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The Rebirth of the Food Garden

When Rosalind Creasy first started growing ornamentals and vegetables together 20 years ago, people were shocked. She remembers: "People said it was tacky, they called it 'salad gardening.'" They couldn't understand why she, like everyone else, didn't grow her veggies in rows in the back forty.

Now, thanks to the work of Creasy, Robert Kourik, and others, gardens all over the country are also beginning to bring the edibles back in.

"Edible landscaping," which Creasy defines simply as "edible plants in the context of your yard," was a term coined some ten years ago with the publishing of Creasy's *The Complete Book of Edible Landscaping* and Kourik's *Designing and Maintaining Your Edible Landscape Naturally*. (See page 6.)

Creasy and Kourik both live in California: for this and other reasons, reintegrating edible plants into the landscape was initially a West Coast phenomenon. "Things change more quickly in the West," says Creasy. "People here experiment more and change more. And they garden all year round." But now, both Creasy and Kourik point to gardens in other parts of the country—the Chicago Botanic Garden; Cox Arboretum in Dayton, Ohio; Missouri Botanical Garden; Longwood Gardens in Kennett Square, Pennsylvania—that have developed major fruit and vegetable sections. The largest edible landscape that Creasy ever designed was in the Midwest, at a plastic surgery clinic in Chicago, where she put in a five-acre landscape with features such as edible foundation plants, an allée of fruit trees, and an asparagus border.

A major impetus for growing more



MARGARET SCOTT

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MARGARET SCOTT

edibles in the landscape, Creasy and Kourik agree, is cooking. "People are probably experimenting more in the kitchen than ever before," says Kourik, who connects the new edible gardening to a baby boom generation that demands frills, accoutrements, and aesthetics in gardening and cooking. "What I'm seeing," says Creasy, "are people who've never gardened in their lives but are into cooking and come into gardening through cooking. We are probably the only people in the world in which the individuals who grow the food don't cook it, and the ones who cook the food don't grow it. But this is changing." (More, she feels, because more women are gardening than because more men are cooking.)

And what are people growing? Kourik sees mostly annual salad vegetables and fruit, with snazzy items like yellow pear tomatoes and heirloom apples especially popular. Edible flowers have peaked in popularity in California; the new rage is cooking with lavender. Creasy points to salad greens, vegetables grown in containers, and especially herbs. "Americans," she says, "are finally waking up to the use of fresh herbs in cooking."

Public gardens are only very recently beginning to play a major role in encouraging edible gardening. Ten years ago, it would have been difficult to name five botanical gardens or arboreta with large food gardens. "Just like the zoos, the gardens are changing from their Victorian stage, where they had to collect from all over the world," says Creasy. "Now the goal is preservation and instructing homeowners." Galen Gates, the manager of horticultural collections at the Chicago Botanic Garden (CBG), concurs: "Now we have to justify our existence to the public. It's difficult to get them excited with an arboretum setting with, say, just hedge plants."

CBG's 3.8-acre fruit and vegetable garden was opened to the public in 1985, established on an island with the hope of keeping the deer away. ("We found out that deer swim," says Gates.) Visitors cross a bridge, walk through an entry garden with ornamental fruits, flowers, and vegetables, and then can visit any of 14 edible displays, including an intensive garden with raised beds and espalier, a suburban garden, an urban garden, an arbor walk, and a wild vegetable and fruit garden. In the center of the island is an



COURTESY OF THE CHICAGO BOTANIC GARDEN

Chicago Botanic Garden's suburban garden is one of 15 edible displays.

outdoor classroom and demonstration kitchen. Gourmet chefs from Chicago use the garden's bounty to conduct classes on cooking and preserving. With 577 different plants representing 476 taxa and 155 genera, there's plenty to choose from. Some of the most popular features of the garden include 'Pink Pod' strawberry, which is used as a ground cover to control erosion; 'Wijcik' apple, an upright apple with little side branching that works well as a hedge plant; and a common quince (*Cydonia oblonga* 'Smyrna'), a small tree with beautiful, large white flowers.

Cox Arboretum's Edible Landscaping Garden, completed in 1990, also includes innovative landscaping ingredients—purple-stemmed Malabar spinach growing on an arbor; a bed of chrysanthemums, Swiss chard, and corn; purple-leaf okra in a mixed border—and an outdoor pavilion for cooking demonstrations. "This type of gardening is the perfect marriage between those who like to garden for edibles and those who like to garden for ornamentals," says Education Supervisor Bob Butts. "It's also a timely concept for those who want to get more out of their landscapes."

According to Kourik and Creasy, edible landscaping will only become more timely in the future. "It may not end up being called edible landscaping," says Kourik, "but the integration of elements is becoming mainstream." Creasy heartily agrees: "In 25 years we're not going to even have to call it edible landscaping. It will simply be routine."

—Thomas M. Barrett, Assistant Editor



Old-Fashioned Edibles

Why be satisfied with lettuce, tomatoes, and beans? The number of little-used, easy-to-grow, and delicious fruits and vegetables is legion. The following are some of my favorite edibles that were enjoyed by gardeners past but have been nearly forgotten by later generations.

Black Salsify

Black salsify or black oyster plant (*Scorzonera hispanica*) is a hardy perennial from Europe, cultivated as an annual or biennial. Its long, grayish black roots can be eaten in a variety of ways, but are most often boiled or steamed and served like parsnips. The white flesh is tender and reminds some of the taste of oysters. The roots generally reach 10 to 12 inches; those of 'Giant Black Russian' will grow to 15 inches or more. Black salsify was used in French, Belgian, and English gardens as far back as the 16th century and by the 17th century had gained some popularity in those countries. Plants that are not dug up will send up attractive, yellow, daisylike flowers the second year.

Devil's Claw

Devil's claw (*Proboscidea* spp.) is an annual that is as fun to grow as it is to eat. Gathered or cultivated for centuries by many tribes throughout the Southwest, the common names—it's also called unicorn plant, cat's claw, and ram's horn—refer to its curiously shaped fruit, which when green resembles a long curved horn and when mature and dry, splits apart to form two hooked horns or claws. The young fruits are pickled like cucumbers; it can also be cooked like okra and the high-protein seeds are eaten raw or cooked. The fiber from the "claws" has been woven into baskets in the Southwest at least since A.D. 600.

The interesting seed pods, large heart-shaped musk-scented leaves, and bell-shaped creamy white, light red, violet, or purple flowers of devil's claw make it an attractive ornamental. Drought- and heat-tolerant, it would be a great addition to a xeriscape.

Orach

Like devil's claw, orach (*Atriplex hortensis*)

can be grown for its beauty as well as its food value. Also called mountain spinach, French spinach, and butter leaves, it was grown by the Romans, has long been used as a kitchen vegetable in Europe, and is often touted as a hot-climate substitute for spinach. The leaves have a mild, sweet, slightly salty flavor and are boiled or eaten raw. Traditionally they were mixed with sorrel leaves to reduce the acidity of the latter.

Bernard McMahon in *McMahon's American Gardener* (1806) mentioned three cultivars growing in American gardens—a dark green, a dark purple, and one with green leaves and purple borders. The most attractive cultivar readily available these days is 'Red', which has dark red, almost purple, arrow-shaped leaves on an upright plant that can reach six feet.

Buffalo Berry

Buffalo berry (*Shepherdia argentea*) is native to the Midwest and the Canadian plains and was named such because the berries of the shrub were a favorite food of the buffalo (the French voyageurs called it *graise de boeuf*). They also made a favorite sauce to accompany buffalo meat. Native Americans used the berries in a variety of ways: eaten fresh or dried, added to a soup with meat broth, made into a pudding with prairie turnip (*Psoralea esculenta*) flour, and pulverized into a drink. Tart but pleasant berries hang in bunches from the thorny, erect shrub, which reaches 12 to 18 feet. The fruits are also used to make jelly, sauces, and preserves.

Buffalo berry, which is hardy to USDA Zone 2, is an attractive ornamental, as George Catlin described in his *Letters and Notes on the Manners, Customs, and Conditions of North American Indians* (1833): "This shrub, which may be said to be the most beautiful ornament that decks out the wild prairies, forms a striking contrast to the rest of the foliage, from the blue appearance of the leaves, by which it can be distinguished for miles in a distance. The fruit which it produces in such incredible profusion, hanging in clusters to every limb and twig, is about the size of ordinary currants, and not

unlike them in colour and even in flavor." The silvery gray foliage has been compared to that of the Russian olive.

Lingonberry

Lingonberry (*Vaccinium vitis-idaea*) is a staple in far northern, even arctic, regions, but can be successfully grown as far south as Zone 4. In my wife's Finnish-American family, nothing compares to the jars of sweet-tart, cranberryish lingon preserves that Aunt Helen brings down from Alaska. They are also used in Finland to make a sweet fruit soup called "mehukeitto" and throughout the Nordic countries are made into sauces to be served with Swedish pancakes, omelettes, and puddings. Thoreau, in the Maine woods, ate these berries stewed and sweetened. At least 25 common names have been assigned to *V. vitis-idaea*: Americans may know it better as mountain cranberry, moss cranberry, partridgeberry, cowberry, or foxberry.

Lingonberry is a slowly spreading, evergreen ground cover or small shrub, growing to only 10 to 12 inches tall. It has shiny, dark green, leathery leaves; pinkish white, bell-shaped flowers; and produces large amounts of the tiny, dark red berries.

Ground Cherries

Ground cherries (*Physalis peruviana*, *P. pruinosa*, and *P. pubescens*) are related to fellow-Solanaceae tomatillo (*P. ixocarpa*) and Chinese-lantern plant (*P. alkekengi*), but with a somewhat sweeter, tiny fruit inside of the papery husks (actually calyxes). The slightly acidic, sweet-tart fruits can be eaten raw or made into pies, jams, or sauces. Native Americans used 10 species of ground cherries for food. The Zuni of New Mexico made a prized sauce by boiling ground cherries and grinding them in a mortar with raw onions, chili peppers, and coriander seeds. Hawaiians call *P. peruviana* "poha" and cook it into a delicious jam. Several ground cherry cultivars are available—*P. pubescens* 'Cossack Pineapple' from Eastern Europe has one-half-inch diameter berries that taste similar to pineapple.

—Thomas M. Barrett, Assistant Editor



Lessons From the Lifescape

One of the premier edible gardens on the West Coast is the Santa Barbara City College Lifescape, in Santa Barbara, California. There grow over 700 species and cultivars of trees, shrubs, vines, and herbaceous perennials, each of which is edible and ornamental and suitable for inclusion in a suburban or urban landscape. Miniature, dwarf, semi-dwarf, and controllable-sized plants are highlighted and special emphasis is placed on mild climate plants that will adapt to the Mediterranean climate of Santa Barbara. New cultivars are continually being tested and evaluated by students in the environmental horticulture program, who maintain the Lifescape and use it as their living laboratory.

The garden was originally designed in 1982 as a fruit grove, replacing a 1960s community garden that had fallen into disarray. But as Jerry Sortomme, the coordinator of the environmental horticulture department, relates, "people started asking more and more about dual-purpose plants" and over the years it

evolved into a unique collection of ornamental edibles. "Now, aesthetic beauty is a prerequisite for all plants."

With so many beautiful and delicious plants, it's not easy to pick favorites, says Sortomme. "It's like a kaleidoscope here. Each year is different." But once Sortomme starts enthusing about the Lifescape, it's hard to get him to stop. "People love the variety of bananas," of which the Lifescape has 25 different types. "They're surprised to see how tasty and different they are." Other favorites are the yacon (*Polymnia sonchifolia*)—a plant with small daisylike yellow flowers that is grown in the Andes for its huge, crunchy, sweet tubers; the goldenberry (*Physalis peruviana*; see page 3) and the alpine strawberry (*Fragaria vesca*), both of which naturalize "and become great weeds"; passionflowers (*Passiflora edulis* and *P. mollissima*) with their exotic flowers and tropical fruit; and the Egyptian walking onion (*Allium cepa*, Proliferum Group), an onion that produces small bulbs at the top of the stalk, which make it buckle and drop the bulbs on the ground where they take root and grow. "This one fascinates people. They enjoy anything that's Dr. Seuss-like."

Of course, with Santa Barbara's longstanding drought and other vagaries of weather (blustery winds, prolonged Indian summers followed by sudden cold snaps, rainless months and then two-day deluges), the Lifescape has had its share of failures. "We try everything three times, move it around, and then remove it," says Sortomme. "Because there is such a menagerie of things, there is always something not doing well and something doing quite well." Asian pears have died of fireblight. The apricots weren't bearing due to foggy springs and all but one have been removed. Pawpaw seems to grow fine, but doesn't fruit. Standard chill apples and persimmons have failed.

Browsing two-legged visitors are another minor problem. To foil hungry humans, the students prune to make the fruit less accessible and grow unusual-colored cultivars, such as golden alpine strawberries. "The things that don't turn orange or red we get to keep in the



COURTESY OF JERRY SORTOMME

"Lady Finger" banana.

garden because people don't know that they're ripe," says Sortomme.

But the Lifescape is more than simply a nice place for an illicit free lunch. It has become a great resource for area residents wanting to create an edible landscape, a trend that Sortomme says has burgeoned on the West Coast. "Some people are avant-garde and want stuff that's not in the stores. Others like dual-purpose planting. As long as you're going to have a tree, why not get a crop off of it?" People who want a clean environment and are concerned about the quality of their produce also go for edible landscaping, because they can pick something they've grown, without pesticides, just when it's reached ripeness. And they like the bounty: "A lot of people these days are making their homes their sanctuaries—the tiny little version of the Waltons in the city," with a hedge of thornless boysenberries, large-flowered dwarf grapefruits in the yard, a Nanking cherry by the porch, and kiwi growing up the side of the house.

Anyone wishing to tour the Lifescape should contact Jerry Sortomme, Coordinator, Environmental Horticulture Department, Santa Barbara City College, 721 Cliff Drive, Santa Barbara, CA 93109-2394.

A World of Cranberries

Already done Disney World this year? Then think about a family excursion to the Cranberry World Visitors Center, which opened for its 13th season in April. The museum, located in Plymouth, Massachusetts, traces the history of this native fruit through multimedia presentations, displays of antique and modern harvesting equipment, a scale model of a working cranberry farm, and other exhibits. Visitors can also watch cooking demonstrations and sample recipes. For more information, contact Cranberry World at Ocean Spray Cranberries, Inc., 225 Water Street, Plymouth, MA 02360, (508) 747-2350.



A Garden of Guavas and Grapefruits

Chris Rollins, the manager of Homestead, Florida's Fruit & Spice Park, says you can often tell where south Floridians come from by the trees and shrubs they grow in their yards. If you see a pigeon pea (*Cajanus cajan*), a shrub with small beans that are cooked with rice, chances are the yard belongs to someone from the Caribbean. Akee (*Blighia sapida*), a medium-sized tree with large yellow and red fruits that are eaten fresh or cooked with salted cod, tends to be grown by Jamaicans. Cubans grow mamey sapote (*Pouteria sapota*), a large tree with up to six-pound fruits that are eaten fresh and taste like creamy sweet potatoes. And all of these plus much more grow at the Fruit & Spice Park, a multicultural, multiedible botanical garden in south Florida.

According to Rollins, the Fruit & Spice Park is the only public garden in the United States with such a rich bounty—some 500 varieties and 2,500 specimens—of tropical and subtropical fruits and vegetables. The 20-acre park was founded in 1944 and Rollins has continually added to the collection through fruit-collecting trips to countries such as Honduras, Costa Rica, Borneo, and Malaysia. From Guatemala, he recently acquired *Hylocereus* species—beautiful night-blooming vines with fruits that are used in drinks, sherbets, and preserves—and sun sapote (*Eicania platypus*), a rare, fruiting tree.

"An awful lot of people from different ethnic groups come here to see their homeland fruits and vegetables," says Rollins, citing Jamaicans, Cubans, Guatemalans, Colombians, Southeast Asians, and Indians as frequent visitors. Americans uninitiated to such exotic edibles tend to like best, and to grow, only fruits that can be eaten fresh—the citrus and grapes and bananas and carambola. "Most of the exotic fruits and vegetables have to be prepared properly. That's the main stumbling block for the gringos." To help them overcome that hurdle, the park holds weekly classes on topics such as "Caribbean Cooking," "Winemaking With Tropical Fruits," "Thai Cooking," and "Lychee and Logan Workshop." Rollins also conducts botanical tours to Florida back yard

PHOTOS COURTESY OF THE FRUIT & SPICE PARK



Jackfruit (left) produces the world's largest tree fruit, sometimes reaching 80 pounds. The sweet fruit of the lychee (right) is eaten fresh, dried, or made into preserves.



gardens, private estates, and research stations with interesting fruits and "fruit safaris" to the Florida Keys and Central and South America.

"The current interest in tropical fruits is overwhelming," says Rollins. This makes the Fruit & Spice Park the type of public garden whose time has come. "There's been a feeling almost that food plants belonged to scholars and scientists and that they don't fit into the botanical

garden motif." The many visitors who leave the Fruit & Spice Park with delicious samples of mangos, sapote, plantain, and custard apple might tend to disagree.

The Fruit & Spice Park is open seven days a week from 10 a.m. to 5 p.m. and is located at 24801 S.W. 187 Avenue, Homestead, FL 33031. Admission is free. Guided tours are available.

Chile Institute Bibliographies

The Chile Institute has published two extensive bibliographies. A *Comprehensive Bibliography of the Capsicums*, compiled by Interim Director Paul Bosland, contains some 8,000 citations, emphasizing horticulture, botany, and genetics. *Chile Peppers: A Selected Bibliography of the Capsicums*, compiled by Dave DeWitt, editor of *Chile Pepper* magazine, is designed for more popular use. It contains approximately 1,200 citations, emphasizing the historical, marketing, gardening, and culinary aspects of chile peppers.

The Chile Institute is a nonprofit organization, dedicated to increasing the knowledge and awareness of *Capsicum*. The bibliographies are the institute's first

projects since it was founded in 1991 under the auspices of the New Mexico State University Foundation. It is initiating several programs, including a chile research information archive; the Chile Improvement Project to stimulate research on *Capsicum*; and an International Chile Center to preserve *Capsicum* germplasm. Annual dues of \$25 (check payable to NMSU Foundation—Chile Institute) buy a subscription to a semiannual newsletter, occasional chile research reports, and free seeds of new cultivars released from the New Mexico State University Chile Breeding Program. For information on ordering the bibliographies or to join, write the Chile Institute, Box 3-Q, NMSU, Las Cruces, NM 88003.



Books on Edibles for a New Age

Americans can be very conservative fruit and vegetable gardeners. Perhaps it's the legacy of the Great Depression when food gardening was serious, survival work. Or it may be fallout from World War II victory gardens with their regimental rows and nutritional calculations and canning workshops run by colonels. Hard work. No experimentation. Little time for flowers. And above all, PRODUCTION.

And all too often still, gardeners leave the spirit of adventure in the flower garden and get very serious—almost obese—when it comes to edibles, segregating them from ornamental areas, choosing plants based sheerly on productivity, and clinging to the same old warhorse species. Industrial habits in a post-industrial age. But a new genera-

tion has new desires and new limitations: Will it evolve a new type of fruit and vegetable gardening? Perhaps the following books herald the way.

Rosalind Creasy may not have coined the term "edible landscaping," but she certainly popularized it with *The Complete Book of Edible Landscaping* (Sierra Club Books, 1982, AHS member price, softcover: \$17). Edible landscaping is multipurpose landscaping, using the same plants for beauty, food, and environmental conservation. Why plant just any attractive tree, when you can plant a drought-tolerant, nitrogen-fixing, food-bearing tree that is also beautiful? Every landscape feature can go edible with edible trellises, edible ground covers, edible hedges, edible foundation plants, edible lawn trees, and edible borders.

Although there is plenty of information in this book about planting, maintenance, and use of edible plants, its real value is as a guide to landscaping. An encyclopedia of edibles, which makes up half of the book, describes how to use each plant in the landscape; there are also two chapters devoted to garden design.

While Creasy's book encourages a new design, Robert Kourik's *Designing and Maintaining Your Edible Landscape Naturally* (Metamorphic Press, 1986, AHS member price, softcover: \$17) is more horticultural. Even though Kourik's second Golden Rule of Edible Landscaping is "you have a lot to do besides landscaping; don't let your edible landscape take over," this book has so much information on how to transform your landscape into a Garden of Eden, it's hard to imagine anyone being satisfied with a low-maintenance approach. (His first Golden Rule, reflecting the ethos of the new age, is "enjoy your landscape; if it's just drudgery you're doing something wrong.") Kourik describes in great detail how to create an energy-conserving, organic landscape with fruit and nut trees and unusual features such as self-seeding wild vegetable plots, vegetables in the lawn, espalier, edible berms, and edible shade gardens.

If Creasy is the poet of edible landscaping, then Kourik is the computer guru: this is information-age gardening,

enlightened by endless charts of disease-vector plants, dynamic accumulators, root zones, international intercropping trial results, rootstock specifications, and the like. He has even included sun movement charts and an isogonic chart showing magnetic deviation for the continental United States (useful for locating true solar south).

In the same spirit of unbridled information is Stephen Facciola's *Cornucopia: A Source Book of Edible Plants* (Kampong Publications, 1990, AHS member price, softcover: \$30)—an essential resource for anyone who's serious about experimenting with different food plants. Facciola lists some 3,000 species—yes, 3,000!—and thousands of cultivars of edible plants, with sources, bibliographic references, and information on how to use them. This is a truly astonishing effort, a one-man international ethnobotany of sorts, with sources.

A look at Iridaceae, the iris family—not known for its edibility—reveals the level of detail. Saffron (*Crocus sativus*), you may know, is an Iridaceae. Facciola also includes 12 other edible species and two hybrids. The flowers of *Gladiolus cruentus* are eaten raw or boiled; the rhizomes of German iris (*Iris x germanica*) are dried and used as a flavoring; the bulbous roots of *Moraea fugax* are eaten roasted, boiled, or stewed with milk; and the roasted starchy corms of common tiger flower (*Tigridia pavonia*) have been used as food by Indian tribes in Mexico since pre-Columbian times.

With Facciola and Creasy and Kourik, the groundwork has been laid for a new edible gardening, with a great diversity of plants in all parts of the landscape, producing beauty and food, and sometimes new food. Won't it be difficult to face again your tomatoes and lettuce over there by themselves in their tidy little rows?

—Thomas M. Barrett, Assistant Editor

Lettuce Rejoice

Not too long in the future, we may have to stop referring to lettuces as "greens." Radicchio is red, of course, and we have red-tinged lettuce cultivars such as 'Red Sails', but that's only the beginning. At an Agricultural Research Service (ARS) experiment station in Salinas, California, one can find yellow lettuce from Hungary, a Spanish lettuce with dark red outer leaves, and blue-green lettuce from the Middle East with two-foot stems that are said to taste a bit like asparagus and a bit like kohlrabi.

Some of these imported lettuces are green, but a darker green than those we find in the supermarket. Others are striking because of odd shapes, such as the frilly leaves of the type from Turkey.

Some of these lettuce varieties are ancient, possibly dating back thousands of years, according to ARS researchers Edward Ryder and William Waycott. They may look or taste strange to Americans, but their appealing traits could be bred into more familiar lettuces.

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From the USDA: Fruits of the Future?

Why should the fruit bowls of America be limited to apples, oranges, and bananas? How about a plumcot, a passion pop, a puckerless persimmon, or a rambutan from Malaysia? These are some of the edibles the Agricultural Research Service (ARS) of the U.S. Department of Agriculture (USDA) has been working to develop in the past few years.

The plumcot, a cross between a plum and an apricot, is not a new hybrid, but most trees don't produce enough fruit to be profitable for growers. ARS researchers are crossing highly productive trees of both types and growing their progeny in a California research orchard. They hope to find a combination that produces a hefty harvest of fruits with the

taste of the apricot and texture of the plum. The apricot has one of the shortest seasons of any pitted fruit, but the plumcot, like the plum, could be available from spring through fall.

Passionpop is a name proposed for the offspring of the tropical passion fruit (*Passiflora edulis*) and the maypop, a native of the Southeastern United States. However, its developer, ARS researcher Robert J. Knight Jr., finds the name "frivolous" and "unnecessary" since the hybrid is still a passion fruit. "What it needs," he told *Fruit Gardener* magazine, "is a good modifier before 'passion fruit.'" The baseball-sized hybrid has citruslike flesh and tangy juice said to mix well with other juices, and it's coldhardy

like the maypop. The ARS says it should be on the market in three to five years.

In addition to these new crosses, the ARS is also hoping to encourage Americans to consume some fruits from abroad.

One that is available here but underappreciated is the oriental persimmon or kaki (*Diospyros kaki*), a favorite fruit in China and Japan. A USDA scientist found that these orange-red fruits have three times as much vitamin C as citrus fruit. They are also high in fiber and a good source of potassium and vitamin A, according to researcher Jerry Payne. The best news is that, unlike their smaller and seedier American cousins, they don't evoke that dreadful pucker response when bitten into.

A fruit that might be grown in tropical parts of the United States is the rambutan (*Nephelium* spp.), a spiny, egg-shaped fruit with grapelike flesh. Seeds from two species of rambutans were collected from North Borneo (now Sabah) and their seedlings are being evaluated at the National Clonal Germplasm Repository for Tropical and Subtropical Fruit and Nut Crops in Hilo, Hawaii. The wild rambutan (*N. lappaceum* var. *pallens*) has dark, purple-red fruit with a sweet-tart taste. The giant rambutan (*N. cuspidatum* var. *robustum*) is about twice as large and has white flesh.

We'll Believe It When We Taste It

Fresher year-round tomatoes may be on the way, says the Agricultural Research Service. Ironically, this will be achieved by genetic engineering that will tell a tomato not to ripen. Tomatoes would stay on the vine longer and turn red only when picked and exposed to ethylene, a compound that causes ripening. Not only will the tomatoes be less likely to spoil, but they may be cheaper because refrigeration costs will be reduced. The approach, researchers say, works on about 100 types of greenhouse tomatoes and may also be used for fruits and cut flowers.

Edible Organizations

The following organizations are devoted to growing and promoting various fruits and nut trees. They can provide invaluable information on fruit and nut culture and help locate sources of hard-to-find species and cultivars.

◆ California Rare Fruit Growers, The Fullerton Arboretum, California State University, Fullerton, CA 92634. Promotes growing rare fruits in the home landscape. Publishes the bimonthly *The Fruit Gardener* and has other benefits such as a seed program and an information service. Dues \$16.

◆ Home Orchard Society, P.O. Box 776, Clackamas, OR 97015. Promotes home fruit growing and publishes the quarterly *Pome News*. Scion exchanges for chapter members. Dues \$10.

◆ North American Fruit Explorers, Route 1, Box 94, Chapin, IL 62628. A network of individuals devoted to the discovery, cultivation, and appreciation of superior varieties of fruits. Publishes the quarterly *Pomona* and sends new members the *Handbook for Fruit Explorers*. Also has a popular mail lending library. Dues \$10.

◆ Northern Nut Growers Association, 9870 South Palmer Road, New Carlisle, OH 45344. Amateur and professional nut growers organization. Publishes the quarterly *Nutshell* and the information-packed *Annual Report*. Dues \$15.

◆ Paw Paw Foundation, P.O. Box 23467, Washington, DC 20026. Promotes the development of *Asimina triloba*. Planning an annual newsletter; sells a series of pamphlets on the use and culture of pawpaw, pawpaw sources, pawpaw research, and other topics. Dues \$10.

◆ Rare Fruit Council International, c/o Carolyn Betts, 12255 S.W. 73rd Avenue, Miami, FL 33156. Promotes the growing of tropical fruit. Publishes the monthly *Tropical Fruit News* and has a seed exchange. Dues \$35.

◆ Southern Fruit Fellowship, c/o Dr. A. J. Bullard, 103 Smith Chapel Road, Mount Olive, NC 28365. Dedicated to locating superior fruit trees for the South. Publishes the quarterly *Southern Fruit Fellowship Newsletter* and has scion and budwood exchanges. Dues \$5.

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Affiliate Committee
c/o Mary Jo Gussett
11807 Dover
Houston, TX 77031



MARGARET SCOTT

From Garden Plots to Restaurants

A chalkboard in the Eastside Cafe in Austin, Texas, lists the specials for the day, including a delectable salad garnished with tomatoes grown right on the property. At Nora's in Washington, D.C., the produce is always organic and in the summer the herbs are grown in a garden plot outside the restaurant.

Is this a dream or are restaurants across the country really growing their own vegetables?

Well, yes. And no.

"About five years ago it looked like restaurant gardens were becoming a trend," says Suzanne Ashworth, who has marketed vegetables to a restaurant in Sacramento, California, and now finds markets for heirloom vegetables. "But restaurant gardens are hard to maintain on a permanent basis," she says. "You either have a surplus or not enough."

Dorsey Barger, who, with Elaine Martin, owns the Eastside Cafe, agrees with Ashworth. "Our garden is a labor of love. It's just not economically efficient." The garden, which Barger refers to as "the garden from hell," was the brainchild of Carla Bloomberg, who opened another restaurant, Carla's, on the site in 1982. That restaurant closed in 1987; Barger and Martin opened the Eastside Cafe in the same building in 1988.

The garden occupies one-third of the one-acre site and is filled with "all kinds of greens and vegetables," which are highlighted in the restaurant's daily specials. Barger and Martin employ a full-time gardener, Betty Perez, who also looks after the grounds.

But if the garden is so much work and not cost effective, why bother? "It attracts customers," Barger admits. She uses the garden in advertising campaigns and customers are welcome to wander around. "A lot of other organic gardeners come to the restaurant because of the garden. They trade bug stories with Betty and compare gardens. It is a neat thing," Barger says. "It's very peaceful."

Nora's in Washington, D.C., has "the only outside herb garden," in the area, says Steven Damato, who, with his brother Thomas and chef Nora Pouillon, owns the downtown restaurant. The 90 x 20 foot garden is used mainly for herbs

and vegetables grown for decoration, but Damato, who also functions as the restaurant's gardener, also uses it as a test plot. "For example, I like lettuce, so I use the garden to try out different kinds," Damato says. When he finds one that he particularly likes he passes the information on to two local organic vegetable gardens that supply the restaurant's summer produce.

Damato disagrees with Barger's premise that a restaurant garden isn't cost effective. "I don't spend more than \$1,000 in time, seeds, topsoil, compost, and manure, and I get a \$4,000 to \$6,000 return," he says.

He may be in the minority though. According to Wendy Webster, a spokesperson for the National Restaurant Association, gardens may not pull their weight for economic and other practical reasons. "A restaurant only makes about 5 cents on every dollar before tax," she says. With such a low profit margin it's hard to justify the expense of hiring garden help. "And most of the country doesn't have a year-round garden season."

Cooperative agreements with farmers or gardeners are another alternative, but according to Ashworth, "It's hard for one contract gardener to grow all the lettuces that a restaurant needs." Restaurants may do better limiting contract gardens or those on the premises to herbs or special garnishes. Edible flowers, colored peppers, chive blossoms, and snap pea shoots can be fulfilled by a small garden and are really appreciated by a restaurant, she says.

Ashworth feels that these contract gardens have made farmer's markets more popular with chefs. These markets may be the wave of the future for restaurant produce. Webster and Damato both agree. "Farmer's markets are great sources," Damato says. "It's a place for farmers to meet people and share their enthusiasm for vegetables."

Chefs always want to try something new, Ashworth says, and the farmer's market offers a way to discover interesting produce. And when chefs cook with heirloom vegetables, unusual herbs, or edible flowers, it may well inspire restaurant-goers to try some new plants in their own garden plots.

Growing Ferns From Spores

By Tim Morehouse

Wrote Henry David Thoreau, "Nature has made a fern for pure leaves." Many of these flowerless plants make excellent garden perennials and seeing their fiddleheads uncurling in the spring makes wild-collecting a temptation. However, that's not an ethical alternative to buying them from a catalog or nursery. Just as you can save money growing plants from seed, it's more economical—and easier than you might think—to grow ferns from spores.

Because spores cannot be seen by the naked eye, it was once believed that they possessed magical powers. William Shakespeare wrote in *Henry IV, Part 1*: "We have the receipt of fern-seed, we walk invisible." In 1851, German botanist Wilhelm Hofmeister unraveled the fern life cycle. Unlike the seed of flowering plants, he discovered, a fern spore does not grow directly into a plant of the form we know as a fern. Instead, it germinates first into a filament of cells that becomes a small, flat, heart-shaped structure called the prothallus. This is a stage in which the plant, like the spore from which it grew, has half the number of chromosomes of the mature fern. Prothalli eventually go on to produce male and female sex organs, and these produce eggs and sperm. A fertilized egg, called a zygote, finally develops the root and leaf we recognize as a fern.

While you may decide to grow tropical species for indoor greenery, if you plan on having them in your garden you will want to learn first which species are hardy in your area. *The Home Gardener's Book of Ferns* by John Mickel gives complete instructions for fern culture and descriptions of the kinds available.

Fern spores are found within the small cases called sporangia on the undersides of fronds in many species. Sporangia are frequently clustered together in groups called sori. The time to go spore hunting is in late summer or early fall. Spores begin to ripen then and stay viable until frost. Only if you know a species to be common should you collect even parts of ferns from the wild. A fellow gardener who grows ferns should be happy to share a frond or two, or you can buy spores from the American Fern Society for 25 cents per packet with a self-addressed, stamped envelope.

To harvest spores, pick a frond or piece of frond with ripe sori. Ripe sori are usually dark brown or black (in some ferns they are golden) and the sporangia are round and full. Place the frond face



Prothalli are removed from a tumbler "greenhouse" and planted in rows.

down on a clean, smooth sheet of paper and place a light weight on it. The spores will begin to drop onto the paper immediately, and within a day or so most of the ripe sporangia will have opened and released their spores.

To sow your spores you will need some nine-ounce, clear plastic cocktail tumblers, a package of resealable plastic bags, and peat capsules of the type used to start seeds. Boil a kettle of water while you remove the thin plastic covering the peat capsule and drop one capsule into each tumbler. Fill the tumbler full of boiling water and stir until the peat is dissolved.

Place a sandwich bag under each tumbler, then punch three holes in the bottom of the tumbler to allow the excess water to drain out into the bag. Once the peat is cool enough to be comfortably touched, you can sow the spores. Because they are so tiny, you must keep the paper as close as possible to the surface of the peat and spread the spores lightly.

Next, seal each plastic bag tightly round its tumbler and hang it where it will get full light, but not direct sunlight, such as in a north window or under a fluorescent light. A comfortable room temperature will suffice. Label each bag with species, planting date, and source.

In about three weeks, more or less, depending on the species and the freshness of the spores, a green haze will form. The haze is in reality a carpet of flat, heart-shaped leaves—the prothalli.

When these tiny plants are about an inch tall—they will resemble a miniature clover patch—they are ready to be transferred to soil. Suitable housing for these plants is a clear plastic shoebox with a

layer of sterile African violet soil and under it a one-half-inch layer of coarse sand that has been sterilized with a rinse of boiling water.

Use a pair of tweezers to very gently remove clumps about the size of your little fingernail. Place the clumps in tiny rows. A shoebox should hold about 50 of these clumps.

Lightly mist the prothalli, preferably with distilled water, every few days. Keep the shoebox covered. In a month or less, baby ferns will begin to appear, perhaps 10 to a clump.

When these are about two inches tall and there is no longer danger of frost (or if planting in summer, at least two months before the first frost is expected) you can carefully separate the ferns and plant them in a suitably shady part of your garden. Should weather conditions prevent you from planting them outdoors immediately, you can place them in two-inch pots containing the identical soil mixture and set the pots on a tray of moist gravel. Keep the pots out of drafts.

I grow hardy ferns because I like to see my garden increase every year. I prefer the many forms of the lady fern, *Athyrium filix-femina*, and the male fern, *Dryopteris filix-mas*. Many lacy and crested varieties of these have been introduced from Great Britain.

Other ferns for shady borders or rock gardens include the maidenhair, marginal shield, and Christmas ferns. Most do best in partially shaded, sheltered spots, although a few, such as the hay-scented and New York ferns, will tolerate full sun. In wet areas the royal, cinnamon, ostrich, and chain ferns flourish. There are also miniatures and species that like alkaline soil.

Tim Morehouse lives in Cincinnati, Ohio. His first book, on garden design, will be published by Stackpole Books in spring 1993.

To order American Fern Society spores or obtain membership information, write to Mrs. Garrett Horder, 16813 Lemolo Shore Drive N.E., Poulsbo, WA 98370.

Gardeners' Q&A

Q: *What types of trees and shrubs will work best to attract birds, especially bluebirds, to my back yard?*

D. W., Middleburg, Virginia

A: Birds are attracted to plants that provide cover and food. Trees, shrubs, and dense vines provide nesting space, refuge from predators, and a place to breed, dry off, and stay warm or cool. A meadow left unmowed for ground-nesting birds gives them a good place to hunt insects.

To provide adequate cover, plant shrubs more densely than usual, in clumps behind flower beds or as thick hedges near an open meadow. Fill in between trees with shade-tolerant ground covers and shrubs to create a continuous corridor of vegetation.

Birds and other wildlife prefer naturally shaped and even leggy plants to heavily pruned trees or shrubs. Overpruned shrubs have fewer buds, seeds, and berries for birds to eat. Pruning causes shrubs to become bushier, making it harder for birds to get in and out of them. And don't use pesticides on plantings meant to attract birds. Not only can they kill birds, but they eliminate insects birds rely on for food.

Choose plants that produce fruit or seed at different times of the year. Focus on fruit if you want bluebirds, which feed primarily on berries and insects. They are not attracted to conventional bird seed mixtures. If you have a dead tree, consider keeping it: bluebirds nest in cavities in dead trees and fence posts.

The following trees and shrubs are attractive as cover and food sources for many birds, especially bluebirds:

Trees: Black gum (*Nyssa sylvatica*), hackberry (*Celtis occidentalis*), flowering dogwood (*Cornus florida*), hawthorn, juniper (*Juniperus virginiana*), magnolia, crabapple, mulberry, cherry and plum (*Prunus* spp.), sassafras, and mountain ash.

Shrubs: American cranberry (*Vaccinium macrocarpon*), black haw (*Viburnum prunifolium*), elderberry (*Sambucus canadensis*), fire thorn (*Pyracantha coccinea*), Tatarian honeysuckle (*Lonicera tatarica*), serviceberry (*Amelanchier laevis*), American holly, Sargent crabapple (*Malus sargentii*), currant, gooseberry, blueberry, huckleberry, rose (*Rosa rugosa*), and bayberry.

Vines: Grape (*Vitis* spp.), Hall's Japanese honeysuckle, trumpet vine, and Virginia creeper.

To get more detailed information on creating wildlife habitats for your yard

write to: National Institute for Urban Wildlife, 10921 Trotting Ridge Way, Columbia, MD 21044 or Wildlife Management Institute, 709 Wire Building, 1000 Vermont Avenue N.W., Washington, DC 20005.

Q: *Besides English ivy, can you suggest some perennial vines that would grow on a fence in a shady walkway between my home and my neighbor's driveway? The area gets four to six hours of sunlight a day in the summer.*

A. J., Gates Mills, Ohio

A: Here are several fast-growing, shade-tolerant vines with beautiful flowers and/or foliage. Trumpet vine (USDA Zones 4-9) is a vigorous grower producing dark orange flowers from summer into fall. This hardy, woody, screening vine is a favorite of hummingbirds.

Virginia creeper (Zone 4) is a drought-tolerant, hardy, fast growing vine with lovely reddish green foliage that turns a brilliant scarlet in the fall. In late summer it produces dark blue berries that attract birds.

Dutchman's-pipe (*Aristolochia durior*, Zones 4-8) is a deciduous vine and will cover your fence in one growing season if planted in early spring after the last frost. The foliage is distinctly kidney shaped and up to a foot long. This vine produces abundant brownish yellow flowers in late spring to early summer.

The Tara vine (Zone 5), another deciduous vine, has five-inch-long lustrous leaves. It is dense, adaptable, and extremely fast growing. The flowers are insignificant, but it produces small round greenish yellow fruits.

Q: *Can you give me some pointers on propagating some of the geraniums (Pelargonium) I grow each summer?*

K. H., Bangor, Maine

A: Take cuttings from July until the last frost. Water plants well several hours before taking a cutting to ensure cell turgidity in the cutting and to decrease wilting. Using a clean sharp knife or razor blade that has soaked in a bleach solution (one part bleach to nine parts water) for a few minutes, take several three-to-four-inch long tip cuttings from the plants. Dip the cutting instrument in the bleach solution between cuts, especially if taking cuttings from more than one plant. Remove the bottom two to three leaves, being careful not to crush any part of the stem. Before placing it in a rooting medium, you

can dip the cut end in rooting hormone powder, which hastens and increases root growth on cuttings.

Prepare a rooting medium of perlite, vermiculite, or clean horticultural sand, or a mixture. You can also mix peat and perlite. Put three to four inches of the medium in a sterilized flower pot or other shallow container. Insert the cuttings about one and a half inches deep and lightly firm down the medium. Space cuttings in the medium so there is good air circulation around them and do not cover them: geranium cuttings are very vulnerable to fungal diseases. Place the container in a warm bright area, but not in direct sun. Keep the medium moist but not excessively wet. Cuttings should root in three to four weeks. When the cuttings' new roots are about a quarter-inch long, pot them up in individual containers. Until it's time to harden them off to move outdoors, grow them in a sunny window or artificial light. Feed them lightly each month and pinch back any spindly growth.

Q: *What can I do to protect the dogwoods in my landscape against anthracnose? What should I do if my trees are already infected?*

J. C., Richmond, Virginia

A: Dogwood anthracnose kills new shoots and causes leaf spots and stem cankers. If left unchecked, it will eventually kill the tree. It has been devastating to native dogwoods (*Cornus florida*) in Eastern forests. Factors such as extensive rainy weather, insect infestation, drought, stagnant air, and advanced tree age are positively correlated to increased incidence of dogwood anthracnose. Studies show landscape plantings have been less affected than forest stands since they are usually spaced farther apart in sunnier open areas with good air circulation.

The disease first appears as circular leaf spots with yellowish centers and purple borders. The center of the spots will eventually drop away leaving only the purple border.

If trees have the disease, you can alternate sprays of Benlate and Daconil from bud swell until flowering period. However, by providing a healthy environment for the tree, you should be able to avoid dogwood anthracnose altogether.

The U.S. Department of Agriculture's Forestry Report on "Growing and Maintaining Healthy Dogwoods" advises:

◆ Select healthy trees. Don't plant trees with damaged trunks, broken or dead branches, or leaf spots.

- ◆ Never dig up trees from the wild to transplant in your yard.
- ◆ Select sites with good drainage in open, sunny areas.
- ◆ Make planting holes at least 18 inches deep and three feet in diameter.
- ◆ Prune and destroy dead wood and leaves yearly. Do not use dogwood leaves for mulch. Prune trunk sprouts in the fall.
- ◆ During drought, water weekly in the morning. Water only at soil level; never wet the foliage.
- ◆ Maintain a four-to-six-inch deep mulch around the trees; do not use dogwood chips as a mulch.
- ◆ Determine your soil pH and nutrient content and fertilize accordingly.
- ◆ Avoid mechanical damage.

Lawnmowers and string trimmers can cause wounds in the tree trunk that promote diseases and insect problems.

If your tree has been severely weakened by the disease, you may want to replace it with Asian dogwood (*C. kousa*), which seems more resistant to dogwood anthracnose than native trees. The horticulture department at Cook College of Rutgers University has recently introduced several pest- and disease-resistant dogwoods hardy to Zone 6. The result of crosses between *C. florida* and *C. kousa*, they are under the trademark names of "Stardust," "Galaxy," and "Aurora."

Q: *I have always planted asparagus crowns about 12 inches deep, as recommended, but still don't have much of a crop. But my neighbor is able to grow it from seed. How is that done?*

T. K., South Bend, Indiana

A: First, you might want to try planting your crowns about half as deep. According to Diane Relf of the Virginia Polytechnic Institute, asparagus yields can dramatically increase if crowns are set at a depth of only five to six inches instead of the usually recommended 12-inch trench. Crowns set in a shallower trench produce smaller but more numerous spears that mature earlier in the spring. Because these earlier spears are vulnerable to frost damage, Relf suggests a combination of planting depths, which should give you earlier, smaller spears, and larger spears later in the season. But stick to the shallower trenches if your planting area has poorly drained soil due to heavy clay soils or hardpan. Several recent studies also suggest that yields may improve if shallow-planted asparagus is lightly harvested the first season after planting instead of waiting the usual three seasons.

Asparagus seed is most commonly sown in early spring in outdoor nursery beds for one season and then transplanted the following spring to a permanent growing area. Soak seeds in water for 24 hours before sowing to soften the tough seed coat. Plant the seeds one or two

inches apart in well-drained and aerated soil and keep them well watered. The following spring, plant the seedlings in their permanent site, five to six inches deep, 15 inches apart, in rows three to four feet apart. Transplanted seedlings will greatly benefit if mulched and given adequate moisture using a subsurface or trickle irrigation system.

There are some new improved asparagus cultivars available from seed. They are rust-resistant, all-male varieties that do not produce seed. Thus there are no volunteer seedlings and more energy goes into making bigger plants.

'Jersey Giant' is probably the best known of this Jersey hybrid line, developed at Rutgers University.

However, it was recently found that Nourse Farms, Inc., the commercial producer of the seeds, had sold large quantities that were contaminated with female seeds. Rutgers sued Nourse Farms and 'Jersey Giant' seed is being "rehabilitated."

One cultivar that has certifiably avoided contamination is 'Jersey Knight'. Its production license was issued later than the others, allowing growers to correct contamination problems before release. 'Jersey Knight' seeds and crowns are available from Jersey Asparagus Farms, Inc., R.D. 5, Box 572, Newfield, NJ 08344, (609) 358-2548.

—Maureen Heffernan
Education Coordinator



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Regional Notes

Non-Natives Bill Triggers Concern

Could the current love affair with native plants be taken to extremes? Legislation introduced in Minnesota last year seemed to indicate that the answer is "yes."

The state has had more than its share of troubles in recent years with invasive non-natives, notably the purple loosestrife, the Eurasian water milfoil (*Myriophyllum spicatum*), and among fauna, the zebra mussel. Observing the economic and environmental havoc that these species were wreaking on the waterways, the state's Department of Natural Resources proposed a law that would have tagged as suspect any plants not growing in the state prior to 1800. Plants defined as non-natives would have included "unnaturally occurring hybrids, cultivars, and non-Minnesotan genotypes." An interagency panel would have had to produce scientific proof that any such plants—which would include nearly all farm crops, new rose cultivars from Pennsylvania, new verbena hybrids from Illinois, or stray North Dakota natives—were not invasive.

Not surprisingly, representatives of the nursery industry were aghast. The bill was revamped to deal only with aquatic species, and a task force of experts from the scientific and academic communities and the nursery and landscape industries was formed to develop a more acceptable law relating to terrestrial species.

This year's legislative session ended with the exotic species bill tabled. One section remained objectionable to the state's nursery industry, said Gary Kuper, chairman of the Minnesota Nursery and Landscape Association's Government Affairs Committee. Under that provision, local units of government might be granted authority to regulate propagation, distribution, or sale of plants deemed ecologically harmful.

"The result could be chaotic. It would compound the confusion we already have between state jurisdictions," said Kuper, whose Park Nursery, Inc. in Stillwater is separated from Wisconsin only by the St. Croix River.

Although it has now been moderated, the proposal of such an extreme measure raised concern among horticulturists as well as members of the nursery industry.

Peter Olin, director of the Minnesota Landscape Arboretum, said his institution strongly supports wider use of native plants. But new introductions are

necessary to widen the gene pool, reduce dependence on pesticides, or withstand the environmental stresses of urban areas, he went on. As an example, he pointed to the work of the affiliated Center for Development of Hardy Landscape Plants. Headed by Harold Pellett—who is serving on the advisory task force that worked to reshape the exotic species bill—the center's goal is to develop plants to withstand harsh conditions of urban environments and extreme weather. In many cases this will be done, Olin observed, by crossing hardy natives with non-natives that have other desirable characteristics.

"We have to control plants that are really pests," he emphasized. But he notes that human activities, rather than exotics run amok, are to blame for most native plant loss. Ecosystems are also altered over time by natural events, such as evolution, geological catastrophes, and the transporting of seeds by birds and mammals. "Our environment isn't the same as it was in 1800, and our native plants have changed along with it."

This debate will not be limited to

Minnesota. The U.S. Office of Technology Assessment (OTA) is conducting a two-year study on risks presented by non-native plants and animals. Craig Regelbrugge, director of regulatory affairs and grower services for the American Nurserymen's Association, said that in an OTA-sponsored workshop on the topic, "extremists in the group expressed the need for a total ban on the introduction, sale, and use of non-native species unless they are reviewed and proven not to be invasive."

Since that meeting several months ago, he has read some of the papers written by scientists studying the regulations and is hopeful that the final report will be balanced.

In the meantime, a proposal surfaced in King County, Washington, that would have required 75 percent of the plantings in all new developments to be natives. "There are going to be more of these issues coming up at the state and local level," said Regelbrugge. "We hope that arboreta and botanical gardens, and gardening enthusiasts, will become concerned and vigilant."

Collecting Plants for the South

To save the Chickasaw plum, huckleberry, Louisiana crabapple, and mayhaw, Charles E. Johnson is trying to keep one step ahead of the loggers. He and his colleagues at the Louisiana State University (LSU) Agricultural Center at Calhoun have established an arboretum to grow native woody plants, many of which, he says, are "decreasing quite rapidly in the wild." They are particularly concerned with native fruit plants whose populations in Louisiana are decreasing due to land clearing, logging, and other timber cutting. So far some 70 genera comprising 200 species have been collected. Future plans call for expansion to as many as 150 genera and 500 species.

"Preservation is one thing," says Johnson, "but if we can utilize the plants, it increases their chances of being preserved." To that end, LSU researchers have begun propagation research on several species and they hope eventually to convince the nursery trade of their desirability. Johnson is bullish on the native fruits, which he thinks could have significant landscape and commercial potential in the future. The mayhaw

(*Crataegus opaca*) is one of his favorites. This early ripening hawthorn has attractive foliage, showy white blossoms, and clusters of yellow, reddish yellow, or cherry red fruits that are used in marmalades, jellies, condiments, desserts, and wines. They also have found a promising native grape (*Vitis lincecumii*) that grows in deep sandy areas.

Although the arboretum was established to collect and preserve native edibles, it has evolved to include other woody natives with landscape and aesthetic value. These include a sand holly (*Ilex ambigua*) that Johnson says "grows in some of the most forsaken places I've ever seen, in really poor soil." This deciduous holly with translucent red fruits thrives in deep sandy areas and could have great potential as a xeriscape plant. The arboretum is evaluating other *Ilex* taxa.

The best way to locate promising native fruits or particularly attractive ornamentals, says Johnson, is to ask the old-timers in the community. "They know where a tree of any value is and can describe it for you. We couldn't get a good collection without people like that."

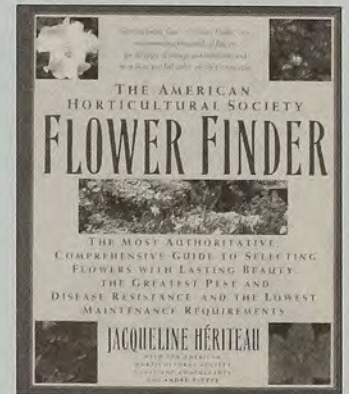
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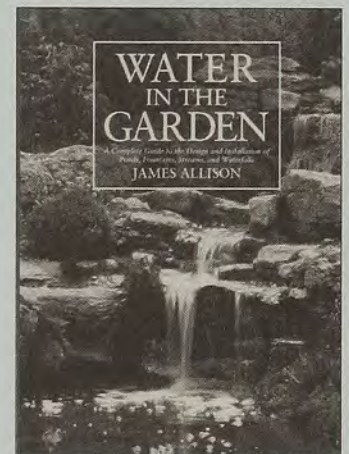
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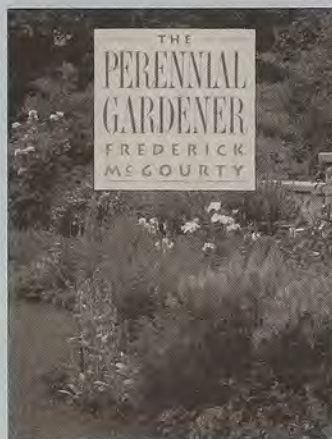
DICTIONARY OF PLANT NAMES

The pronunciation, derivation and meaning of botanical names, and their common-name equivalents

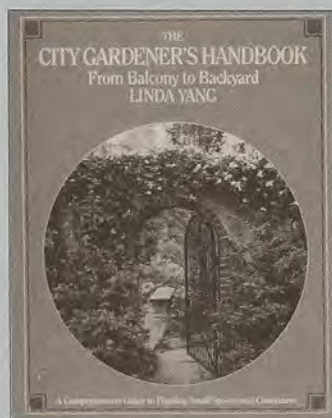


Allen J. Coombes

Dictionary of Plant Names
TIM005



The Perennial Gardener
HOU901



The City Gardener's Handbook
RAN001

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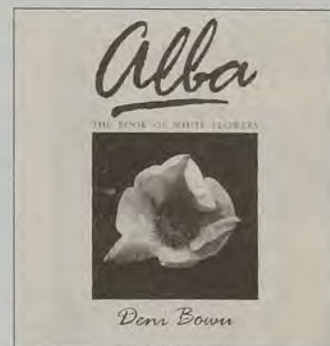
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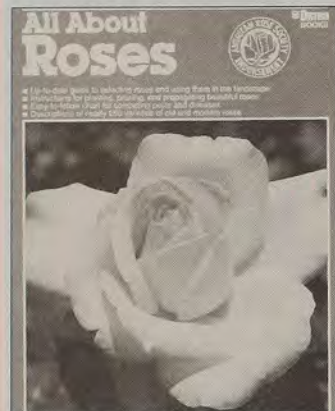
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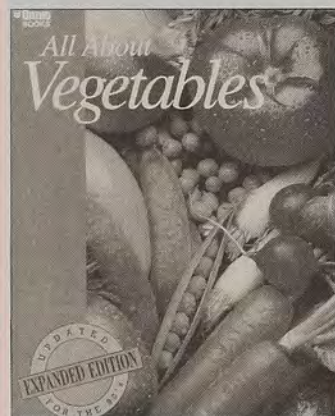
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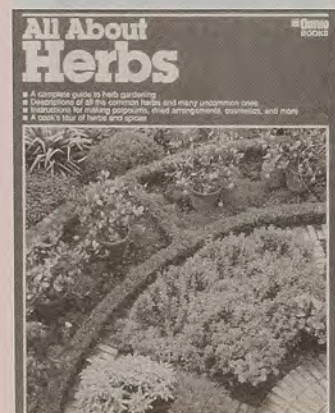
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Saving the 'Stinking Cedar'

The Atlanta Botanical Garden has joined those racing against time and a mysterious pathogen to save a tree species that shared the earth with dinosaurs and now has dwindled to 134 known wild specimens.

The Florida *torreya* tree, *Torreya taxifolia*, is sometimes called "stinking cedar" because of the odor its foliage gives off when crushed. A mature, healthy specimen has a conical shape and shaggy branches arranged in tiers similar to those of a pine. In the 1800s, some grew to 60 feet tall; as recently as the 1930s, there were reports of trees with two-foot diameters. Today, however, most die before they grow to more than two or three feet. They put out suckers from their roots, and their shape is distorted by an unidentified fungus. "They have a face only a mother could love," said Robert Bowden, executive director of the Atlanta garden. "They never survive long enough to produce seed."

Bowden became concerned about *T.*

taxifolia—called simply *torreya* by its champions—20 years ago in his previous position at Alfred B. Maclay State Gardens in Tallahassee, Florida, which at one point had more than 200 specimens under cultivation. Now the Atlanta garden, under an agreement with the St. Louis-based Center for Plant Conservation, will serve as a repository for 150 specimens of the species, which were collected and cultivated at the Arnold Arboretum.

The Center for Plant Conservation is a private, nonprofit organization whose network of 19 botanical gardens and arboreta are dedicated to conserving rare and endangered plants. Among other groups involved in the effort to save the *torreya* are the Nature Conservancy, the Georgia Department of Natural Resources, and the Florida Park Service.

Commercially, *torreyas* have been used as Christmas trees, and to a more limited extent, for fence posts. The tree's wood is particularly long-lasting. Fallen giants

some 30 years old still lie almost intact on forest floors alongside their spindly and suckering offspring. Its use has been limited in part because it occurs in such a small area, primarily in the Florida panhandle, four counties in Georgia, and in ravines along the Appalachian River Basin.

Bowden says the tree, a member of Taxaceae or the yew family, has never been evaluated for its medicinal potential. Its West Coast relative, *Taxus brevifolia*, contains the substance taxol, which shows great promise in treating some types of cancers, and recent studies show that relatives of *T. brevifolia* may also be useful in cancer treatment.

Researchers still have a lot to learn about why the trees are dying. The fatal fungus may be a stem canker or a needle blight. Or the primary villain may be environmental change. "To the extent that any work has been done, it appears that these are common pathogens," said Greg

Continued on page 14

Lament for Maryland's Orphaned Arboretum

Greenway Gardens and Arboretum, a privately owned but publicly accessible garden sequestered in the undulant farmland of Carroll County, Maryland, is up for sale. The 27-acre hilltop site flaunts a profusion of evergreen shrubbery, trees, flower beds, gazebos, flagstone pathways, and three greenhouses, whose treasures include a bird-of-paradise (*Strelitzia reginae*), with its single, vivid blossom of orange, red, and violet, and a "desert" collection of cacti and succulents so exotically out of place that it looks extraterrestrial. Out on the grounds are specimens of the willowy weeping mulberry (*Morus alba* 'Pendula'), a dwarf burning bush (*Euonymus alata* 'Compacta'), and a stand of birches whose bark runs the gamut from papery-scaly to smooth luminous white. The old whitewashed barn has been converted to reading and meeting rooms for visiting groups. And if the pond where four pairs of Canada geese have summered the past several years isn't lagniappe enough, there's something called "the birdwalk," where pedestrians can make avian observations from a trail adorned with split-rail fences and pergolas entwined with espaliered wisteria, clematis, and grapevines.

Owners Dottie and Zeeger DeWilde bought the land and established Greenway in 1976, operating the gardens as a division of Ecological Enterprises, Inc., their landscaping and groundskeeping business. For the most part, they concentrated on plants that were either native

or highly adaptive to local growing conditions, excepting the thousands of tulips that, like Zeeger, hail from Holland. One of the few privately owned arboreta in the country, Greenway was always open to the public, and the DeWildes delighted in sharing their enthusiasm for flora with others. While Greenway was most frequently used for school field trips, senior citizen outings, and garden club functions, stray plant lovers gained entry for \$2.

According to Dottie DeWilde, the isolation that afforded tranquility also contributed to the garden's decline; too few visitors were making their way down the dead-end country lane that leads to Greenway's entrance. The waning attendance forced the DeWildes to shut their gates in November 1990. Since then, Greenway has been an orphaned arboretum with an uncertain future.

In the past *American Horticulturist* has happily reported on private gardens rescued and preserved by individuals, governments, or organizations like the Garden Conservancy (see August 1990). But there aren't enough private or public funds to prevent every worthwhile garden from being sold, parceled out, or converted to other uses. The state of Maryland expressed an interest in Greenway at one point, but the state's current fiscal woes have postponed the deal indefinitely. Considering that Greenway is only a 45-minute drive from Baltimore, this means a substantial recreational and ecological loss to the local citizenry. Now that Greenway is on

the open market, it seems more likely to become someone's private Eden than remain accessible to the public, a fact that distresses the DeWildes but over which they now have little control.

"Creating in the splendor of nature" is the motto imprinted on the Greenway brochure, and though the flower beds haven't been maintained and the plant markers have faded beyond legibility, Greenway is splendid even in its desuetude. The geese gliding back and forth on the pond and the junipers and cypresses watching over the turf hill wait patiently for the new owner.



Lonely arboretum entry beckons potential new owners.

Brock, administrator for the Conservation and Recreation Lands Program of the Florida Department of Natural Resources. "It doesn't seem to be anything unique, like the chestnut blight."

Theories about why the tree could have become more susceptible include drought and elimination of the fungus-controlling smoke from forest fires that once occurred naturally throughout the region. Bowden observed that the tree's decline began in the 1930s, when the Appalachicola was dammed, and suggests that this might have fatally altered the torrey's environment.

Brock said the largest surviving torrey, which has reached a diameter of two feet and is producing abundant seeds, is in North Carolina. "The Japanese species grows in the mountains. It may be that because of glaciers or some other reason, this torrey is growing where it's not really supposed to be."

Bowden said that studies on cultivated torrey have not always been valid because scientists fail to keep careful records of where they obtained seed. He hopes that through better record keeping and by growing out the trees they have, the Atlanta garden will be able to broaden the tree's gene pool before it is too late. Somewhere among the survivors may be one tree that can withstand whatever is laying waste the rest. "We need enough trees to conduct scientific tests with controls," said Bowden. "In the meantime, we're using these 134 trees as guinea pigs." ♦



Mildred Pinnell, Atlanta Botanical Garden horticulturist; Robert Bowden, executive director; and Ron Determann, Fuqua Conservatory superintendent, compare a larger torrey to rooted cuttings being grown in the garden's greenhouses.

Members' Forum

Ladybug Bias

In regard to the conflict over a national insect, let's face it: The only way to resolve it is to abandon both the monarch butterfly (nominated by the Entomological Society of America) and the lightning bug (being touted by the *Southern Farmer's Almanac*) in favor of the pretty ladybug.

Not only is she a hard worker and for a good cause, but for centuries in many parts of the world has been considered a good luck charm. No other country could fault us for choosing this pretty, colorful little creature. Besides, this choice would please all the environmentalists and organic gardeners, and surely, all the women's groups as well. And just think how she will look with the American flag!

Lane Furneaux
Dallas, Texas

Glowing Recommendation

Rodale's Encyclopedia of Organic Gardening says that the firefly, actually a beetle, "feeds on snails and slugs, and his larvae eat small insects and cutworms underground and in rotting wood." Other books on insects contain similar information, so perhaps it is more than nostalgia that encourages the *Southern Farmer's Almanac* to lobby for this valuable creature.

While gardening back in Ohio I remember a slender white worm with a reddish head, about one inch long, appearing in the soil as I planted. After I was told it was the larvae of the lightning bug, I was always careful not to harm any.

I would be interested to know if any research is being done across the country on this fascinating fellow of fire. I have not read of any pheromone lures to attract more to gardens.

Bettie Furuta
Escondido, California

We weren't able to find any research or any products relating to lightning bugs. Pheromone lures usually include traps intended to kill harmful insects. But since they often attract more insects than they kill, it might make sense to invent one without the trap that is intended only to attract these de-"lightful" creatures.

House Plant Addenda

In the January News Edition, you listed the Indoor Citrus and Rare Fruit Society among indoor plant societies. However, with the death of its founder, Walter L.

Veitch for Creech

Dr. John L. Creech, past president of the American Horticultural Society who was profiled in our December 1991 magazine, has received the gold Veitch Memorial Medal for 1991 from the Council of the Royal Horticultural Society of Great Britain. The Veitch Medal is the highest award that the society gives to a nonresident of Great Britain. Considered one of the most prestigious awards in the horticultural world, it recognizes those who have advanced and improved the science of horticulture.

Among Creech's many activities are serving on the board of directors of the North Carolina Arboretum and as a consultant to the U.S. National Arboretum, and as vice president of the International Dendrology Society. He is a member of the editorial advisory board of *American Horticulturist* magazine and in 1990 he received the highest award of the American Horticultural Society, the Liberty Hyde Bailey Medal.

Doty, on March 20, 1990, the society ceased to exist. There was an attempt to carry on, but now, to the best of my knowledge, there is no other organization specifically filling this function.

To add to some of the information in the January "Gardeners' Q&A," I would strongly recommend *South African Aloes* by Barbara Jeppe, a rather detailed publication on the care of a large number of the species. Many are quite hardy to 3 below zero centigrade.

Regarding bromeliads, the Bromeliad Society is an excellent source of information pertaining to the cultivation of this genus. A couple of the species I have outdoors survived quite well at 11 below zero centigrade, and the tillandsias, under protection, withstood 5 below with very little damage.

I have found that several species of agapanthus do quite well outdoors with essentially year-round watering. They withstood 3 below zero centigrade, but were rather damaged at 11 below.

Leonard Corbett-Grant
Napa, California

Flora Mesoamericana

The first volume of *Flora Mesoamericana*, the first major regional flora ever written in Spanish, will be published in late summer of this year. Ten years in the making, the flora is a joint project of the Missouri Botanical Garden, the National Autonomous University of Mexico, and the Natural History Museum in London. It will describe all of the vascular plants growing from southern Mexico to the Panama Canal, something that has never been done before.

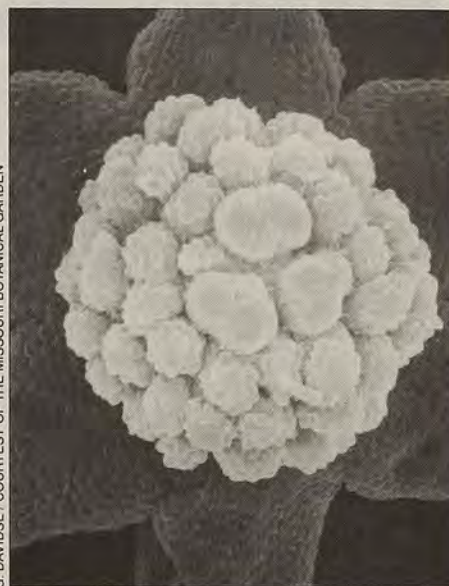
The region to be described in *Flora Mesoamericana* is extremely diverse, including rain forests, dry forests, alpine areas, and grasslands. Researchers estimated that 18,000 plant species occur in the region. Since the project began in 1981, two new plant families—Lacandoniaceae, with one species of a tiny parasitic herb, and Ticodendraceae, a family of large forest trees—have been described, as have over a dozen new genera and hundreds of new species. One of the most notable discoveries so far has been *Lacandonia schismatica*, a threadlike plant discovered in southern Mexico by Esteban Martines of the National Autonomous University of Mexico. It is the only plant known in which the orientation of the sex organs is

reversed—the stamens arise within several rings of pistils. Because of its uniqueness, Martines classified it in its own family, Lacandoniaceae.

The Missouri Botanical Garden has active plant collecting and floristic programs in all parts of Central America, a commitment that dates back to a flora of Panama initiated just before World War II. According to Gerrit Davidse, co-organizer of the project, a main impetus for the present flora is “the tremendous amount of loss of habitat in Central America.” Because it is such a narrow land area with high elevations, Central America has numerous life zones with different vegetation types. “But it’s small,” says Davidse, “so it doesn’t take long to destroy it.”

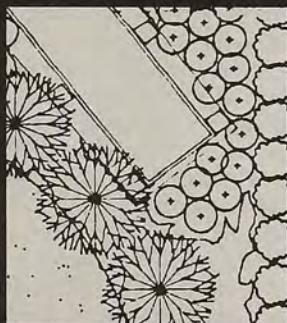
The flora will be published in seven volumes, one appearing every year or two, between 1992 and 2006. It will provide extensive information about the plants of the region, including scientific and common names, botanical description, distribution, taxonomic notes, and identification keys.

For more information contact the Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299.



G. DAVIDSE / COURTESY OF THE MISSOURI BOTANICAL GARDEN

While on a research trip in southern Mexico for the *Flora Mesoamericana*, Esteban Martines discovered *Lacandonia schismatica*—the only plant known in which the orientation of the sex organs is reversed. This electron microscope photo shows three central stamens surrounded by numerous pistils and six tepals.



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AHS Bulletin Board

Showhouse is for Gardeners, Inside and Out

A semicircular entry garden is the first stop on the Alexandria Decorator Showhouse tour at River Farm in May. In all, seven garden areas, 23 rooms, porches, and patios, and two outbuilding spaces have been transformed for the event. The fund-raiser, cosponsored by The Campagna Center and AHS, presents the best in interior and landscape design.

The new or renovated garden areas range from the fanciful to the practical:

- ◆ In the Entry Garden, designed by Susan Feller of Gardenworks Design Associates in Alexandria, teakwood benches and tables painted with "trompe l'oeil" flowers are surrounded by an American boxwood hedge, borders of annuals and perennials, and four dogwoods. A central reflecting pool features a bronze sculpture of two blue herons by Walter Matia.

- ◆ Connie Pearson of Pearson Design & Associates in Alexandria has designed a Kitchen Garden that is an updated version of its Colonial ancestor. The garden, planted under a huge magnolia tree, consists of raised beds filled with shade-tolerant spring vegetables and culinary and medicinal herbs.

- ◆ The Habitat Water Garden is a low-maintenance garden filled with native plants. Designed by H. Kibbe Turner of Wildlife Habitats in Gaithersburg, Maryland, the water garden also includes bluebird houses and feeders.

- ◆ The new Rose Garden showcases the evolution of hundreds of ancient, ancestral, and modern hybrid roses in a traditional design. Accented with companion plants, the rose garden was designed by Lila Fendrick and Pam Granade of Lila Fendrick Landscape Architecture & Garden Design in Washington, D.C.

- ◆ Joan Honeyman and Holt Jordan of Jordan Honeyman Landscape Architecture in Takoma Park, Maryland, have designed a delightful Secret Garden surrounded by tall evergreen hedges and a low stone wall. Water from an old springhouse fills a pond surrounded by colorful annuals and woodland perennials. A tree house is perched in an ancient Osage orange tree and a swing hangs from the tree's massive branches.

- ◆ The Garden Calm, designed by Marty Hays of J. J. Petro Landscape, Inc., in Mitchellville, Maryland, is an area of interlocking concentric brick rings surrounding a central pool. The garden is



KATHLEEN FISHER

A treehouse was one of the first creations installed in the Secret Garden, one of seven garden areas created for the Alexandria Decorator Showhouse.

filled with a variety of perennials and native shrubs, including azaleas, oakleaf hydrangeas, dogwoods, bleeding-hearts, daylilies, coralbells, and cinnamon ferns.

- ◆ In the Gallery Garden, classical and abstract sculptures are set against an ivy-covered wall and framed by dogwoods, azaleas, liriopse, and an annual border. A pergola reflects the lines of the main house. The garden also includes a hedge of ligustrums and rhododendrons, hydrangeas, and hostas. This area was designed by Greg A. Pyles of Campbell & Ferrar Nurseries, Inc., in Alexandria.

Inside the main house, visitors are welcomed in an entrance hall designed with the gardener in mind. Wall panels are hand painted with botanical illustrations of herbs and Virginia wildflowers. Fresh-cut flowers decorate the room. An

upstairs hallway is wallpapered with a design of garden trellises.

The garden theme is carried throughout the house and gardening rooms abound. A sisal floor covering in a hallway is painted with leaves. In the "flower room" off the kitchen, Jean Woodman of Jean Woodman Designs in Alexandria has chosen wallpaper decorated with ladybugs, and fabric covered with a design of oak leaves and acorns is used as an accent. This back porch, formerly used as a storage room, includes areas for repotting plants and flower arranging and a study nook filled with books on garden design and horticulture.

A second-floor bathroom has been turned into an indoor gardening room ideal for repotting and caring for house plants. In the gardener's retreat down the hall, the colors of hydrangeas and roses provide a relaxing backdrop.

One of the most dramatic changes is to the kitchen, designed by Donna Ralston Latham of Total Environment in Lorton, Virginia. The renovated room features hand-planed cherry cabinets, natural-clay tiles, and new white appliances.

Upstairs offices have been temporarily transformed into two sitting rooms, two guest bedrooms, a child's room, the master bedroom, and a lady's study. Outside areas have been changed into a colonnade, a terrace, and a dining area.

Two rooms of an outbuilding, the former carriage house, are now a "River Cottage," a couple's weekend retreat.

Lectures Set

In conjunction with the showhouse, AHS will present a series of lectures on horticultural motifs in the decorative arts and horticultural interior design. See page 21.

Correction: In our March issue, lecturer Cindy Cotton should have been identified as owner of Cityscape, Inc.

One room features both sitting and dining areas; a second room is a bedroom. The rooms are light and airy. Urban Country Designs in Bethesda, Maryland, has created a relaxing atmosphere using architectural artifacts like a headboard made of old shutters, vintage fabrics, and nautical and garden folk art.

An outdoor area, "Casablanca," was designed by John F. Saladino of New York City. The terrycloth-covered sofa and distressed marble floor give the illusion of a bathing pavilion.

The proceeds from the decorator showhouse will be used for Campagna Center programs and AHS educational activities. The showhouse is open through May 31. Hours are Monday through Saturday, 10 a.m. to 3 p.m.; Thursday evenings, 5 p.m. to 8 p.m.; and Sundays, 12 noon to 5 p.m. Tickets are \$12 per person. For more information call The Campagna Center at (703) 549-0111. ♦

The Campagna Center

The Campagna Center, formerly the Alexandria Community YWCA, is a nonprofit, social-service membership organization committed to improving the quality of life for women and families in Alexandria. The center provides a variety of programs including Extended Day Care, with before- and after-school care during the school year and a summer day camp; a Head Start pre-school program, which includes medical, dental, and health screening and educational enrichment for disadvantaged three- and four-year-old children; youth services, including outreach, counseling, and This Way House, a temporary shelter for runaway and homeless youth; 50 More or Less, which arranges companionship, support, and activities for individuals with mental health concerns; Retired Senior Volunteer Program, a placement program for volunteers age 60 or older; Women's Correctional Program, which provides support for female inmates of the Alexandria Correctional Center; Wright to Read, funded by the Frank and Betty Wright Foundation, which provides volunteer tutors for children in grades one through three with below average reading skills; and Re-Use, an arts and crafts recycling center mainly for children and teachers.

North American Horticulture Released

The American Horticultural Society recently released the second edition of *North American Horticulture: A Reference Guide*. It is the most comprehensive directory of horticultural organizations and programs in the United States and Canada. It was published by Macmillan Publishing Company and edited by Thomas M. Barrett, assistant editor of *American Horticulturist*.

All of the information in the first edition of *North American Horticulture* has been updated and augmented. Completely new sections have been

added, including chapters on native plant societies and botanical clubs; state, provincial, and local horticultural organizations; horticultural therapy; and historical horticulture. There are over 4,500 organizations and programs included in the book.

"All of the gardens and societies and programs in the book are also in our computer database, which we continually update and make available to members," said Barrett. "This is a very important resource; no other organization has anything like it."

AHS Flower Show Awards

Every spring brings a flurry of major flower shows, and at several of these AHS honors the single exhibit "that best demonstrates the bond between horticulture and the environment" and encourages viewers to beautify their own homes or communities through horticulture. 1992 winners were:

♦ Seattle. Elandon Garden's Daniel Robinson for "Once Upon a Time," in which gnarled pines and hemlocks engulf and supplant the burned-out husk of a once-majestic Japanese maple.

♦ Atlanta. Fockele Garden Company, Homeplace Garden, and Mary Jo Means Ltd. for "Ike's Retreat," a re-creation of President Dwight Eisenhower's cottage and garden on the 18th-hole putting green of Augusta National Golf Course.

♦ Boston. Kilroy Design Associates for an exhibit entitled "A Woodland Garden Meets Man's Back Yard."

♦ Philadelphia. Delaware Valley College, creators of a "Night Gardening" exhibit that used lighting and shades of white to invite enjoyment of the garden after daytime working hours and to provide a habitat for nocturnal creatures.

♦ New York. Nina Wilcher of Poetic

Landscapes, Inc. for "Free Association on a Japanese Garden," which merged the stark elements of Japanese design with an unorthodox and sensual use of native American plants.

AHS Board Backs Native Plant Petition

During its January 17 meeting the AHS Board of Directors voted unanimously to support a petition to the Federal Trade Commission (FTC) requesting an amendment to the official labeling guidelines for the nursery industry. A coalition of 11 environmental and horticultural groups, headed by the Natural Resources Defense Council, sent the petition. The petition detailed two sections of the commission's *Guides for Nursery Industry* that create a loophole allowing nurseries to collect native plants or purchase wild-collected native plants, grow them for a brief period, and subsequently label them "nursery grown," with no further mention of source, origin, or propagation.



COURTESY OF THE ATLANTA FLOWER SHOW

"Ike's Retreat" won an AHS award at the Atlanta Flower Show this spring.

Gardeners' Bookshelf

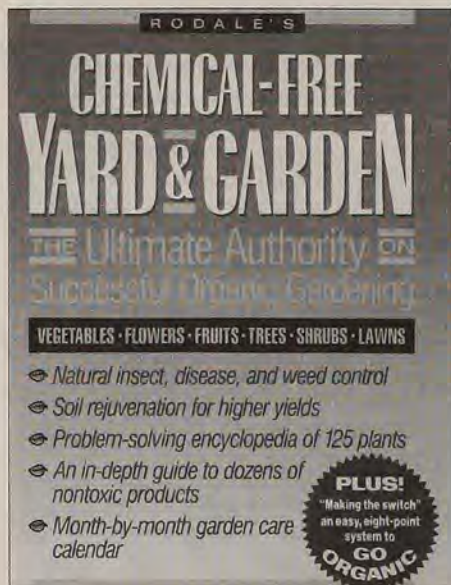
Rodale's Chemical-Free Yard and Garden

Anna Carr, Miranda Smith, Linda A. Gilkeson, Joseph Smillie, and Bill Wolf. Edited by Fern Marshall Bradley. Rodale Press, 1991. 453 pages. 7½" × 9¾". Black-and-white illustrations. Publisher's price: hardcover, \$26.95. AHS member price: \$23.

Rodale's *Chemical-Free Yard and Garden* is a thorough step-by-step guide. It recognizes that many of today's gardeners are curious about introducing principles of organic gardening into their own yards, landscapes, and gardens, but are perhaps not fully convinced that a complete organic program is right for them. For those still sitting on the fence, this manual might well bring about that conversion.

Special highlights of the volume include an outstanding chapter by Necessary Trading Company's Bill Wolf, stressing the crucial role of maintaining and improving soil health to create a healthy and productive garden. Wolf presents simple insights into the structure, chemistry, and biology of soil, while establishing an organic regimen for basic soil improvement. Reference tables and illustrations underscore key techniques and materials for this chapter and serve as an important resource for gardeners anxious to restore a natural balance to their soil.

A chapter by Miranda Smith presents a complete eight-point system for making the transition to chemical-free gardening and includes a monthly guide for



implementing that transition. Also of interest is an encyclopedic management guide listing well over 120 species of the most commonly planted vegetables, fruits, trees, shrubs, and herbaceous ornamentals and another smaller guide with identification keys and control practices for 35 notorious pests.

One of the most striking features in this manual is the repeated emphasis on observation and identification. The secret to organic gardening lies in watching, testing, and constantly studying the garden environment, as well as a cardinal willingness to learn more about the causes of a problem before trying to treat it. This principle is effectively established throughout the book in a collection of

sidebar articles, which address subjects such as insect life cycles, soil- and pest-management misconceptions, and tree stress symptoms.

As more and more books emerge to attempt to cash in on the green movement, gardeners will have to exercise care in selecting appropriate reference guides. This work by five of America's leading organic gardening writers is a technically precise and thorough publication of great value, both to organic gardeners and their conventional counterparts.

—Joseph M. Keyser

Joseph M. Keyser is the American Horticultural Society's director of programs and of the National Backyard Compost Demonstration Park.

The Hedge Book

Jeffrey Whitehead. Storey Communications, Inc., 1991. 142 pages. 6" × 9". Color photographs, black-and-white illustrations. Publisher's price: hardcover, \$21.95; softcover, \$12.95. AHS member price: hardcover, \$18.75; softcover, \$11.

Witness the lowly hedge, ubiquitous yet uncelebrated, essential yet unsung. Though one of the most commonplace features of yards, gardens, and parks, hedges have been largely ignored in the voluminous literature of horticulture and landscaping.

Jeffrey Whitehead attempts to remedy this sin of omission with *The Hedge Book*, a slender volume that delves deeply into the aesthetics and hard practicalities of planting and maintaining a hedge. In the first section of this book Whitehead focuses on the two-fold nature of "living fences," which "allows a gradual integration of home and environment." Faintly echoing the organic aesthetics of architect Frank Lloyd Wright, he expatiates on this dual essence, describing a hedge as "a friendly intermediate between the rigid, linear architecture of human beings and the complex designs of nature." Hedges satisfy our territorial impulse and need to control our environment while re-establishing our bond with the earth. Unlike a wall or chain link fence, a hedge forms a pleasant property boundary, a gently dissuasive barrier to the rogue pets and trampling children of others and a corral for our own. We can situate a hedge to block out unsightly blots on the landscape or to visually appropriate the more picturesque—say, a neighbor's taller

The Complete Guide to North American Gardens Volume One: The Northeast / Volume Two: The West Coast

William C. Mulligan. Little, Brown and Company, 1991. 176 pages each. 5½" × 9½". Color photographs. Publisher's price: softcover, \$15.95 each. AHS member price: \$13.50 each.

Why must publishers insist on mislabeling their products with titles that claim "complete" and braggadocio jacket copy ("the only one you'll ever need")? Don't listen to the shouts of the barker—these books are far from complete.

But William Mulligan's guides were

never intended to be comprehensive tomes that sit on the library shelf; they are sturdy paperbacks to throw in a rucksack, toss in the car, stuff in your pocket, and use. The gardens that Mulligan has selected he covers very well, with a symmetry of enticing photos, necessary tourist information, and enlightening descriptive essays. With the beauty of an "art book" and the details of a field guide, I know of no garden guide that combines the grace and utility of these books.

—Thomas M. Barrett, Assistant Editor

shrubs and trees or a quaint churchyard on a nearby hillside, a design principle the Japanese call "borrowing" landscape.

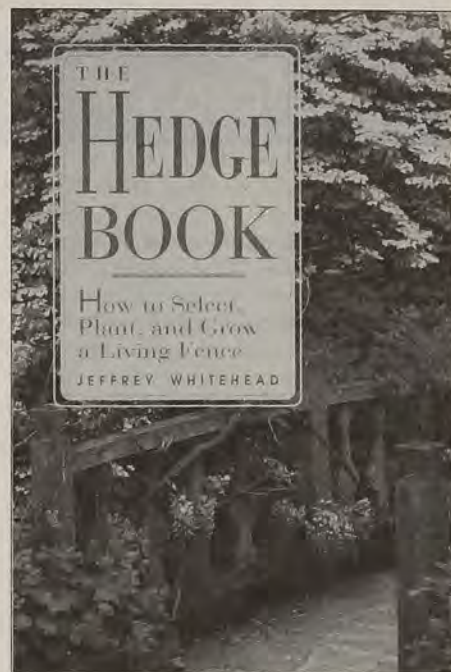
Enjoying the vantage point of a fiction writer and poet as well as a landscape designer, Whitehead writes lucidly from experience. He stresses the careful deliberation to be exercised before embarking on a hedging venture, especially when we consider the relative permanence of a hedge and the high initial expense in time, money, and effort. In addition to the usual considerations such as rainfall, sun exposure, soil quality, and climate zone, hedges are subject to two more unusual environmental stresses. First, because hedges belong to a monoculture (members of a single species planted in dense proximity to one another), whatever pest or disease at first afflicts one plant may quickly contaminate the entire hedge. Second, crowded conditions force plants to vie for limited resources, a factor that luckily also controls weeds and promotes uniform growth.

Forewarned is forearmed, and keeping these factors in mind will make us expert hedge gardeners.

The second section of this book is dedicated to listings of recommended hedge plants and hedge plants with special characteristics. Far from exhaustive, these listings encompass the most common species and a few neglected ones. The entries aren't so attenuated that the author can't squeeze in an illuminating comment, such as this on the boxwood (*Buxus microphylla*): "any plant that can be clipped into the shape of a duck and still look good will certainly make a fine hedge."

Too scant for the landscaping professional, for the homeowner contemplating a hedge it is the ideal bare-bones handbook, written in a capable, personable style by an expert unafraid to voice a partisan accolade, like the one to the mountain laurel and its June white to pink flowers, which "are unrivaled by anything with roots and leaves."

—Steve Davolt, Editorial Assistant



Book Order Form

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A Countrywoman's Year

Rosemary Verey. Little, Brown and Company, 1991. 117 pages. 5¾" x 7¾". Black-and-white engravings. Publisher's price: hardcover, \$19.95. AHS member price: \$17.

Rosemary Verey, author of several classic gardening books, once again brings us the subtle and poetic images of her English country garden and the charming Cotswold village surrounding it. This is a diary, not only of an isolated Gloucestershire garden, but of the whole garden of nature. Verey takes us swiftly through a gardener's year with an eclectic and spontaneous record of ideas, visions, and memories. "There will always be some phenomenon of nature to pause beside and admire, to learn from and to tuck into one's memory," she writes, and this could well be her creed.

Verey sets an example to us all when she takes the time to stop and examine the hazelnut tree, for example, and wonder at its origin and lineage. Or when she worries about the welfare of the bees nesting in her roof and proceeds to read *The Life of the Bee* by Maurice Maeterlinck and shares with us obscurities of their lives, such as how they survive freezing temperatures.

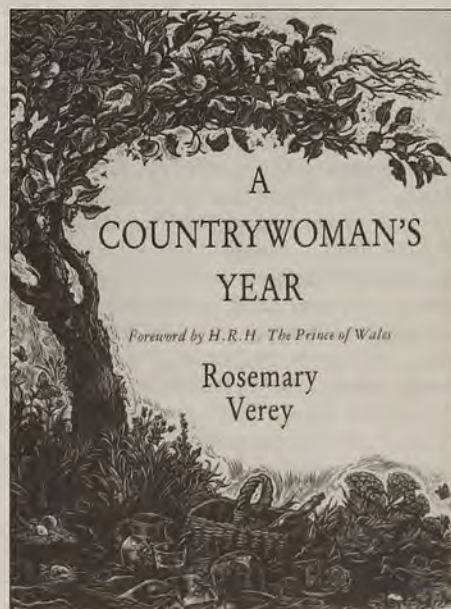
Her wide knowledge is in evidence throughout the book with references not just to gardeners, but to historians, philosophers, and poets as well. Here are recipes, poems, folklore, gardening tips, philosophical observations, and descriptions of plants, people, and animals, all set within the framework of the annual cycle of nature. Gardening tips are drawn from poetic sources such as Chaucer,

Spenser, and John Evelyn along with obscure historical writings such as *The Shepherd of Banbury's Rules to Judge the Changes of Weather* and *The Complete Weather Guide* of 1812.

The book is sprinkled with a collection of 21 excellent engravings that serve as the perfect complement to Verey's delicate and terse style. Whether you be gardener, naturalist, historian, or poet—or like Rosemary Verey some of each—it is well worth your while to take in this treasure-trove. It should inspire even the most sedentary to venture out and witness the wondrous display that is nature.

—Juliet Liniado

Juliet Liniado is a former American Horticultural Society horticultural intern.



Gardeners' Dateline

Mid-Atlantic

♦ **May 9. The 64th Annual Georgetown Garden Tour.** Washington, D.C. To benefit Georgetown Children's House. Information: (202) 333-4953 or (202) 337-2890.

♦ **May 9-10. Third Annual Plant Sale and Horticultural Fair.** State Arboretum of Virginia, Clarke County, Virginia. Information: (703) 837-1458.

♦ **May 10. Private Country Gardens Tour.** Oatlands Plantation, Leesburg, Virginia. Information: Route 2, Box 352, Leesburg, VA 22075, (703) 777-3174.



GRETCHEN MCHUGH / THE RIVERDALE PRESS

The month of May will be doubly merry at New York's Wave Hill, where an array of celebratory events will honor the 25th anniversary of Marco Stufano. Since 1967 Stufano has been the sole director of horticulture at Wave Hill and has orchestrated what an international gardening magazine called one of the world's premier gardens. Praised for an original and unorthodox use of texture, form, and color, Stufano has received many awards for his gardening artistry. Scheduled events include workshops, tours, lectures, and an exhibition of landscape painting. The special activities will culminate on May 28 when Stufano will be feted with a gala celebration ball. For further information, contact Public Relations, 675 West 252nd Street, Bronx, NY 10471, (212) 549-3200.

♦ **May 15-17. Spring Wildflower Symposium.** Wintergreen Resort, Wintergreen, Virginia. Information: Lorrie Knies, (800) 325-2200.

♦ **May 16-17. The 44th Annual Rose Show.** Coliseum Mall, Hampton, Virginia. Sponsored by the Virginia Peninsula Rose Society. Information: J. Kosidlak, 501 Mount Stirling Circle, Hampton, VA 23663, (800) 851-5122.

♦ **May 17. Tour of Private Annapolis Gardens.** Annapolis, Maryland. Information: The William Paca Garden, 1 Martin Street, Annapolis, MD 21401, (410) 267-6656.

♦ **May 27. The 67th Annual Flower Show.** Piankitank Ruritan Club, Hudgins, Virginia. Sponsored by the Garden Club of Mathews. Information: M. Tucker Preston, (804) 725-9362.

♦ **June 28-July 2. International Society for Horticultural Science: Second International Symposium.** "In Vitro Culture and Horticultural Breeding." Baltimore, Maryland. Information: Dr. Freddi Hammerschlag, USDA, ARS, PMBL, B-006, Room 118 BARC-W, Beltsville, MD 20705, Fax (301) 344-3320.

North Central

♦ **Through July 5. Early Summer Floral Display.** "Lotsa Geraniums." Foellinger-Freimann Botanical Conservatory, Fort Wayne, Indiana. Information: (219) 427-1267.

♦ **May 16-17. Flower Fanfare.** "Monet at Giverny: The Art of the Garden." Plant sale and festival. The Garden Center of Greater Cleveland, Cleveland, Ohio. Information: (216) 721-1600.

♦ **June 13-14. Garden Walk II.** Tour of five local gardens. Des Moines, Iowa. Information: Sandra Bendixen, 37 30th Street, Des Moines, IA 50312-4421, (515) 282-3462.

♦ **June 15-23. Milwaukee Journal Rose Festival.** Boerner Botanical Gardens, Hales Corners, Wisconsin. Information: (414) 529-1870.

♦ **July 11-15. International Floriculture Industry Short Course.** Cincinnati, Ohio. Information: Ohio Florist's Association, 2130 Stella Court, Suite 200, Columbus, OH 43215-1033, (614) 487-1117.

Northeast

♦ **May 6-7. Brooklyn Botanic Garden's Annual Spring Sale.** Brooklyn Botanic Garden, Brooklyn, New York. Information: (718) 941-4044.

♦ **May 10-19. Lilac Festival.** Rochester, New York. Information: (716) 546-3070.

♦ **May 14. The 53rd Annual Herb Sale.** Bryce Douglas Farm, Kimbertown, Pennsylvania. Held by the Herb Society of America. Information: Mrs. Edward S. Madara Jr., (215) 664-2738.

♦ **May 30. Seventh Annual Plant Sale.** Tower Hill Botanic Garden, Boylston, Massachusetts. Sponsored by the Worcester County Horticultural Society. Information: (508) 869-6111.

♦ **June 10. Columbus' Bouquet.** "Flowers From the New World." Rodef Shalom Biblical Botanical Garden, Pittsburgh, Pennsylvania. Information: Irene Jacob, (412) 621-6566.

♦ **June 12-14. Secret Garden Tour.** Newport, Rhode Island. Information: Myra Duvally, 33 Washington Street, Newport, RI 02840, (401) 847-0514.

♦ **June 13. The 18th Annual Plant Sale.** Garden in the Woods, Framingham, Massachusetts. Information: (508) 877-6574.

♦ **June 14. Seventh Annual Wildflower Festival.** "Family Day: Wildflowers: Live and Blooming." University of Connecticut, Storrs, Connecticut. Cosponsored by the Connecticut State Museum of Natural History and the Audubon Society of Northeast Connecticut. Information: (203) 486-4460.

♦ **June 14. The 36th Annual Rose Show.** Planting Fields Arboretum, Oyster Bay, New York. Presented by the Long Island Rose Society. Information: Robert Ardini, (516) 773-7936.

♦ **June 25. "An Indulgent Corner: The Unfolding of Victorian Gardens."** Hartford, Connecticut. Hosted by the Stowe-Day Foundation. Information: Elizabeth Newell, (203) 522-9258.

♦ **June 25-27. Native Plants in the Landscape.** Conference. Millersville University, Millersville, Pennsylvania. Information: Grace Evans, Continuing

Education, 104 Dilworth Hall,
Millersville University, Millersville, PA
17551, (717) 872-3030.

♦ **July 1. Cornell Turfgrass Field Day.**
Pine Island, New York. Information:
Cornell Cooperative Extension of Orange
County, (914) 343-1105.

Northwest

♦ **May 2. Rhododendron and Bonsai
Day.** Garden of the Rhododendron
Species Foundation, Seattle, Washington.
Information: (206) 661-9377.

♦ **May 3. Spring Festival at Washington
Park Arboretum.** Seattle, Washington.
Information: Center for Urban Horticul-
ture, (206) 685-8033.

South Central

♦ **May 30. Kansas Country Gardens.**
"Farm Tours for the Weaver, Herb
Gardener, and Flower Lover." Botanica,
the Wichita Gardens, Wichita, Kansas.
Information: (316) 264-0448.

Southeast

♦ **May 15-16. Rose Extravaganza.**
Atlanta Botanical Garden, Atlanta,
Georgia. Information: (404) 876-5859.

♦ **May 30-31. "Alice's Wonderland"
Topiary Display.** Callaway Gardens, Pine
Mountain, Georgia. Information: (800)
282-8181.

♦ **June 17. Annual Fern Show and
Sale.** Birmingham Botanical Gardens,
Birmingham, Alabama. Sponsored by the
Birmingham Fern Society. Information:
Peggy McGill, (205) 836-3480.

♦ **June 27-28. Third Annual Tour of
Ponds.** Atlanta, Georgia. Information:
Karla Sperling, National Pond Society,
P.O. Box 449, Acworth, GA 30101, (404)
975-0277.

♦ **July 8-10. World Chestnut Industry
Conference.** Morgantown, West Virginia.
Information: R. D. Wallace, Chestnut Hill
Nursery, Route 1, Box 341, Alachua, FL
32615, (904) 462-4330.

Southwest

♦ **May 12. Water Gardens.** Albuquerque
Garden Center, Albuquerque, New
Mexico. Sponsored by the Council of
Albuquerque Garden Clubs. Information:
Diana Day, (505) 296-6020.

West Coast

♦ **May 3-11. Epiphyllum Show.** Los
Angeles State and County Arboretum,

Arcadia, California. Sponsored by the
Epiphyllum Society of America.
Information: (818) 821-3222.

♦ **May 8-9. University of California
Botanical Garden Plant Sale.** Berkeley,
California. Information: (510) 642-3343.

♦ **May 16. Third Annual Regional
Xeriscape Workshop.** "Xeriscape! The
Great Escape!" Kerr-McGee Center,
Ridgecrest, California. Information:
Steve Cooper, (619) 939-2864.

♦ **May 16-17. Fiesta de Flores.** South
Coast Botanic Garden, Palos Verde
Peninsula, California. Information: South
Botanic Coast Garden, 26300 Crenshaw
Boulevard, Palos Verde Peninsula, CA
90274, (310) 544-6815.

♦ **May 17. The 18th Annual Benefit
Plant Sale.** The Huntington, San Marino,
California. Information: (818) 405-2140
or (818) 405-2147.

♦ **May 29-31. Second Annual Garden
Tour.** Temecula, California. Sponsored by
the Temecula Valley Rose Society.
Information: Edie O'Hair, P.O. Box 1673,
Temecula, CA 92593, (714) 676-0938.

♦ **May 30-31. Bromeliad Show and
Sale.** Descanso Gardens, La Canada
Flintridge, California. Held by the San
Fernando Bromeliad Society. Information:
(818) 952-4400.

♦ **June 26-28. Fourth Annual
Landscape Design Symposium.** "Theme
Gardens in the Contemporary
Landscape." Santa Barbara Botanic
Garden, Santa Barbara, California.
Information: (805) 563-2521.

International

♦ **May 17-31. Lilac Festival of Blooms.**
World's largest lilac collection. Royal
Botanical Gardens, Burlington, Ontario.
Information: (800) 668-9449.

Spring Events at River Farm

The big event at AHS this spring is the
Alexandria Decorator Showhouse,
which will be held from May 2 through
May 31 (see related article page 16). In
conjunction with the showhouse we'll
host lectures and events throughout the
month. Events are held at River Farm
unless otherwise noted. For more
information or to register contact AHS
at 7931 East Boulevard Drive,
Alexandria, VA 22308-1300, (703)
768-5700 or (800) 777-7931.

♦ **May 6. "Principles of Garden
Design."** Lecture by Susan Feller.
10 a.m. Free.

♦ **May 6. Local Docents and AHS
Members Tea.** Tea and private tour of
the showhouse and gardens. 4 p.m. \$20.

♦ **May 7. "Introduction to Home
Composting."** Lecture by Joe Keyser.
11 a.m. Free.

♦ **May 9. "Creative Interior
Plantscaping Ideas for Your Home."**
Lecture by Cindy Cotton at Colling-
wood Library and tour of the River
Farm gardens. 1 p.m. \$10.

♦ **May 11. "The Garden as
Inspiration in the Decorative Arts:
Horticultural Motifs in Textiles From
America and Around the World."**
Lecture by Dixie Rettig at Collingwood
Library and tour of the River Farm
gardens. 11 a.m. \$10.

♦ **May 11. AHS Members Tea.** Tea
and private tour of showhouse and
gardens. 4 p.m. \$20.

♦ **May 13. "Plants Through the**

Ages." Lecture by Joan Honeyman at
Collingwood Library and tour of the
River Farm gardens. 10 a.m. \$10.

♦ **May 14. "Composting for Every
Home and Garden."** Lecture by Joe
Keyser. 11 a.m. Free.

♦ **May 15. "How to Grow Orchids
in Your Home."** Lecture by Ted
Villaponda at Collingwood Library
and tour of the River Farm gardens.
11 a.m. \$10.

♦ **May 18. "Use of Water as
Ornament and as Wildlife Habitat in
the Garden."** Lecture by H. Turner. 10
a.m. Free.

♦ **May 20. "Bringing the Outdoors
In: A Visual History of Botanical
Prints From the 17th and 18th
Centuries."** Lecture by Ginny Sites at
Collingwood Library and tour of the
River Farm Gardens. 11 a.m. \$10.

♦ **May 21. "Healthy Gardens From
the Ground Up."** Composting lecture
by Joe Keyser. 11 a.m. Free.

♦ **May 23. "An Afternoon With the
Wines of Virginia."** Lecture and wine-
tasting by Gordon Murchie and tour
of the gardens. 3 p.m. \$15 for AHS
members, \$20 for nonmembers.

♦ **May 28. "The Golden Age of
American Gardens."** Lecture by Mac
Griswold at Belle Haven Country Club.
10:30 a.m. \$20. For information call the
Campagna Center at (703) 549-0111.

♦ **May 28. "Basic Soil
Enhancement."** Composting lecture by
Joe Keyser. 11 a.m. Free.

Classifieds

Classified Ad Rates: \$1 per word; minimum \$20 per insertion. 10 percent discount for three consecutive ads using the same copy, provided each insertion meets the \$20 minimum after taking discount. Copy and prepayment must be received on the 20th day of the month three months prior to publication date. Send orders to: American Horticultural Society Advertising Department, 2700 Prosperity Avenue, Fairfax, VA 22031, (703) 204-4636.

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FOR GARDENERS WHO CARE WHAT GOES WHERE: Carlson's Catalog and Color Cue Cards help create year-round, low maintenance Azalea and Rhododendron gardens worthy of any size estate. Two-year subscription: \$3. CARLSON'S GARDENS, Box 305-AHC, South Salem, NY 10590. (914) 763-5958.

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EXOTICA Series 4, with 16,300 photos, 405 in color, 2,600 pages in 2 volumes, with Addenda of 1,000 updates by Dr. A. B. Graf, \$187. TROPICA 4th edition, 1992, 7,000 color photos, 1,156 pages, \$165. EXOTIC HOUSE PLANTS, 1,200 photos, \$8.95. HORTICA, pictorial cyclopedia of garden flora and indoor plants, 8,100 color photos scheduled for Fall 1992. Shipping additional. Circulars gladly sent. ROEHRS COMPANY, Box 125, E. Rutherford, NJ 07073.

BULBS

South African Gladiolus, Ixia, Babiana, Lachenalia Amaryllids and other seeds and bulbs. Write for catalog to RUST-EN-VREDE NURSERY, P.O. Box 231, Constantia, Republic of South Africa 7848.

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COMPOSTING SUPPLIES

AHS carries a full line of unique compost bins, tumblers, and accessories—all demonstrated in our National Compost Demonstration Park—and all significantly discounted (for members only). Free price sheet. AMERICAN HORTICULTURAL SOCIETY, (800) 777-7931.

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LECTURES

AHS PRESENTS "GREAT GARDENERS OF AMERICA" AT AMERIFLORA '92

Want to learn more about daylilies? The revolution in vegetable gardening? New urban trees? Gardening in the shade? Join America's gardening experts for the "Great Gardeners of America" lecture series being held at AmeriFlora '92 in Columbus, Ohio. Presented by the American Horticultural Society, in association with First Community Bank of Ohio, the lecture series will continue every Saturday until October 10. AmeriFlora '92, the official Quincentenary Celebration of Christopher Columbus's voyage to the New World, is a showcase for American gardening. For ticket information contact: Sherran Blair, First Community Bank of Ohio, 4300 East Broad Street, P.O. Box 717, Columbus, OH 43216, (614) 239-4680.

"GREAT GARDENERS OF AMERICA" LECTURE SERIES SCHEDULE: MAY, JUNE, AND JULY 1992

May 2: "The Luxuriance of Peony, Hosta, and Daylily Gardening"
Roy Klehm, Owner of Klehm Nursery, South Barrington, Illinois

May 9: "Gardening: The Great American Dream"
Carolyn Marsh Lindsay, Immediate Past President of AHS, Rochester, New York

May 16: "Gardening in All Five Senses"
Allen Lacy, Author and Garden Columnist, Linwood, New Jersey

May 23: "Gardening for the Design of It"
Sally Boasberg, Landscape Designer and AHS Board Member, Washington, D.C.

May 30: "Flower Arranging for Floral Artists"
Pauline Runkle, Floral Artist, Manchester-by-the-Sea, Massachusetts

June 6: "What Catalogs Can Bring to Our American Gardens"
Steven A. Frowine, Horticultural Research and Information Director at White Flower Farm, Litchfield, Connecticut

June 13: "Improving Your Garden With Herbs"
Holly Shimizu, Horticulturist and Director of Information for the U.S. Botanic Garden, Washington, D.C.

June 20: "The Gardens of Wave Hill"
Marco Polo Stufano, Horticultural Director of Wave Hill, Bronx, New York

June 27: "Oasis for City Dwellers: The Public Gardens of New York City"
Lynden Miller, Landscape Designer, New York City

July 4: "A New Era in Gardening—The Old and the New"
Andre Viette, President of the Perennial Plant Association, AHS Board Member, and Owner of Andre Viette Farm and Nursery and Jacqueline Hériteau, Author of The American Horticultural Society Flower Finder and The National Arboretum Book of Outstanding Garden Plants

July 11: "Gardening in Small Spaces and Containers"
Linda Yang, Author of The City Gardener's Handbook and a garden columnist for the New York Times

July 18: "Wild Kingdoms of the City"
James Van Sweden, Landscape Designer, Washington, D.C.

July 25: "New and Better Urban Trees"
William Flemer III, President of Princeton Nurseries, Princeton, New Jersey

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E-Z KLEAN INSTANT DECK CLEANER. Recommended by *New York Times* as Best, Easiest, Safest way to restore color to dirty, gray, mildewed wood decks, steps, shakes. Environmentally friendly, nontoxic to plants. Free Catalog. **CHEMICAL-WORLD**, Box 376AH, Holtsville, NY 11742. (516) 654-9437.

HELP WANTED

The American Horticultural Society is often asked to refer individuals for horticultural positions around the country. As a service to our members, both job seekers and employers, we would be very glad to receive résumés and cover letters of individuals seeking job changes and employers seeking candidates. All responsibility for checking references and determining the appropriateness of both position and candidate rests with the individuals. Inquiries should be sent to: Horticultural Employment, AHS, 7931 East Boulevard Dr., Alexandria, VA 22308-1300.

HOUSE PLANTS

ORCHIDS, GESNERIADS, BEGONIAS, CACTI & SUCCULENTS. Visitors welcome. 1992-1993 catalog \$2. **LAURAY OF SALISBURY**, 432 Undermountain Rd., Salisbury, CT 06068. (203) 435-2263.

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OVER 2,000 KINDS of choice and affordable plants. Outstanding ornamentals, American natives, perennials, rare conifers, pre-bonsai, wildlife plants, much more. Descriptive catalog \$3. **FORESTFARM**, 990 Tetherhasl, Williams, OR 97544.

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MINIATURE ROSES From **RALPH MOORE** (World-renowned breeder)—Also: Miniature Tree Roses and Selection of Old, Rare, Unusual Roses. **MOORE**, 2519 East Noble, Visalia, CA 93277. Catalog \$1.

STATIONARY

PHOTO NOTE CARDS—full color—sample, brochure \$1. Photos by Trish, Dept. AH, 89D Louis Ave., Valley Cottage, NY 10989.

TRAVEL

NEW ZEALAND—Spring Garden and Best Sights Tour, October 29-November 16, 1992. \$3,685. Escort is Dr. Ellen T. Henke, a noted botanist and T.V. personality who has appeared on CBS, CNN, Donahue and many local stations. Dr. Henke is Garden Destinations Contributing Editor for *Flower & Garden* magazine and former instructor at New York Botanical Garden. The tour, timed for the peak of spring, will include visits to public and private gardens and nurseries. You'll marvel at New Zealand's roses, camellias, azaleas, magnolias, lilies, orchids, native brush and ferns, herb gardens, authentic Chinese garden and winter garden. A highlight will be the Rhododendron Festival along with the scenic beauty of Mt. Cook, Queenstown, Milford Sound, Rotorua, Auckland, and Christchurch. For a full detailed itinerary call **NEW ZEALAND CENTRAL RESERVATIONS OFFICE**, (800) 351-2317 in CA, (800) 351-2323 outside CA.

TRAVEL/STUDY TRIPS FOR THE AHS GARDENER

JUNE 18-27, 1992 GARDENS OF THE COLORADO ROCKIES AND THE GRAND TETONS

The Denver Botanic Garden's former director, Dr. William Gambill, and its senior horticultural advisor, Andrew Pierce, will lead a program that begins in Denver, Colorado, and concludes in Jackson, Wyoming. The itinerary includes private gardens, Colorado Rockies National Park, Dinosaur National Park, Grand Teton National Park, Yellowstone National Park, and an exciting float trip on the Snake River.

JULY 12-21, 1992 SUMMER GARDENS ALONG THE OHIO

A steamboat voyage on board the magnificent *Mississippi Queen* will take participants along the Ohio River from Cincinnati to Pittsburgh. We are indebted to AHS members and friends who have opened their homes, gardens, and clubs to us. And what a splendid collage of gardens they are, ranging from the unique collections of trees and shrubs of Mr. and Mrs. Morse Johnson in Cincinnati to the artful use of native plants of Mr. and Mrs. Arthur Mott in New Richmond to the English gardens of J. Judson Brooks in Seickley. Leading this program for AHS will be Mrs. Harry Van de Kamp of Paso Robles, California, a former AHS Board Member.

AUGUST 8-19, 1992 GARDENS OF FRANCE

This tour has been created around the great private gardens of France located in the regions of Brittany and Normandy. Here you will find gardens ranging in style from Prince Wolkonsky's Mediterranean terraces in Keraldo to Princess Sturza's wonderful use of ground covers at Le Vesterival. Each garden you will find different, yet throughout the incomparable French style has been used to provide an accommodating home for many rare species of trees, shrubs, and other plants. Leading this program will be long-time AHS Board Member Richard Angino.

OCTOBER 20-NOVEMBER 11, 1992 SPRING GARDENS OF NEW ZEALAND AND AUSTRALIA

This is your opportunity to visit the finest public and private gardens in New Zealand and Australia at the height of their spring bloom, including the color masses of rhododendrons and azaleas that thrive in this benevolent climate. The itinerary includes the exceptional gardens of Mr. and Mrs. John Tynegrove in Christchurch, which were featured recently in the PBS series "The Victory Garden," along with the National Rhododendron Gardens in Canberra, which promise to be ablaze in full color at the time of our visit. This program is being lead by Andre Viette, long-time AHS Board Member and lecturer in horticulture.

Leonard Haertler Travel Company, 7922 Bonhomme Avenue, St. Louis, MO 63105, (800) 942-6666, (314) 721-6200 (in Missouri)

AHS TOURS

Nitrogen-Fixing Trees

Most gardeners know that many legumes, such as peas, can improve soil quality by fixing nitrogen from the air. University of Maryland researchers are studying the value of some trees in the legume family for fixing nitrogen. These include the black locust and Japanese pagoda tree.

William Graves, a researcher who announced his findings at Maryland Nurserymen's Day this spring, has also discovered nitrogen-fixing nodules on *Maackia amurensis*, a small Leguminosae tree from Manchuria that he believes to have considerable potential as a street or container tree. Maryland researchers are also studying the redbud for its nitrogen-fixing potential.

Vigor from Vitamins

If researchers can determine the best doses, gardeners may soon be preventing all types of plant problems the same way they protect their own health: with vitamins.

Dale M. Norris, an entomologist at the University of Wisconsin-Madison, has found that soybean cell membranes contain stress-sensitive proteins similar to those surrounding the nerves of insects. Indirect evidence of such proteins has turned up "in every plant we've tested," he told *Science News*.

When a plant is stressed, the proteins stimulate messenger chemicals that in

turn can switch on defense chemicals. But in the process, these sentinels can become damaged by oxidation. Vitamins C and E are antioxidants that appear to protect the plant against this damage, as a result making them more resistant to drought, harmful microbes, weed killers, and mechanical injury. This works whether the vitamin is sprayed on foliage, painted in a band around a tree trunk, or poured into surrounding soil. Plants grown from treated seeds also seem more stress-resistant.

But don't run to the medicine cabinet for a blackspot cure. The vitamins work best in weak concentrations, down to parts-per-million; overdosing is a likely result of a home remedy. However, enough scientists are following this line of inquiry—one literature search in the late 1980s produced 155 citations—that a commercial product is a virtual certainty, perhaps even sometime this year.

Hope for Palms

A University of Florida scientist has developed a DNA-based test to probe lethal yellowing, a disease that has killed half a million palm trees in Florida since 1970.

The disease is believed to be caused by mycoplasmas, which are small and simple cellular organisms with no cell wall, no nucleus, and no internal structures except DNA and ribosomes. They are probably spread by insects such as leafhoppers. There seems to be a delay of months between the time a palm is infected and

the time symptoms appear; then the tree usually dies within three to five months. The test should help researchers learn more about how the disease is spread and to find palms resistant to the disease, says Nigel Harrison, a plant pathologist at the university.

Lethal yellowing has been particularly destructive to the coconut palm, an attractive landscape tree as well as a source of products such as cooking oil, coconut meat, fiber, and wood. The disease has wiped out more than 10 million coconut palm trees in Jamaica and Tanzania. More than 35 palm species are susceptible to lethal yellowing.

Rutgers Map Available

A new plant hardiness map developed at Rutgers University and described in the March 1991 News Edition has spurred so many inquiries that it is now being made available as a 20 × 30-inch poster.

The map—developed by meteorologist Mark Shulman and Art DeGaetano, who is now a research climatologist at Rutgers—divides the United States into 23 climate zones, based on such factors as minimum and maximum temperature, precipitation, and first frost date.

The map, printed in 27 colors, is available for \$7. Write to Rutgers University Hardiness Map, Rutgers University OCLTT, 377 Hoes Lane, P.O. Box 1179, Piscataway, NJ 08855-1179.



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