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Inside: A Report on Our Children's Symposium

American Horticultural Society

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TOM TILTON



500 Attend Children's Symposium

More than 500 people attended the American Horticultural Society's national symposium, "Children, Plants, and Gardens: Educational Opportunities" in Chevy Chase, Maryland, August 12 to 14.

The event was so successful that attendees from California are beginning to plan a similar meeting for the West Coast for 1995. Evaluations of the meeting were extremely positive. If anything, many said, the conference offerings were too rich, with three workshops offered simultaneously, and the program continuing into the evening with 10-minute "idea forums." There were more than 60 presenters.

Outgoing AHS Chairman George C. Ball Jr. opened the meeting with his own childhood memories of the outdoors and expressed hope that the meeting would serve as a "template" for many more ideas for gardening with children. "Gardening teaches virtues such as strength in the face of adversity. It's also a beautiful art that nourishes the soul."

Washington's August heat and humidity abated to a tolerable level and skies were blue for the tour of the U.S. National Arboretum and AHS's River Farm headquarters. There the group toured the 12 children's gardens created this spring by children and professional landscape designers. "The Children's Gardens display was incredible!" one participant said.

Said others:

♦ "I've been to many conferences—both bigger and smaller, science teachers, math teachers, environmental educators. This has been one of the warmest (no pun intended) and most enriching conferences I have ever attended."

♦ "It was an awakening of old spirits in me as well as a renewing and commitment to the earth and children."

♦ "It was beyond my expectations. I am overflowing with many new ideas to try and the knowledge and support of many people. River Farm is a jewel in the crown of the American Horticultural Society. Thank you for an unforgettable three days!"

♦ "Incredibly rich, informative, connected by diverse people and interests."

♦ "Most of the subjects covered were right on target for me. . . . It was fun listening to discussions about speakers



BRIDGET FLINT

Hardie Newton of Hardie Blossoms in Madison, Virginia, conducted a children's flower arranging class during the symposium tour of River Farm.

and hearing opposite opinions from opposite disciplines."

♦ "I'm proud to be a member of AHS because of this event. Thank you George Ball Jr. for exuding excitement about horticulture. I hope this can become an annual/regional event where thousands of educators can participate."

♦ "Best group of keynote speakers I've ever heard!"

♦ "This conference confirms my belief that gardeners are very special people."

Resource Guide

A 21-page resource guide for teachers, parents, and youth educators, listing resources for curriculum guides, children's gardening programs at public gardens and horticultural societies, related publications, and institutions offering teacher training, horticultural therapy programs, financial assistance, and gardening supplies is available for \$5 postage paid. Write to AHS, Children's Resource Guide, 7931 East Boulevard Drive, Alexandria, VA 22308-1300.



Kids Need Wild Places, Gentle Guidance

Something special is happening in environmental education, observes Roger Hart. "I hope it lasts this time," he told the national children's symposium audience. We are less naive than we were in the 1970s, he observed, about the impact of our idealism on the poor of other countries.

Nevertheless, Hart, a psychologist at the City University of New York, is concerned that the children who move audiences to tears with their pleas for whales and the ozone layer "are isolated from any direct interactive experience" with the natural world. As a result, he believes, they may lack the deep sense of a personal relationship needed to sustain environmental concern.

Hart pointed to a survey of 45 conservationists, intended to discover the roots of their devotion. "Not one of them was reacting to an ugly environment," he said. "They were all motivated by affection" for beautiful places they had known.

Hart shot down a number of myths about children and their relationships to nature. "We all have these romantic notions that equate nature and children, much as we equate cities with rationality and adulthood. We believe that children are somehow closer to nature. But they have a lot of learning to do."

We also believe that mere contact with nature will cause them to develop a sense of understanding and caring. "All you have to do is observe what children do to animals, walking down a beach crushing crabs until they're all dead, burning frogs," he said. "Children need good role models, apprenticeships. Being with adults in a garden is more important than doing their own gardens."

In a study of the intellectual development of young children, Susan Isaacs found that while children may feel sympathy for animals, they see plants as mere decoration and amendment. "Somebody has to be there to help them develop that sympathy for plants," Hart said.

Hart grew up in a nursery family, but while he was around plants in his youth, he had no desire to garden then. Too many gardening programs for children call for action, he said. "People tend to stress learning skills and plant names." But children also need time to reflect.

"Gardening," he suggested, means "participating with natural forces in the creation of something beautiful—powerful forces that are never completely controllable. And you have to be able to understand nature in order to work with it."

Human intervention is just one part of gardening, yet gardening classes may wipe nature's slate clean, possibly with the use of chemicals. "There's also the attitude that you grab all ages at the same time, and that everyone's got to be interested."

It's dangerous, he said, to speak of what all children want. While some will never be interested in gardening, some can't be stopped. He described walking across a field in Vermont with a young boy in a group he had worked with. He thought he knew about all of these children's activities. But there, "like neolithic markings" in the melting snow, were some strange bare patches. The previous summer the boy's parents told him he couldn't have a garden, so he created a secret vegetable plot amid the head-high grasses. He told Hart that he had sneaked

his produce onto the family dinner table with the harvest from his father's garden. "He had an intrinsic desire," said Hart, "to be competent."

But Hart believes what most children need is wild gardens. "They like leftover, wild places that they have the freedom to manipulate, creating tree houses, forts, snow runs, a garden carved out of a lawn. These tend to be anarchistic, messy places." Hart recalled a childhood neighbor, Nigel, whose garden was so unkempt the town council wanted to kick his family out of the neighborhood. "But that's where we had all our best hiding places," he said.

It is probably not surprising that so few communities have worked to preserve wild lands close to children's homes. "Society is understandably paranoid about children going outdoors for anything. This danger to our preadolescent children, especially young girls, has been the biggest change in our children's lives, not television or computer games."

The answer is not more programmed activities or keeping children indoors, but developing some kind of "new institutional alliances" to manage wild gardens. In the Netherlands, for example, parents take turns walking around one untamed space to keep an eye out for suspicious strangers.

Hart urged anyone planning to build a natural area or garden for children to involve them in the design process. "It can be quite magical. Kids love to build models, and it has led to some great discussions."

America's public gardens could do more for children, he proposed, if they didn't tend to keep education and horticulture in separate departments. "Following experts around while they work in the garden is a great way for children to learn. Not all horticulturists would want that, of course. So we'll hire the ones that do."

He advised against force-feeding children information about plants and gardening. "They should turn to professionals when they want answers to questions, not the other way around. They should be allowed to develop a sense of wonder. But they don't want to be in the environment alone."



SANDY FLOWERS

A ditch garden, seen by symposium participants and their children on their tour of River Farm, exemplifies the sort of leftover places Roger Hart believes children need.



A Landscaper's Plea for Less Design

Mark Francis knows the world has changed a lot since he was a child. A landscape architecture professor at the University of California-Davis, he recalls the response of a nine- or 10-year-old girl asked to describe the ideal outdoor environment. "She described a curly slide that would come off a very high hill, come down through a waterfall, and finally arrive in a pond. It was wonderful image of a place. I was ready to start drawing. But then I asked, 'What would you do if you fell off?' And she said without hesitation, 'I would sue you.'"

"We are denying children their basic right to childhood—overdesigning, overcontrolling, and overstructuring their lives."

Our society is not only litigious, but crime ridden, and today's parents have some very realistic fears for their children, Francis concedes. But he believes that the way they have responded—he admits that his own children are on the day care-soccer game-violin lesson-Nintendo game merry-go-round—may have some very real costs. "We are denying children their basic right to childhood—overdesigning, overcontrolling, and overstructuring their lives." If you look out the window of the nearest school building, he said, "you will see something not that different from a prison yard."

Francis repeatedly urged the children's symposium audience to extend their concern beyond the home and school garden and into the larger community and to consider ways children can be given unstructured experiences with nature as part of their daily lives. He often uses a process he calls an environmental biography—asking people to recall feelings, smells, and sounds connected with a

favorite childhood haunt—to begin his university classes, and he urged other teachers to do the same with their students. "Most people remember a mucky pond, a patch of woods, or an undeveloped lot." But lately, he has been alarmed to notice natural places disappearing from these memories. He quoted the assertion of author Richard Love that natural places are important for creating a world separate from that of parents, and a child's own sense of place and time. "Unlike television, nature does not steal time, but augments and enriches time," Love wrote in his book *Childhood's Future*.

Today's children don't seem better off either physically or emotionally than previous generations, in spite of all their enriching activities. In fact, a Cornell study indicated that half of them are overweight or slower or weaker than children the same age were 10 years ago. Their achievement test scores are essentially the same. A Stanford-Michigan study examining the learning gap between American and Asian students found that the Japanese schools view unstructured playtime as part of the educational experience.

Francis said his own profession adds to the problem by overdesigning spaces. "We're careful to rush in to fill up all the available space. Disneyland—and I've taken my own children there—is such a structured experience, because nature is completely controlled." Tom Sawyer's Adventure Island there is a wonderful place, he says. "People pay to take their children there to do stuff they used to do in the neighborhood."

Even "nature walks" sometimes put nature on the other side of a fence—"something to look at but not touch, especially for children."

Like psychologist Roger Hart, a keynoter the previous day (see page 3), Francis is concerned with the gap between what children seem to know about the global environment and their own firsthand experiences with nature. They don't grieve personally for the things they might have found in the mucky pond they have been denied by our squeaky clean suburbs. "If we put our children in boring and insignificant places, they're not going to be advocates for natural spaces when they grow up."

There are scattered exceptions to the bleak picture Francis painted. He offered a wide range of examples, from throughout the world, of natural spaces and "adventure playgrounds" that offer children privacy, empowerment, fantasy, and restorative experiences.

In a five-acre housing project near Seattle, the area outside the front door is designed not as an adornment to the building, but as a "kid habitat." About an acre of the grounds has been left as a woodland play area.

In Denmark, where you can receive formal education as a playground leader, an area is set aside for children to build houses out of scrap lumber.

In inner-city London, Gillespie Park has been left largely wild, with the exception of a mowed interior for impromptu sports. "The youngsters I followed into the park joined a soccer game. That lasted all of 10 minutes, and then they went to an adjacent pond."

In Boulder, Colorado, a park consists of only sand and rocks. One big rock is used as a slide "in about eight different ways, instead of only one."

In the Village Homes development in Davis, foot and bike paths were created before the roads, so it's easier to walk or pedal than to drive. Children's favorite places there included a clover patch, a willow pond, and a scrap-lumber fort in a side yard.

Landscape architects, Francis said, are always asked to include play structures in developments, "not for the children, but for the parents. Get out your catalog and order them, and then put your energy into the natural environment." Francis said it is only a theory he hopes will never be tested, but he believes there is less liability for builders in a natural play environment than an artificial one. "There is a sense that climbing a tree involves a certain amount of risk."

A round of applause showed that Francis had clearly struck a sympathetic chord with his audience when he quoted Lady Allen of Hertwood, an advocate of adventure playgrounds in London. Asked if she wasn't worried about children injuring themselves, she responded: "Better a broken arm than a broken spirit."



The Centerpieces of Civilization

Too many conservation groups, says ethnobotanist Mark Plotkin, try to raise children's concern about the environment with pictures of huge, bizarre, or cute, fuzzy animals. "The extinction of corn or wheat," he told the children's symposium audience, "would have a lot greater impact on our culture than the extinction of the elephant or the panda. It's time we were placing plants where they belong, as the centerpieces of civilization that make our culture, industry, medicine, and agriculture possible."

When Plotkin lectures to children, he points out that they probably ate some of the tropics for breakfast. "Did you have cornflakes? Corn comes from Central America. Rice Krispies? Rice comes from tropical Asia. Sugar on your cereal? New Guinea. Bananas? Tropical Asia. Chocolate? The Amazon. Hash brown potatoes? Potatoes come from the Andes. Ketchup on your potatoes? Tomatoes come from Mexico."

And we are still going back to these places, he noted, for wild or semi-domesticated plants to help give these crops more pest and disease-resistance. For instance, scientists in Bolivia recently found a potato with hairs that exude a poisonous paste that traps insects. Clearly, crossing this strain with domestic crops has fascinating implications. Children may not be thrilled by discussions of interbreeding two potato species, he admitted, but their attention is easily captured with a picture of "the killer potato in action."

Medicinal plants are especially useful for teaching kids—"and politicians, who are much slower learners than children"—about the importance of plants to human welfare, he's found. Many people are familiar with the rosy periwinkle, now a weapon against leukemia and Hodgkin's disease, first used by tropical Indians to treat blood problems. "But not many people know that one of its closest relatives is on the verge of extinction. If we can't save all the species, I want to make sure that the first cousins of our anti-cancer superstars end up in gardens, instead of going into the abyss."

When Plotkin isn't on the road lecturing on behalf of Conservation International,

where he is vice president for plant conservation, he is living with the Indian tribes of the tropical rain forest, recording everything they will share with him about the power of plants.

"You can usually impress children by telling them that the difference between medicine and poison is just a matter of dosage." For example, the curare liana, which yields a poison the Indians apply to the tips of blow-gun darts, provides American doctors with a muscle relaxant for abdominal surgery. It can't be synthesized in the laboratory. The Indians often make these substances more powerful with admixtures: substances that scientists once dismissed as inert, but now recognize as catalysts of complex chemical reactions. "These men running around the jungle in penis strings and red breech cloths," said Plotkin, "are a lot better chemists than we are."

It has been estimated that we know

nothing about the chemical composition of over 98 percent of the flora in Brazil, which has more species than any other country. A single rain forest tribe, he says, may use at least 300 plants for medicinal purposes. But many have ceased passing their secrets along to succeeding generations. "When our missionaries come to their countries, the first people they try to discredit are the medicine men and women." As a result, thousands of years of accumulated wisdom is about to disappear.

Not only the tribes' knowledge, but their cultures, are evaporating. When Plotkin first began his work in the late 1970s, the Indians were living much as they had for centuries. Children's first toys were bows and arrows for hunting and fishing. They knew how to quench their thirst with the water vine, which fruits were edible, how to carve their own toys, how to make *Continued on page 6*

"They Died for Our Planet"

Mark Plotkin dedicated his talk at AHS's national children's symposium to two scientists killed in a plane crash in Ecuador 10 days earlier: Alwyn H. Gentry, a senior garden curator at the Missouri Botanical Garden and the world's leading expert on the plants of Latin America, and Ted Parker, a distinguished ornithologist.

While many Americans were shocked at the death of a young professional basketball player that same week, a relative handful knew of the tragedy in Ecuador, said Plotkin. "When people die in battle, we say they died for their country. I like to think these guys died for all of us. They died for our planet. They didn't make much money. Their personal lives were dedicated to biodiversity."

Plotkin recalled that the first time he met Gentry, Plotkin was giving a lecture in which he said he had 20 tropical plants that no one could identify because they lacked flowers or

seeds. "Gentry identified them all in less than 10 minutes."

Using sterile vegetative characteristics such as leaves, bark, and odor to identify plants was a specialty of Gentry's. He recently produced a landmark book, *A Field Guide to the Families and Genera of Woody Plants of Northwest South America*, an aid to identifying these plants when they lack flowers or fruits. Only 48 years old, he made more than 70,000 botanical collections during his lifetime.

Said Plotkin: "We've got to put biodiversity, plants, gardening, horticulture back in the forefront of our culture where it belongs. I want my kids to grow up to be Ted Parker and Al Gentry and not basketball players or baseball players or politicians, because these are the resources that make our lives possible. These guys should be international heroes. They never did and never will get the recognition they deserve."



An Imagination Garden Blooms

Michigan State University's 4-H Children's Garden was officially dedicated in early August. Just a couple of days later the garden's curator, Jane Taylor, described it and its history to AHS's children's symposium participants. "The garden is really for the young and young at heart. It's a garden where children grow up and adults don't have to," she said.

The half-acre garden, started in 1987, is part of the campus's seven-and-a-half-acre Horticultural Demonstration Gardens (see "In Michigan, An Imagination Garden," *American Horticulturist*, November 1992). Within that half acre are 54 theme areas. One is the Alice-in-Wonderland Maze. At every dead end of the maze, children find a stepping stone sculpted with an Alice-in-Wonderland character: the rabbit, the Cheshire cat, the Cheshire cat's smile, a flamingo, the Queen of Hearts. At its center is a tea arbor. Children leave the maze through the Secret Garden Door. Carved by a Michigan State University graduate student from New Zealand, it features a robin holding the key to the garden and opens to a garden of old-fashioned British perennials and a statue of Mary Lennox.

The entire south wall of the 4-H Children's Garden borders the Grand Trunk Line railroad track. "When life serves you lemons you make lemonade," Taylor said. "You can't ignore the train because it makes too much noise. So we decided to have fun with trains. We will put up a little cutout of 'The Little Engine That Could' because, if you remember the



COURTESY OF THE MICHIGAN 4-H FOUNDATION

Evening primroses attract nighttime visitors to the 4-H Children's Garden.

story, the engine brings apples and spinach to good girls and boys. And of course, the train is part of our horticultural transport system." Taylor plans to add peepholes to the wall so children can watch the trains go by. This area includes two tracks for a G-gauge garden railway that will be landscaped with alpine plants.

The train theme continues in another part of the garden with a large, brightly colored train that children can climb on. "Eventually, because I can't stand just putting in a train like that, we're going to educate from it," Taylor said. "We'll plant plants that you find along railroad tracks." Someone asked Taylor if poison ivy was on the list for that area. "Well, maybe not poison ivy," she said. "But

we'll put in fireweed and goldenrod."

Visitors came in a steady stream during the construction phase. Now that the gardens are officially open, huge crowds are the norm—the gardens receive between 8,000 and 10,000 visitors a week. Evening crowds are drawn to a bed of evening primrose. "They open in 15 seconds," Taylor said. "You can go out to the garden at 9 o'clock at night and there are 30 or 40 people surrounding the primroses and they don't leave until the primroses are all open. Then they go out and get in their cars and that's the end of the garden for the night."

But the next day will bring more visitors to stroll around the gardens, picking up ideas for their own imaginative spaces. "All children need some special place just for them," Taylor said. "Children need a special garden because our future poets, philosophers, scientists, artists, and musicians will all come from experiences in a children's garden, where imaginations do grow."

Michigan State University's 4-H Children's Garden is open every day from dawn to dusk between May and November. It is located on Bogue Street on the Michigan State University campus. For more information or directions to the garden write or call: Jane Taylor, Curator, Michigan 4-H Children's Garden, 4700 South Hagadorn Road, Suite 220, Hannah Technology and Research Center, East Lansing, MI 48823-5399, (517) 353-6692.

Civilization *Continued from page 5*

rope from palm fiber and musical instruments from bamboos.

But Indians who 10 years ago greeted him in scarlet macaw feathers and blue body paint are now wearing blue jeans and athletic shoes. The Macushi tribe, whose use of curare led to its use as a medicine, were given shotguns by missionaries and traders and forgot how to make blowguns or prepare curare. When their economy fell apart, they could no longer afford shotgun shells. "The last time I was there, they were hunting with machetes," said Plotkin. "We have curare, but they do not."

Plotkin described a number of projects intended to return rain forest profits to its indigenous peoples. Conservation International's Shaman's Apprentice Program encourages medicine men of Amazonian tribes to formally train members of younger generations. One result of that project is the *Tirió Plant Medicine Handbook*, which records the knowledge of that tribe's shaman in their language. The Bible, said Plotkin, is the only other book they have in the Tirió tongue.

Plotkin said he is sometimes asked why he lectures to lay audiences, rather than publishing his findings in scientific

journals. "When you publish in a journal, seven people may read it. Four already hate your guts, and three say 'It's okay, but I could have done a better job.'" By lecturing to nonscientists, including children, he hopes to reach thousands with his message that plants are much more "than something that goes in one end of a panda and out the other." ♦

Mark Plotkin's book, Tales of a Shaman's Apprentice, 318 pages in hardcover, is available for \$18.70 plus \$2.75 for shipping and handling from the AHS Horticultural Book Service.



Building Greenways From Coast to Coast

The first schools were rural, small, one-room classrooms close to where people lived. Kids walked or biked to get to class. But as our population expanded and cities sprang up, schools grew. Bigger schools were supposedly better schools. Huge educational fortresses appeared. Now kids are bussed to schools and, according to Anne Lusk, they've lost the exhilaration of getting to school; they've lost contact with the land and surrounding neighborhoods. "A bus is just transportation," Lusk told symposium participants. "It's not a learning experience. It's a void in a child's day."

"There is a theory that students should learn science in the national parks. That's a good idea, but only 8 percent of the population lives near a national park."

Lusk wants to change that by creating 108,000 greenways—recreational pedestrian and bicycle paths—across the United States. That's one for every school in the country. These greenways would allow more children to bike or walk to school and serve as garden classrooms. Lusk, who led efforts to build a five-mile greenway in Stowe, Vermont, cited a 1957 study in the *British Journal of Educational Psychology* that said children learn better if they can bike or walk to school. These children "have a cognitive understanding of where home and mom are instead of being blindly taken away by bus," Lusk said. "When they arrive at school they don't feel lost."

These garden greenways would also provide outdoor classrooms for four subjects:

♦ **Science.** "There is a theory that stu-

dents should learn science in the national parks," Lusk said. "That's a good idea, but only 8 percent of the population lives near a national park." Children who learn about nature near their homes develop stewardship ethics about their own neighborhoods. They learn about their own plants, trees, and wildlife. Lusk cited a study of an inner-city school in Boston that discovered that if kids learned about nature near their school, they took better care of their own neighborhoods. "Kids also learn about science when they dam up a stream on a greenway," she said. "They learn how a wetland functions, why a pump brings up water, what fish swim in a river."

♦ **Geography.** Children first learn geography and map reading by understanding their own communities. "A child can't drive, and therefore, can't understand spatial relations from a car," Lusk said. "Children can't even see over the dashboard to see where they are going." But if children travel on a pathway system, scaled to their size, "they perhaps know the whole community like the back of their hands."

♦ **Architecture, Architectural History, and Regional History.** Greenways can take students into built environments where they may learn about historic versus new bridge construction, historic bridge ornamentation, and the functionality of an arched bridge. The path can take students to study city hall and its workings or to study rural barn structures and their inhabitants. "This garden classroom becomes like a pop-up book," Lusk said. "Only it's in 3-D, real life."

♦ **Physical Education.** A playground offers a place to exercise, but students need more variety. Greenways can be used for bicycle rodeos and to learn safe biking practices. Physical education teachers can help students learn in-line skating. In snow country, children can cross-country ski on greenways. And there's also just plain walking. As an added bonus, kids who have gym class on the local greenway continue to use the recreational resource after school.

"You might be saying 'That's a nice idyllic idea, but the greenway classroom won't fit in my community,'" Lusk said. "But many people believe that greenways

will fit anywhere." Start by studying community maps and identifying areas of publicly-owned land, she suggests. Then map out possible routes. "You might have to put a section of the garden class way along a road leading from the school to eventually get to more of a classroom setting." Sections of the greenway may use parts of divided highways, rail-trails, or alleys. Canal towpaths along rivers are another option, as are sidewalks. "You might cross over a river with your own bridge or go under a dangerous road with a tunnel. But if, and this is very important, if you and your students don't play an active role in the creation, we could end up with a replay of the interstate highway system. This greenway will be sterile and void of the science classroom you want to have."

To build the garden greenway system, teachers need people, a plan, and publicity; they need to play politics and they need money. Lusk's suggestions include:

♦ Cultivate grassroots leaders and steal good people from other professions—lawyers, doctors, high-profile politicians, women's club members, Rotarians.

♦ Create an innovative plan. Dream big—the sky's the limit.

♦ Market, campaign, fund-raise with no holds barred. "Anything goes, the zanier the better."

♦ Play politics. Study issues and offer suggestions. "Politicians appreciate a fresh outlook and logical reasoning."

♦ Raise money through local, state, and federal sources. "The only place in the federal government where there is any money at all is in transportation. The new Intermodal Surface Transportation Efficiency Act is the only place where there is funding." Within the act there are 14 sources of funding, Lusk said.

Lusk's goal is to have all 108,000 schools participate in the greenway program to create a system connecting from school to school to school—"a new environmental adjunct interstate greenways system that goes from the East Coast to the West Coast."

For more information write to Anne Lusk, Chair, Vermont Trails and Greenway Council, 1531 River Road, Stowe, VT 05672.



Tips for Triumphant Over the Naysayers

Anyone who has ever proposed starting a school or community garden for children has heard at least one person argue, "We can't do it!" Holly Kennell, an extension agent with Washington State University, trotted out all the arguments and shot them down handily.

"People tend to see it as a difficult task, and they don't want to be part of a failure," she said. They have to be convinced it will be a roaring success.

The seven most common arguments are: a brown thumb; no funding; no land; inhospitable weather; no caretakers over summer vacation; the possibility of vandalism; the kids will get dirty.

"Get some outside help" for the brown thumb, Kennell suggested. Talented gardeners are likely to live nearby. "Walk around near the school and look for especially interesting gardens," she proposed. You may find help among groups such as garden clubs, Master Gardeners, or senior center participants. One children's garden is rototilled each spring by the local police.

There's no need to spend a lot of money on soil amendments. Make compost in a bin of wooden pallets; the children may want to paint it wild colors.

Get manure from a stable or zoo, or grow compost plants (green manure) that can be worked into the soil. Borrow the big tools that you'll only need once to prepare the soil, then scavenge small hand tools that the children can use for weeding and cultivating. "Have the kids ask people for these things; they're a lot harder to turn down," Kennell urged.

There have been some ingenious solutions to the land problem. One group was able to build a garden in an abandoned swimming pool—an eyesore and a potential hazard. Another took the opposite approach, creating raised beds with cinder blocks on top of asphalt.

To keep the garden from becoming a worry in the summer, plant flowers and vegetables that can be harvested in spring. Or choose plants that can be harvested in fall, and arrange for parents to share watering and weeding duties. The janitor may still be coming by once a week to mow or do other chores and may be willing to water.

"Involve all the kids in talking about vandalism," Kennell said. "Mention that it can happen so it won't be a surprise." Try to make all the children in the school or neighborhood feel protective of the

garden. Affixing signs with the name of the plant and possibly the names of the gardeners makes it clear that the plants belong to people that care for them. Plant multiple crops and lots of flowers, so that some may survive a raid.

"Plant root vegetables that are less visible. And don't plant tempting, colorful things like strawberries, tomatoes, or pumpkins in your garden's borders," Kennell said children sometimes make "ugly juice"—egg shells and lime mixed in a blender—and spray it on choice edibles. It has an unpleasant smell, but washes off easily. "I'm not a proponent of fences," she said. "They just seem to serve as a challenge."

Keeping children clean is as simple as letting parents know which day is gardening day, so Susie doesn't come to school in her new party dress. Men's dress shirts—long a favorite as smocks for little artists—are just as handy as gardening cover-ups. A well-defined path of chips cuts down on mud-puddle play.

By all means, involve parents, Kennell said. "They might not know anything about gardening, but they can come to the school to help celebrate a successful crop."

Growing Soilwise Citizens

John Jeavons used an organically grown apple, usually a gift to cheer a teacher's day, to impart a grim lesson to the children's symposium audience.

Jeavons, director of Ecology Action's minifarming program, cut away three-fourths of the apple, representing earth's oceans, then two-thirds of that, representing desert and ice. Next he peeled off two-thirds of the remaining skin, representing our topsoil.

"It took 3,000 years to build up our topsoil, but we've lost 1,500 years worth in the last 200 years. In the last 20 years, we've lost 750 years worth," he said. Its quality is also eroding. "In 1972, it took two bushels of soil to produce one bushel of corn. In 1992, it took three bushels of soil to produce one bushel of corn."

Bio-intensive minifarming—which involves double digging soil two feet deep, packing plants close together, and returning all unused organic matter to the soil—could build up the soil 60

times faster than nature while using less of our resources, said Jeavons, quoting from a University of California-Berkeley study.

Jeavons said this method of growing food, used by the Chinese 6,000 years ago and by the Bolivians, Mayans, and Greeks 2,000 years ago, requires 99 percent less energy, 50 to 100 percent less purchased fertilizer, and 67 to 88 percent less water than conventional agricultural methods.

Not only our soil, but our skill base, is eroding, he said. The average farmer, who grows food for 500 other people, is 55½ years old. "I was encouraged to see in the *New York Times* that there are now one million, six thousand minifarmers, making \$10,000 a year or less. But I'd like to see millions of them."

Jeavons asked the audience to stop thinking about growing crops and to start growing soil. "We need to stop thinking about what we can get from our gardens

and start thinking about what we can give them. And we need to start growing people who understand what I've just described."



SANDY FLOWERS

John Jeavons greets a symposium participant at the book signing table.

Members' Forum

Tame Wildlife

The July issue of the News Edition was very interesting, especially the features about the wildlife gardeners. The photograph on page 8, with "Gardening With Deer in California," is fascinating. How did Lea Meyer lure a chickadee to perch on a piece of paper held by a human being? The chickadees I have observed in this area (Carolina chickadees) are too elusive and wary of danger to approach so closely. Perhaps California chickadees are more relaxed!

In the article on page 7 ("In Delaware, a Little Lot of Butterflies"), the owner of the garden reported seeing a hummingbird visiting his butterfly bush. *Buddleias* are definitely hummingbird attractors, especially the newer ones in shades of red or pink. I have a *Buddleia* 'Pink Delight' that hummingbirds visit every summer in July and August. Usually the flowers continue to bloom into September.

New England asters didn't last for me either, and my bee balm was overtaken by mildew and insects. I had one that bloomed fairly well, but both butterflies and hummingbirds ignored it.

Perhaps you could feature more wildlife gardens. I would also like to hear more about Lea Meyer's garden. *Margaret Lord*
Ellicott City, Maryland

Lea Meyer tells us that the bird in the photo is a mountain chickadee. "In fact, three different mountain chickadees do feed from hands. They love black sunflower seeds, cracked walnuts, and peanuts," she says. "Last year when they were nesting in one of our boxes, I could call the chickadee and it would fly down to my hand to take a piece of walnut, and then fly right back to his nest."

Deer Solutions

Charles F. Weiss's letter on Deer-Away (July) leads me to some further reflections on deer deterrents. After a dozen years of experience with the local whitetails, I have reached several conclusions.

A solution to a deer problem in one geographic area or for one species of deer is not necessarily a solution for another place or another deer.

Too many "solutions" may be based on the American desire for the quick fix. Many so-called deterrents work for one, two, or even three years, but no longer than that. I suspect that Deer-Away may fall in this category. I have not used it, but I have used a close relative—the U.S. Forest Service-developed egg spray. It is simply one raw egg beaten in one-half

gallon of water and sprayed on plants. (If used in large quantities in a pump sprayer, you should filter out solids.) Egg spray was one of the longest-lasting deterrents I have tried; it worked about three years. It washes off with rain or sprinklers, however, so that it must be applied frequently. I have also used, with brief success, bags of hair clippings, bars of soap, monofilament line tied to stakes.

One product, Ropel, marketed as a pre-mixed spray, should be a long-term solution since the plant absorbs the Ropel and tastes bitter for several months. It can be used only on ornamentals and not edibles, of course, and it is toxic to some foliage plants. I have heard that the same compound is being developed in plantable pellet form for nurseries in British Columbia, but I have not seen it on the market.

Deer like to keep doing the same thing, in the same place, at the same time. Remembering this can help gardeners figure out how to protect their particular plantings from their particular deer. For instance, Ropel works best if the deer never taste the unsprayed plant. If the deer eats a shrub for a while before it is sprayed, they may return for many nibbles before they are convinced that it no longer tastes good.

A variety of fences, the choice depend-

ing on one's location, can keep deer away. Fences can even be unobtrusive or aesthetic. My own solution has been a fence around the house and its environs and small fenced-off spots to protect young plantings until they grow large enough that the local deer herd will not destroy them. The deer and I coexist on all the unfenced acreage. *Molly Hackett*
Victor, Montana

Egg on Their Muzzles

How do I find out who manufactures Deer-Away so that I can find out where to purchase it in northern California?

Visiting Monticello, I asked them how they kept the deer from eating the plants in Jefferson's unfenced vegetable garden and the gardener told me they make up their own rotten egg mixture to spray the plants. If it works for deer in Florida and Virginia, we need to try it in California, especially in the San Francisco Bay area, where we live next to the San Francisco watershed and county park lands. *Marion E. Gallagher*
Cupertino, California

We had a number of inquiries about where to obtain Deer-Away. The manufacturer is IntAgra, Inc., 8500 Pillsbury Avenue South, Minneapolis, MN 55420, (612) 881-5535.

Desperately Seeking Miss Daisy

Though an English member of AHS, I have a particular interest in North American flowers.

For many years the lazy daisy (*Xanthisma texana*) was easily obtainable in the U.K. and brightened my garden with its bright yellow flowers, which frequently lasted into November and on one occasion until Christmas.

Wet seasons seem to cause a lack of viability in the seeds, and my supply ran out about seven years ago. Since that time I have spent quite a considerable amount of money trying to trace a source in the U.S. for seeds of this colorful annual. Sadly, despite many letters, no information has been forthcoming. I have considered paying the plane fare just to get a few seeds from this plant in the wild!

I would be most interested to know if the lazy daisy is still a common plant in the U.S. Southwest, or indeed if it is

widely cultivated. Friends who have visited the U.S. have failed to spot a single *Xanthisma* on their travels.

I would love to reintroduce it to this part of the world, and would welcome any information from any of your members who may share my enthusiasm for what, in the U.K., is now a very rare and neglected plant. *Michael Thomas*
South Croydon, Surrey

We have also failed to find this plant available in the trade. More commonly called the sleepy daisy because it doesn't open until midday, it has two varieties: X. texana var. texana, fairly common in the Rio Grande Plains of Texas, and X. texana var. drummondii, more widely dispersed through Texas, but less frequently seen. We would love to put Michael Thomas in touch with members who can supply him with Xanthisma seed.

Editor's Note: In our July issue, we ran several letters from members complaining about the Chelsea America Flower Shows in California and Florida last February. However, a press release from show organizers claimed they had conducted exit polls that found only 1 percent (in Florida) and 10 percent (in California) of visitors expressing negative opinions of the shows. We asked to hear from any members who were pleased with the shows. This triggered several additional responses, but none of them were positive. Most were very long and very angry. Some excerpts:

"Unhappy Memories"

I thought that the unhappy memories of being "taken" by the unbelievable hype and publicity of the CAFS had faded into blissful forgetfulness, but my outrage returned upon reading the letters. . . .

Being an avid gardener I had looked forward to this trip for many months, having been to shows in San Francisco, Portland, and Seattle (now *that* is a flower show.)

Ms. Joni Nelson [chairman and founder of the shows] and cohorts should be hanged in a blooming fruit tree buzzing with killer bees! If she said that only 10 percent of the comments were negative, the other 90 percent must have been from the fruit and drink purveyors. . . . Of what exhibits could be identified, only two merited a stop—the rest were pitiful. . . . Garden writers from San Diego to Seattle were merciless in their reviews.

*Jinny Jacobs
Yachats, Oregon*

"I Felt Cheated"

I had just moved to Florida last fall, when notices of the show appeared in the local papers. As a new resident of USDA Zone 9, and recently certified as a landscape designer, I was especially interested in this chance to learn more about tropical plants and their landscape uses. . . . I drove an hour, paid my turnpike toll, and waited for 15 minutes in a very long line for parking (fees for which were not mentioned in the ads, although the show was held in a huge open field. . . .) I anticipated spending several hours, or possibly the whole day, in horticultural bliss. . . .

As I approached the entry gates at 9:15 a.m. and paid my \$10 fee, I was surprised to see that some people seemed to have finished and were already leaving! I had a moment of doubt, but attributed this to the fact that these must be people who were not seriously interested in plants, and had misunderstood the value of this particular show.

The first exhibition garden was a comprehensive display of a variety of palms used in landscaping; they were carefully labeled, and the exhibitor was knowledgeable. However, the next and

Camellia Sources

Members who are interested in the hardy camellias bred by William Ackerman of the U.S. National Arboretum and described in our September "Mail-Order Explorer" can find them through four additional nurseries: **Camellia Forest Nursery**, 125 Carolina Forest Road, Chapel Hill, NC 27514, catalog free; **Mann's Nursery**, 201 Tennessee Avenue S.E., Hanceville, AL 35077; **Roslyn Nursery**, 211 Burrs Lane, Dix Hills, NY 11746, catalog \$2; **Tom Dodd's Nurseries**, P.O. Drawer 45, U.S. Highway 98, Semmes, AL 36575.

subsequent exhibits seemed to consist of hastily thrown together assortments of potted nursery plants; few were labeled, and some of the exhibitors were unable to provide botanical names. From what I already knew of some of the plants shown, I felt that they were used inappropriately, e.g., African violets placed so as to appear that they were planted in the ground. Many of the plant combinations seemed unrealistic, because they required different growing conditions and would probably not have thrived together in a real Florida garden.

The inside exhibits consisted mainly of cut flower stalls, with a few small design booths interspersed. The design booths actually had some interesting and unusual ideas and plants; again, most of the plants were not labeled. These exhibits filled one medium-sized building. On the way out, there was a double row of very small business stalls, none of which showed anything unusual or unavailable locally. I finished at 10:15. I bought nothing except a \$3 handbook on palms, which I could have obtained at my neighborhood book store.

I felt cheated, both intellectually and financially.

*Alison Tannenbaum
Lighthouse Point, Florida*

"Never Again"

We too were hyped up with the brochure regaling the Chelsea America Flower Show in West Palm Beach. To our dismay the 30 acres of proclaimed show were in fact about 25 acres of grass and gravel.

Within an hour we had viewed the nurserymen's set-up and the big tent. The entire affair was a major disappointment.

We witnessed no one taking a poll on reaction to this show. Never again.

*Eleanor and Robert Greninger
Rochester, New York*

"Nurseries Equally Artistic"

We were visiting Florida at the time, but had we purposely traveled from our home in Virginia to attend, we would have been outraged. A nearby small public garden had better displays than the show. Several retail commercial nurseries along the route we traveled had equally artistic displays, with no admission charge.

*George R. and Florence R. Krueger
Falls Church, Virginia*

"Done in a Half Hour"

I drove up from San Diego and was done in a half hour. The show was awful! I complained to everyone but they were happy—they had my money! They should have been tarred, feathered, and run out of town! How do we protect ourselves in the future from this type of scam?

*Connie Beck
Santee, California*

Besides Caveat emptor, we're not sure. The show sponsors offer a "preview" to which the news media are invited, but by that time, gardeners have often already made plans to travel long distances to attend. We are unable, of course, to make judgments about the many events across the nation that we list in "Gardeners' Dateline." Most people believe that the name "Chelsea" and the huge publicity campaign for these shows raised expectations unjustifiably. The Royal Horticultural Society of England, which sponsors the famous Chelsea Flower Show in London each year, had no affiliation with the American shows, but many visitors clearly assumed otherwise. The same week that we received many of the above letters, we received a nine-page press release and six slides (two sets of each, actually) announcing the 1994 Chelsea America Flower Shows. They mention "valuable lessons" from the first shows and "perennially higher levels of excellence" that will occur with "increasing public and industry support." Joni Nelson says the site for the California show will be more accessible from freeways and offer easier parking. But of course, this does not address the issue of disappointing displays once inside the show itself.

Correction

Nancy Callaway, a new member of the American Horticultural Society's Board of Directors, is not on the board of Callaway Gardens. Her husband's father and mother founded the gardens, and she has done volunteer work there in several capacities.

Editor's note: In our May issue on recycling in the garden, we asked readers to send in their own recycling ideas. Yvonne D. Savio, a landscape consultant and Master Gardener in Davis, California, sent almost nine pages of ideas she has collected for classes, lectures, and articles. Here are a few of them:

♦ Use plastic or metal cans or plastic berry baskets to support melons and squash as they mature. These supports keep fruits out of range of many soil-borne insects and diseases.

♦ Metal cans under melons concentrate the sun's warmth and transfer it to the maturing fruit, resulting in sweeter melons ripening earlier in the season.

♦ In cold wet weather, use inexpensive household rubber gloves for all but the roughest garden chores. They'll insulate your fingers better than cloth gloves because they don't absorb moisture.

♦ To keep garden gloves accessible, turn a mousetrap into a "glovetrap." Hang it on the wall near your exit to the garden.

♦ Use old refrigerator and oven racks covered with cheesecloth to make a "sandwich" rack for drying fruits or herbs. Stretch the cheesecloth across one rack, spread the fruit on it and cover with another layer of cheesecloth. Place the second rack on top, and flip the "sandwich"

Two Winners

1.) After the recycling center opened and we began composting, we no longer needed our 30-gallon plastic trash can. I put the can out by the garden and take the lid off whenever it rains. I tested the pH of the rainwater and since it is acidic, I use it to water acid-loving plants like blueberries and azaleas. 2.) Every year I have a yard sale. I dig up invasive plants like mints put them in last year's collection of plastic pots, and sell them. *Debra Hughes
Bolivia, North Carolina*

periodically to dry the fruit evenly. Bread- and cake-cooling racks also work well.

♦ To create support for cucumbers, peas, or other reluctant climbing vines, tie twine through the springs of two clothespins and clamp the pins to either side of a trellis. The clothespins allow easy moving or readjustment of the tension on the twine without untying knots hidden in the foliage.

♦ Plant labels can be made by cutting strips from the flat center portion of plastic jugs. Use pens with indelible ink to write on them.

♦ Use the bottoms of those jugs as saucers for pots, shallow starting trays, or cutworm guards. For the guards, make a slit from one side to the center. Then cut a hole for the plant stem and slip the plastic over the seedling with the bowl side of the jug downward.

♦ When you're pruning trees and shrubs, save a Y-shaped crook to scrape mud from boots, forks, and other tools. A broad wedge is best for shovels.

♦ Save used motor oil to coat the metal surfaces of tools for winter storage. Fill a can with builders' sand and add some old oil for easy maintenance of shovels, hoes, and forks after each use. Be sure to choose a can with no drainage holes, and which is deep and wide enough to accommodate a whole shovel blade and all the fork tines.

♦ Create a horizontal trellis for vining crops by fastening chicken wire to a frame a foot above the soil. Plant seeds in compost-enriched hills in the center and mulch heavily under and around the racks. As vines develop, train them up through the wires onto the flat area. They'll soon shade their roots and thus require less irrigation. Suspended in the air, vines and fruits will be less susceptible to soil-borne diseases; insects that do appear will be easier to spot and control. The racks also keep vines and fruits above walking and weeding areas.

Pantyhose Panache

Both Californian Yvonne Savio and George and Florence Kruer of Falls Church, Virginia, endorsed pantyhose as plant ties.

"We find them particularly good for tying bulky, but tender plants, like tomatoes and dahlias," wrote the Kruers. "Because of their stretchiness, they allow plants to move in the wind without breaking, yet do not chafe or cut into the stalks. When used to tie woody plants, they permit longterm growth without girdling the trunk or limb."

Savio suggests that the hose can be tied to a trellis so that each cucumber, melon, squash, or pumpkin has its own "hammock." Or the pantyhose can be made to serve as protection against birds, earwigs, snails, and other munchers by slipping the vegetable inside the hose and tying knots at the top and bottom close to the vegetable so there are no openings. "The pantyhose dries quickly, doesn't hold heat, yet stretches to allow further growth," she observes.

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Regional Notes

A Legume Garden in Arizona

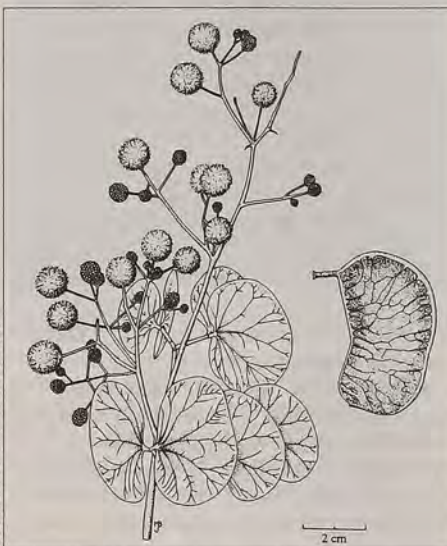
A desert might seem a better place for cacti than for beans, but according to the founders of a new demonstration garden in Arizona, members of the legume family play a critical role in desert ecosystems. Last month the Desert Legume Program (DELEP) opened its Taylor Desert Legume Garden at the Boyce Thompson Southwestern Arboretum in Superior, Arizona. The garden is intended to show off desert legumes and to demonstrate their importance in our lives, according to Phillip Upchurch, an agronomist at the University of Arizona and DELEP's director. The garden consists of a series of enclosures laid out along a serpentine wall. Each enclosure contains plants valuable for a particular use, like pharmaceuticals, landscaping, forage, and food. Upchurch says the garden gets its name from its principal benefactor, Gladys Taylor.

The garden joins a small but growing set of programs designed to win attention for a group of plants that DELEP says have never been systematically studied. Founded in 1988, DELEP is sponsored by the arboretum and the University of Arizona. In addition to the garden, it maintains a seedbank and conducts long-term studies of propagation techniques, salt tolerance, and water requirements. DELEP also publishes a quarterly bulletin, *Aridus*.

The legume or pea family, Leguminosae or Fabaceae, contains about 18,000 species of herbs, shrubs, and trees. Legumes play a critical ecological role the world over because their roots host the *Rhizobium* bacteria that "fix" atmospheric nitrogen in the soil. According to Upchurch, some 15 legume species are cultivated today as major crops. Another 30 species are grown as minor crops.

Upchurch puts the number of desert or dryland legumes at 7,000 species, accounting for over a third of the entire family. In some deserts, legumes constitute a major component of the flora. "The role of legumes varies from desert to desert," he says, "but in some deserts legumes are a predominant element and in most deserts they're important because they provide the nitrogen." Upchurch says legumes often predominate in Mexican and African deserts.

Part of DELEP's mission is to investigate the practical values of the species it collects. Upchurch cites mesquite as an example of a desert legume with major



The Bauhinia-leaf acacia, a desert legume native to Mexico.

economic potential. Mesquite is the common name for several North American shrubs and trees that belong to *Prosopis*, a genus containing about 50 species scattered throughout the arid regions of the world. The pods of some mesquite species are edible and can be ground to produce a flour. "Historically, mesquite was an important food crop for Native Americans," says Upchurch. "One of our hopes is to have mesquite used as a food source again, because it's supremely well-adapted to arid conditions." DELEP is growing an experimental field of mesquite in order to determine potential yields.

There's plenty of horticultural promise in the group as well. Some desert legumes are already used as ornamentals. Southwestern gardeners may plant the mescal-bean tree (*Sophora secundiflora*), for instance, or some of the shrubs in the *Dalea* genus. But others are not as well known. Matthew Johnson, DELEP's botanist, says that one of his favorites is *Caesalpinia paraguayensis*, a small, multiple-stemmed tree that he has seen growing in Argentina and Paraguay. It has fine, bipinnate foliage that emerges bronze and matures to a dark blue-green. Its bark is also blue-green, but mottled with gray, beige, and tan. Johnson says the Los Angeles State and County Arboretum has several mature specimens of *C. paraguayensis*. DELEP has some young trees in cultivation.

As visitors to the DELEP's garden will discover, desert legumes offer all sorts of other possibilities. For instance, the cosmetics industry is evaluating the aromatic resins produced by the desert smoke tree (*Psoralea argophylla*), a native of northern Mexico and the Southwest. Medical researchers have discovered that a leguminous tree from Australia, the Moreton Bay chestnut (*Castanospermum australe*), yields an alkaloid that affects the development of the AIDS-causing Human Immunodeficiency Virus.

Beyond the uses of particular plants, Upchurch sees a broader potential. "Desert legumes have evolved under very challenging conditions, so they have traits that occur nowhere else in the plant kingdom," he says. The introduction of their genes into crop plants could have "a profound impact" on agriculture.

Currently, DELEP has about 1,000 species in its seed bank. Upchurch says legume seeds generally have a long viability but even so, they will eventually need a more extensive grow-out program to test the seed stocks. They conserve annuals by growing them in their greenhouse. With the woody plants, DELEP often tries to establish "mother trees" to yield new seed crops. One of the program's goals is to conserve 10,000 seeds of each species. But the strength of the collection is still uneven. "For some species," says Johnson, "we only have three or four seeds."

Upchurch would like to quadruple the number of species in the seed bank to 4,000. The target is arbitrary, he admits, but it would give DELEP over half of the relevant species. "We will never stop collecting," says Upchurch. "But the farther you go, the tougher it gets to add to the collection. We have all the species that are native to Arizona, or we will very shortly. We have collaborators all over the world and of course we trade seeds with them."

To reach its collecting goal, and to provide stable funding for a full-time botanist, DELEP established an endowment in 1991. Upchurch says it now holds about \$10,000—a figure he would like to raise to \$300,000. "It's our hope," he says, "that many people will feel strongly enough about the value of what we're doing to help us get the job done."

For more information on desert legumes, write DELEP at 2120 East Allen Road, Tucson, AZ 85719 or call (602) 621-9492.

Mapping Life in Rhode Island

Rhode Island may be the smallest state in the Union, but no one knows exactly what's growing in it. To get a better picture of the local flora and fauna, a group of biologists is organizing the Rhode Island Natural History Survey. The survey should greatly advance the study of the state's wild plants, according to Keith Killingbeck, head of the Botany Department at the University of Rhode Island and a member of the survey's steering committee.

Rhode Island will be the 10th state to have a natural history or biological survey. "One of our goals would be to put together a complete inventory of the state's biota," says Killingbeck, although he concedes that this ambitious feat has yet to be achieved in any state. Of course, natural history surveys are never really complete: they must be continually

updated to account for shifts in range and population size, new arrivals, discoveries, and extinctions.

The Rhode Island survey was officially launched last April. Funded by a lead grant from the Lamb Foundation, it is now assembling an administrative staff. Killingbeck says no decision has been reached on when data collection would begin.

Killingbeck thinks the survey will help solve a wide range of problems, some of which are remote from biologists' traditional concerns. It could, for instance, improve public health strategies for coping with the tick-transmitted Lyme disease. "After the survey has been running for a few years, you might be able to determine where the highest densities of vector ticks occur," says Killingbeck.

To botanists, the survey should eventually offer a much clearer picture of the

state's plant communities and the ecological puzzles they present. The survey data could be used to explore the unusual mixture of northern and southern flora that characterizes some of the state's natural areas. In one bog, for instance, black spruce and tamarack, both boreal trees, intermingle with southern plants like Atlantic white cedar and the rare horned rush (*Rhynchospora inundata*).

Killingbeck also thinks the survey would help with the management of endangered species, "if for no other reason than that it would give us a decent handle on their population dynamics."

But Killingbeck cautions that the survey would not have an advocacy role: its responsibilities would be limited to gathering and disseminating data. "It would," he says, "provide a good, sound database for whatever decisions need to be made."

Going Native in Alaska

Landscapers in Alaska may soon have a larger palette of plants to work with. The Alaska Plant Materials Center, a part of the state's Department of Natural Resources, is looking for plant varieties that perform well in the demanding conditions of the Great White North. This fall, the center released a selection of the nagoonberry (*Rubus arcticus*). A vigorous, low-growing member of the raspberry and blackberry genus, the nagoonberry has strawberrylike leaves, pink flowers, and red edible fruit. Catherine Wright, a horticulturist at the center, thinks *R. arcticus* 'Kenai Carpet' may have a future as a ground cover. "Alaskans don't have many alternatives for ground covers," she says. Wright thinks 'Kenai Carpet' may prove especially useful on slopes or around shrubs. Several botanical gardens in the lower 48 are also interested in 'Kenai Carpet' and are growing it in trials this fall.

The plant materials center was set up in 1972 to do research on grain production and revegetation. A decade later, vegetables, greenhouse crops, and ornamental horticulture were added to its mandate. The center is based on a farm near Anchorage, in southern Alaska, but operates trial sites throughout the state.

So far the center has introduced 12 varieties, mostly grasses and willows intended for use in revegetation projects. In addition to 'Kenai Carpet', Palmer sees landscape potential in two of the willow introductions. The Oliver barren ground willow, *Salix brachycarpa* 'Oliver', grows to only six feet and may be suitable as a hedge. The Roland Pacific willow, *S. lasiandra* 'Roland', is a larger tree, pyramidal in form, with "peach leaf" foliage.

"It's a nice alternative to poplars," says Wright, "although it doesn't get as big." One of the grass introductions is blue-green, and Wright thinks that it also shows some ornamental promise.

Although the center works with non-native plants, it has a special interest in Alaskan natives, like the willows and the nagoonberry. This approach meshes well with another item on the center's agenda: conducting trials of edible berries, which are popular garden plants in rural Alaska. Apart from the nagoonberry, Wright says the state has two native *Amelanchier* species (serviceberries), eight *Ribes* (gooseberries and currants), the mountain cranberry (*Vaccinium vitis-idea*), and the highbush cranberry (*Viburnum trilobum*).

Unfortunately, the center's introductions haven't generally done well farther

south. Wright thinks the plants may not be adapting to more southern day lengths. They tend to go dormant at midsummer and fail to revive the following spring. The same problem occurs within Alaska, when plants from north of the Brooks Range, within the Arctic Circle, are brought to the southern parts of the state.

But maybe *Rubus arcticus* 'Kenai Carpet' will be happier in the lower 48 than its predecessors. Wright hopes it will gain acceptance in Alaska and, in the meantime, she has her eye on some other interesting natives. There are two dogwoods, for instance, and another potential ground cover: *Sibbaldia procumbens*, a little perennial with blue-green leaves. And she adds, "there might be some nice selections of our native spirea."

Michigan Garden Launched

After 15 years of planning, horticulturists in West Michigan broke ground in August for the Michigan Botanic Garden outside Grand Rapids. The garden, which comprises more than 70 acres of wetlands, woodlands, and meadows, is scheduled to open to the public in late 1994.

The nonprofit West Michigan Horticultural Society was formed in 1981 with the sole purpose of establishing a botanical garden. The property on which the garden will be built was donated by Meijer, Inc., a chain of department stores.

The garden will feature a 15,000-square-foot conservatory, Michigan's largest, housing collections of orchids, ferns, palms, ficus, hoyas, and sedums. The conservatory complex will include an art gallery and a learning center with classrooms, a library, and an audio-visual center.

Barbara Hoag, a member of the society's capital campaign cabinet, said the garden was financed entirely through private donations from individuals and organizations in 45 states and three foreign countries.

Mail-Order Explorer

A Southwestern Sampler

In parts of the Southwest, 100 miles will take you from USDA Zone 9, as in south Florida, to Zone 5, as in south Michigan. With its wild variations in elevation, rainfall, and temperature, "the region is pocketed with extraordinary microclimates," says Gail Haggard, owner of Plants of the Southwest, a seed company and nursery based in Santa Fe, New Mexico.

Given the terrain, it's not surprising that the region's native flora is so richly varied—the surprise is that so few gardeners know southwestern plants. But that's a gap in our horticultural literacy that Plants of the Southwest is trying to fill. Haggard recalls the frustration that inspired her to organize the company 15 years ago. In the early 1970s, she had helped set up New Mexico's native plant society and was looking for seed sources. "I guess I got angry," she says. "Nobody was selling native plants."

Today, Plants of the Southwest sells a broad sampling of the region's flora: food plants, grasses, ornamental annuals and perennials—even trees and shrubs. The company has stores in Santa Fe and Albuquerque, a mail-order service, and both retail and wholesale operations. Most offerings are sold as seed, which is grown on the company's own land or under contract with other nurseries. Some seed is also collected from the wild. Shrubs and trees are usually sold both as seed and as nursery-propagated plants.

"Growing natives in the intermountain West has suffered from two problems," says Pam Poulson, manager of environmental education at the Red Butte Garden and Arboretum in Salt Lake City, Utah. "All the books are written for Massachusetts or California, and the seed mixes are mostly made up of Great Plains flora." Poulson is chairman of the board of the Utah Native Plant Society, which used to have a seed-collecting program, but gave up because the viability was so low—often zero, says Poulson. But Plants of the Southwest seed has had "excellent" viability in her home garden. "I can't tell that it isn't 100 percent," Poulson has bought both individual species and wildflower mixes from the company. "It's neat that they include annuals in their mixes," she says, "so the first year you'll have some bloom even if it takes a year or two for the perennials to get going."

Joan Brooking, a landscape architect who works mainly in New Mexico and Arizona, agrees that the local flora is still

largely undervalued. "The use of native plants is really only in its incipient stages," she says. "But I really think that's the wave of the future: we need to be restoring native vegetation." For the past five years, Brooking has been buying seeds and plants from Plants of the Southwest for her landscaping projects. "I do a lot of native land restoration in the Southwest," she says, "and Plants of the Southwest is one of the very few companies that provide seed for southwestern natives, apart from the most common wildflowers."

Word is getting around to landscape designers outside the region as well. "When I saw how many plants they had that I wanted, I got excited," says Scott Dilatush, owner of the Sandscaper, a landscaping company in Virginia Beach, Virginia. Dilatush cites the selection of sagebrushes (*Artemisia* spp.) as a case in point. "Everybody grows the same, old, boring artemisias," he says, "but they have some unusual ones." The 1993 catalog offers four: sand sage, fringed sage, prairie sage, and big sage. Dilatush admits that using southwestern plants in humid, seaside conditions was "a big gamble." But the risk paid off: Dilatush discovered that many southwestern plants do surprisingly well on the coast. Many southwesterners have fuzzy leaves, he

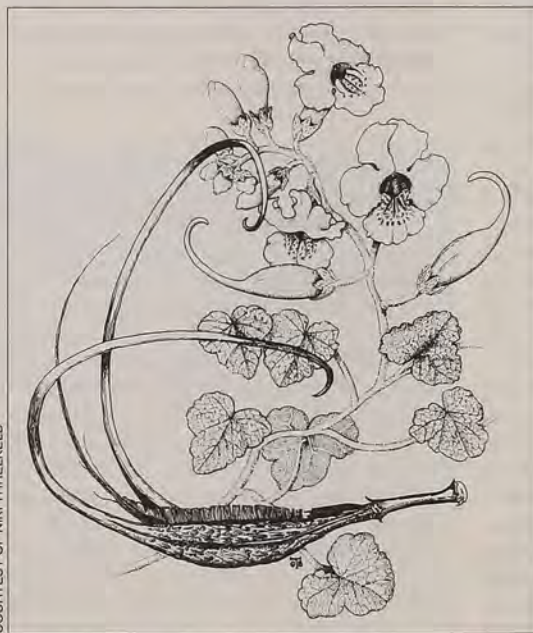
says, and the fuzz tends to hold salt crystals away from the more delicate leaf surface. The thick, "waxy" leaves typical of other desert plants also stand up well to salt.

The company's catalog makes a compelling case for the garden potential of the region's flora. The descriptions, many with handsome color photos, offer germination instructions and often indicate native habitat, but zone numbers are omitted. (Gardeners in other parts of the country may want to note that Haggard places Santa Fe in "Zone 5 to 6.") Virtually all the selections, Haggard says, are native to the Southwest, "or as close as we can get without being purists. And there's no point in being a purist—we don't even understand the genetic origins of the chile pepper."

Whatever its origins, the chile genome is well represented in the catalog, with more than three pages of selections. Among the other edibles listed are beans, grains, squash, and some unusual greens. The emphasis is on varieties cultivated by the native peoples of the region. The corn selections, for instance, include ancient varieties of blue corn and popcorn. Among the beans is the Anasazi, believed to have been cultivated by the cliff-dwelling people of that name. The devil's-claw, a sprawling annual cultivated by the

Sonoran peoples, yields fibers for basket-weaving, purple pink flowers, and edible seeds from its bizarre, claw-shaped pods.

The catalog's main section is a very broad selection of "wildflowers." Included here are a few annuals, like the robust owl's clover (*Orthocarpus purpurascens*), which grows to a foot and a half tall, and the low, mounded purple nama (*Nama hispida*), a candidate for the rock garden. Among the perennials are some well-established luminaries, like butterfly weed and purple coneflower. But you'll also find such little-used delights as the chocolate flower (*Berlandiera lyrata*), whose delicate yellow-petaled blooms suffuse a chocolate fragrance through the morning air. The section also includes a collection of 23 penstemons, ranging from several delicate, foot-high species to *Penstemon palmeri*, the "monster penstemon" that can



COURTESY OF NIKI THRELKELD

Sonoran tribes used fibers from the devil's-claw for basket weaving.

reach six feet. Haggard says there are more penstemons to come: she estimates that New Mexico has 35 natives of this genus. Poulson says there are about 70 penstemons native to Utah.

A remarkable aspect of the wildflower section is the interest in the nocturnal garden. There is, for instance, the night-blooming sacred datura (*Datura innoxia* subsp. *quinquecupida* or *D. meteloides*), a four-foot perennial that produces trumpet-shaped, white flowers eight inches long. Another night-blooming offering is angel's-trumpet (*Mirabilis longiflora*), which grows to three feet and produces four-inch tubular white flowers with long, magenta stamens. Its sweet-smelling blooms attract hawkmoths. Gardeners who don't know these species, incidentally, should be careful about their common names. *Datura innoxia* is sometimes called jimsonweed, but so is its less glamorous relative, *D. stramonium*. *D. innoxia* is sometimes also called angel's-trumpet, as are species in the related genus, *Brugmansia*. If you like the nocturnal approach, you can buy a set of "Moon Garden" packets, containing seeds of a variety of perennials and shrubs with nighttime appeal. Haggard would like to restore an aesthetic dimension to the night. "Artificial lights," she says, "have robbed us of the night."

The shrub and tree section ranges from woody ground cover "shrubslets" like snake broom (*Gutierrezia sarothrae*) and creeping mahonia (*Mahonia repens*), to oak and pine. Here you'll find the fernbush (*Chamaebatiaria millefolium*), a tall shrub with fragrant, fernlike leaves and white flowers. The compact feather dalea (*Dalea formosa*) has feathery leaves and fuzzy, pealike, purple and yellow flowers. The cliffrose (*Cowania mexicana*) is a dense evergreen shrub whose yellow flowers give way to long, silky plumes.

Most of the company's customers live where the plants do, but about a quarter of the mail-order business now comes from outside the region. Haggard is pleased with the increasing interest in the plants—even in regions where they're not native. "There are two main things going on here," she says. "We attempt to get people to appreciate our native flora. That's really our mandate. And then there's the part of horticulture that's thrilled with anything new, with each new introduction, and I'm very happy to be a part of that as well." After all, she says, "80 percent of the plants in American gardens are from Asia and Europe." So if you're looking for something really exotic, consider some American natives.

Plants of the Southwest can be reached at Agua Fria, Route 6 Box 11-A, Santa Fe, NM 87501, (505) 471-2212. The 1994 catalog is due out this month and costs \$3.50. A seed and plant list is free.



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Gardeners' Q&A

Q: *I live in New England where winter temperatures are generally below freezing. What can I do to keep my compost pile cooking so that it is ready to use next spring?* —N. P., Portland, Maine

A: Even at very low temperatures your compost will continue to decompose. It will just be doing so at a much slower rate. Keep the compost pile at a manageable

size, approximately three feet square. This size will provide enough bulk to generate heat. A pile that is much larger will take longer to break down and be harder to move. Turning or aerating your compost pile may be difficult in winter, but any time this can be done it will hasten the breakdown process.

Many composters in the North insulate their piles by placing a layer of leaves or hay bales over the mound. The compost

pile should be covered lightly with a canvas tarp or old sheet of plastic to provide some protection from the elements but still allow good air circulation.

Q: *I have several cultivars of culinary sage (Salvia officinalis) in my herb garden. Over the years these plants have spread profusely, and are beginning to crowd out other herbs in the garden. How and when should I cut these back?* —D. C., Pittsburgh, Pennsylvania

A: You can divide your salvia into smaller clumps next spring. Using a spade or shovel, dig up the entire plant with roots intact. Divide the plant into sections with a knife or sharp spade, ensuring that each section has a healthy set of roots. Generally, you will find that the youngest shoots around the perimeter of the plant re-establish themselves most readily. Replant the clumps into a sunny, well-drained area of your herb garden and water thoroughly.

Sages can be pruned during the growing season to keep plants full and bushy. Cut out shoots after they have flowered, and trim the plant to the desired shape.

—Julie Maloy
AHS Fall Intern

Q: *I bought a beautiful Kalanchoe blossfeldiana at a local florist. It has since finished blooming and I have been unsuccessful in getting it to rebloom. Do kalanchoes require special treatment to bloom?* —D. S., Duluth, Minnesota

A: *Kalanchoe blossfeldiana* is marketed widely as a bright-blooming house plant. It is a succulent that requires a dormant period in the fall if it is to rebloom the following year. Kalanchoes will only develop flower buds when there are fewer than 12 hours of daylight. This will happen naturally in November and flowers can be expected the following spring.

Next year, toward the end of August, you can create artificial short day conditions to encourage earlier blooms. Place the plant in a dark closet or cover it with a bag or box every day from around 6 p.m. until 8 a.m. Continue this treatment for about four weeks, at which time natural daylight will have become short enough to continue the "treatment" for you. Water more sparingly during this dormant period and allow the plant very good light (at least four hours of direct sun) during the daylight hours. When the first few flower buds are large enough,



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remove them to promote more profuse blooming. Then leave the buds alone. The plant should be in full bloom within 12 to 15 weeks from the beginning of the treatment.

Kalanchoes like a little liquid fertilizer during the growing season. In spring, just before flowering, apply a high phosphorus fertilizer every three weeks. Keep the soil barely moist and continue feeding every two to three weeks during the flowering period.

Q: *I am planning to plant bulbs this fall and would like some suggestions for a good ground cover to plant with them.* —M. T., Independence, Missouri

A: You don't say if you want a ground cover that blooms at the same time as your bulbs to complement them, or one that will cover the unsightly browning foliage as your bulb plants mature.

For companion blooms in shade, we recommend forget-me-nots (*Mysotis sylvatica*). Their delicate blue flowers are a lovely complement to tulips or daffodils.

For sun, try the little tufted pansies (*Viola cornuta*). These abundant bloomers make cheerful companions for spring-flowering bulbs.

If you want a camouflage ground cover for bulbs that have finished blooming, you will need later-developing plants slightly taller than those commonly considered ground covers. We suggest perennials with a bushy habit and large or full leaves. For shade: Astilbes, ferns, hostas, *Brunnera macrophylla* (Siberian bugloss or perennial forget-me-not), *Epimedium* spp., pulmonarias (lungwort), or hellebores.

For part shade or sun: *Alchemilla mollis* (lady's-mantle), Japanese anemones, heucheras, or hardy geraniums (cranesbill).

For full sun: Daylilies, hardy geraniums, *Artemisia* spp., peonies, *Chrysanthemum pacificum* (*Ajania pacifica*), or some of the ornamental grasses. —Sandy Flowers
AHS Intern

Q: *How can I patent a fruit tree?*
—H. C., San Antonio, Texas

A: Before anyone can patent a fruit tree or any other plant that they have found or bred, they must be sure that it is unique in some aspect from all others. It may differ in one or more characteristics, such as blossom period, time of ripening, frost or disease resistance, fruit color, firmness for shipping, or others. You may want to have experts analyze your plant and help you determine this "novelty" aspect.

Next, you must asexually propagate the plant to make sure that the novelty can be maintained in succeeding clonal generations. In the case of a peach tree, for example, you could speed up the propagation and observation phase by

grafting cuttings into the top of mature trees (top working).

If the novel characteristic is fruit color, you must illustrate it with photographs or another type of illustration, referred to as "drawings" by the U.S. Patent Office.

You will need to describe the color by comparing it to any one of a number of existing color charts. If the characteristic is unrelated to the plant's appearance, no drawings are required. In any case, you will need to submit a "specification" that details how the plant was bred or discovered, gives a complete botanical description of the entire plant, and compares it with similar plants already on the market. For example, if the unique characteristic is sugar content, you should provide scientific data to support that claim. If the distinguishing characteristic is later ripening of a known cultivar, you would compare ripening data on the mutation, the parent plant, and any other later ripening mutations of the parent.

At this point, you can ask the patent office to send you a kit, which will include any required forms, a copy of a specification for your particular type of plant, and a list of the required fees. All of the above information, plus a check to the Commissioner of Patents, constitutes a patent application.

Upon receipt, your application will be dated and given a serial number. The application is then logged into the appropriate examining area to await examination.

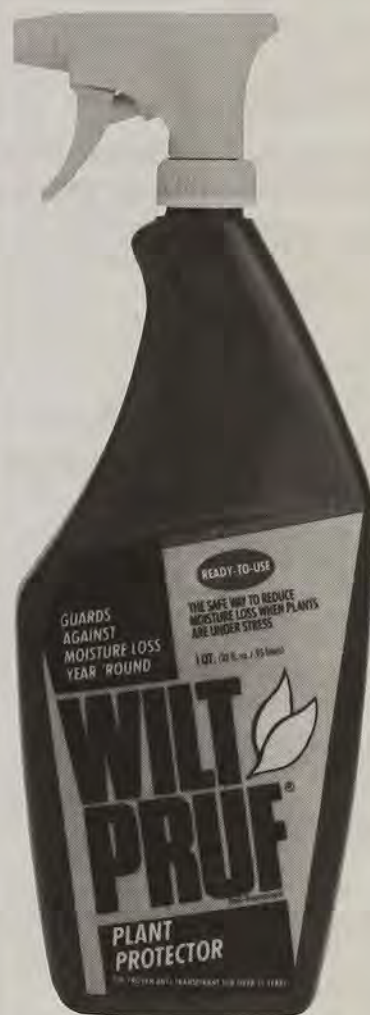
The patent examiner may tell you that your application has been allowed and that you should send in your final fee. (Fees are subject to change, but currently range from about \$550 for a small entity, such as a sole inventor or a nonprofit organization, to about \$1,100 for a large entity, such as a firm employing more than 50 people.) Or the examiner may state that your plant does not appear to be novel when compared to a variety currently in the public domain. You must then respond to the rejection by specifically pointing out the differences between your plant and the plant alleged to be the same as yours. The examiner's treatment of your application may consist of minor objections to the description of your drawings, in which case you may need to take a more accurate photograph or choose another color from the color chart.

Requests for a patent application kit should be sent to: Commissioner of Patents, U.S. Patent and Trademark Office, Washington, DC 22031, Attn: Examiner Feyrer, Group 1800.

—Bob Bagwill
GIS Volunteer

Bob Bagwill, who answers member questions each Thursday for the AHS Gardeners' Information Service, worked for 28 years as an examiner in the U.S. Patent Office.

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AHS Bulletin Board

Former AHS President Donald Wyman Dies

Donald Wyman, 89, horticulturist emeritus of Harvard University's Arnold Arboretum and a Past President of the American Horticultural Society, died in September at a Wayland, Massachusetts, nursing home of cardiac arrhythmia.

Wyman, perhaps best known to American gardeners as author of *Wyman's Gardening Encyclopedia*, began serving on the AHS Board of Directors in 1939, and served in that capacity almost continuously through 1954. In 1960 he was elected First Vice President, and he became President in 1961.

John Creech, who was serving on the Board at the time, recalls: "This was a time in the Society's history when the American Horticultural Council was contemplating merger with AHS. Wyman, long an advocate of efforts to establish leadership among the various gardening organizations, was instrumental in bringing together AHS, then a society of individuals, and the council, with its umbrellalike concepts." At the urging of all participants at a consolidation meeting, "Wyman agreed to accept the position of President, in the soft-spoken manner he was capable of. 'If that's what you fellows want, that's fine with me.'"

In 1971, Wyman received AHS's

highest award, the Liberty Hyde Bailey Medal. He also received the Royal Horticultural Society's Veitch Memorial Gold Medal, the highest award the British society awards to a foreigner; the George Robert White Medal, the top award of the Massachusetts Horticultural Society; and the Medal of Honor from the Garden Club of America.

Also a bible for dedicated gardeners is his *Trees for American Gardens*. "His writings on woody plants," says Creech, "are timeless." Wyman's horticultural career, which included education at Cornell University and 33 years as the Arnold Arboretum's horticulturist, focused on evaluating trees, shrubs, and other woody plants for their value to nursery professionals, landscapers, and home gardeners.

"His career," says Creech, "bridged the period when that of the older 'deans' of horticulture were coming to an end and the fledgling professional community that followed World War II had yet to be recognized. As a result, almost all of today's horticulturists were influenced by Wyman's teaching and research observations. The entire nursery industry leaned heavily on his woody plant evaluations for their inventories."

Memorial Fund Honors Elizabeth Corning

Elizabeth "Betty" Corning, a former Vice President of the American Horticultural Society, died in September at a hospital in Albany, New York, from emphysema. She was 81.

A native of Philadelphia, Corning moved to Albany in 1932 when she married Erastus Corning II, who served as mayor of that city from 1941 until his death in 1983. Betty Corning was elected to the AHS Board of Directors in 1969 and was elected Secretary in 1973. She served as Second Vice President from 1974 to 1978 and First Vice President from 1978 to 1980. She served another nine years on the Board before retiring in 1990. She founded and co-chaired the Friends of River Farm, a group whose goal was improving the grounds and buildings of the historic property.

She also served two terms as president of the Garden Club of America, helping that national organization refocus its priorities on expanding the horticultural and environmental skills of all gardeners.

She was a long-time member of a group called "The Rares," who worked to collect, propagate, and introduce new species and cultivars of exceptional merit into U.S. commerce and gardens. She was credited with discovering a clematis, subsequently named 'Betty Corning', which was among plants receiving the coveted Gold Medal of the Pennsylvania Horticultural Society in 1992.

"Betty Corning was the consummate private gardener," says AHS President H. Marc Cathey, "who used her professionalism and attainments to benefit public gardens throughout the United States. No one that I know of in American horticulture has visited more private and public gardens, toured more areas of the world in search of new plants and experiences, or chaired, organized, supervised, funded, or inspired more groups and causes to the highest levels of horticultural excellence."

A memorial fund has been established at AHS in Corning's honor.

BOOKS BY AHS AWARD WINNERS

Wildflowers Across America

Lady Bird Johnson and Carlton B. Lees

Hardcover. Retail price: \$39.95. AHS price: \$33.95.
Book code: ABB 001

This book is a tribute to the beauty of this country's horticultural resources and a plea for increasing the use of native plants and wildflowers in our landscaping. It encourages us to let nature be our guide in our selection of plants. It answers such questions as why a plant will thrive in one place and not in another and tells how to use wildflowers in our parks as well as in our own gardens. One of the best parts of this book is the 105-page album featuring the most spectacular and best-loved wildflowers of America. 1988. 309 pages.

American Gardening Series: Water Gardening

Ken Druse

Softcover. Retail price: \$9. AHS price: \$8.25.
Book code: PRE 004

Nothing can match the magic and tranquility of water in the garden. Ken Druse shows how to design the ideal water feature for your own garden using environmentally sound and organic gardening practices. He includes essential information on designing and installing your water garden, from pumps and filters to fountains and fish and a "troubleshooting" section to keep your water environment healthy. You even learn how to build a waterfall. There is also a superb "plant portrait" section in which more than 40 floating marsh plants are described. 1993. 96 pages.

The Natural Garden

Ken Druse

Hardcover. Retail price: \$35. AHS price \$30.
Book code: RAM 002

A natural garden is one that is planned and designed to work with, rather than against, nature. Nature inspires the choice of native plants, hardy perennials, wildflowers, and ornamental grasses. In 12 chapters, *The Natural Garden* covers every aspect and element of natural gardening. It shows how to design, plan, plant, or improve an existing garden and how to maintain it year after year. This complete reference guide will make converts of those still toiling with mower and shears and inspire those already devoted to this fresh new style of gardening. 1989. 296 pages.

The Natural Shade Garden

Ken Druse

Hardcover. Retail price: \$40. AHS price: \$35.
Book code: RAM 003

Ken Druse shows that shade can be an opportunity to create gardens that work with nature. He covers every aspect of gardening in the shade and offers extensive plant lists, hundreds of tips, and a gallery of shade gardens in nearly 500 photographs. Chapters explain how to make and maintain container, rock, water, and woodland gardens. *The Natural Shade Garden* is an inspiration and an invaluable reference for anyone who has despaired of creating beautiful gardens with little light. 1992. 280 pages.

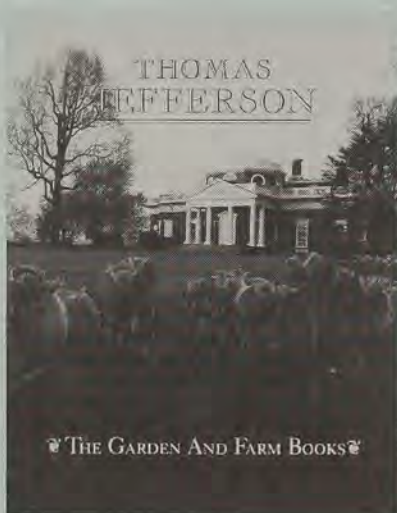
LEISURE READING

Passalong Plants

Steve Bender and Felder Rushing

Hardcover. Retail price: \$29.95. AHS price: \$25.50.
Book code: UNC 005

Passalong plants are plants that have survived for decades by being handed from one person to another. These botanical heirlooms, such as flowering almond, blackberry lily, and night-blooming cereus, usually can't be found in local garden centers; about the only way to obtain them is to beg a cutting from someone who already has them. In this lively and sometimes irreverent book, Steve Bender and Felder Rushing describe 117 such plants in the informal and personal manner your neighbor might use when giving you a cutting of her prize rose. Because you might not find these plants easily, they list mail-order sources and tips on how to organize your own plant swap. In the forward, Allen Lacy describes this as "a worthy and eminently enjoyable contribution to American horticultural literature." 1993. 221 pages.



Down the Garden Path

Beverley Nichols

Softcover. Retail price: \$19.50. AHS price: \$16.75.
Book code: ANT 007

This gardening classic has been reissued to delight a new generation of readers with the joys of horticulture. Beverley Nichols (1898-1983) has entertained many readers with his vast writings, but it is for this volume that he is best remembered. First issued in 1932, it became a runaway best seller. This is not a gardening manual. In the forward Nichols writes: "You must not look to it for guidance. It will not tell you how to prune a rose bush. . . ." Instead he hopes for his readers "that there may come to them, once more, a faint tremor of that first ecstasy which shook them when they learnt that a garden is the only mistress who never fades, who never fails." We all need practical tips but we also need to stay close to the soul of the garden. 1983. 290 pages.

A Celebration of Gardens

Sir Roy Strong

Hardcover. Retail price: \$35. AHS price: \$30.
Book code: TIM 010

This is perhaps the most wide-ranging and delightful anthology of writing about gardens and gardening ever compiled in English. Sir Roy Strong draws on his own experiences as a gardener and a creator of gardens, on his vast knowledge of garden literature, and on his extensive personal library of gardening books to present the best essays of them all. The result is a book not only impressive for its erudition, but at times deliciously funny and surprising. It is a book for active gardeners but will also appeal to those who prefer to fantasize rather than to weed. A perfect companion for the short days and long nights of winter. 1993. 410 pages.

The Garden and Farm Books of Thomas Jefferson

Robert C. Baron, Editor

Hardcover. Retail price: \$20. AHS price: \$17.
Book code: FUL 006

Thomas Jefferson was a gardener at heart. He observed nature in detail and continually experimented with new varieties of plants. Perhaps nowhere else is the private side of Jefferson more apparent than when he is writing about gardening and the details of daily life at Monticello. This volume contains letters to his colleagues, friends, and family. Also included is a description of the restoration of Monticello's gardens. The book is beautifully illustrated with Jefferson's own drawings and Robert Llewellyn's photographs. 1987. 540 pages.

GARDENING BOOKS

Gardeners' Dateline

Mid-Atlantic

♦ Nov. 14. **Bonsai Demonstration.** U.S. National Arboretum, Washington, D.C. Information: (202) 475-4815.

♦ Dec. 12. **Holiday Open House.** Lewis Ginter Botanical Garden, Richmond, Virginia. Information: (804) 262-9887.

North Central

♦ Nov. 6-28. **Fall Floral Display.** Missouri Botanical Garden, St. Louis, Missouri. Information: (314) 577-5100.

♦ Nov. 20-Jan. 9. **Holiday Show of 1,000 Poinsettias.** Foellinger-Freimann Botanical Conservatory, Fort Wayne, Indiana. Information: (219) 427-1267.

♦ Nov. 25-Jan. 9. **Winter Holiday Show.** Krohn Conservatory, Cincinnati, Ohio. Information: (513) 352-4080.

Northeast

♦ Through Nov. 21. **The Return of the Dinosaurs.** Dinosaur topiaries. Longwood Garden, Kennett Square, Pennsylvania. Information: Pam Carter, (215) 388-6741.

♦ Nov. 4. **Landscape Ideas '93: A Landscape Design Seminar.** Pittsburgh Civic Garden Center, Pittsburgh, Pennsylvania. Information: (412) 441-4442.

♦ Nov. 6. **Trees and Shrubs for Fall Color.** Tour. Scott Arboretum, Swarthmore, Pennsylvania. Information: (215) 328-8025.

♦ Nov. 7. **Succulent Plant Propagation Workshop.** Bartlett Arboretum, Stamford, Connecticut. Information: (203) 322-6971.

♦ Dec. 4-8. **Winter Festival and Poinsettia Display.** Planting Fields Arboretum, Oyster Bay, New York. Information: (516) 922-9201.

♦ Dec. 6-8. **Restoration '93.** Environmental exhibition and conference. Boston, Massachusetts. Information: (617) 933-8744.

♦ Dec. 11. **Garlands, Swags, and Wall-hangings.** Workshop. The Horticultural Society of New York, New York City. Information: (212) 757-0915.

Northwest

♦ Dec. 3. **Artists' Festival.** Japanese Garden Society of Oregon, Portland, Oregon. Information: Darlene Dunham, (503) 223-9233 or Joan Civick, (503) 636-0608.

South Central

♦ Nov. 5-8. **National Conference on Specialty Cut Flowers.** Overland Park, Kansas. Information: Alan Stevens, (913) 532-5173.

♦ Dec. 4-31. **Christmas at the Arboretum.** Dallas Arboretum and Botanical Garden, Dallas, Texas. Information: (214) 327-8263.

Southeast

♦ Nov. 6-10. **Plant Pathology 2000.** Joint Meeting of the American Phytopathological Society and the Society of Nematologists. Information: Joan Schimmi, (612) 454-7250.

River Farm Events

The American Horticultural Society hosts its eighth annual **Holiday Open House** from 10 a.m. to 3 p.m. on December 11. Local garden clubs will dress the River Farm mansion in seasonal regalia. There'll be hot cider and cookies and caroling choristers from nearby churches. This is also the date to pick up the Christmas trees, poinsettias, and other seasonal plants that local members can preorder until mid-November.

River Farm will round out the year with two art exhibitions. Through November 22, the oil and pastel still lifes and landscapes of Baltimore artist **Beryl McDonough** will be on display. From November 24 to January 3, a group of artists from the **Loft Gallery** in Occoquan, Virginia, will exhibit works in various media.

River Farm is four miles south of Old Town Alexandria, off the George Washington Parkway and overlooking the Potomac River. For more information, call (703) 768-5700.

♦ Nov. 18. **Second Annual Orchids of the World Symposium.** Naples, Florida. Information: Jim Gunderson, (813) 262-2222.

♦ Dec. 5. **The 14th Annual Country Christmas Celebration.** Atlanta Botanical Garden, Atlanta, Georgia. Information: Carol Flammer or Kelly Borders, (404) 876-5859.

Southwest

♦ Nov. 11-14. **Orchid Society Show and Sale.** Denver Botanic Gardens, Denver, Colorado. Information: (303) 331-4000.

West Coast

♦ Nov. 4-7. **Fall Plant Festival.** The Huntington, San Marino, California. Information: Lisa Blackburn, (818) 405-2140.

♦ Nov. 7. **Holiday Wreaths.** Workshop. South Coast Botanic Garden, Palos Verdes Peninsula, California. Information: (310) 544-6815.

♦ Nov. 14. **Gardens of Antiquity.** Lecture. Los Angeles State and County Arboretum, Arcadia, California. Information: (818) 821-3222.

♦ Nov. 19-21. **The Art and Science of the California Garden—A Look at Inspirational Designers.** Lectures. Santa Barbara Botanic Garden, Santa Barbara, California. Information: (805) 682-4726.

♦ Nov. 22. **Across California.** Lecture on natural areas. Cosponsored by the Strybing Arboretum Society and the California Native Plant Society. San Francisco County Fair Building, San Francisco, California. Information: (415) 661-0688.

♦ Dec. 4. **Garden Holiday Sale.** Santa Barbara Botanic Garden, Santa Barbara, California. Information: (805) 682-4726.

♦ Dec. 4-5. **Camellia Show and Sale.** Los Angeles State and County Arboretum, Arcadia, California. Information: (818) 821-3222.

International

♦ Oct. 28-May 2. **The Wartime Kitchen and Garden.** Exhibition. Imperial War Museum, Lambeth Road, London SE1 6HZ. Information: 071-240-7200.



1994 EARTH FRIENDLY GARDENING CALENDAR WRITTEN BY ELLEN HENKE PHOTOGRAPHED BY GEORGE M. HENKE

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The calendar is 14" x 10 3/8" and includes 12 full color photographs by George M. Henke. One calendar is just \$11 postage paid for AHS members. Each additional calendar is only \$9.50 postage paid. Virginia residents add 4 1/2% sales tax.

To order **Earth Friendly Gardening 1994** fill in the coupon below and mail to AHS Calendars, 7931 East Boulevard Drive, Alexandria, VA 22308-1300. Or call toll-free, (800) 777-7931.

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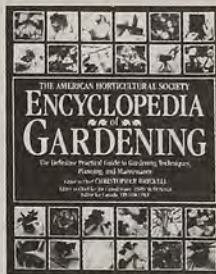
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A Gardener Was Here

A study at the University of California-Riverside has suggested a horticultural solution to the expensive and ugly problem of urban vandalism.

Urban horticulturist Ted Stamen and Master Gardeners Lori Yates and Dave Cline toured 31 randomly selected sites in Riverside over a two-day period to check out a hypothesis that plantings would deter graffiti. Not surprisingly, they found that ivy-covered walls were untouched. But they also found that fences partly obscured by weeds or a tree, and even walls fronted with deep ground covers, were free of sentiments from vandals.

The researchers hypothesized that the taller plantings might have discouraged graffiti vandals—Stamen calls them “taggers”—because they want their work to be seen. And Yates suggested that urban youths may feel uncomfortable in deep plantings because they fear “something’s going to run up their pant leg.”

Previous studies of the psychology of vandalism indicate that well-tended areas are less likely to invite this intentional property damage than are unkempt spaces. Perhaps plants send out a subtle message that says, “We care about this place, and you should, too.”

Good News on Old News

Shredded newspaper recycled as mulch got good reviews in two recent studies.

Researchers at the University of Vermont found that chopped newspaper was quite effective at controlling weeds between rows of gaillardia, physotegia, and daphne. Norman Pellet, of the department of plant and soil science, said the newspaper was six to 10 inches deep between the rows when first applied. “These were pretty small plants when we started, so we had to be careful about putting it too close around the plant.” The mulch was kept from blowing away by soaking it

with a lawn sprinkler—“the equivalent of a three-quarter-inch rain”—and rolling it with a lawn roller. “I think it would work as well for a home gardener just to tramp it down, as long it was an area that wasn’t going to get heavy traffic.”

He suggested that newspapers shredded into strips might be even less likely to blow away than the chopped material he and colleague David Heleba used.

At the Ohio State University, scientists got higher yields from sweet corn, soybeans, and tomatoes mulched with shredded newspapers than those mulched with wheatstraw or left unmulched. And they found no accumulation of any potentially hazardous heavy metals, the most frequent argument against using newspaper as a soil amendment.

Pellett said he and Heleba found no evidence of heavy metals during the first year of their study. They don’t yet have that data for their second year. “We did find some increase of sodium, which wouldn’t be a big concern.” But even though many newspapers are converting to soy-based inks, it can be hard to find out from them exactly what they do use, Pellett said. “I would have some questions about making broad recommendations of this mulch for food crops.”

Poinsettias’ Bad Rap

Old myths die hard. So we’ll say it once more for good measure: poinsettias are not poisonous.

It’s hard to believe that many people are tempted to eat one of these holiday plants. And a deadly reputation hasn’t kept them from being one of the nursery trade’s hottest sellers. But a recent survey commissioned by the Society of American Florists (SAF) found that 53 percent of Americans believe that poinsettias are toxic. Twelve percent know they aren’t, and the rest just don’t know.

The survey found that women, Americans aged 50 to 64, and those from more affluent homes were the most likely to be ill-informed. Forty-five percent got their misinformation by “word of mouth,” but

36 percent blamed the media for their belief.

Some horticulturists pin the source of persistent rumor on the tale of an Army officer stationed in Hawaii whose 2-year-old child allegedly died after eating a poinsettia bract. The story may be one of many “urban myths,” like the alligator in the sewer, that refuse to die.

According to the SAF, a study conducted at the Ohio State University by Robert P. Stone and W. J. Collins found that rats ingesting unusually high doses of all parts of the plant not only didn’t die, but didn’t become ill in any way or even lose their appetites.

“Of course, the poinsettia was never intended to be eaten. Thus it’s possible that those who do eat parts of the plant may experience some degree of discomfort,” a society press release said. They recommend milk or ice cream to soothe the ache, and that all nonedible house plants be kept away from pets and children.

Aphid Threat to Citruses

Citrus growers in Florida are gearing up for a potentially devastating invasion by the brown citrus aphid, found in Guantanamo Bay, Cuba, last summer.

The aphid is the most efficient transmitter of severe strains of the citrus tristeza virus, which are now dormant or cause only minimal damage in Florida because there are no insects to spread them quickly. One-quarter of Florida’s citrus crop grows on sour orange rootstock, which is attacked by one strain of the virus.

Scientists say the question is not if, but when, the aphid will arrive in the state, either on a living citrus plant or via a tropical storm. Richard Lee, a University of Florida plant pathologist, has found that inoculating trees with a mild form of the virus could keep them from suffering from the more severe strains. Entomologists from the university and the U.S. Department of Agriculture are looking for natural enemies, such as parasitic wasps, that might kill the aphid before it matures.



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