discouraging devices commonly suggested include use of vibrating windmills and planting of the so-called mole plant or gopher spurge (*Euphorbia lathyris*), but scientific studies have not substantiated their effectiveness. A relatively new spray-on product called Mole-Med, which uses castor oil as an active ingredient, showed fairly promising results in testing at Michigan State University. For further information, call Mole-Med at (800) 255-2527.

♦ **Gophers and ground squirrels.** These burrowing omnivores eat seeds, plants, and insects, and have an unfortunate predilection for bulbs and roots. Small flower beds

or groups of trees can be protected by surrounding them with hardware cloth or wire mesh buried to 20 inches deep.

♦ **Raccoons.** If your plants are being uprooted overnight, suspect these nocturnal bandits. Omnivores that eat insects, fish, eggs, and fruit, they may disturb ornamentals while searching for insects or grubs. Raccoons are attracted to water and can damage aquatic plantings in their search for food around the edge of ponds. Suggested deterrents include sprinkling cayenne pepper around the bases of plants, placing mothball-filled socks at several locations, or using nontoxic compounds to control grubs in the soil.

♦ **Opossums.** Also nocturnal and omnivorous, they will damage tomatoes, corn, and fruit crops, but there is little evidence that they harm ornamental species. Electric fencing, or chicken-wire fencing at least four feet high with an outward-pointing lip on top, will keep them out of vegetable gardens. Tree wrap or wire mesh will prevent them from climbing fruit trees.

♦ **Desperate measures.** Lethal methods of animal control should in most cases be a last resort because they do not guarantee long-term success. Nature abhors a vacuum and other animals will eventually fill the ecological niche that is created. For example, most urban areas are saturated with gray squirrels, and individual animals are continually looking for a gap to fill in the ecosystem. Lethal methods are often subject to state or regional laws and regulations on animal control. Trapping and releasing live animals into the wild is also subject to local regulation. For information about these laws, contact your local Cooperative Extension agent or resource management agency. —D.E.

RESOURCES

These books are available at a discount through the AHS book program. For further information, contact Linda Miller at (800) 777-7931.

Living With Wildlife. The California Center for Wildlife. Sierra Club Books: San Francisco. 1994.

Please Don't Eat My Garden. Nancy McCord. Sterling Publishing Co, Inc.: New York. 1992.

Protecting Your Garden From Animal Damage. Ortho Books. The Solaris Group: San Ramos, California. 1994.

Wildlife Pest Control Around Gardens and Homes. Terrell P. Salmon and Robert E. Lickliter. ANR Publications of University of California at Davis: Oakland. 1984.

A Last Resort

They don't want to do it—but they've tried everything else. A number of U.S. arboreta are using sharpshooters to do "what the wolves and the mountain lions and the bears used to do," as Greg Armstrong, director of the Arboretum of the University of Wisconsin-Madison, puts it.

The Morton Arboretum in Lisle, Illinois, and the Shaw Arboretum in St. Louis are among other public gardens that have used trained shooters or hunters to thin deer herds causing thousands of dollars of damage and destroying rare collections.

John Behrer, superintendent of the Shaw Arboretum, says that 160 acres of its horticultural collections are protected with a nine-foot deer fence. "But our mission on the other almost 2,300 acres is to restore the native plant community and enhance diversity," he says. "Deer are no longer in a natural balance, and they drastically affect the rest of the system." On the recommendation of the Missouri Department of Conservation, Shaw allows citizens to hunt on its grounds. The other two arboreta use trained shooters. "People can't accept this, and we understand it," Behrer continues. "But we firmly believe that at this time there is no alternative."

Deer rival rabbits in their ability to reproduce. A fawn can reproduce the first year, yearlings can have twins, and adults often produce triplets. On the 1,146-acre George Reserve in Michigan, the deer herd grew from 10 deer in 1975 to 212 in 1980.

The Wisconsin arboretum, an outdoor research and teaching facility that includes a restored biotic community, has lost half its white cedars and gray dogwoods to deer. Forty to 60 inhabit the grounds each year.

Antifertility drugs seem like an attractive long-term solution. But administering the drugs—which last only one to three years—is labor intensive and impractical for animals wandering in and out of the grounds. "The technique is still in experimental stages," according to Armstrong, "and has potential undocumented environmental effects."

Electric fencing poses too many liabilities for public attractions. In Wisconsin the cost of a non-electric barrier, which would have had to fence a lake shore, was estimated at \$300,000. And arboretum managers want other animals—including a few deer—to be able to make themselves at home.

Even animal rights groups agree that live trapping is not the answer, says Behrer. Immediate mortality rates from trapping are said to be three to five percent, and wildlife managers report losses of up to 85 percent from traffic, hunters, and increased feeding pressure when deer are relocated to areas where the deer population is already high. Deer have sometimes returned from over 20 miles away in as little as four days. Wisconsin estimated the cost of deer removal at between \$400 and \$800 per deer.

Supplemental feeding is an economical option, but would eventually increase the deer population while damage to plants from antler rubbing and browsing would likely continue.

The culled deer are not simply disposed of. At Morton, the deer are field-dressed and taken to a state-licensed meat processor, and the meat is donated to a local food kitchen. Shaw's Behrer communicates frequently with the local animal rights organization, informing them of actions taken and alternatives explored. Yet it remains an uncomfortable topic.

"Some individuals mistakenly view the arboretum as a nature reserve, and accordingly assume that all animals should find it to be a safe haven," Armstrong wrote in a 1987 report. Welcoming deer into the restored biotic community—which reflects pre-European settlement ecosystems—would make it more realistic, that summary concluded, were it not for one thing—the absence of predators. "Shooting, because it replaces predation in permanently removing animals from the herd, is the most ecologically sound alternative." Armstrong, who has advised other arboreta including Shaw, says animal rights protests have stopped since the report was released. "We felt it was the only way," he says, "for the arboretum to survive." —K.F.



AHS BULLETIN BOARD

HORTICULTURE LEADERS CHART NEW PATH AT NATIONAL FORUM II

Prioritizing research, attracting a larger and more diverse audience for horticultural products, and establishing greater cooperation and coordination among all segments of the horticulture industry were among the top goals that emerged from National Forum II. The event, at Longwood Gardens in Kennett Square, Pennsylvania, April 23 and 24, was presented by the American Horticultural Society and co-hosted by Longwood. The first National Forum was held in 1991 at the Society's River Farm headquarters.

Representatives of a cross-section of horticultural interests, from the "green industries" to gardening organizations, heard six keynote addresses and participated in small discussion groups. The goal was to develop a strategic plan for making the United States a nation of gardeners.

Dr. H. Marc Cathey, president of the American Horticultural Society and moderator of the forum, said the meeting generated energy for revitalizing horticulture because people from different areas of the field discovered shared needs and goals. "If we can all work together, pool our resources, and break down some of the constraints that have developed, we can be successful," Cathey said.

Dorothy Kalins, editor of *Garden Design* magazine, led off the meeting by describing how her publication has attempted to tap into one of the largest markets of consumers in America: the 60 million people collectively known as "the baby boomers." Pointing out that this generation is the best educated and most well-traveled group of Americans, Kalins said that after spending so much of the last two decades focusing on their jobs and their homes, "it was inevitable this generation would discover the garden."

Gardening, Kalins said, allows people to express themselves on a number of different levels. "The garden is a place of awe and wonder. It's a way to get directly in touch with the environment, and the styl-

ist has an ever-changing palette with which to express his or her sense of individuality. There are new gadgets, plants, seeds, and books to experiment with."

Kalins said baby boomers are eager to create beautiful gardens but lack the skills to do so. "A condition for revolution exists when enthusiasm is coupled with a lack of expertise. If we provide the mastery, if we teach the subtleties of gardening, we can become the experts our customers trust."

Another way to get more people gardening, and at the same time help beautify America, is to share the experience with others. That was the message delivered by Nanine Bilski, president of the America the Beautiful Fund (ABF), based in Washington, D.C.

Bilski described a number of projects facilitated by the ABF's Operation Green Plant program, which distributes free flower, vegetable, and herb seeds to organizations and community groups. "The idea is not just to plant seeds, but is based on the belief that the spirit of America is founded on plants and gardening. We see the distribution of seeds as a way of building stronger communities, stimulating an appreciation of nature, and helping to feed the hungry," she said.

Bilski urged gardeners and horticultural organizations to "share the wealth" by donating seeds and plants, as well as knowledge, skills, and inspiration. "We need more gardeners not only to make America beautiful, but to make it free."

In describing the burgeoning field of horticultural therapy, Diane Relf, chair of the People-Plant Council, based in Blacksburg, Virginia, emphasized the positive role horticulture can play in the lives of elderly and disabled

Americans through the increased use of horticultural therapy and the hiring of disabled persons for horticultural jobs. Hiring disabled workers, Relf said, "creates a win-win-win situation. Our customers are winning, the successful business is winning,

and the environment is winning."

The People-Plant Council, Relf said, is documenting the success of horticultural therapy in a wide range of programs and serves as a link between researchers and the horticulture industry. "Through interaction and mutual support, horticultural therapists and members of other parts of the horticultural community, especially the industry, can create an environment of inclusiveness that will witness significant growth for both," she said.

Among the most exciting and challenging developments for horticulture is the swiftly evolving field of biotechnology, or genetic engineering. Richard Craig, professor of horticultural botany at the Pennsylvania State University in State College, pointed out that as America enters the 21st century it is at the crossroads of revolutions in information, environmental concerns, and biotechnology. Many limitations to plant growth will in the future be addressed by a combination of traditional breeding methods and biotechnology, said Craig. He urged a collaborative approach to research on plant breeding that would include input from all sectors of the horticulture community. Craig said that in addition to creating new flower colors and plant forms, breeders must strive for disease-resistant plants that are easy to grow and maintain. "Our understanding of the molecular basis of genetics will allow plant breeders to achieve unimaginable advances in the improvement of plants in the 21st century."

University research programs have been critical to breakthroughs such as biotechnology, said Thomas A. Fretz, dean of the College of Agriculture at the University of Maryland in College Park, who addressed the future of horticultural education.

Fretz pointed out that land-grant universities have traditionally produced the majority of students who have gone on to join the horticulture and agriculture industries. He voiced concern, however, about the fate of horticulture programs in light of the budget cuts and downsizing oc-



curing throughout the land-grant university system.

Observing that land-grant universities were created when America was largely rural and dominated by agricultural concerns, Fretz said, "We will need to change the land-grant universities, to move them from their agricultural past to a future that broadens their objectives and agendas."

Among the strategies he suggested for reshaping horticultural education are implementing interdisciplinary research and extension programs to meet the needs of communities and urban centers; shifting the focus of research from a profit-oriented industrial agriculture model to one with broader environmental and consumer concerns; and using new communication technologies, such as the Internet, to distribute

horticulture information to a wider audience of prospective consumers.

In the future, the best way to reach that wider audience, according to garden writer and photographer Derek Fell, may be through the medium of television. For the past two years Fell has co-hosted a highly successful series of gardening-product sales shows for the cable television network QVC. Fell said the show's success is based on showcasing plants in an entertaining manner and focusing on how easy gardening can be. "People are afraid of gardening—they want someone who will assure them of success. The key is to talk varieties and give people a reason to buy, to make them relate to the product."

Fell said that while national garden magazines and books are enjoying wide popu-

larity, there is increasing interest in publications that take a regional approach to gardening. He also noted that call-in gardening shows with a regional format are becoming increasingly popular.

—David J. Ellis
Assistant Editor

PUBLISHED PROCEEDINGS

AHS is developing a special publication of the forum proceedings that will include the six keynote presentations, a list of forum participants, and a detailed strategic plan. Copies will be available to AHS members upon request later this summer.

THE PLAN: A NATION OF GARDENERS

How do we make ours a nation of gardeners? That question was posed at the beginning of 12 hours of discussion during National Forum II at Longwood Gardens in April. After three keynote presentations in the morning, participants broke into three discussion groups around each topic, and the process was repeated in the afternoon. Students in the Longwood graduate program at the University of Delaware summarized the ideas, and a final one-hour session resulted in proposals for the following approaches to seven areas of concern:

Appreciation of Beauty

We will not become a nation of gardeners until our citizens view gardening as an environmentally responsible way to ensure that our living spaces are appreciated, restored, and maintained. Our responsibility is to teach everyone how to make gardening part of his or her ethical framework.

- ♦ Utilize both an aesthetic ideal and accurate, scientifically based information in rebuilding and restoring any area.

- ♦ Encourage individuals, as volunteers and professionals, to set priorities and influence the allotment of public and private funds in their towns and neighborhoods.

- ♦ Organize promotional events featuring plants and related educational displays that demonstrate the best principles of the art and science of gardening.

- ♦ Provide resources for teaching other people the benefits that gardening offers for their property, for the environment, and for enhancing appreciation for the land.

- ♦ Raise awareness of gardening's benefits for all of the senses.

Enhancement of Community

As America's number-one hobby, gardening should become a tool for community service and good citizenship. Garden projects should be an avenue for communities and individuals to instill pride and environmental awareness; rehabilitate derelict, litter-strewn properties; and provide information on producing fresh, nutritious fruits and vegetables.

- ♦ Citizens should be introduced at an early age to the basics of gardening and gain an appreciation for plants' psychological benefits.

- ♦ Citizens should have access to information about our plant and garden design heritage, as passed to us from Native Americans, our early settlers, and later immigrants.

- ♦ Citizens should be given information about our varied climates and the plants that are appropriate to each, in a form that can be easily disseminated.

- ♦ Civic and community groups should be encouraged to sponsor planting projects and be given an efficient means of recognizing and publicizing them.

- ♦ Amateur gardeners and professionals should cooperate with national nonprofit and government conservation programs, in order to more efficiently use limited resources for cleaning up and replanting damaged or endangered natural areas.

Improved Communications

We need to relay inspiring examples and opportunities in horticulture through all available means—print, radio, television, CD-ROM, and the Internet—so that our information reaches the widest possible

audience of consumers.

- ♦ Analyze emerging audiences that can benefit from information about how to succeed with plants and landscaping.

- ♦ Develop more effective communication among all segments of horticulture.

- ♦ Clarify horticulture's terms so that consumers can understand them and use its principles successfully.



Participants in National Forum II, including AHS member Walter Bull, left, and Joan Bonine, center, of the National Council of State Garden Clubs, Inc., listen to Longwood Gardens head horticulturist Ross Edmonds, right, during a guided tour of the gardens.

♦ Seek new means of communication to reach more Americans who are looking for accurate gardening information.

Awareness of Diversity

Gardeners have extensive lists of reasons why certain plants do not thrive in the landscape—environmental, cultural, and genetic—while other plants seem to survive without any human intervention.

♦ Provide a model of how plants are expected to interact with the environment that will guide consumers in choosing the right plant for the right location.

♦ Set a standard for how the consumer can expect a plant of a given variety to perform when it is introduced into the garden.

♦ Develop educational programs on the benefits and protocols of new technology for breeding plants, and the checks and balances that must come into play in response to ethical concerns.

♦ Promote the establishment of germplasm repositories where exceptional native and non-indigenous plants can be collected, cataloged, and preserved.

♦ Seek and develop plants genetically predisposed to perform well under conditions such as low maintenance, water shortages, limited nutrients, and fewer pesticides, and use them to increase other plants' capabilities to survive these limitations.

♦ Identify alternative sources and new forms of plants to be used for the propagation of new hybrids.

♦ Encourage collaborative efforts in which plant societies advise producers and evaluate their plants, and educate the public on how best to use the plants.

Demonstrations

Successful gardening projects should be publicized on a national level through a coordinated effort to develop written guides, offer free admissions, and develop hands-on demonstrations.

♦ Encourage public and private gardens to create and maintain gardens that will help visitors take the first steps toward becoming successful gardeners.

♦ Design and plant community demonstration areas showing appropriate procedures for managing sustainable landscapes and gardens.

♦ Decrease the anxiety of the consumer by offering advice, plants, designs, and products that reinforce the "green ethic."

♦ Publish and disseminate plant labels, information sheets, and garden designs in layperson's language.

Education

Through both public and private funds,

our institutions must support the research and train the nursery professionals, teachers, extension agents, and master gardeners necessary to sustain the growth of the most profitable segment of agriculture in the United States.

♦ Refocus the programs, staffs, and facilities of our educational institutions to meet the needs engendered by the regreening of America.

♦ Provide outreach programs for segments of the population who have not been traditional users of horticultural information, offered in a language that will capture their interest and their support for expanded educational programs and funding.

♦ Initiate partnerships among educators, institutions, plant societies, "green industry" professionals, and consumers to help focus educational programs and ensure their funding.

♦ Regionalize education programs, the Cooperative Extension Service, and research so that guidance to the consumer will be appropriate to our diverse climates.

♦ Use ecologically driven approaches in creating and operating these educational, research, and extension programs.

Marketing

The primary route of communicating horticulturally oriented information is from friend to friend and neighbor to neighbor. Horticulture must use both traditional and emerging technologies to locate and serve its diverse potential consumers.

♦ Encourage the "green industries" to provide promotional "infomercials" that will guide the consumer in making appropriate decisions about buying plants and supplies and in maintaining the garden.

♦ Integrate information from all possible sources into one data base that can be disseminated in many forms and updated as new information becomes available.

♦ Regionalize cultural recommendations and other information on labels and nursery brochures.

♦ Develop marketing efforts that show that gardening is simple and fun.

WILLIAMSBURG: A PEP RALLY FOR GARDENERS

Have you seen those magazine advertisements for athletic shoes with the slogan "Just Do It"? By the time you've read the whole thing you feel capable of running five miles, finishing the most grueling aerobic workout, or learning to skydive. Most people don't radically change their exercise habits after reading the ads, but they might be inspired to do a little more.

"Gardening Traditions" was the theme of the 49th annual Williamsburg Garden Symposium in Virginia in April, but it could as easily have been "Just Do It." Speakers focused less on plant names and specific techniques and more on individuality, creativity, and adaptability in the garden.

Roger Swain, a host of the PBS series "The Victory Garden" and the keynote speaker at the symposium, set the tone with his talk on vegetable gardening titled "At the Table We Never Grow Old." He had everyone's mouth watering with luscious slides of the produce from his own garden. His message was simple: Grow more vegetables in the home garden—they taste better and they're better for you than those from the store.

Felder Rushing, a garden writer who lives in Jackson, Mississippi, offered his

views on retaining a sense of place, propagation, plant hunting, and plant selection. His common sense "because it worked for Grandma" approach kept the crowd entertained while expressing the idea that cultural diversity should definitely extend to the garden. Rushing encouraged gardeners to choose "old-fashioned" plants not merely because they grew in Grandma's garden, but because they are tough plants that have withstood the test of time.

William Welch, a professor at Texas A & M University, discussed heirloom roses; Nancy Gingrich Shenk, a floral designer, demonstrated various styles and techniques of flower arranging; and Kim Hawks, owner of Niche Gardens in Chapel Hill, North Carolina, gave ideas for landscaping with native plants. Two hobby gardeners—Thomas Amason Jr., a physician who lives in Birmingham, Alabama, and Walter Pickard, of Alexandria, Virginia—each gave a slide tour of their home gardens. The finale was a visit from Thomas Jefferson—played by Bill Barker—who described the differences between his gardens at Monticello and those at the Governor's Palace in Williamsburg.

—Nikole Williamson
Editorial Assistant

FLOWER SHOW EXHIBITS RECEIVE AHS CITATION

Representatives of the American Horticultural Society attended flower shows across the country this spring to recognize displays that embodied AHS ideals. Award-winning displays must demonstrate the relationship between horticulture and the environment and inspire viewers to beautify their homes and communities, as well as show imaginative design and use of plants. Winners of the AHS Citation included:

Chicago Flower and Garden Show—"Along the Garden Path" by the Planter's Palette and Mariani Landscape, and designed by landscape architect Anthony Tyznik. Every plant used was indigenous to the Chicago area. The designers provided a pamphlet describing the garden's features and plants and labeled each plant with both common and botanical names. The award was presented by Joan T. Kelly, a member of the board of directors of the National Council of State Garden Clubs, Inc.

Cincinnati Flower Show—"The Roji Garden" designed by Natorp Landscape Organization, Inc. *Roji* means "dewy path," which in this case led to a Japanese tea-house. Features included a 20-foot green cutleaf Japanese maple and a water hammer or "deer scare" to keep wild animals at bay while producing a pleasant sound for visitors. The plants used in the garden included mugo pine, hosta, pieris, juniper, pachysandra, enkianthus, liriope, epimedium, and tree peonies. The last were near the edge of the garden so visitors could look down into the complex flowers. AHS President H. Marc Cathey presented the award and hosted a reception for AHS members.



This peaceful back-yard retreat designed by Lincoln Ridge Design won the AHS Citation at the Fort Wayne, Indiana, Home and Garden Show.

Wichita Lawn, Flower and Garden Show—"Spring House Memories" by Scenic Landscapes Nursery and the Landscape Center. This old Southern setting of hollies, magnolias, dogwoods, azaleas, pines, and ferns was centered around the natural "refrigerator" of eras gone by, the spring house. It captured a beauty seldom seen in contemporary gardens and symbolized the link of human to nature. This winner was selected by AHS members Chip Miller, a horticulturist with the Salina County Extension Office, and Thomas Colgrove, a landscape architect.

Southeastern Flower Show—"Plant Gold for '96" by Pathways of Gold, a group sponsored by the Garden Club of Georgia. This Atlanta exhibit was intended to en-

courage civic beautification projects throughout the state by 1996, when the Olympic Games will be held in Atlanta. The display used golden yellow plants throughout as an example of the type of displays Pathways of Gold is asking communities to install. This award was presented by the flower show judges.

The New York Flower Show—"A Green-thumb Community Garden" designed by Xavier Rodriguez and Thomas Verralla of the 9th and C Community Garden. The intent of the design and the plant selections was to show what gardeners can do in lower Manhattan. The walks, walls, and art work—all "found artifacts" from the community—were used to set the theme of the garden. All of the plants were propagated from local plants. An accompanying photographic display identified these successful plants and showed how to incorporate them into a design. One wall was a chain link fence, which reinforced the concept that gardeners must be aware of their community when they garden. The award was presented by AHS President H. Marc Cathey.

FREE ADMISSION TO SOUTHERN CALIFORNIA SHOW

Another in the series of garden and flower shows offering free admission to AHS members displaying membership cards is the 41st Annual Southern California Home and Garden Show, August 19 through 27 at the Anaheim Convention Center. With 600 exhibitors, it is the largest consumer home and garden event in California.

The show's "Garden Festival" consists of four large theme gardens, several living gardens, and exhibits by some 50 suppliers of yard, garden, and landscaping products. The main aisle of the festival leads to the show's Feature Home, an environmental eco-home with supporting products.

Speakers will include Joe Freeman, chief horticulturist at Cypress Gardens in Florida, and a number of local garden and landscaping experts.

New to the show are the atrium gardens, which will display the talents of interior plantscapers and the latest foliage available for indoor and atrium gardens in homes and offices.

For more information, call (714) 978-8888 or (714) 549-9802.

Palm Beach Tropical Flower Show—"Pan's Garden" designed and installed by Sanchez and Maddux, Inc., of Stuart, Florida. Based on a recently finished public garden in West Palm Beach, this award winner stressed the use of Florida natives as a way to deal with the unique light, water, soils, and temperatures of the region. The centerpiece was a sculpture of Pan poised over a pool of water. The surrounding plants—trees, palms, ferns, and perennials native to

COLLECT SEEDS NOW FOR OUR 1996 PROGRAM

The American Horticultural Society's 1995 Seed Exchange Program was a record-setter. We offered 405 different seeds and filled 2,600 orders.

With enthusiasm for gardening comes a desire to share what we grow. The enthusiasm expressed by the AHS members and seed companies who donate seeds is what makes this program a success. Some of the seeds offered in the 1995 program have been passed among family members or friends for generations. Many are no longer available from commercial sources. By sharing seeds, we help ensure that these plants will be here for years to come.

Now is your opportunity to share seeds from your garden with fellow members. AHS is asking members and friends to start saving seeds for the 1996 program. We will accept any seeds except those from hybrid plants, as they will not produce plants that are true to type. Please be considerate about collecting seeds in the wild. We need enough of each type of seed to fill 100 packets, but you should collect from wild species in small enough quantities—no more than 10 percent—to maintain natural populations.

The September News Edition, which will include our fall Seed Giveaway, will contain details on donating seeds for the 1996 program and the form to be completed when doing so.

the area—helped isolate this relaxing site. The award was presented by AHS President H. Marc Cathey.

Rochester Flower and Garden Show—“Home Food Gardening Center” by Harris Seeds of Rochester, New York. This 20-by-20-foot exhibit included a greenhouse, cold frame, planting beds, and work center. Every aspect of the display encouraged gardeners to bring food gardening into their lives. Children particularly enjoyed seeing the plants from which their foods are collected. In addition to presenting the AHS award, President H. Marc Cathey also served as a judge for the show and hosted a reception for AHS members.

Washington Flower and Garden Show—An exhibit by Ken Duffy of Geoscapes, Inc., of Washington, D.C. While most designers planned around the human factor for the show's theme, “A Garden Party,” this exhibit was designed as a place for wildlife to congregate. The naturalistic garden included a bird feeder and birdbath, shrubs with inviting foliage for shelter and berries for food, and water sources for other wildlife. This casual stroll garden also won the show's Best Natural Garden award. The AHS Citation was presented by Stephanie Oberle, AHS horticulturist.

Philadelphia Flower Show—“Backyard Habitat Garden” by the U. S. Environmental Protection Agency Region III. The exhibit used native plants to show how to create an appealing environment for wildlife in the back yard. Through informational handouts, visitors also learned of

Integrated Pest Management practices. The award was presented by AHS horticulturist Stephanie Oberle.

Maryland State Home and Flower Show—“Gateway to Your Dreams” by Outdoor Expressions of Baltimore. This garden was designed with many levels of walks, walls, pools, and groupings of a wide range of plants that thrive in Maryland's climate. The condition and variety of plants were outstanding, and the stonework was particularly well designed and installed. The award was presented by AHS President H. Marc Cathey.

Ann Arbor Flower and Garden Show—“Up in Michigan: A Wilderness Garden” by Korzon Landscapes. The exhibit, produced by Korzon in conjunction with show sponsor Matthaei Botanical Gardens, attempted to bring Michigan natives and wildlife to the realm of back-yard gardening. The exhibit also included elements of water and aquatic plants appropriate to a Michigan site. The award was presented by Jean Moran and Nancy Goulette, president of the Federated Garden Clubs of Michigan, Inc.

Colorado Garden and Home Show—“Natural Inspirations: The Art of Seeing” by Carole Kastler of Camelot Design and the Perfect Landscape, both of Denver. This design represented nature in a backyard setting using Irish moss as a ground cover and ‘Whitestar’ zinnias. Small and very unlike most zinnias, these were scattered throughout the design to give the effect of wildflowers. A slow-moving stream

meandered over moss at the entry, while a waterfall splashed over boulders into a pool at another point in the garden. Camelot also provided a photographic display showing some of nature's designs that had inspired the exhibit. The award was presented by AHS horticulturist Bob Blackburn.

Indiana Flower and Patio Show—An exhibit by Rick Riddle Landscape of Indianapolis. A formal setting featured a round pool with an urn fountain encircled by a pea-gravel walk and boxwood hedge. Looking past the urn, the garden extended into a woodland setting with a wooden gate, birdbath, flowering trees, and plants including violets, Virginia bluebells, ferns, rhododendrons, azaleas, fothergillas, viburnums, and lilacs. The award was presented by Gerry St. Peters, National Council of State Garden Clubs, Inc., awards chairman.

Fort Wayne Home and Garden Show—A back-yard design by Jeff and Kathy Thomas of Lincoln Ridge Design. The design featured a brick path leading through lush plantings to a pergola and brick patio and was surrounded by an evergreen screen of Colorado blue spruces and Canadian hemlocks. Kathy Thomas said the main idea of this exhibit, which also won Best of Show, was to create an enjoyable, peaceful atmosphere for the average homeowner. AHS was represented by member Carol Bradley, a garden writer from South Bend, Indiana.

Portland Home and Garden Show—“Retreat” by Rittenhouse/Tamiyasu. This formal garden featured a custom-built pergola in a multilevel design with granite planters and bluestone pavers surrounded by vertical conifers. Several large granite outcroppings served as a backdrop for the pergola and sitting area. Plants included two large Japanese maples at the entrance, azaleas, heather, and flowering perennials. The award was presented by AHS horticulturist Bob Blackburn.

Cincinnati Home and Garden Show—“Halcyon Refuge” by Tom Craven, landscape architect with Seiler's Landscaping of Cincinnati. This naturalistic garden featured a pond with a waterfall as the focal point, as well as a uni-stone patio and overhead arbor. Plantings included four varieties of Japanese maple, perennials, rhododendrons, hostas, and azaleas, set around outcroppings of weathered boulders. The winner was selected by AHS member Ruth Kinder, Garden Club of Ohio assistant awards chairman.

Books are chosen for the AHS book program based on perceived reader interest, unusual subject matter, or substantive content. The following are not intended to be critical reviews, but are based on publishers' descriptions. If you'd like to order a book that is not listed here, call Linda Miller, book program director, at (800) 777-7931.

NEW TITLES

Seaside Gardening

Theodore James Jr.

Hardcover. Retail price: \$29.95. AHS price: \$26.95.

Book code: ABR 701

Seaside Gardening shows how experienced gardeners have created beautiful gardens in a range of shore-line environments. This book will be particularly useful and inspiring to gardeners on the Eastern Seaboard from Canada to Virginia, but it also offers valuable ideas and information for anyone who has a garden on or near the ocean. An extensive plant list offers a broad selection of species appropriate for seaside conditions. 1995. 160 pages.

The Garden Makers

George Plumptre

Hardcover. Retail price: \$30. AHS price: \$27.

Book code: RAN 702

Plumptre showcases key designers and innovators who have shaped the development of gardens from 1600 to the present. He describes at length the remarkable influence that the cooperation of British and American gardeners has had on this pastime and occupation since John Tradescant the Younger first traveled to the new colonies. Informative and readable, it is the most comprehensive study of the evolution of gardens and is an essential volume for the library of every gardener. 1994. 240 pages.

Taylor's Guide to Herbs

Rita Buchanan, Editor

Softcover. Retail price: \$19.95. AHS price: \$17.95.

Book code: HOU 713

For whatever reasons gardeners plant herbs, they will find the answers to all their questions in this book, plus an encyclopedia of 400 herbs and a gallery of 260 color photographs. 1995. 464 pages.

Taylor's Guide to Container Gardening

Roger Holmes, Editor

Softcover. Retail price: \$19.95. AHS price: \$17.95.

Book code: HOU 714

Containers are as tempting to the owner of country acreage as to the city gardener whose "land" extends no

farther than a balcony or windowsill. Color photographs of container gardens and plants suitable for pots make this a useful and unusual guide. 1995. 416 pages.

Taylor's Guide to Roses,

Revised Edition

Peter Schneider, Editor

Softcover. Retail price: \$19.95. AHS price: \$17.95.

Book code: HOU 715

This is a major revision of one of the most popular Taylor's Guides. In the past few years there have been dramatic changes in the market for roses—so major that of the 392 roses pictured and described, 102 are new to this edition. Among the changes are replacement of disease-prone roses with more resistant varieties and the addition of the new David Austin roses. 1995. 496 pages.



Color Echoes

Pamela J. Harper

Hardcover. Retail price: \$35. AHS price: \$31.50.

Book code: MAC 755

Color echoes, a concept pioneered by plantswoman Pamela J. Harper, is a simple but transformative way of looking at color in the garden. *Color Echoes* is a treatise on the topic, describing in words and showing in 200 color photographs how echoes can be planned, whether the repetition be in flower, foliage, berry, bark, or garden ornament color. 1994. 228 pages.

The Outdoor Room

David Stevens

Hardcover. Retail price: \$40. AHS price: \$36.

Book code: RAN 703

Renowned garden designer David Stevens demystifies the design process to enable you to make the most of your outdoor space by applying the familiar rules of interior design and planning. Step-by-step instructions are clearly illustrated with beautiful photographs and detailed plans. The flexible designs can be tailored to suit any type of cli-

mate, garden plot, or budget. 1994. 192 pages.

On Gardening

Penelope Hobhouse

Hardcover. Retail price: \$40. AHS price: \$36.

Book code: MAC 704

From one of the most accomplished gardeners of our time, *On Gardening* is a treasure trove of information that has been anxiously awaited by those familiar with the spectacular and innovative work of Penelope Hobhouse. In addition to explaining horticultural design techniques, she delves into the practicalities of gardening—from soil preparation to clipping topiary, from propagation methods to pruning and weed control—and offers labor-saving tricks culled from her years of experience. 1994. 224 pages.

The Winterthur Garden

Denise Magnani

Hardcover. Retail price: \$39.95. AHS price: \$35.95.

Book code: ABR 705

A great artist may spend years on one painting, making infinitesimal changes in color, mood, and form until it is perfected to satisfaction. Henry Francis du Pont was such an artist, and the canvas was his beloved garden at Winterthur, his home from his birth in 1880 until his death in 1969. Now open to the public, it functioned for years as a private horticultural laboratory where du Pont experimented as much with the landscape as with individual species gathered from the far reaches of the globe. 1995. 192 pages.

Hillier Garden Planning

Keith Rushforth, Roderick Griffin, and Dennis Woodland

Hardcover. Retail price: \$34.95. AHS price: \$31.45.

Book code: STE 706

This book shows how you can plan your garden to suit your need, whether it is peace and tranquility or room to play. The emphasis throughout is on creating a garden that is a natural and enjoyable extension of the home. This new edition has been revised and updated, making it easy to find the information you need while retaining the readability of the original. 1994. 224 pages.

The Flower Garden

Helen Dillon

Hardcover. Retail price: \$19.95. AHS price: \$17.95.

Book code: STE 709

By following the authoritative guidance in this volume from the Wayside Gardens Collection and adding your own flair, the garden of your dreams will soon be blossoming. Filled with color photographs of gardens ranging from borders and container arrangements to luxurious beds, this book provides expert advice on how to

plant a new flower garden or spruce up an existing one. 1995. 128 pages.

Sunset Western Garden Book

By the Editors of Sunset Books and Sunset Magazine

Hardcover. Retail price: \$29.95. AHS price: \$25.

Book code: SUN 759

This 40th anniversary edition has been comprehensively redesigned, updated, and reformatted. While the best of the past has been retained, this edition offers new facts and features. The Western Plant Encyclopedia has easy-to-read icons representing exposure, moisture, and zone information plus 76 new plant groups suited to Western climes. A Practical Gardening Dictionary and a resource directory have been added, along with a section on common pests and plant diseases. 1995. 624 pages.

Gardening in the Lower Midwest

Diane Heilenman

Hardcover. Retail price: \$24.95. AHS price: \$22.45.

Book code: IUP 710

If you garden in USDA Zone 5 or 6 of the lower Midwest, this book will save you money, time, and frustration. It tells how to cope with a difficult and trying climate and how to create gardens appropriate to the region. Included among the many topics is a gardener's calendar tailored to the region. 1994. 225 pages.

Gardens of Historic Charleston

James Cothran

Hardcover. Retail price: \$39.95. AHS price: \$35.95.

Book code: USC 711

Cothran recounts the history of horticulture in a city where small-space gardening has reached the zenith of refinement and ingenuity. He explains the principles inherent in all Charleston gardening—integration of house and garden, maximum use of limited space, and the creative use of ornamental plants—as he offers ideas for creating or improving one's own garden. 1995. 177 pages.

The Gardener's Companion

Christopher Brickell

Hardcover. Retail price: \$30. AHS price: \$27.

Book code: RAN 753

The Gardener's Companion includes more than 200 color photographs, as well as 25 color illustrations, which accurately convey the beauty of flowers and fruit in detail. In addition to plant-by-plant instructions, Brickell offers fascinating horticultural background about many of the selections and describes personal experiences, giving his views and anecdotal information on diverse subjects ranging

from individual genera, such as *Clematis* and *Rhododendron*, to topics such as hybrids, fragrance, pruning, rock gardens, and window boxes. 1995. 240 pages.

The Easy Garden Month-by-Month

Michael Jefferson-Brown

Hardcover. Retail price: \$24.95. AHS price: \$22.45.

Book code: STE 752

The perfect answer for those who want a beautiful garden but don't have vast amounts of time or energy, *The Easy Garden Month-by-Month* divulges the secrets of producing spectacular results with minimal effort. The author guides the gardener through the tasks of the year with simple instructions, labor-saving tips, and tried-and-true shortcuts. This book contains monthly checklists of things to be done, profiles of plants in bloom, practical projects, and an easy chart for a year of continuous color. 1995. 144 pages.

Herbs for the Home

Jekka McVicar

Hardcover. Retail price: \$27.95. AHS price: \$25.

Book code: PEN 754

Packed with color photographs that are a feast for the eye, *Herbs for the Home* provides complete information about 335 plants, the less familiar as well as the classics. McVicar, an award-winning herb grower, clearly explains how to cultivate and propagate each herb. She suggests hundreds of uses, from the culinary to the decorative to the medicinal, with appropriate cautions. 1994. 255 pages.

Accessible Gardening for People with Physical Disabilities

Janeen R. Adil

Softcover. Retail price: \$16.95. AHS price: \$15.25.

Book code: WOO 756

Is it possible to garden when you have a disability—when you are in a wheelchair, use a walker, or have limited upper body strength? Absolutely! This book provides all the expertise and practical know-how necessary for designing, planting, and maintaining a garden that suits your special needs. And you will find dozens of specific mail-order sources for the tools, seeds, plants, and other materials discussed. 1994. 300 pages.

The Book of Swamp and Bog

John Eastman

Softcover. Retail price: \$16.95. AHS price: \$15.25.

Book code: STA 757

Written in a lively manner, this book helps readers identify wetland plants, discusses what other organisms—plant and animal—might be found in the same area, and explains why. Fascinating facts and folklore, along with

detailed, beautiful drawings, make this the perfect guide for exploring freshwater wetlands. 1995. 237 pages.

Living Fences

Ogden Tanner

Softcover. Retail price: \$19.95. AHS price: \$17.95.

Book code: CHA 758

Whether they are intended to block an unsightly view or to provide some badly needed privacy, versatile and graceful screens of plants are a natural alternative to manmade fences. This illustrated guide provides all the information you need to select, plant, and maintain hedges, vines, and espaliers—more than 100 plant species in all. 1995. 128 pages.

REFERENCE

Flowering Crabapples

Father John L. Fiala

Hardcover. Retail price: \$49.95. AHS price: \$44.95.

Book code: TIM 718

This book reflects the late Father Fiala's 50 years of passionate interest in the hybridization and cultivation of the ornamental crabapple. After outlining the history of these trees in North America, it describes and illustrates hundreds of them, and includes chapters on landscaping, companion plants, propagation, culture, and hybridizing. Beautiful photographs illustrate the dramatic variations of color and form. 1995. 273 pages.

Gardener's Guide to Growing Lilies

Michael Jefferson-Brown

and Harris Howland

Hardcover. Retail price: \$29.95. AHS price: \$26.95.

Book code: TIM 721

This is the most comprehensive and up-to-date general account of lilies available today, covering every aspect of cultivation in plain and jargon-free language. It has information on lily growing around the world and is illustrated extensively with meticulous line drawings and superbly detailed photographs. 1994. 160 pages.

Fuchsias: The Complete Handbook

Edited by Miep Nijhuis

Hardcover. Retail price: \$22.95. AHS price: \$20.50.

Book code: STE 707

This is a book for both the enthusiastic home fuchsia grower and the nursery professional. Written by specialist growers with many years of experience, it maintains a balance between practical advice and fascinating background information, and will enlighten the most informed fuchsia lover. 1994. 271 pages.

Jim Fisk

Now fully revised and updated, this is a book for everyone who marvels at the spectacle of clematis in full bloom. Detailed chapters cover every aspect of these plants including history, successful planting, training, and propagation, as well as the best hybrids and species for various situations. It also includes 85 color photographs. 1994. 160 pages.

Richard Bird

Dianthus forms one of the backbone genera of front-of-border plantings and path edgings, as well as rock gardens. This book will appeal to those interested in either use. After chapters on the plants—flowering, reproduction in the wild, cultivation, propagation, and maintenance—the varieties are dealt with in alphabetical order for convenient reference. 1995. 192 pages.

Ray Stephenson

This definitive study of more than 400 species and varieties is the only currently available book on sedums. Information on the eventual size and spread of each plant, cultivation, propagation, and habitat is provided. 1994. 356 pages.

Kris Medic

Here is your guide to knowing when, what, and how to prune correctly. It includes an A-to-Z encyclopedia section that tells when and how to prune more than 120 common trees, shrubs, and vines, and offers tips on pruning for pest and disease control. With easy-to-follow color photographs and diagrams, you can prune with confidence and ease. 1995. 160 *pages*.

Thomas DeBaggio

One of the country's premier herb growers shares his expertise regarding the first steps in successful herb gardening. This book shatters common myths, advances new techniques, and drives home important principles for creating healthy, vigorous new plants for the herb garden. An abundance of step-by-step photographs ensures success for even the brown-thumbed beginner. 1994. 80 pages.

American Horticultural
Society Encyclopedia of
Garden Plants

Christopher Brickell
Hardcover. Retail price: \$49.95. AHS price: \$42.50.
Book code: MAC 723

Christopher Brickell
and Elvin McDonald

The Encyclopedia of Ornamental Grasses

Manual of Herbaceous Ornamental Plants

Manual of Woody Landscape Plants

The Ortho Home Gardener's Problem Solver

Pests of Landscape Trees and Shrubs: An Integrated Pest Management Guide

The Photographic Manual of Woody Landscape Plants

Michael Dirr
Hardcover. Retail price: \$29.80. AHS price: \$24.95.
Book code: STI 747

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REGIONAL HAPPENINGS

Mid-Atlantic

♦ **July 3. 4th Annual Piedmont Environmental Council's Family Fair.** Airlie Conference Center, Warrenton, Virginia. Information: (703) 347-2334.

♦ **July 12. Gardening in the Shade.** Lecture by Diane Lewis of Brookside Gardens. Administration Building Classroom, U.S. National Arboretum, Washington, D.C. Information: (202) 245-2726.

♦ **July 16. The Apprentice Gardener: Water Features for Your Garden.** Workshop. State Arboretum of Virginia, Boyce, Virginia. Information: (703) 837-1758.

♦ **July 29. Rutgers University's Display Garden Open House.** Tours, lectures, and clinics. Rutgers University, New Brunswick, New Jersey. Information: (908) 932-8451.

♦ **Aug. 26. Fourth Annual Native Plant Seminar.** Irvine Natural Science Center, Stevenson, Maryland. Information: (410) 484-2413.

North Central

♦ **July 6. Evening Interpretive Canoe Float.** Guided tour sponsored by the Cincinnati Park Board. Cincinnati, Ohio. Information: (513) 231-8678.

♦ **July 7. Propagating Perennials and Woody Plants.** Workshop. Olbrich Botanical Gardens, Madison, Wisconsin. Information: (608) 246-4551.

♦ **July 12 and Aug. 9. Guided Twilight Tours.** Northern Illinois Botanic Garden and Klehm Arboretum, Rockford, Illinois. Information: (815) 965-8146.

♦ **July 22-23. Cook Energy Information Center's Flower Show and Sale.** Cook Energy Information Center, Bridgeman, Michigan. Information: (800) 548-2555.

♦ **July 26-29. American Association of Nurserymen and Minnesota Nursery and Landscape Association Convention and Trade Show.** Minneapolis Convention Center, Minneapolis, Minnesota. Information: (612) 633-4987.

Northeast

♦ **June 13-July 30. Kate Furbish and the**

Flora of Maine. Exhibit. Bowdoin College Museum of Art and Hawthorne-Longfellow Library, Brunswick, Maine. Information: (207) 725-3275.

♦ **July 8-9. Lily Show.** Sponsored by the New England Regional Lily Group. Tower Hill Botanic Garden, Boylston, Massachusetts. Information: (508) 869-6111.

♦ **July 15. Hidden Treasures of the Berkshires.** Annual House and Garden Tour sponsored by the Lenox Garden Club. Stockbridge, Massachusetts. Information: (413) 298-3089.

♦ **July 20. Longwood Heritage Exhibit Opening.** Longwood Gardens, Kennett Square, Pennsylvania. Information: (610) 388-1000.

♦ **July 25-27. Penn Allied Nursery Trade Show.** Sponsored by the Pennsylvania Nurserymen's Association. Fort Washington Expo Center, Fort Washington, Pennsylvania. Information: (717) 238-1673.

♦ **Aug. 5. Secret Gardens of Milford Tour.** Sponsored by the Milford Garden Club. Milford, Pennsylvania. Information: (717) 491-2773.

♦ **Aug. 5. Summer Garden Day.** Tours and demonstrations. Old Sturbridge Village, Sturbridge, Massachusetts. Information: (508) 347-3362.

♦ **Aug. 10. Dinner and Lecture with Herbalist and Author Adelma Simmons.** Plimoth Plantation, Plymouth, Massachusetts. Information: (508) 746-1622.

♦ **Aug. 11-13. Northeast Organic Farming Association's 21st Annual Summer Conference and Celebration of Life.** Hampshire College, Amherst, Massachusetts. Information: (508) 355-2853.

♦ **Aug. 12-16. American Phytopathological Society's 87th Annual Meeting.** David L. Lawrence Convention Center, Pittsburgh, Pennsylvania. Information: (612) 454-7250.

♦ **Aug. 19. Fourth Annual Plant Sale and Rare Plant Auction.** Fells State Historic Site at the John Hay National Wildlife Refuge, Newbury, New Hampshire. Information: (603) 526-4153.



WINTERTHUR EXHIBIT

A special exhibit called "Romancing the Land: Portrait of the Winterthur Garden" will run through August 6 at the Henry Francis du Pont Winterthur Museum in Winterthur, Delaware. The exhibit uses images and objects to trace the past, present, and future of the garden at Winterthur and to underscore the influence of Henry Francis du Pont—Winterthur's former owner and designer of most of its gardens—on American garden design and thought.

The exhibit is divided into four sections: Landscape Perceived, which explores the way du Pont's family and surroundings in the Brandywine Valley influenced his perceptions; Landscape Imagined, an exploration of the evolution of du Pont's design concepts and documentation of his early experiments in the garden; Landscape Conceived, an account of the processes du Pont used to transform his concepts into art; and Landscape Remembered, which shows the relationship between the garden and the museum and examines the garden as it exists today. A companion book, *The Winterthur Garden: Henry Francis du Pont's Romance with the Land*, was recently published.

Winterthur has planned other activities during July and August to celebrate the "Year of the Garden," a statewide event in Delaware. These events include Monday "Learning about Style" tours, Tuesday children's activities, Wednesday architectural tours, children's photography and art workshops, and a concert by the Delaware Symphony Orchestra. For more information on dates and times of these events, call (302) 888-4600.

♦ Aug. 19-20. **Native Plant Garden Weekend.** New York Botanical Garden, Bronx, New York. Information: (718) 817-8616.

♦ **Landscape and Nursery 1995 Integrated Pest Management Workshops.** Sponsored by the University of Massachusetts Cooperative Extension. **July 12.** Berkshire Botanic Garden, Stockbridge, Massachusetts. **Sept. 6.** University of Massachusetts Eastern Extension Center, Waltham, Massachusetts. **Sept. 13.** Heritage Plantation, Sandwich, Massachusetts. **Sept. 14.** University of Massachusetts Research Facility, South Deerfield, Massachusetts. Information: (413) 545-0895.

Northwest

♦ Aug. 20. **Literati-Style Bonsai.** Lecture. Weyerhaeuser Corporate Campus, Federal Way, Washington. Information: (206) 924-3153.

♦ Sept. 14-16. **Annual Meeting of the Society for Ecological Restoration: Taking a Broader View.** The University of Washington, Seattle, Washington. Information: (608) 262-9547.

South Central

♦ July 9-10. **Koi and Water Garden Club of North Texas Exhibit.** The Dallas Arboretum, Dallas, Texas. Information: (214) 327-8263.

♦ July 25. **Christmas in July Herbal Workshop and Luncheon.** The Ozark Folk Center State Park, Mountain View, Arkansas. Information: (501) 269-3851.

♦ July 29-30. **Cactus Show and Sale.** Botanica, The Wichita Gardens, Wichita, Kansas. Information: (316) 264-0448.

Southeast

♦ July 1-2. **Asian Cultural Experience.** Craft show and demonstrations. Atlanta Botanical Garden, Atlanta, Georgia. Information: (404) 876-5859.

♦ July 4. **Free Admission to Tryon Palace Historic Sites and Gardens.** New Bern, North Carolina. Information: (919) 514-4900 or (800) 767-1560.

Southwest

♦ July 15. **Drip Irrigation: A Water Conservation Strategy.** Class. Desert Botanical Garden, Phoenix, Arizona. Information: (602) 941-1225.

♦ Aug. 11-13. **Southwestern Low Desert Gardening and Landscaping Conference: Growing Through Knowledge.** Sponsored by Maricopa County Master Gardeners. Arizona Biltmore Conference Center, Phoenix, Arizona. Information: (602) 470-8086.

♦ Aug. 19-20. **New Mexico Native**

Plant Society Show and Sale. Albuquerque Garden Center, Albuquerque, New Mexico. Information: (505) 296-6020.

West Coast

♦ July 15, 22, 29. **Basic Flower Arranging Class in Three Sessions.** Dorothy Jean Spoelstra. The Arboretum of Los Angeles County, Arcadia, California. Information: (818) 447-8207.

♦ July 16. **Dabbling with Water Gardens.** Lecture by Jon Rasmussen. Descanso Gardens, La Cañada Flintridge, California. Information: (213) 344-8805.

♦ Aug. 25-27. **The 56th Annual San**

Francisco County Fair Flower Show. County Fair Building, Golden Gate Park, San Francisco, California. Information: (415) 507-0142.

♦ Sept. 2-4. **Annual Fern and Exotic Plant Show.** Sponsored by the Los Angeles International Fern Society, Inc. The Arboretum of Los Angeles County, Arcadia, California. Information: (310) 698-7696.

Canada

♦ July 28. **Fruit Ripening Seminar.** American Society for Horticultural Sciences. Montreal, Quebec. Information: (703) 836-4606.

GEORGIA CONSERVATORY BEING REVAMPED

The State Botanical Garden of Georgia in Athens will be making renovations this summer to the conservatory in its visitors center. According to garden staff, the initial planting 10 years ago had several problems including a weak overall theme, since most of the tropical and semitropical plants were chosen for aesthetic value rather than for educational purposes. In addition, the original soil mix has decomposed, leaving the plants undernourished and causing problems with water infiltration, root penetration, drainage, and aeration.

In place of the old plantings, the staff is planning a new tropical collection to focus on beneficial plants from the rain forest. The new display will address such themes as rain forest products and plants found in the home, food from tropical plants, and the importance of rain forest conservation.

Although renovation is scheduled from June 26 through August 11, the garden staff expects to close the conservatory for no more than one or two weeks. The visitors center also houses offices, exhibition and classroom space, a gift shop, and a café, all of which will remain open during renovations. For more information, call (706) 542-1244.

HUNGARIAN PLANTS FOR THE HEARTLAND

The University of Nebraska-Lincoln (UNL) has launched an exchange program with horticulturists in Hungary in an effort to broaden plant availability for gardeners in both regions. According to Paul Read, horticulture department head at UNL, the ultimate goal is finding new, stress-tolerant trees and shrubs for Nebraska landscapes and making them available through the nursery industry. Says Read, "Until we set up this program, we in the West had no access to their plant materials, and they had no access to ours." In return, the high-quality landscape plants UNL is sending will help the Hungarian nursery industry better compete with western European nurseries.

The program began officially last July when a team of Hungarian scientists visited Nebraska and left with seeds and cuttings of many American plants including flowering crabapples, hackberries, and maples. An October visit by Nebraska horticulturists to Hungary then generated a wish list of plants, some of which have arrived and are being propagated at the Nebraska Statewide Arboretum. The few plants received from Hungary must be multiplied into hundreds for field testing. Then researchers must evaluate plants under Nebraska conditions for five to 10 years to determine adaptability before releasing them for landscape use. Nebraska horticulturists are hoping the plants will make the trans-Atlantic jump successfully since Hungary and Nebraska have somewhat similar climates and some comparable geographic areas. Hungary does not have Nebraska's temperature extremes, however, which may limit survival of many exchanged plants.

In addition to sending plants, Hungary has sent a graduate student to study at UNL for her doctoral degree in horticulture.



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GRAVESTONES FOR GARDEN MARKERS

An unusual sort of crime has recently gained attention for Laurel Grove, a cemetery in Savannah, Georgia. This historic cemetery with approximately 80,000 burial plots contains unique grave markers dating to the early 19th century that are being stolen and sold as decorative garden tiles.

The poor man's version of a headstone, these markers are thin bricks measuring eight inches square and one inch thick with one patterned edge. These bricks are set on edge to form an outline of the grave site. They range from simple scrolls to basket-weave, gothic arches, stars, and pound signs. Some are made of black river clay while fancier models are glazed red clay. The earliest of these markers were made in local plantation brickyards by slaves.

The Society for the Preservation of Laurel Grove, Inc., is a non-profit group dedicated to protecting this cemetery. They estimate that of the 100,000 grave markers originally in the cemetery, at least 10,000 have been stolen in the past decade. They have called for a moratorium on purchases and sales of these tiles and request that landscape designers use modern reproductions. Anyone with information on the sale of historic garden tiles should write to the society at P.O. Box 10315, Savannah, GA 31412, or call (912) 232-7656.

PLANT GROWERS SUE GOVERNMENT

The Professional Plant Growers Association (PPGA) has filed suit in federal court to block a proposed rule change that would further relax plant quarantine laws. The amendment to Quarantine-37 would allow the commercial importation of four plant genera in approved growing media.

The PPGA and other nursery industry representatives strongly oppose the rule change that would allow the importation of *Ananas*, *Alstroemeria*, *Anthurium*, and *Nidularium* in growing media, as requested by Belgium, Denmark, Israel, and the Netherlands. One genus that was part of the original request, *Rhododendron*, was excluded from the proposal, pending evaluation of the potential impact on native species under the U.S. Endangered Species Act.

At a March 14 hearing, the federal judge in the case denied PPGA's request for a preliminary injunction to block importation of the four genera. William R. Carlson, legislative consultant for PPGA and executive director of the Floral Trade Council, remains optimistic, however, noting that preliminary injunctions require proof of urgency, and plants in the new genera probably won't be imported for several months yet. Furthermore, the judge has expressed a commitment to resolving the court case before importation of the plants begins.

PPGA's primary objection to amending Q-37 is that the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) is making decisions without benefit of

sound scientific research about an issue that could have far-reaching impact, according to Carlson. Regulations currently prohibit importing most plants in growing media, which can harbor pests and diseases.

Carlson cites concerns about APHIS's process for assessing the potential risk of importing exotic pests, which involved using a computer data base to find the number of pests associated with each genus and rating the pests on their relative risk. PPGA's suspicions were aroused when all the genera were found to have the same number of pests. Furthermore, he says, the APHIS team looked at pest impact only on a single genus; they didn't examine cross infestations. A pest might not harm the host plant, Carlson observes, but could potentially wreak havoc with, say, an agricultural crop. "If no information was available," he says, "it was assumed to be safe."

In a *Federal Register* notice, APHIS representatives said they had addressed U.S. industry concerns through their risk management team, which determined growing conditions for greenhouses in the petitioning countries based on the diagnosed risks. Despite seeking documentation under the Freedom of Information Act, Carlson says he has been unable to learn the identities or credentials of the team's members, or the scientific and horticultural basis for their guidelines.

The four proposed plant genera are the first of 55 for which APHIS is seeking rule changes. "They're laying the groundwork," says Carlson. "Once the methodology is legitimized, we're stuck with it."

RAIN FOREST YIELDS FOSSIL TREES

Botanists in Australia have found what appear to be isolated survivors of two tree species believed to have been long extinct. Discovered about a thousand miles apart on Australia's eastern coast, the two species represent both the angiosperms, or flowering plants, and the more primitive gymnosperms, which include conifers.

The first discovery, reported by Australian botanists on December 14, was of a grove of about 40 trees found in an isolated gorge in the subtropical rain forest of Wollemi National Park, northwest of Sydney. Botanists say the trees are related to conifers that were widespread during the Cretaceous period—about 60 to 130 million years ago—but were thought to have become extinct more than 50 million years ago. Dubbed "the Wollemi pines," the trees are likely to be classified as a new genus in Araucariaceae, or the araucaria family, which includes Norfolk Island pine (*Araucaria heterophylla*) and monkey-puzzle (*A. araucana*). The trees are described as having knobby, chocolate-colored bark and dense, waxy, fernlike foliage. The Associated Press reports that an Australian botanical garden plans to propagate and sell the species worldwide.

Shortly afterward, Andrew Douglas, an American botanist doing postdoctoral research at the Royal Botanic Gardens in Melbourne, identified a new angiosperm found on Mount Bartle Frere, along the northeastern coast of Queensland just south of Cairns. Douglas believes the tree may be the only existing member of a new subfamily in Proteaceae, or the protea family, a family of flowering trees and shrubs also dating from the Cretaceous. Other members of the family include proteas and macadamia nut trees.

Nuts from the newly discovered tree are nearly identical to fossilized nuts found in 60-million-year-old sediments near Melbourne.