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News Edition

Kid Stuff

Everyone's talking about the national symposium on children and gardening that the American Horticultural Society is sponsoring next year. Inside this issue, we'll give you the when, where, and why of this important meeting, plus some ideas for activities with your own kids, some books for them to read, and a look at some of the more innovative children's gardening programs around the country.



JESSA ALLEN

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JESSICA BROWN

Children's Symposium

A national symposium on "Children, Plants, and Gardens: Educational Opportunities," sponsored by the American Horticultural Society, will be held August 12 to 14, 1993 in the National 4-H Conference Center in Washington, D.C.

Maureen Heffernan, AHS education coordinator, began planning the meeting in December 1991 with four other organizations: the American Horticultural Therapy Association, the Brooklyn Botanic Garden, the National Gardening Association, and the New York Botanical Garden.

Many of the symposium presentations should be of interest to parents, grandparents, and anyone who has ever spent a happy day outdoors with a child. But the event's primary target audience is youth educators. This includes teachers and principals of children from preschool through eighth grade; educators in schools, botanical gardens, and community youth programs; and other adults knowledgeable about or interested in children's educational or recreational gardening programs.

AHS has a long list of goals in sponsoring this symposium. Among them:

- ◆ To cultivate the next generation of gardeners and professional horticulturists.
- ◆ To motivate youth educators and give them the resources they need to start or upgrade children's gardening programs.
- ◆ To promote environmental awareness through gardening among youth.
- ◆ To help link horticultural education with science, humanities, and the arts.
- ◆ To raise youth's awareness of horticulture's vital importance in our lives.
- ◆ To increase the number of youth—especially minority, urban, disadvantaged, or special needs children—in educational and recreational plant and gardening programs, because of the many psychological, intellectual, and sociological benefits children derive from contact with nature.

Heffernan said the symposium could never have become a reality without the help of such an informed and dedicated group of co-planners.

Catherine Eberbach of the New York Botanical Garden has written extensively on the topic of children's gardening. She designed the children's garden there and at Longwood Gardens, and her ideas inspired a number of symposium topics. "She has really promoted the importance of letting children be children in the garden and of encouraging children to

design their own gardens," said Heffernan. "The Brooklyn Botanic Garden has helped us immensely by giving us all of the papers from the meeting they held." The BBG held a symposium on the relationship between children and plants in 1989, on the 75th anniversary of its children's garden.

"The National Gardening Association," Heffernan continued, "has had a long history of involvement in children's gardening, continuing today with its GrowLab and Youth Garden Grants programs." GrowLab is a detailed guide for classroom gardening; Youth Grants provide \$500 for buying materials to start youth gardens.

Said Penrose Jackson, the National Gardening Association's executive director: "We believe it is important for all of us to cultivate the next generation of gardeners in order to ensure that both professional and amateur horticulturists are developed and supported, and that tomorrow's environmentalists and decision makers understand the importance (and the realities) of gardening."

The American Horticultural Therapy Association was there from the start with its support, because of its members' strong interest in researching and applying findings on the beneficial effects of plants on people of all ages. Steven Davis, its executive director, was formerly director of grounds for AHS, and while here, designed its popular children's garden trellis. "Children's gardening is one of my first loves," said Davis, "as is River Farm."

The first day of the meeting will consist of visits to River Farm and children's gardening projects elsewhere in the Washington metropolitan area.

The next two days will offer keynote speakers and concurrent workshops, demonstrations, and panel discussions. Speakers will include Dr. Roger Hart, director of the Children's Environments Research Group at the Graduate School of the City University of New York, and Jane Taylor, curator of Michigan State University's 4-H Children's Garden.

Among topics suggested on the call-for-papers are building living soils, building and using a school wildlife garden, ethnobotany, saving endangered plants, planning dynamic school field trips to public gardens, composting and recycling, and plants and design elements that children find intriguing.

Participants will describe successful programs in widely differing settings and address developing curricula, getting parent involvement and administrative support, obtaining funding, and finding supplies.



Giving Shelter—and Magic

It's unfortunate that gardening for children is often promoted as a cute but unessential nicety, or a photo opportunity for parents. Gardening experiences can link children with nature on an intellectual, sensual, and spiritual level. There are few activities as powerful for connecting children fully—consciously and unconsciously—to the renewing powers of the earth. This sense of renewal, mystery, and solace that gardening offers is never more needed than today. In a culture that exalts cheap glamour, money, drug-induced euphoria, and overnight material success, gardening can help illuminate what it means to be a real human being rooted in what is timeless, true, simple, and joyful.

Children's gardening should be a long-term, wild yet gentle, transforming experience. This possibility became very apparent to me while working as a counselor at a shelter for battered and homeless women and children. What does gardening have to do with children in such a place? In many ways the intensive hothouse atmosphere of a shelter mirrors our society in general. Many children are being raised in unsafe, contaminated, and neglectful atmospheres. Parents are often too caught up in their own problems, pleasures, and addictions to offer real emotional nurturing or intellectual stimulation. Children are served television and are starving for creative and meaningful hands-on work or play activities.

One evening, the children at the shelter were especially restless, cranky, and bored. I had also been working at a nearby university experimental farm, and I asked the kids (ranging in age from 4 to 12) if they would like to start a garden in the back yard. I was surprised when they all jumped up and shouted "Yes!"—they would like to start right now. They had no idea that it would take some work; I had no idea I would enjoy it so much. They were relieved that they didn't have to spend yet another inert evening in front of the television. So out we went and each child began to claim a piece of ground. They intuitively needed their own little refuge with clearly defined boundaries. Once this "safe" space was established, they took great care to protect it from weeds, rocks, and other kids. They had great fun digging and working the soil. It was the first time any of them had put in a garden. They had a million questions and looked forward to the next day, when they could plant their seeds and plants.



MAUREEN HEFFERNAN

Head Start students spent a magical afternoon at River Farm last summer.

As we were working I initially tried to ward off mud fights but came to realize that children want to get covered with soil from head to toe, so why not? Let them be wild little brutes acting out as many roles as they can imagine. After telling them what needs to be done, let them decide how to do it. Tell them the soil is like a "kitchen" for their plants that must be well-stocked with delicacies like compost and worms. They will understand that they must help provide for other living things, that working the soil is a first step. A garden, the final goal, will not be instant. A garden cannot be bought and will develop at its own rate.

The next step was for children to select their own seeds and plants from surplus supplies at the experimental farm. They seriously examined and selected seed packets and flats of flowers and vegetables. Returning home they eagerly went to work planting lettuce, cabbage, zucchini, tomatoes, peppers, potatoes, mint, sunflowers, marigolds, zinnias, nasturtiums, and melons. The result was a crazy quilt of crooked lines and colors, but it had the primitive elegance of a child's colorful drawing. The kids were delighted with their individual plots and the overall effect of turning a barren area into a place that was alive.

The children's interest in gardening was a surprise to many of the mothers, who told me they didn't realize their children had such patience or enthusiasm for this kind of thing.

The garden grew gloriously without major problems. It became a showpiece in the neighborhood, and the children were amazed that they accomplished something so fantastic. They readily accepted

the responsibilities of watering and weeding. As children left the shelter, others came and took on caring for an ownerless plot. I noticed that several of the children turned to the garden as a "shelter from the shelter." If they had had a stressful day or were yelled at, they went out to sit or work in their garden plot. The very young children just liked to play in the dirt, while older ones carefully watched their plants' progress. Several children tried to lift their mother's spirits by presenting them flowers (and weeds) from their plot. To children who were very poor, the garden provided something to give, and something to be proud of.

At the end of summer, we threw a harvest celebration at which the kids cooked a meal with their fruits, herbs, and vegetables, and decorated the tables with their flowers. That supper was one of the most meaningful and happy meals I've ever experienced. An overall sense of crisis at the shelter was suspended for a bit while we celebrated the children's achievements and happy memories of the summer's garden. While the garden had not taken away the violence and disarray of their lives, its nonviolent nature made it exactly the kind of recreational activity they needed. It got them outdoors, feeling self-confident, a bit more patient and understanding about the process of growth, trying something different and succeeding.

What I learned that summer was to give children not only guidance, enthusiasm, and respect for their gardening efforts but a little magic as well. Create a magical garden space for them. Have them smell the soil. Share plant folklore. Don't be so well-behaved in a garden; remember a sense of "kidness." Realize you will need to sacrifice many plants to tricycles and baseball games. Eat ripe tomatoes and melons and let the juice run down your chin. Rave on about smells and colors. Get children to rub their hands in mint and rosemary. Read them books about plants and gardens while in the garden. Help them plant indoor gardens. Walk through the garden by the light of a full moon. Let them create an untamed watermelon or pumpkin patch.

Such magical and joyful experiences will become profound recollections as the children grow older. Those memories will flood back to them as they smell a fresh tomato or pass by a newly plowed field. All our children need more of these deeply balanced experiences in nature to sustain them as they confront an increasingly unbalanced world. —Maureen Heffernan
Education Coordinator



Some Purely Fun Stuff

Some adults see "gardening" as drudgery, because for them, the word means mowing lawns and pruning foundation shrubs. Little wonder then that some of the books and pamphlets on gardening with children are about as joyless, with work-ethic advice to prepare the soil, plant the seed, then water and weed, weed, weed.

On this page are some ideas that you and someone small can try together, in the garden or with its bounty, just for fun.



From the book *Sunflower Houses*, by Sharon Lovejoy:

✿ **Grow a fish in a bottle.** Choose a discarded glass bottle with a small neck. While cucumbers or zucchinis are still small in the spring, scratch a picture of a fish into the side of one and put it in the bottle still attached to its vine. By late summer the fish will be a whale and friends will wonder how it got inside the bottle. An even easier trick—and treat—is to have the child scratch a name or short message ("Hello!" or "I love you") on a squash or pumpkin and watch the words grow through the season.

✿ **Plant a rainbow.** Choose annuals in the colors of the rainbow: red, orange, yellow, green, blue, and violet. Plant them in semicircles with gravel between them. For a finishing touch, create a "pot" at one end of the rainbow with rocks and fill it with the gold of marigolds.

✿ **Erect a sunflower house.** Using a stick, draw a rectangle, perhaps six by nine feet, with an opening at one end big enough to serve as a door. The rectangle should cut into the soil about two inches. In this furrow, alternate seeds of sunflowers and 'Heavenly Blue' morning-glories. When the sunflowers are about twice as tall as the children and the morning-glories have climbed near the top of their stems, an adult will need to create a roof by weaving twine back and forth among the sunflowers. The morning-glories will soon cover the string completely, and the children will have a cool hideaway. Some especially tidy children don't like dirt floors, so you might challenge them to come up with ideas for a floor: moss might work, or a bed of leaves. Large flat rocks can serve as chairs.

✿ **Make poppy maidens.** Turn down the petals and tie them with a blade of grass to make a skirt. This will expose little green seed pod "heads." Leave them

attached so they will dance on their stems.



From *My Garden*, by Louise Murphy:

✿ **Do some foraging.** Ordering seeds and plants from catalogs is always a fun way to begin a garden. But you'll need some garden "bones" and tools. Take a long walk to look for sticks to make a fence around the child's garden plot, and some rocks to decorate it. Poke around in the attic or check out a garage sale for old tools, including kitchen tools, that can be recycled for digging.

✿ **Paint with an onion.** Slice an onion in half and look at the circles of scales that protect the bud. Make a print by dipping the onion in ink or watercolor paint.

✿ **Eat some seeds.** To toast sunflower seeds, sprinkle them in a thin layer on the bottom of a pan or cookie sheet, and put them in a 350-degree oven for 35 minutes. Pumpkin seeds are a little more work. Wash them in a bowl of cold water and separate them from the strings. Spread them on a layer of paper towels for a day or so. In a tablespoon of oil add the dried seeds, toss until they're coated, spread them out on a cookie sheet, and bake in a 350-degree oven for 30 to 60 minutes, stirring them every 10 to 15 minutes. When they are golden, sprinkle them with salt. They can also be fried, on medium to high, until they begin to pop. The oven is safer!



✿ **Use plants to make music.** In her book, *In a Pumpkin Shell*, Jennifer Storey Gillis suggests making a tambourine by putting dry pumpkin seeds into two aluminum pie plates that have been stapled together. The plates can then be decorated with colored stickers and streamers. In *Sunflower Houses*, Sharon Lovejoy describes "grass screechers." These are made by holding a wide grass blade between the thumb and first finger of each hand, pulling tight, and blowing on its edge. Like any instrument, it will take practice. But once you get good enough, she says, you can even play tunes.



From Darlene Polachic, writing in *Canadian Gardening*:

✿ **Sign it with flowers.** Have the child write his or her name in a garden bed with a stick. (You'll need to guide a preschooler's hand.) Sprinkle the seeds of a fast-germinating annual, such as dwarf marigold, in the lines. Press the seeds down with a board, rather than covering

them with dirt, and water lightly. With older children, try block letters, outlining the letters with dwarf marigolds and planting the centers with white sweet alyssum. Other gardeners suggest spelling the name with low-growing herbs or red and green leaf lettuce.



From Stacey Beatty, an intern with the Chicago Botanic Garden:

✿ **Make some perfume.** Collect some fragrant flowers, cut them in pieces, and soak the pieces for two days in a mix of equal parts rubbing alcohol and distilled water. Then pour the mixture through a strainer and keep the remaining liquid in a bottle. Attach a label and give it a fanciful name.

✿ **Make a garbage garden.** This is always a fun winter project. Set a carrot top in a shallow container of water. Half submerge a sweet potato or an avocado seed in a jar of water. Start an "orangery" with citrus seeds—don't let them dry out first. Or start an orchard with peach pits, apple or pear seeds that you've chilled in the refrigerator for six to eight weeks.

Resource List

Yvon Reader-Tinsley, an elementary school librarian serving last summer as one of River Farm's two teacher interns, spent her July afternoons compiling a comprehensive bibliography and source list on readily available educational plant and gardening materials for elementary level teachers and children.

Although parts of the list focus on teacher materials, many of the topics should be useful to parents and grandparents and others who want to interest children in plants and gardening.

The list includes books on botany, the history of crop plants, nutrition, recycling and composting, soil, fiction, picture books, and coloring books. There are also lists of sources for gardening supplies for children and related magazine articles.

To obtain the entire 42-page resource list, send \$5 to: Kids, Gardeners' Information Service, at the AHS address.



Children Love Flora Lore

Children love plants and flowers with

extroverted personalities and secret stories to reveal. Plants that capture children's attention and imagination are those that have unrestrained color (sunflowers), fragrance (mints), unusual texture (lamb's ear), and cartoonlike shapes (balloon flowers).

Other ways to get children interested in plants are to show how a plant may have gotten its common name or to explain its symbolic lore or its early medicinal use. Plant stories are an important cultural heritage. Here is a list of common garden plants and their lore that you can use when visiting a garden with children:

Burdock (*Arctium minus*). Explain that this plant was eaten in times past to improve memory because the burs stick to you as you walk by it.

Spiderwort (*Tradescantia virginiana*). Point out that the long skinny leaves with twisted joints look like a daddy longlegs.

Thistle (*Cirsium vulgare*). Children enjoy the story of why the thistle is the national emblem of Scotland. It is said that when a group of Danes invaded Scotland they took off their boots to sneak up on a sleeping group of Scots. One Dane stepped on a thistle and cried out, thus alerting the Scots who woke up and were able to defend their land.

Jack-in-the-pulpit (*Arisaema triphyllum*). Show children how the swirling spathe is a pulpit, and the greenish white spadix of the flower is Jack.

Queen-Anne's-lace (*Daucus carota*). Invite children to eat the flower head, and ask them what it tastes like. Explain that it tastes like a carrot because it is in the same family as the carrot.

Tickseed (*Coreopsis* spp.). Show children the seed of this plant with the two "horns" that make the seed look like a bedbug.

Money plant (*Lunaria annuum*). You can explain that the plant got its genus name because its round silvery seed pods look like a full moon. It's also called money-in-the-pocket because of the "coins" or seeds within the papery shell "purse."

Hollyhock (*Alcea rosea*). Point out that the seeds of hollyhocks look like small cheese wheels and are edible.

Gladiolus. It got its name from the Latin for "little sword" because its foliage resembles long sharp swords like those carried by Roman gladiators.

Foxglove (*Digitalis* spp.). The name

comes from an old story about how the plant was given to foxes as a favor owed by the fairies. Foxes are said to wear the soft flower blossoms on their feet so they will not be heard when they sneak up on a chicken coop.

Delphinium. This flower gets its name from the Greek word for dolphin. Some people think the flower's curved spurs resemble a dolphin's nose.

Purple coneflower (*Echinacea purpurea*). The Greek word "echinacea" means hedgehog. People thought the spiny seedhead looked and felt like this animal.

Columbine (*Aquilegia* spp.). Children love to discover that the long spurred flower looks like eagle claws or little elf shoes.

Cleome. It's commonly called spider flower because the long skinny stamens and seedpods make it look like a giant spider.

Blanket flower (*Gaillardia* spp.). It got its common name because native women of the American Southwest were inspired by its red-orange blooms to weave blankets of that color.

Strawflower (*Helichrysum bracteatum*). Children love to touch this flower and discover its strawlike texture.

Red hot poker (*Kniphophia* spp.). Point out that the red, orange, and yellow in the tall spiked flower make it look like a hot smoldering torch.

Morning-glory (*Ipomoea* spp.). Telling

children about this plant will help them realize that plants can change throughout the course of just one day. The plant is also nicknamed the life-of-man because buds appear in the morning, it fully flowers at noon, and it begins to wilt by evening.

Chinese lantern (*Physalis alkekengi*). Let children string together a necklace of these red-orange fruits that look like enchanting Chinese paper lanterns.

Balloon flower (*Platycodon* spp.). All children love to be shown how the unopened flower looks exactly like an inflated hot air balloon complete with a basket.

Snapdragon (*Antirrhinum* spp.). If the flower head is gently squeezed, the flower looks like a yawning beast.

For more plant stories, you may want to read the following books:

Garden Flower Folklore, Wildflower Folklore, and Folklore of Trees and Shrubs. A series of folklore books by Laura C. Martin. Globe Pequot Press.

Hidden Stories in Plants: Unusual and Easy-to-Tell Stories From Around the World Together With Creative Things to Do While Telling Them. Anne Pellowski. Macmillan, 1990.

Sunflower Houses: Garden Discoveries for Children of All Ages. Sharon Lovejoy. Interweave Press, 1991.

Things I Can Make With Leaves. Sabine Lohf. Chronicle Books, 1990.



MAUREEN HEFFERNAN

The children's garden trellis is a popular stop for small visitors to our River Farm headquarters. More permanent than a sunflower house (page 4), it can be covered with flowering vines or pole beans to become a perfect hideaway. It can be easily constructed from inexpensive lumber and wire screen. Order the plans for the trellis by sending \$2.50 and a SASE to Gardeners' Information Service at the AHS address.



Books for Budding Gardeners

It's never too early to start sharing gardening books with children.

Luckily there are many fine fiction and nonfiction books for youngsters that explore the world of plants. Following is a list of favorites. A "P" at the end of the description indicates the book is suitable for preschoolers; "E" for early elementary school (grades 1 to 3); and "L" for late elementary school (grades 4 to 6). If your (or your child's) favorite children's gardening book isn't listed, please let us know; we'll share your comments through our "Members' Forum" column.

One Green Mesquite Tree

By Gisela Jernigan, illustrated by E. Wesley Jernigan. Harbinger House, Tucson, Arizona, 1988. 24 pages. 7 $\frac{3}{4}$ " x 11 $\frac{1}{4}$ ". Color illustrations. Publisher's price, softcover: \$12.95. AHS member price: \$11.75.

In this unique counting book, Gisela Jernigan has paired numbers from one to 20 with the plants and animals of the desert Southwest. The book is written in verse—"Thirteen fragrant yuccas with flowers creamy white. Fourteen yucca moths come lay their eggs at night"—combined with simple, bright drawings. A glossary includes pronunciations for some of the harder names and definitions. P, E.

A Garden Alphabet

By Isabel Wilner, illustrations by Ashley Wolff. Dutton Children's Books, New York, 1991. 32 pages. 8 $\frac{1}{2}$ " x 10 $\frac{1}{4}$ ". Color illustrations. Publisher's price, hardcover: \$12.95. AHS member price: \$11.75.

A lively black-and-white dog and his insect-eating frog friend use the alphabet to plan, plant, and harvest their garden. The two pals are joined by a pair of pesky rabbits. Any gardeners who have waged their own battle with rabbits will appreciate the drawing of the two bunnies mixing a salad among the lettuce leaves and the message "R is for rabbits, back here once more. Do they think they're the ones that the garden is for?" P.

Planting a Rainbow

Written and illustrated by Lois Ehlert. Harcourt Brace Jovanovich, Publishers, San Diego, California, 1988. 32 pages. 11 $\frac{3}{8}$ " x 8 $\frac{3}{4}$ ". Color illustrations. Publisher's price, hardcover: \$14.95. AHS member price: \$13.50.

Cut-paper collages of brilliantly colored flowers illustrate *Planting a Rainbow*, a

simple story of a child and mother planting a garden. Bulbs, seeds, and plants sprout in a rainbow of colors. "And when summer is over, we know we can grow our rainbow again next year." P.

Red Leaf, Yellow Leaf

Written and illustrated by Lois Ehlert. Harcourt Brace Jovanovich, Publishers, San Diego, California, 1991. 10 $\frac{1}{4}$ " x 10 $\frac{1}{4}$ ". Color illustrations. Publisher's price, hardcover: \$14.95. AHS member price: \$13.50.

Collages and simple text tell the story of a sugar maple tree and the child who plants it. The collages mix watercolor, crayon, pencil, pen, and oil pastel drawings with seeds, roots, fabric, ribbon, wire, paper, plastic, and cardboard. The end of the book contains more detailed information about the leaves, buds, roots and sap, seeds, bark, and flowers of the maple and advice on selecting and planting a tree. P, E.

How a Seed Grows

By Helene J. Jordan, illustrated by Loretta Krupinski. HarperCollins Publishers, New York, 1992. 32 pages. 9" x 7 $\frac{1}{8}$ ". Color illustrations. Publisher's price, hardcover: \$14. AHS member price: \$12.75.

Originally written in 1960 by a former science editor, *How a Seed Grows* has been reissued with new illustrations by Loretta Krupinski. The simple, informative story follows a young girl step by step as she plants bean seeds in an egg shell and watches them grow. Illustrations record the bean seedlings' day-to-day growth. P, E.

The Reason for a Flower

Written and illustrated by Ruth Heller. Grosset & Dunlap, New York, 1983. 43 pages. 9 $\frac{1}{4}$ " x 9 $\frac{3}{4}$ ". Color illustrations. Publisher's price, hardcover: \$9.95. AHS member price: \$8.95.

In brilliant illustrations and clear text, Ruth Heller explains the basics of



pollination for young readers. The oversized, detailed drawings fill each page and spill into the margins, offering a fantastic look at the world of plants. P, E.

The Peach Tree

By Norman Pike, illustrated by Robin and Patricia DeWitt. Stemmer House Publishers, Inc., Owings Mills, Maryland, 1983. 36 pages. 7 $\frac{1}{4}$ " x 8 $\frac{1}{4}$ ". Color illustrations. Publisher's price, hardcover: \$10.95. AHS member price: \$9.85.

Everyone loves the peach tree in the meadow—the Pomeroy family, the South Wind, and the birds. But the Aphis sisters especially like the tree. "It had nice soft juicy shoots and luscious leaves. It had tender buds of unborn peaches. But the Aphis only wanted the sap. And they wanted all of it." That's when Mr. Pomeroy called in the ladybugs, who looked the situation over and knew exactly what to do. This is a delightful story of the interdependence of life, complemented by fine illustrations. P, E.

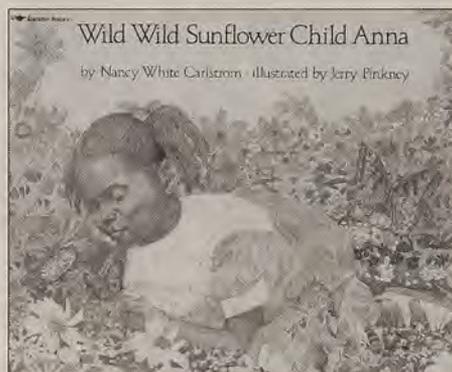
Miss Penny and Mr. Grubbs

Written and illustrated by Lisa Campbell Ernst. Bradbury Press, New York, 1991. 36 pages. 9 $\frac{1}{4}$ " x 9 $\frac{3}{4}$ ". Color illustrations. Publisher's price, hardcover: \$14.95. AHS member price: \$13.50.

Miss Penny and Mr. Grubbs have been neighbors for 48 years, and for 48 summers "Miss Penny's incredible garden grew enormous vegetables—mountains of them—and Mr. Grubbs's garden did not." Mr. Grubbs has finally had enough. Will his wicked scheme keep Miss Penny from winning a blue ribbon at the county fair? Lisa Campbell Ernst has paired her funny story with charming illustrations. P, E.

Sunset Best Kids Garden Book

By the Sunset Editors. Sunset Publishing Corporation, Menlo Park, California,



1992. 96 pages. 8¼" × 10¾". Color illustrations and color photographs. Publisher's price, spiral-bound: \$9.99. AHS member price: \$9.

Here is an easy-to-follow, step-by-step guide that children can follow to create both flower and vegetable gardens. The basics of digging and planting are here along with instructions on caring for plants, collecting seeds, propagation techniques and information about different vegetables, fruits, herbs, bulbs, flowers, and house plants. There's an index and special sections on garden activities like building a green-bean hideout. And to start catalog mania at a tender age, there's a list of mail-order sources for plants and seeds. The book is illustrated with an unusual mix of water-color drawings and photographs. E, L.

The Legend of the Indian Paintbrush
Retold and illustrated by Tomie dePaola. G.P. Putnam's Sons, New York, 1988. 40 pages. 8¾" × 10¼". Color illustrations. Publisher's price, hardcover: \$14.95. AHS member price: \$13.50.

The Legend of the Bluebonnet
Retold and illustrated by Tomie dePaola. G. P. Putnam's Sons, New York, 1983. 32 pages. 8" × 10". Color illustrations. Publisher's price, hardcover: \$14.95. AHS member price: \$13.50.

Tomie dePaola has brought his unique style to these Native American tales about the origins of two wildflowers. *The Legend of the Bluebonnet*, a folk tale from the Comanche people, tells how the bluebonnet came to fill the hills and valleys of Texas with brilliant blue flowers. The state flower of Wyoming is featured in *The Legend of the Indian Paintbrush*, the story of a Native American boy searching for the colors of the sunset in order to create a special painting. P, E.

Wild Wild Sunflower Child Anna
By Nancy White Carlstrom, illustrated by Jerry Pinkney. Aladdin Books, Macmillan Publishing Company, New York, 1991. 32 pages. 9¾" × 8". Color illustrations. Publisher's price, softcover: \$4.95. AHS member price: \$4.50.

In lyrical text and beautiful drawings Nancy White Carlstrom and Jerry Pinkney celebrate the joys of nature. Join Anna on a journey through the garden, through fields of wildflowers and grasses, picking raspberries, hopping through the pond with frogs, climbing trees, and running through meadows of Queen-Anne's-lace. P, E.

A Child's Book of Wildflowers
By M. A. Kelly, illustrated by Joyce Powzyk. Four Winds Press, New York, 1992. 32 pages. 8½" × 11¼". Color illustrations. Publisher's price, hardcover: \$15.95. AHS member price: \$14.35.

Three sisters and a brother wrote *A Child's Book of Wildflowers* because they love wildflowers and wanted to share their memories of childhood flower games. The four authors (writing as M. A. Kelly—their mother) have mixed the contents of a field guide with folklore, fantasy, and history to create a delightful introduction to 24 common wildflowers. The authors suggest plant activities for each wildflower—like wrapping mullein leaves around your feet and ankles to keep warm in the winter and using milkweed juice for glue. All this, combined with Joyce Powzyk's outstanding wildflower drawings (the introduction also provides a brief explanation of botanical illustration), makes this a book to use as well as treasure. E, L.

The Secret Garden
By Frances Hodgson Burnett, illustrated by Tasha Tudor. J. B. Lippincott Company, New York, 1911. 256 pages. 6½" × 8¾". Color and black-and-white illustrations. Publisher's price, hardcover: \$15. AHS member price: \$13.50.

Of course, no list of children's books about gardening would be complete without Frances Hodgson Burnett's classic novel of the healing power of the garden. This edition features illustrations by well-known children's author and illustrator Tasha Tudor. Younger children may enjoy hearing the story read out loud, and you'll get a chance to enter the magical garden world of Mary, Colin, and Dickon once again. E, L.

Tom's Midnight Garden
By A. Philippa Pearce, illustrated by Susan Einzig. Dell Publishing Company, Inc., New York, 1958. 229 pages. 5½" × 7½". Black-and-white illustrations. Publisher's price, softcover: \$4.95. AHS member price: \$4.50.

When Tom's brother Peter is quarantined with measles, Tom is sent to stay with his aunt and uncle for a few weeks. He's miserable in their small apartment and can't wait until it's time to leave. The apartment's only interesting feature is a grandfather clock in the hallway, which keeps perfect time but never strikes the right hour. One night at midnight the clock strikes "13" and Tom creeps downstairs to investigate. When he opens the back door, instead of the small ugly alley that's behind the house during the day, he discovers a mysterious, spacious garden. Now Tom doesn't want to go home until he learns the secret of the midnight garden. E, L.

The Plant Sitter
By Gene Zion, illustrated by Margaret Bloy Graham.

This book, written in 1959, is out of print but is well worth searching for in a library or used bookstore. When

Tommy's father says he can do anything he wants this summer, the enterprising boy decides to become a neighborhood plant sitter. Tommy takes such good care of the plants that they are soon overtaking the house. "Watching television in the living room was like being at an outdoor movie deep in the heart of the jungle. Tommy thought it was the greatest fun he'd ever had. But his father grumbled more than ever." A trip to the library provides an answer for the overgrown jungle just in time for the vacationing neighbors to return. P, E. ♦

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In Michigan, An Imagination Garden

It's an idea garden—an imagination garden. I don't know of any other program like it anywhere." That's how Jane Taylor, curator of Michigan State University's 4-H Children's Garden, describes the project under her care.

Taylor's enthusiasm for her own program could be excused as an understandable bias, if it wasn't for the fact that the garden lives up to her praise. Located on MSU's East Lansing campus, the 4-H Children's Garden occupies a half-acre section of the new, seven-and-a-half-acre Horticultural Demonstration Gardens. Its design is based on suggestions made by children themselves, and many of the exhibits answer directly to a child's wish.

The children's garden is still under construction, but visitors are welcome anyway, and Taylor reports that they arrive in a steady stream. The design is organized into some 30 exhibits, each of which is built around a theme of interest to children. At the entrance, for instance, visitors will be greeted by a topiary bear surrounded by a "zoological garden" of snapdragons, tiger lilies, and other plants with animal names.

A group of "rainbow vegetable gardens" will display the vegetables that different ethnic groups have contributed to the American table.

In the cloth and color garden, kids will see the cotton that makes their blue jeans, the flax that makes dollar bills, and other important dye and fiber crops.

Another garden is laid out like a pizza, each slice of which is planted with a vegetable that provides a pizza ingredient.

The dinosaur garden contains a topiary Stegosaurus, a pathway of Stegosaurus footprint casts, and "living fossil" plants like horsetails, ferns, and a ginkgo tree.

There is a collection of herbs mentioned in Peter Rabbit stories, labeled with signs saying "Please Gently Touch."

An enormous millstone is surrounded by a grain garden, containing the cereals we eat as well as those grown as fodder for livestock.

An Alice-in-Wonderland Maze, composed of northern white cedar, leads to a secret garden.

A pathway throughout the grounds is lined with "living history" trees, whose forebears were connected to important figures like George Washington, Thomas Jefferson, Johnny Appleseed, and Isaac Newton.

An open frame structure of white cedar

and maple boughs gives children a higher vantage from which to survey the other exhibits. Called the "tree house" because when landscaped it will be partly surrounded by evergreens, it was hand-made by a local artisan, André Poineau.

Among the other exhibits are an amphitheater for demonstrations, a butterfly garden, a water garden with a replica of Monet's famous bridge, and kitchen gardens.

Taylor says the garden's mission is to help children understand the importance of plants, to promote healthy environmental attitudes—and to do this with a hands-on approach. This emphasis on learning through experience is fundamental to 4-H, the organization that is building the garden. 4-H is the nation's



NORRIS INGELLS / LANSING STATE JOURNAL

Artisan André Poineau oversees assembly of the "tree house" he designed for MSU's 4-H Children's Garden.

largest voluntary youth education program. Run by the U.S. Department of Agriculture and state land-grant universities like MSU, it serves over five million young people annually.

To make this hands-on approach work at the children's garden, the exhibits are designed to be as accessible as possible to young visitors. You can see the results in small touches, like the complete absence of "No" signs, as well as in basic features of the layout, like wheelchair accessibility for all exhibits, even the tree house.

But Taylor contrasts her approach with the programs at some other children's gardens, where kids actually do part of the gardening. "That's a wonderful idea and if I had the space, I'd jump on it," she says. "You can accommodate a small number of kids very well, and it's got to be

an absolutely phenomenal experience." But at the 4-H garden, the logistics for such an undertaking just aren't there. Instead, Taylor's half-acre is designed to accommodate as many visitors as possible. Taylor sees the exhibits, which are designed to show children how plants directly affect them, as a kind of botanical zoo.

The garden will not be officially dedicated until August 1993. But in the meantime, Taylor reports, fundraising is keeping pace with construction. The donations, raised entirely through 4-H, are within \$100,000 of the \$700,000 target. The garden has made a special effort to attract donors of small amounts—a source of support often overlooked in university development programs. At the children's garden, a \$250 donation is enough to buy an inscription on a brick in one of the garden paths. Earlier this year visitors were encouraged to leave their marks for free, by pressing their hands against new concrete. Taylor says that those who did so often return to look for their handprints. Such people, she believes, "are future donors." Efforts like these have won the children's garden a reputation as "the most democratic half-acre on campus."

Taylor has had good luck with her upscale appeals as well. Interest in sponsoring a theme exhibit, which costs at least \$5,000, was so great that more themes had to be invented. Taylor says the \$5,000 is still a bargain, since sponsorship in other sections of the Demonstration Gardens costs five times as much. She credits her fundraising success in part to a lack of good, participatory programs elsewhere. "The worse the news is in children's education," she says, "the easier it is for us to raise funds."

Taylor is especially concerned about the lack of such programs for the very young. "America's children are being raised in daycare centers and these places are desperate for things to do." It is these youngest children whom she thinks the garden will most benefit. "This," she says, "is the age when a kid's mind is plastic."

And it's on these youngest children that Taylor has pinned her highest hopes. Research at MSU, she says, has shown that "environmental attitudes are set in preschool. So if they don't have a proper attitude before they go to school, it's too late." Such a grave remark may sound odd, coming from the curator of so whimsical a place, but there is clearly plenty of hard reality behind this "imagination garden."



Children as Landscape Designers

How would you design a child's garden? If you ask children what their ideal garden would include, they won't mention pergolas or list favorite cultivars. And once you do understand what they want, you still have to translate their preferences into a design and find a way to test its effectiveness.

Catherine Eberbach, director of Children's and Family Programs at the New York Botanical Garden, has developed an elegant method of talking to children about gardening. Research in child psychology has demonstrated that if several children are asked to describe the same scene, their verbal descriptions will be very similar, but their drawings of the scene will vary greatly. The drawings are therefore believed to reveal much more about what is important to the children than the verbal responses do. Eberbach has put this observation to use by asking children to draw gardens and then to explain their drawings. In this way, she has been able to explore the child's ideal garden, perhaps as directly as any adult ever will.

Eberbach developed her technique in 1987, while at Longwood Gardens in Kennett Square, Pennsylvania. As a graduate fellow at Longwood, Eberbach was helping to design the children's garden there and quickly realized that to most garden professionals, "children's gardening" meant little more than getting children to cultivate vegetable plots. "Although well informed about *how* to garden with children," she argues, "we know little about children's perception and use of garden space." To reveal those perceptions, Eberbach asked 178 elementary school children to draw pictures in response to the question, "What is a garden?"

Analysis of the pictures revealed many basic features of children's ideas about gardens. Some of these findings were predictable. Trends in intellectual development, for instance, showed up clearly, with older children displaying a greater interest in overall design. One striking expression of this interest was a preoccupation with paths. Paths were prominent in drawings by fifth graders, but absent in those by first and second graders.

There were other features that an observant parent would probably have anticipated, like the interest in vivid colors, animals, and water.

But some features were surprising. Eberbach found that 47 percent of the drawings contained only ornamental plants, and another 33 percent included both ornamental and crop plants. Such a finding was clearly at variance with the emphasis on vegetable growing that was then the norm in children's gardening programs. It also suggested, according to Eberbach, "that children make distinctions between beauty and function, and can appreciate aesthetic qualities of plants. For children, gardens are places that please the eye."

A more subtle feature, which emerged when the children explained their drawings, was a tendency to define spaces in terms of the activities carried out in them. Eberbach sees this as fundamentally different from adult conceptions of space, which are usually expressed in terms of dimension and design. One child, for instance, described a drawing by saying, "These are bushes where we can hide . . . and this is a tree house we built with stuff we found. . . ."

Hiding in bushes and building tree houses are instances of another important theme, which emerged in a subsequent study. When Eberbach invited children to design either a secret garden, a child's garden, or a quiet garden, she found that "most designed secret gardens, whose important components were enclosure, privacy, controlling who visits, ownership, and close proximity to home."

Eberbach cautions against reading her research like a recipe, but some general

conclusions can be drawn. A children's garden should contain brightly colored ornamentals. It should allow for plenty of activity, perhaps by including plants that tolerate handling, or other components that encourage interaction. Environmental niches for attracting animals will increase the level of activity. The scale should be appropriate, with plenty of details near the ground level. And some cozy spaces should be provided to appeal to children's interest in secrecy.

There is no single right way to use these suggestions, as Eberbach's own experience has shown. At Longwood's children's garden, which Eberbach helped design, the kids do none of the gardening. Instead, she explains, "youngsters play with the fountains, touch plants, interact with topiaries, crawl through plant-laden tunnels, climb bridges, and hide behind maze walls."

But cultivating vegetables and flowers is a key activity at the New York Botanical Garden children's garden, which Eberbach now supervises. Eberbach says her young gardeners have been so successful that some of their produce now goes to a soup kitchen serving the homeless. And she says, "In addition to planting, weeding, and harvesting, kids can find their way along the paths of a maze made of vegetables and flowers. We discovered that it really does not matter that kids can see where all paths lead; they still pretend to be lost and to hide behind plants not ten inches high."



Paths are common in the garden designs of fifth graders.



In Virginia, 500 Years of Gardening

At last the Columbian quincennial has come and gone, but the controversy over Columbus's character—was he indeed a great historical figure or just another swaggering conquistador?—seems destined to linger.

In Arlington, Virginia, an elementary school is giving the old, ideologically charged debate an invigorating new twist. Abingdon Elementary School is engaged in an educational gardening program that demonstrates the rich rewards of Columbus's voyage and the 500 years of cultural exchange and transformation that have followed. The project encourages the students to learn from the hands-on science of gardening and promotes the values of friendship, sharing, cooperation, and effective communication. Now the creators of the Abingdon project are using their experience to develop a curriculum that will employ the garden as a teaching tool spanning the entire spectrum of traditional subjects.

The gardening project at Abingdon Elementary is an outgrowth of the "Seeds of Change" exhibition at the Smithsonian Institution's National Museum of Natural History. Also tied to the quincennial, the exhibition, which opened October 26, 1991, and concludes April 1, 1993, focuses on five "seeds" as key agents in five centuries of cultural and biological change: disease, corn, sugar, potatoes, and the horse.

A coordinator of special exhibits at the museum, Cissy Anklam, saw in Abingdon Elementary, which her own children attend, a fertile environment where children could learn some of the lessons of "Seeds of Change." The ethnically diverse population of 570 students comes from families speaking 18 languages other than English. Many of these children are from families that have come to the United States seeking political asylum, refuge from poverty and natural catastrophes, or better opportunities in general; other students are the sons and daughters of diplomats and other internationals whose work has brought them here temporarily.

The "Seeds of Change Garden" program at Abingdon has taken as its theme "humanity working together and caring for the earth." The garden serves as a nexus of cross-cultural exchange and a social center where the members of a community are joined by the common bond of food production. Lynn Fischer, a

third-grade teacher at Abingdon and a founder of the program, explains: "Working in the garden creates a commonality between students regardless of the language they speak, the clothing they wear, or their customs or religious beliefs."

When it is suggested that this might be a bit sophisticated for kindergartners, Fischer quickly counters that children begin to form their fundamental values at this age. Children are never too young to learn about sharing or the advantage of collaborating to solve problems. Fischer adds that the students encounter in the garden a "wonderful place of discovery" and an alternative to "going home after school to watch MTV or Nickelodeon." By encouraging children to attune to the

Caribbean before the arrival of Europeans. Here one finds beans, tomatoes, sunflowers, strawberries, pumpkins, squash, cucumbers, mint, and peppers. Here also are two crops that would transform world agriculture, potatoes and *mabiz*, or corn, which Columbus himself mistook for a variety of millet on one occasion and for barley on another. Students use techniques and replicas of farming implements from that period to till the plot. Learning through re-enactment, they experience for themselves the ritual and ceremony inseparable from the growing cycle in Native American agriculture. Ancient folkways cast light on the new environmentalism as students look at the Native American philosophy of stewardship rather than ownership of the land, of living with rather than apart from nature.

In the "Old World Garden," students plant crops common to the European diet before the mass-importation of new edibles from the Americas. Awaiting harvest here are broccoli, beets, carrots, cabbage, radishes, onions, spinach, turnips, and herbs such as basil and fennel. Students learn about the emergence of the spice trade and why Europeans came to prize the flavorful food additives almost as much as precious metals.

The final plot, or "Encounter Garden," carries students forward five centuries to the present. This is where student gardeners tend all those improved, high-yield, hybridized vegetables that have been created in the years since cultural collision. Yucca, also known as manioc, a New World crop now grown in tropical Africa and Asia, grows here, and strictly for fun, of course, there's popcorn. This plot features "space tomatoes," descended from those used in a NASA experiment, and heritage plants from seeds the children contribute, as they celebrate and share their own traditions and beliefs.

Program participants found that the garden design was barely sufficient to trace the crisscrossing, commingling patterns of horticultural exchange. Africans, for example, were among the first immigrants in the Americas; with them on their voyage across the infamous middle passage came their own native plants and their own methods of preparing them. To this end, Denise Leigh, an African-American first-grade teacher at Abingdon with an interest in her own cultural heritage, gave a lecture on the history and culinary uses of okra, which was placed in the "Old World Garden" for lack of a better place.

Continued on page 12



Child gardeners sow seeds of friendship and cooperation at Abingdon Elementary School's "Seeds of Change Garden."

circadian and seasonal rhythms of nature and to learn from direct sensory experience, gardening reconnects humankind to the natural order, she suggests. Anklam agrees. "We're such an urban society and children are so far removed from the soil that a garden seems like a whole new way to gather information."

The garden at Abingdon is divided into three distinct plots, forming a living historical record. The first plot is a "Pre-Contact Garden" reserved for food plants growing in the Americas and the



Nature for All Ages in Missouri

Stream ecology, botanical illustration, gardening basics, and tropical rain forests are just a few of the topics St. Louis children can learn about at the Missouri Botanical Garden's Henry Shaw Academy. The academy, named for the garden's founder, offers a series of sequenced courses on science, ecology, and natural history for young people ages 4 to 18. Courses are designed to build on the science classes taught in local schools. Here's a sampling of what's available:

◆ **The Pitzman Preschool Nature Study Program** presents a first look at nature for the 4- to 6-year-old crowd. The garden's preschool programs are family oriented—parent and child attend the one-and-a-half hour classes together. Parents receive activity and resource sheets after each session, so experiences can continue at home. "In the Rose Garden" combines roses, fairy tales, and an exploration of the rose garden; "Carnivorous Plants" explores the ferocious pitcher plant and Venus's-flytrap. In "Tanabata," which celebrates the Japanese festival of the stars, children hear an ancient story about the Milky Way, then decorate bamboo branches with colors and shapes found in nature and have a parade.

◆ **The Henry Shaw Academy** offers classes and field programs for 7- to 12-year-olds. The program includes a summer science camp and classes that explore the garden, the Shaw Arboretum, and Missouri state parks and rivers. Some recent classes include "Flytraps and Pitfalls," during which children use hand lenses, microscopes, and their senses to discover insectivorous plants and their habitats, and "Fall is a Ball," which uses a tour of the Shaw Arboretum to teach how plants prepare for Missouri's harsh winter. In a family class, such as "Oriental Brush Painting and Poetry—New Ways to Look at Nature," students and a parent (or two) learn Japanese black-ink painting and Chinese watercolor brush painting, make a covered and bound book for artwork and poetry, and take a tour of the Japanese Garden, Seiwa-En. The Summer Science Camp includes a three-day, behind-the-scenes tour of the Shaw Arboretum for 7- to 9-year-olds; older children embark on a four-day, Robinson Crusoe-type camping trip to the arboretum, which includes canoeing into camp, living in tepees, cooking over open camp fires, learning basic survival skills, and nature study and crafts.

◆ **The Stream Ecology Program** is a

year-long series of canoeing and camping experiences for 13- and 14-year-olds. Students evaluate the health of Missouri's rivers and streams using field water testing and monitoring methods. Aquatic data are collected and compared with the Technology Education Research Centers and the Missouri Department of Conservation Stream Project. Classes before and after the field trips demonstrate testing methods, skills, map reading, and analyzing data. Students explore caves, springs, stream banks, and back eddies along a 48-mile stretch of the upper Meramec River one weekend each season. Students who complete the program are eligible for one year of high school biology credit.

◆ **The Gardening Apprenticeship Program** is open to 14- to 17-year olds. During July, students work as garden horticulturists to develop their knowledge of plants, soils, and landscape maintenance. Weeding, pruning, watering, planting, digging, mulching, and tool maintenance are all part of the program.

◆ **The Explorer Field Study Program** is another year-long research study, this one for 14- to 18-year olds who already have a background in general science or biology. It focuses on Missouri's natural communities, mountainous regions, and the tropical Caribbean. Students, working with professional biologists, compile field reports and field journals and conduct an independent study project. Research areas include predator reintroduction efforts, plant conservation, and restoration of natural communities.

Explorers take one weekend field study trip a month from September through June to Missouri caves, state parks, the Smoky Mountains, Shaw Arboretum, North Carolina's Alligator River Wildlife Refuge, and the Caribbean. Those finishing the full year of classes and field programs may earn one year of elective high school biology credit.

◆ **A Research Apprentice Program** is available for 16- to 18-year-olds who have completed the Explorer Field Study Program. Students begin preparing for the project field trips in January and continue every month until the departure date. Project locations vary from the Rocky Mountains to tropical rain forest areas.

From the first classes for preschool children to the field study programs for high schoolers, students combine nature study with journal writing. Classes for the younger set are reinforced with nature crafts and snacks that fit the themes of the courses.

But the Henry Shaw Academy isn't the only education program offered by the Missouri Botanical Garden. The garden also sponsors the School Gardening Program, which pairs Master Gardeners with teachers from St. Louis's inner city schools. The Master Gardener-teacher team plans spring vegetable gardens that are planted on the school grounds or in containers at the schools. In spring children start seeds, propagate plants, and tend the gardens, and at the end of the school year they harvest a salad. Throughout the year

Continued on page 12



COURTESY OF THE MISSOURI BOTANICAL GARDEN

Henry Shaw Academy students plant a terrarium with Academy Coordinator Jeff DePew.

Virginia *Continued from page 10*

And how could the garden fail to reflect the significant Asian population of the school and surrounding community, as well as the oriental cuisine now such an indispensable part of the American diet? Kim Chi Crittendon, who teaches English as a second language, planted an Asian subplot in the "Encounter Garden," representing the horticultural contributions of Koreans, Thais, Japanese, Chinese, Vietnamese, and others.

The first planting ceremony, in April 1991, was a school-wide activity. Teachers urged students of all grade levels, who can become surprisingly factional, to interact.

The real celebration comes in the fall, when the young gardeners reap the rewards of their hard work in the annual harvest festival. The first festival took "communication" as its theme. The young gardeners and more than 1,000 family and community members shared songs, folk tales, and traditional dishes. Fischer's third-grade class staged a musical version of the old folk tale "Stone Soup," in which three hungry and battle-weary soldiers trick villagers into adding ingredients to the kettle of soup they have started with mere water and three "special" stones.

The theme for the 1992 harvest festival will be "clothing," since clothes, like the food we grow, are largely derived from plants and strongly denote our cultural make-up.

One place to see the enthusiastic reaction of these children to their gardening experiences is in their schoolwork. A writing exercise by third-grader Kerry McGonagle contained this picturesque, if not flawlessly spelled, description: "My favorite plants are the morning glories and the beans growing together. The black seeds look like unsweated

chocolate. The green leaves are shaped like upside down Christmas trees." In a darker vein, Jenny Cowham shows us what the earth is like with and without gardens. Depicted in vivid crayon, the "with garden" picture has a smiling, obviously content girl confronting a tulip nearly as large as herself; the "without garden" in the second frame is filled with a splotched and sickly globe, and a caption below reads ominously: "The earth starts to lose its power." Nicole Chance, another third-grader, succinctly grasps the essence of the Abingdon program when she writes: "The garden helps me because when I'm alone I can go there, and I'm not alone anymore."

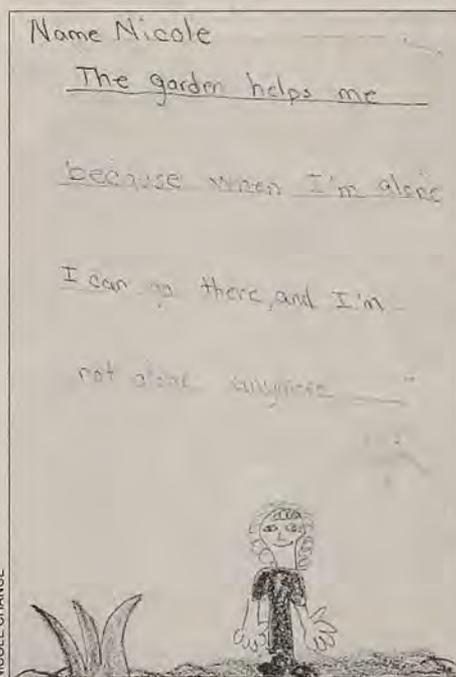
Fischer and a team of teachers are spreading the word about the Abingdon experience with missionary zeal. They have given workshops at the National Museum of Natural History for other edu-

cators and, in cooperation with museum staff, are developing a pilot curriculum that will be available to any school that wants to launch its own program. The elementary-level curriculum encompasses all traditional subject areas and then some.

Under the rubric of language arts, students might keep a garden journal or work on the class cookbook; in social studies they learn about various trading systems, cartography, and the history of European exploration. The garden affords many opportunities to put math and science skills to work, as in using rudimentary geometry to design a garden or in closely observing the life cycles of plants; the garden is also the perfect locale for youngsters to learn about soil composition, weather, and ecology. Art, that favorite of wee people, also gets liberal attention here, with leaf rubbings, potato stamps, plant sketches, mosaics, pottery—students can even use natural dyes extracted from plants they've grown themselves.

"It's a flexible curriculum full of ideas and concepts beyond specific lessons," Fischer explains. The curriculum can be easily adapted to the existing circumstances of any school, and with responsible guidance, modified to meet the varying abilities and needs of each student.

The "Seeds of Change Garden" program aims to help children recognize the changes and exchanges taking place in their daily lives as well as the past and to make intelligent decisions for the future based on experience. Through the experience of gardening, children come to a complete understanding of the Columbian legacy and the cultural, technological, and economic transformation it catalyzed; they acquire a better appreciation of how cultural exchange can enrich their lives; they learn that with a thoughtful and careful response, the impact of change, such as Columbus's fateful landfall in the Bahamas, can be turned for the better. ♦



Missouri *Continued from page 11*

students and teachers visit the Missouri Botanical Garden for workshops on seeds, composting, and insects.

Other programs include the Suitcase Science program, which provides area teachers with science kits filled with everything a teacher needs to teach a complete science unit. A curriculum guide includes lesson plans and background information; display items include posters, touchable objects, and plant samples. The kits cover 21 topics, including urban gardening, soils, flowers and pollination, and "seeds on safari," and were designed to reach students at schools that cannot afford field trips and expensive science materials. Kits are available to local teachers for a two-week loan period.

The garden recently received a \$16,538 grant from the Environmental Protection Agency to develop a Suitcase Science program for aquatic ecology and water quality for elementary and middle schools.

Over 1,700 children attend the Henry Shaw Academy programs each year and Suitcase Science kits reach another 4,652. But that's just a drop in the bucket compared to other education programs. In 1991 nearly 49,000 school children attended programs at the garden and arboretum with their classes. Nearly 32,000 of those children attended classroom sessions focusing on botany, ecology, and basic science skills and attended a tour that linked science and geography curricula to the garden's collections.

Other activities include Pairing and Sharing and Partnership programs that draw children from St. Louis city and county schools to the garden for a series of visits. These programs include classroom sessions on such topics as prairies, Japanese culture, and growing bulbs.

Two city schools have joined forces with the garden to enrich science teaching in elementary and middle schools. A full-time instructor meets each class for 11 concentrated lessons conducted at the school and at field sites.

In other programs teenagers trained in leadership, environmental science, and teaching skills brought expanded science education to an additional 32,494 children in St. Louis classrooms. ♦

Making a Difference

Planting a Commitment to Stay in School

Horace Hagedorn is getting a lot of favorable publicity from the "Miracle-Gro Kids" College-Bound Program he started last December, with the goal of shepherding 51 children from fifth grade through college. But his aim, says the founder of the Miracle-Gro garden products company, was not to sell more fertilizer but to set an example. "There are other companies far more prosperous than we are," he says. "I want other companies to say 'If a small company like Miracle-Gro can do this, we can do it too.'"

The children, now in the sixth grade, represent a cross-section of P.S. 124 in Brooklyn. Most are Hispanic, others are Asian, African-American, and white. "We deliberately did not 'skim the cream' of the class," says Janet Kelly, executive director of Project Reach Youth (PRY), a nonprofit, community-based group that administers the project. Most of the children are from single-parent homes; academically they range from slightly below grade level to above average. The 20 girls and 31 boys were selected on the basis of their interest, need, and their parents' willingness to commit to the program.

The most obvious commitment that the children make is in terms of time. They gather every afternoon from 3 to 5:30 at the PRY offices near their school. Here they may benefit from tutoring and remedial programs planned by two PRY teachers and their regular classroom teachers. On other days, they enjoy art enrichment classes and participate in drama, film, newspaper, and music clubs and sports and recreations programs.

"We try to make it fun," says Hagedorn. "I was kept after school as punishment when I was a boy. I don't want the kids to think of this as 'staying in.'"

As the program continues, children will receive peer counseling on youth leadership, drug prevention, AIDS awareness, and other concerns.

Edmundo Quinones, a former social worker for PRY, now works full time with the Miracle-Gro kids as the project's director. His involvement extends beyond the afternoon sessions at PRY. "When one of the recently single fathers couldn't afford his rent, Edmundo found another apartment for him so his child didn't have to leave the program," says Hagedorn.

The Miracle-Gro kids will be "totally prepared to get the most out of college," says Hagedorn. He expects 80 percent of



COURTESY OF MIRACLE-GRO

Some of the children receiving a helping hand from the Miracle-Gro Kids program.

the group to make it to college, and he has guaranteed to pay all expenses for those who are accepted. The children may attend any one of the 15 State University of New York schools located throughout the state. However, "if a child has special talents and has to go to Harvard to develop those talents, we'll get him to Harvard," he says.

The entire Hagedorn family supports the program, with more than mere dollars. Hagedorn and his six children—Peter, Susan, James, Katherine, Robert, and Paul—have planned summer activities for the kids and their families and joined them on weekend outings. "We've been to the Bronx Zoo and the Museum of Natural History," says Bob Hagedorn. Other destinations have included other science museums, the beach, and a wilderness park.

The program met with some controversy in recent months after Jim Hagedorn, executive vice-president of Miracle-Gro, purchased Spring Brook Farm, a 650-acre working dairy farm near Woodstock, Vermont, for eventual use as an educational facility by these 51 children and other inner-city youth. Local residents initially

protested, fearing an influx of "undesirables." Jim Hagedorn has been reassuring the neighbors through letters, town meetings, and personal visits.

Now in their second year of the program, the children are working to help other children. They are selling T-shirts to raise money for a children's videotape library and Nintendo games for young patients at Brooklyn's Methodist Hospital. "The kids decided themselves to use the proceeds to help children who are in the hospital, but they did it in a way only a kid can appreciate—Nintendo games and movies like 'Teenage Mutant Ninja Turtles,'" says Peter Hagedorn, who designed the T-shirts with his brother, Paul. "Projects like this are key to the dynamics of this group. If these kids can work together and stay together, they will succeed."

Miracle-Gro Kids fundraising T-shirts are available in adult sizes large and extra large for \$12. The brightly-colored T-shirts read "Miracle-Gro Kids, Working Together to Make Our Dreams Come True." Make checks payable to Miracle-Gro Kids and mail to Project Reach Youth, 199 14th Street, Brooklyn, NY 11215.

Gardeners' Q&A

Q: I have three brunfelsias—one in part shade, one in open shade, and one in full sun. They always bloom profusely in spring and their flowers always bring compliments from neighbors and at flower shows. Do you have information I can share when I'm asked about brunfelsia's origins and optimum culture?

A. S., Laredo, Texas

A: The genus *Brunfelsia* is a member of Solanaceae, the nightshade family. It contains about 40 species of mostly evergreen shrubs, and some trees native to Central and South America and the West Indies. The name commemorates the German monk, physician, and botanist Otto Brunfels, who published the first accurate European botanical illustrations in 1530.

The two most commonly grown species are *B. americana* and *B. pauciflora*. *B. pauciflora* is commonly known as yesterday-today-and-tomorrow. It's a shrub that grows up to 12 feet and has two-inch, tubular, deep purple to white flowers. The name comes from the change of flower color from deep purple to white as it ages.

B. americana, or lady-of-the-night, ranges from a shrub to a small tree and can reach up to 20 feet with two-inch trumpet-shaped flowers. The colors range from a milky white to a creamy yellow. Lady-of-the-night refers to the heady fragrance exuded from dusk until dawn.

Brunfelsias can be grown successfully both indoors and outdoors. When grown outside they require a warm, humid, frost-free climate. They do best in partial shade, although too much shade may result in soft foliage and few blooms. If exposed to intense sun and heat, the leaves can turn yellow and brown and even drop. Brunfelsias can survive in most soils. They do exceptionally well in limy or richly-composted soils and respond to liberal feeding with a general house plant fertilizer during the growing season. They should never be severely pruned, but only lightly shaped when young. Spent blooms should be cut back to keep plants well shaped and tidy.

For those living in cooler climates, brunfelsias make attractive indoor or greenhouse plants. If kept slightly pot-bound, brunfelsias tend to bloom more and are less likely to grow too vigorously. A coarse, well-drained fertile soil is recommended for potting, and they may benefit from adding some lime. Indoor brunfelsias also like a humid

atmosphere, warm temperatures, and shade from direct sun. —Amy Davis
AHS 1992 Summer Intern

Q: I have a hemlock, white pines, and spruce trees that are crowding out several deciduous trees. How do I prune these evergreens?

R. K., Philadelphia, Pennsylvania

A: Essentially all evergreens will tolerate shearing, but you must take care not to cut more than one-third of a tree's foliage. The tallest central branch (central leader) can be cut to limit tree height, or side branches can be pruned to encourage a tall slender form. Individual limbs of evergreen trees may be cut back any time of year, to the point just in front of any lateral growth. This helps reshape the trees while forming a denser growth habit.

To maintain the desired size and shape of white pines, it is best to prune new growth shoots, or "candles," when small needles show in the spring. New lateral growth will appear just behind the cut. If the entire candle is removed, last year's side branches will continue to grow, thus controlling the overall tree size.

New stems of spruce should be pruned back halfway once they have hardened in summer. This hardening is indicated by brittle branch tips that will snap instead of bending, and by needles becoming a glossy dark green. Late pruning will slow tree growth by preventing new bud formation during the current growing season.

—David Wagoner
AHS 1992 Fall Intern

Q: I would like to plant roses but hesitate due to their maintenance requirements. What are some cultivars that won't need spraying?

T. P., Louisville, Kentucky

A: Some of the roses performing well at River Farm, where chemical-free gardening is the rule, are the 'Aquarius' and 'Queen Elizabeth' grandifloras, the 'Simplicity' floribunda, and the 'King's Ransom' hybrid tea.

Henry G. Mityga, professor of horticulture at the University of Maryland, reports that researchers have recently identified a number of rose varieties with a high resistance to diseases. Mityga lists some of these in the July issue of *American Rose*, the journal of the American Rose Society. Among the hybrid teas, he mentions the pink-flowering 'Duet', the red 'Olympiad' and the pink 'Smooth Lady'. From the

floribundas he lists the orange-red 'Impatient' and the deep yellow 'Sunsprite'. Several miniatures are mentioned, including the light pink 'Baby Betsy McCall' and the white 'Gourmet Popcorn'. Among the shrub roses, he names the pink and white 'Carefree Wonder', and several rugosas, including the double white 'Albo-plena', the double pink 'Belle Poitvine', and the showy single pink 'Frau Dagmar Hastrup'.

Northern readers may want to look through Robert Osborne's *Hardy Roses: An Organic Guide to Growing Frost- and Disease-Resistant Varieties* (Storey Communications, Pownal, Vermont, 1991). Osborne lists roses suitable for zones 2 through 5 and many of his subjects are disease resistant. Among the more readily available are *Rosa alba* 'Königin von Dänemark' ('Queen of Denmark', a pink), *R. rugosa* 'Belle Poitvine' (a pink), 'Blanc Double de Coubert' and 'Henry Hudson' (both white), and *R. spinosissima* 'Stanwell Perpetual' (light pink). Like Mityga, Osborne lists a number of shrubs, including the dark red 'Champlain', the pink 'Constance Spry', and the deep pink 'William Baffin'.

A source sheet for roses is available from AHS's Gardeners' Information Service (GIS). The suppliers listed on the sheet may be able to make recommendations in addition to those given here. For a copy of the sheet send \$1 and a SASE to GIS, 7931 East Boulevard Drive, Alexandria, VA 22308-1300. —D. W.

Q: This past summer I have noticed many brown rolled up leaves on my rhododendrons and an azalea. What causes this, and how can I control it?

G. F. J., Charlottesville, Virginia

A: Excessive sun exposure and dryness is likely to be at least part of the cause. Watering thoroughly throughout the fall and spring, and providing a windbreak during the winter will help the plants recover for the next growing season.

More specific causes to investigate include gray blight, phytophthora dieback, and azalea leaf miner.

Gray blight is caused by a parasite that infects rhododendrons previously weakened by winter kill, sunscald, or other injuries. Look for pinpoints dotting the surface of browning leaves to identify this fungus. Relocating plants away from blistering sun is the key to avoiding this problem, as chemical cures are not available.

Continued on page 15

Phytophthora dieback, which causes terminal buds and leaves to brown and roll up, can be recognized by a canker encircling infected twigs. Diseased twigs should be pruned, and new growth on the remaining stems may be treated with Bordeaux sprays to prevent further infection. (Bordeaux spray recipes appeared in the September 1991 News Edition.)

The azalea leaf miner, or leaf borer, will mine leaves, then roll them together. These insects are controlled with a regular preventative spray schedule using diaspinon or malathion as the larvae begin to mine leaves. —D. W.

Q: *I would like to plant hardy bulbs along with tender bulbs, but I don't want to disturb the hardy ones when taking up the others in fall. How could I solve this dilemma?*

K. B. S., Kalamazoo, Michigan

A: A new polyethylene mesh bag called a "Bulb Saver" is available to help with identifying, digging up, and storing tender bulbs, such as begonias, *Calochortus*, gladiolus, and *Polygonum*.

The bag is spread in a hole, the tender bulbs and soil added, and the plant name is written on a pre-attached identification tag with a permanent marker. In the fall, the bag is pulled out of the ground for winter storage. The bulbs can then be replanted in the bag the following season.

Write to Bulb Savers, P.O. Box 3024, Princeton, NJ 08543 for more information on this product. —D. W.

Amy Davis is now a senior in the landscape architecture department at the University of California at Davis. David Wagoner is a 1991 graduate of the horticulture and landscape architecture department at the University of Kentucky.

New From GIS

Our Gardeners' Information Service has three new resource bulletins available. For \$2 and a SASE, members may obtain the following:

- ◆ *Moss Gardening: A How-to and Resource Guide.*
- ◆ *Backyard Wildlife Habitat Gardening Guidelines and Design.*
- ◆ *Small Plants for Small Spaces*, which lists small and dwarf plants suitable for courtyards, patios, condominiums, and other limited space situations.

Members' Forum

Sources for Edibles

Your May article on "Old-Fashioned Edibles" was very interesting. However, you have triggered one of my often-triggered peeves: No way to follow up. Certainly you have some suggested sources for these plants!

Kenneth Zadwick
Vallejo, California

There are many sources for the plants listed, but here are a few, with telephone numbers for you to call about obtaining a catalog:

Black salisfy (Scorzonera hispanica)—Nichols Garden Nursery, (503) 928-9280; Richters Goodwood, (416) 640-6677; Johnny's Selected Seeds, (207) 437-9294.

Devil's claw (Proboscidea spp.)—Geo. W. Park Seed, (803) 223-7333; Thompson & Morgan, (201) 363-2225; Wild Seed, (602) 968-9751.

Orach (Atriplex hortensis)—Thompson & Morgan, Nichols Garden Nursery, Richters Goodwood.

Buffalo berry (Shepherdia argentea)—Farmer Seed & Nursery, (507) 334-1623; Mellinger's, (216) 549-9861; Southmeadow Fruit Gardens, (616) 469-2865; McKay Nursery, (414) 478-2121.

Lingonberry (Vaccinium vitis-idaea)—Mellinger's; Rice Creek Gardens, (612) 574-1197; Daystar, (207) 724-3369.

Ground cherries (Physalis spp.)—Farmer Seed & Nursery; Thompson & Morgan; Nichols Garden Nursery.

Fall Tree Planting

In her March article "Straight Skinny on the Life of Limbs," author Cass Turnbull says that "Current wisdom is that tree planting is better done in fall."

Perhaps this is true in Seattle, but certainly not true in the Midwest. We are also enclosing a photocopy of an article on this subject in a Midwest publication.

F. K. and R. E. Bickelhaupt
Co-Directors, Bickelhaupt Arboretum
Clinton, Iowa

The enclosed article, by Anthony Tyznik, landscape architect at the Morton Arboretum, lists many trees that at the Morton Arboretum seem to do better when planted in spring. These include paperbark and red maples; common pawpaw; European white and gray birches; European and American hornbeams; katsura tree; yellowwood; pagoda dogwood; common persimmon; American and European beeches;

Carolina silverbell; American holly; panicked goldenrain tree; golden chaintree; American sweet gum; tuliptree; most magnolias; sour gum; Persian parrotia; species and cultivars of ornamental pear; mountain Stewartia; and rhododendrons.

Tyznik said he could not delineate an area in which this advice would hold; it was simply based on observations made at the arboretum, which is in Lisle, Illinois. The mild autumns of the Pacific Northwest make it ideal for planting any tree, he observed. "Roots need to develop before a hard freeze sets in. An early hard freeze without snow makes it even more difficult for a tree to become established. Areas that can count on an early snow should be grateful for the protection it gives."

Corrections

In September, we jumped the gun in announcing an annual conference of the Association of Zoological Horticulture. They will not be meeting in St. Louis until 1993.

In the July issue, the founder of the Shoals Marine Laboratory on Appledore Island, the site of the restored garden of poet Celia Thaxter, should have been identified as John M. Kingsbury.

Attention Members!

Randomly selected AHS members will soon begin receiving a brief survey regarding the relative importance of the organization's benefits. Please take the time to respond to and return your survey. The results will help us decide which benefits to keep and expand, and which to discontinue so that we may have the resources to add others.

We are particularly interested in questions regarding the relative value of the *American Horticulturist* magazine and the News Edition. Some members say that they do not even read the News Edition; others say they prefer it over the magazine. We need your input to help us determine where best to invest our funds and energies. Even if you are not among those who receive a survey, we welcome letters on this question—or anything else that's on your mind!

Regional Notes

Andrew Plunders Botanical Treasures

When Hurricane Andrew stormed through south Florida, he did not neglect to visit its botanical gardens.

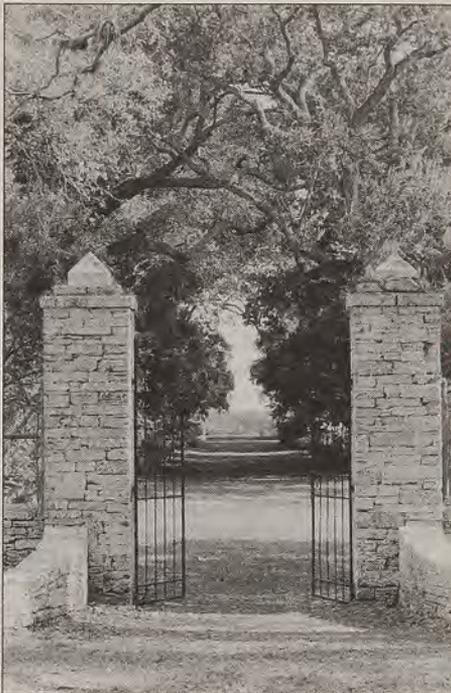
The Fairchild Tropical Garden in Miami was Andrew's most prominent victim. A major center for botanical research and the largest tropical garden in the country, the Fairchild is probably best known for its extensive collections of palms and cycads. In addition to its 83 acres of tropical plants, the garden houses a 7,000-volume botanical library and a 66,000-sheet herbarium.

Don Evans, Fairchild's chief horticulturist, reported that about 70 percent of the garden's trees were uprooted or snapped off, but some of these are expected to be salvageable. Of Fairchild's seven greenhouses, two were obliterated and only the frames of the others remain. The nursery went without irrigation for five days after the storm, further increasing the toll there. The main buildings sustained only minor damage: the library and herbarium were largely intact.

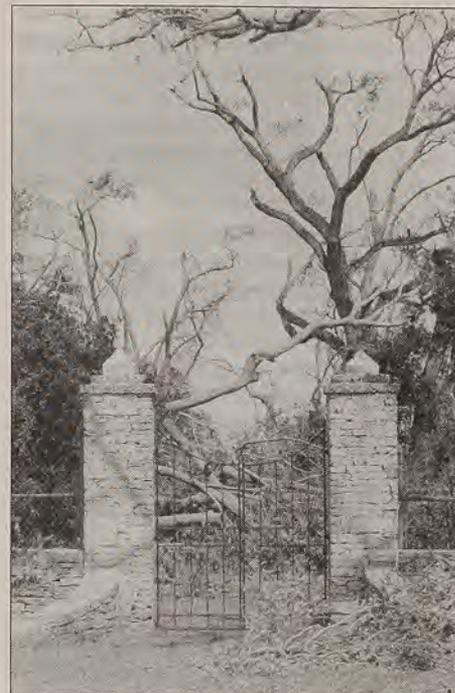
Fairchild reopened on October 3, giving the public a chance to see both the damage and the ongoing salvage work. But Evans estimated that the cleanup alone will take at least six months. Of course, replacing the mature palms and re-collecting lost specimens will be a labor of years. As for the cost, Evans said, "we can't even begin to talk about expense yet." He explained that the garden has some contingency funds and some pledges have come in after the storm but "right now, we're operating on faith."

Jack Fisher, who holds Fairchild's Chair of Botanical Sciences, said a network of horticultural institutions is already assisting in the relief effort—clearing debris, assessing damage, and caring for surviving plants. Local volunteers and garden clubs are also helping. But Fisher said the garden's losses were not fully insured, and funds are needed to cover both the reconstruction and the long-term effort to replenish collections.

Flamingo Gardens in Fort Lauderdale is a repository for *Heliconia* species and related plants. It also has collections of orchids, palms, tropical fruit trees, and an unusual outdoor aviary. "We weren't hit as hard as Fairchild, but we still sustained quite a bit of damage," said Sandra Manning, Flamingo's director. "We lost about 50 percent of our large tropical trees, and we had some minor



PHOTOS COURTESY OF FAIRCHILD TROPICAL GARDEN



Hurricane Andrew inflicted extensive damage on Fairchild Tropical Garden, as can be seen from these "before and after" views of one of the garden's gates.

building damage." Manning put the cost of rebuilding at \$50,000.

The toll at Flamingo included a number of rare and valuable trees. Among the casualties, Manning said, were the garden's Gumbolimbo (*Bursera simaruba*) trees, "which have a magnificent buttress and trunk structure." Also damaged was a cluster fig (*Ficus racemosa*) with a trunk diameter of about 40 feet, making it the largest single-trunk tree in the state. A tree of the genus *Terminalia*, thought to be Broward County's tallest tree at nearly 200 feet, lost 25 percent of its canopy. Damage to the heliconias was less severe; Manning said proper care should restore them to health in four to six months.

Fortunately, Andrew missed Flamingo's aviary. "I can't believe it," Manning said about the bird section, "but we only lost two trees." Most of the birds themselves waited out the storm and subsequent repairs in the safety of the restrooms. The flamingos were herded into their temporary accommodations with little trouble. The staff said that catching some of the birds in the walk-through aviary proved more of a challenge. And the free-roaming peacocks could not be caught, but they weathered the storm

successfully on their own.

As at Fairchild, the volunteer response greatly encouraged the staff. Flamingo was able to reopen within a week. "People just pitched in right away," said Manning. "The next day they were out here." Manning explained that Flamingo's elevation had made it especially vulnerable. "We are on a ridge," she said, "one of the highest in Broward County, and people knew we would need their help." Volunteers even brought in a couple of bulldozers to help clear away the wreckage.

Manning plans to go ahead with a fundraiser that had been scheduled before the storm, but she wonders where that extra \$50,000 will come from. "We just have no idea at this point," she said.

The news was much worse at Homestead's Fruit and Spice Park, a botanical garden with a collection of some 500 tropical fruit and vegetable varieties that was described in the May News Edition. Joe Oppe, curator of Mounts Botanical Garden at Palm Beach, visited Fruit and Spice 11 days after the storm, and reported that about 75 percent of its trees were down. Oppe was touring the area's gardens as relief coordinator for

the American Association of Botanical Gardens and Arboreta. He said that the day he was at Fruit and Spice, a crane was just beginning to set up trees that had been lying at least partly uprooted since the storm, with little or no irrigation. In the park's citrus enclosure, Oppe said, trees up to 15 feet tall had been ripped completely free of the ground and were lying ten or twelve feet from where they had been growing. "It was as if a huge hand had reached in and pulled them out." Expert opinions differed on the likely fate of the park's collection. The initial lack of irrigation could take a heavy toll, but at least some of the righted trees are reported to be doing well.

Despite the losses at these and other gardens, Andrew may actually strengthen American horticulture. Botanists say the storm has created research opportunities that don't exist under normal conditions. For example, at Fairchild, researchers from the Institute for Economic Botany

are taking tissue samples for chemical analysis. The tissue wouldn't normally be available because collecting it would have damaged the plants. Other researchers are removing the crown buds of fallen palms for dissection. The anatomy of these buds is known for only three or four species, according to Fisher.

Evans reported that research into Andrew's effects has already led to one major conclusion: The native plants have generally survived the storm in better condition than the exotics. And all of the survivors will continue to provide important information, since botanists plan to study how the plants regenerate. Fisher said that this work would be a valuable extension of the garden's ongoing research into plant wound responses.

"We will bring the garden back and ultimately we'll be stronger for the experience," said Evans. In the meantime, recovering from Andrew will continue to

be an exercise in facing adversity and trying to see the brighter side. That's true not just for professional horticulturists, but for the rest of us as well. Said Joe Oppe: "The price of limes and avocados will go up—out of this world. So if you can buy stock in avocados, do it." ♦

If you would like to help rebuild the Fairchild Tropical Garden or Flamingo Gardens, you can do so by sending donations to the following addresses:

Fairchild Tropical Garden, 10901 Old Cutler Road, Miami, FL 33156. (Make checks payable to the Garden Restoration Fund.)

Flamingo Gardens, 3750 Flamingo Road, Ft. Lauderdale, FL 33330. (Make checks payable to Flamingo Gardens.)

No fund for rebuilding the Fruit and Spice Park had been established at the time this article was written. If such a fund is organized, it will be mentioned in a future edition of American Horticulturist.

Florida Nurseries Picking Up the Pieces

Hurricane Andrew hit south Florida's nurseries at least as hard as it hit the region's botanical gardens. Nurseries are a major economic force in Dade County, where the storm did the most damage. With 842 growers, the county had some 7,200 acres in nursery production. Their crops, consisting mainly of tropical trees, foliage plants, and woody ornamentals, were worth an estimated \$145 million.

Initial damage assessments put the area's crop losses at virtually 100 percent. "Viewing the destruction takes your breath away," said Steve Munnell, executive vice president of the Florida Foliage Association (FFA), the trade group representing Florida's indoor foliage industry. After touring Dade County the day after Andrew struck, Munnell reported that "every nursery in the largest of our growing areas has been reduced to rubble."

But two weeks after the disaster, Munnell said that growers had managed to salvage more of their crops than seemed possible at first. Smaller foliage plants, like dieffenbachia, Chinese evergreen, and peace lily, had suffered the worst damage. Munnell put the toll for these at about 90 percent, but said the losses for trees and other large plants could be as low as 50 percent. Even when partly uprooted, he said, "trees and the larger material can withstand the elements, as long as you can get some water on them."

In the aftermath of Andrew, however, getting that water was almost impossible. Earl Wells, executive vice president of the Florida Nurserymen and Growers Association (FNGA), also toured the

stricken nurseries and found "no electric power, no irrigation, and major logistical problems for growers who want to get back in business."

Munnell estimated that only about 15 percent of the growers had insured their crops, either through government or private programs. "Crop insurance is very expensive," he said, "and the margins in the industry are pretty narrow." According to the FNGA, insurance will cover only about \$7 million out of the possible \$145 million crop loss.

Losses extended far beyond crops. Rebuilding ruined greenhouses and sheds and replacing equipment is expected to more than double the bill. Munnell said most of these structural losses are insured, but a shortage of construction materials is likely to delay rebuilding.

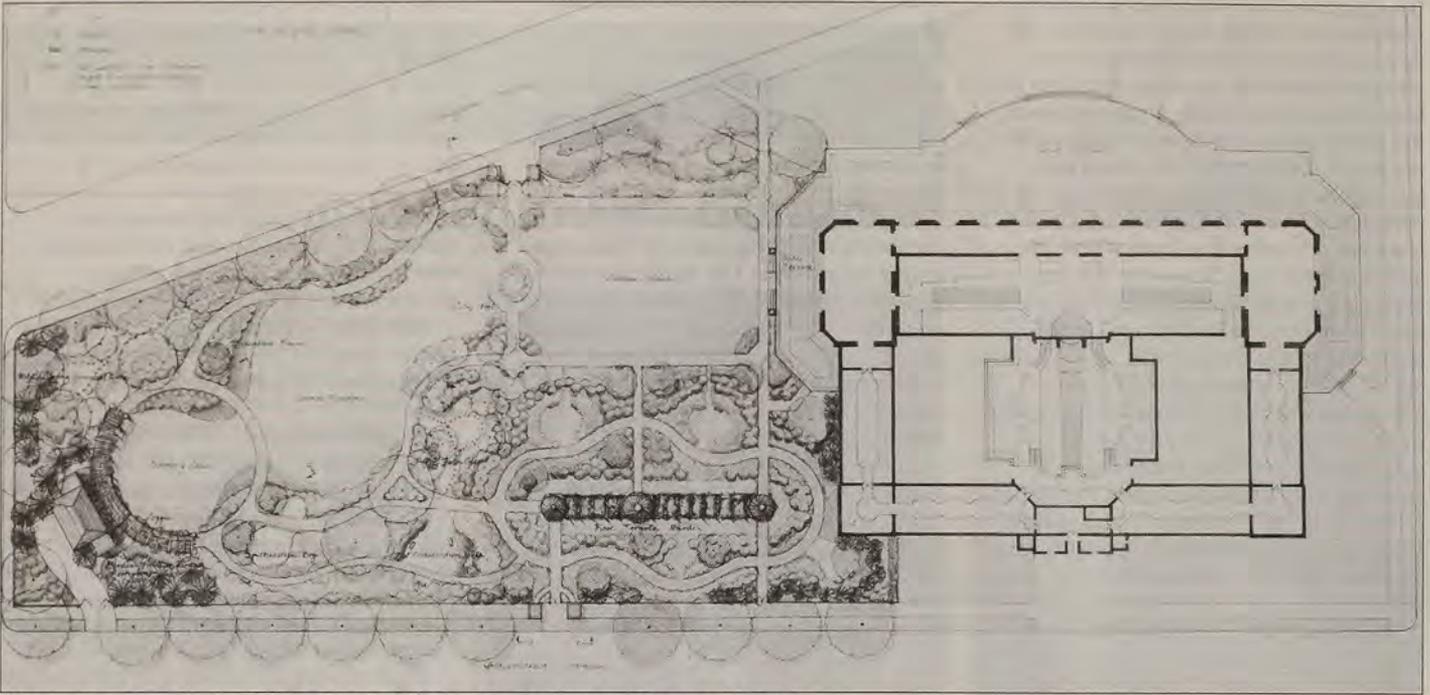
Initially, the industry's prospects for federal assistance seemed doubtful. "Historically, federal disaster programs have been little or no help to nurserymen," said the FNGA's Wells. But by the end of September, the American Association of Nurserymen, the industry's national trade group, succeeded in winning both White House and Congressional approval for expanding three disaster relief programs to include the nurseries. Any federal aid would reinforce the relief operation that the FNGA and the FFA had organized immediately after the hurricane.

Arvida Nursery in Homestead felt the full measure of Andrew's fury, with winds to 200 miles per hour. Two weeks after Andrew struck, the company's president, Bob Plyler, was just beginning the slow, painful process of saving what remained of his 30-year-old operation. "We have a

crew trying to salvage what we can," he said, "basically anything that hasn't been broken off." Arvida's 80 acres are devoted mainly to tropical trees, for shipment throughout the United States and the Caribbean. Plyler estimated his losses at about \$4 million, out of a total inventory of \$5.5 million. He said he hoped to have part of the nursery open within 90 days, but full recovery could take a year and a half.

The effect that such losses will have on prices is difficult to estimate. In the foliage plant sector, Florida accounts for over half the nation's supply, and storm damage could cut the state's production by a third. According to the FNGA's Wells, that loss may put a major squeeze on Florida's supply. But the FFA's Munnell argued that there has been a glut in the state's production for the last six years. Because of the excess capacity, Munnell estimated that growers outside the affected area could rapidly make up as much as half the lost production, at least for the smaller foliage plants. "But," he added, "there's no question that there are going to be some voids." Munnell predicted supply problems in the spring, and said that he had discussed this prospect with growers around the state. "They don't intend to increase their prices," he reported, "but they're not going to do any discounting."

The immediate prospects may be grim, but Munnell thinks that by summer the foliage sector, at least, will probably be approaching full production. In the long term, he said, "I have no doubt that most if not all of the growers will be back in business."



The conceptual design for the National Garden at the U.S. Botanic Garden.

New National Garden Announced

Washington, D.C., is a city of monuments. Bronze presidents and stone statesmen stand watch in parks and on street corners, as elsewhere mounted war heroes canter eternally in place. Tourists strike photo-op poses at the feet of the fatherly giant seated in the Lincoln Memorial, while the white spike of the Washington Monument juts above the skyline.

At an August press conference at the U.S. Botanic Garden (USBG), officials announced plans for a kinder, friendlier landmark, composed of green, growing things rather than cold stone or metal. A new National Garden, to be located at the base of Capitol Hill and adjacent to the USBG conservatory, will be the only monument to commemorate the Bicentennial of the Congress, which was observed in 1989. The garden will occupy a three-acre site between Maryland and Independence Avenues, an area that is now mostly lawn.

Ground will be broken on the project in 1993 and completion is scheduled for 1995, in time for the 175th anniversary of the U.S. Botanic Garden. The garden will be financed by the National Fund for the U.S. Botanic Garden, a private, nonprofit organization founded in 1991 to raise money for this and other USBG projects. The cost upon completion has been estimated at \$6 million. The National Fund has raised a million dollars so far, all from private contributions.

Charles E. Cooke, chairman of the

National Fund's executive board, called the garden "a significant addition to the U.S. Botanic Garden, the Capitol grounds, and the National Mall." With two million annual visitors, the USBG is already one of Washington's top ten tourist attractions.

The National Fund, in cooperation with the architect of the Capitol, is staging a competition for the design of the garden. In an effort to involve young people, landscape architecture and architecture students and unestablished landscape architects were encouraged to submit proposals. Participants were obligated to meet an October 16 registration deadline, and the winning designs will be announced in January 1993. A total of \$30,000 in prize money will be divided between the first, second, and third place winners, one of whom must be a student.

A tentative conceptual design of the garden, prepared for the architect of the Capitol by EDAW, Inc., a Washington landscape architecture and planning firm, was displayed at the press conference. The design hinges on three prominent features: a rose pergola, a water garden, and an environmental learning center. Even though this conceptual design has been approved by the Library of Congress, the design committee retains the right to discard it in favor of a design that completely overhauls the basic plan.

In addition to the three main features, the plan heavily emphasizes native plants and their ecosystems. Native areas

included in the design are a Midwestern prairie, a Southeastern bog, a Northeastern fern glen, a Northwestern rhododendron walk, and a Western spring ephemeral garden. Teresa Heinz, widow of the late Senator H. John Heinz III and chairperson of the design advisory committee of the National Fund, chided the American public for being "ignorant of our nation's variety of ecosystems and their natural beauty."

The environmental learning center, in particular, will be a welcome addition at the USBG. With classrooms for lectures and workshops and an outdoor teaching area, the learning center promises to be an important resource for tour groups, school field trips, and visiting scientists.

The oldest botanic garden in the country, the USBG was chartered in 1820 at the behest of George Washington. Its original mission was to grow and preserve economically important plants. Today the botanic garden houses permanent collections under 29,000 square feet of glass, sponsors four annual plant and flower shows, and includes a garden park centering on a fountain created by Frederic Auguste Bartholdi, the French sculptor of the Statue of Liberty.

The U.S. Botanic Garden is open daily, free of charge, from 9 a.m. to 5 p.m., and during June, July, and August until 8 p.m. For more information or to make donations for the National Garden, call (202) 226-4083.

1993 Gardener's Guide

CALIFORNIA • A CALENDAR FOR PLANTING, CARE, AND RECORD-KEEPING • PHOTOGRAPHY BY SAXON HOLT



A calendar for planting, care, and record-keeping for California, including twelve full-color photographs by Saxon Holt. Saddle-stitched; 10³/₈" × 14".

1993 Gardener's Guide

THE SOUTH • A CALENDAR FOR PLANTING, CARE, AND RECORD-KEEPING • PHOTOGRAPHY BY MARY-GRAY HUNTER



A calendar for planting, care, and record-keeping for the South, including twelve full-color photographs by Mary-Gray Hunter. Saddle-stitched; 10³/₈" × 14".

1993 Gardener's Guide

THE SOUTHWEST • A CALENDAR FOR PLANTING, CARE, AND RECORD-KEEPING • PHOTOGRAPHY BY CHARLES MANN AND CAROLE OTTESSEN



A calendar for planting, care, and record-keeping for the Southwest and Rocky Mountains, including twelve full-color photographs by Charles Mann and Carole Ottesen. Saddle-stitched; 10³/₈" × 14".

1993 Calendars

THE REGIONAL GARDENER'S GUIDES 1993

WRITTEN BY LOUISE CARTER AND JOANNE LAWSON

From the writers of Starwood Publishing's award-winning *Three-Year Garden Journal* comes another winner: a region-specific series of gardening guides in wall calendar form. Lavishly illustrated and highly informative, the Gardener's Guides are designed to help you garden successfully throughout the year in any part of the country.

Targeted to specific USDA plant-hardiness zones, the Gardener's Guides feature month-by-month suggestions on when to plant, fertilize, prune, watch for insects, and schedule other gardening chores. For the beginning gardener, this approach breaks down a multi-faceted occupation into manageable steps, providing specific information as it is needed. Experienced gardeners will value the Gardener's Guides' help in organizing tasks and expanding their repertoire.

The cultivation of native plants, trees, shrubs, annuals, perennials, lawns, herbs, vegetables, and house plants are all covered in the Gardener's Guides. Also, monthly "ECOTIPS" will give you the newest advice on organic gardening.

Each Gardener's Guide features magnificent images of gardens and flowers in its zone photographed by award-winning photographers such as Ken Druse, Jerry and Joanne Pavia, Saxon Holt, Carole Ottesen, Charles Mann, and Mary-Gray Hunter. These lavish photographs will inspire any green thumb and brighten any wall.

The calendars' spacious layout allows you plenty of room to keep personal notes on planning gardening tasks and to chronicle growth among your plants.

TO ORDER THE 1993 REGIONAL GARDENER'S GUIDES JUST 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.

A single calendar is just \$11 postage paid for AHS members. Each additional calendar is only \$9.50 postage paid. Virginia residents add 4¹/₂% sales tax.

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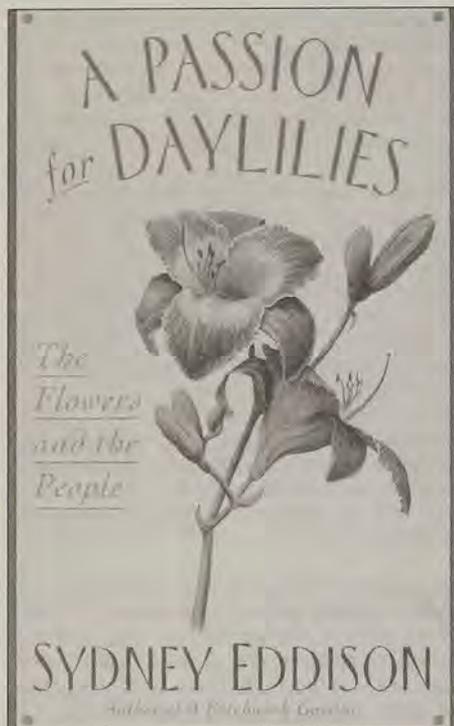
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Gardeners' Bookshelf



A Passion for Daylilies

Sydney Eddison. HarperCollins Publishers, New York, 1992. 322 pages. 5¾" × 9½". Black-and-white illustrations. Publisher's price, hardcover: \$22. AHS member price: \$18.75.

This spring my 10-year-old son was admiring the new growth on our *Miscanthus sinensis* 'Morning Light' when he realized he had left himself open for one of Mom's Stories. "I know, I know, your friend brought this plant back from Japan. . . ."

Knowing plant explorers such as John Creech and breeders such as the late Don Egolf has enriched my gardening beyond measure, and I can no longer imagine seeing plants as mere plants. Sydney Eddison admits that at one point she too "was cavalier about the hybridizers represented in my garden." In 1987, although she had grown daylilies for 25 years, Eddison glimpsed her first "modern" hybrids, and set out to learn where they came from. She also found out "how," and most importantly, "who."

I now know that the 'Siloam Red Ruby' I purchased at River Farm's Annual Daylily-Lily Day last year—as well as the many other cultivars with 'Siloam' in their names—was developed by Pauline Henry of Siloam Springs, Arkansas. Describing her flowers, the author says: "The small immaculate blossoms of Henry cultivars appear to have been cut from some mirac-

ulous crystalline substance by a master craftsman." Describing Henry: "She works like a breadmaker who knows from experience how long to knead the dough and how much flour to incorporate."

Eddison says one of her favorites is an early pink called 'Sweetbriar'. Can the flower be as interesting as the breeder, "doughty" Elizabeth Nesmith, who in 1910 rebelled against what was expected of ladies from old Massachusetts families and established her own mail-order nursery? We get to know pioneer Dr. A. B. Stout, who died in 1957, as well as prominent breeders of today, such as Darrel Apps.

The pragmatic may find the narrative almost too folksy; we meet not only the growers but their children and their children's pets. A textbook this is not, nor is it easily used for research. If you want to know who developed a particular cultivar, looking it up in the index may lead to its mention in an entirely different context, whereas the sections on breeders do not give exhaustive lists of their named plants. Eddison's first book, *A Patchwork Garden*, is a witty first-person account of her creation of her own garden, and this is best read in much the same way—as though accompanying Eddison on her travels as she tracks down the nation's past and present daylily devotees.

It's hard to imagine that too many people without a modicum of such devotion will be reading this book, but for *Hemerocallis* fans who have yet to get out of the armchair, there is a chapter on "Getting Started With Daylilies" as well as a glossary. —Kathleen Fisher, Editor

The Gardener's Eye and Other Essays

Allen Lacy. *Atlantic Monthly Press*, New York, 1992. 282 pages. 5¾" × 6½". Publisher's price, hardcover: \$21.95. AHS member price: \$18.75.

While we may read novels for adventure in far away places and experiences foreign to our own, in reading philosophy, we look for passages that reflect our own ideas and experiences. Thus philosopher-garden writer Allen Lacy won me over in the preface to this third collection of his essays: "I believe that gardening has intellectual underpinnings, that it always goes beyond technical and practical questions of when and how to, and I have allowed these philosophical foundations of the horticultural enterprise to show more clearly in these pages than they did in the earlier collections."

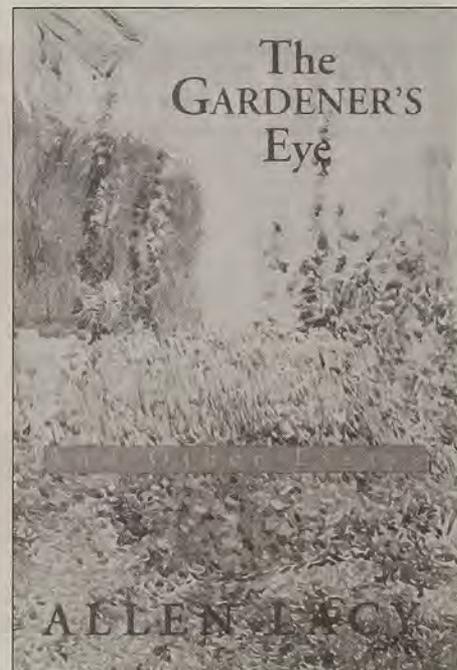
If I need advice on the technical aspects of gardening or lists of worthy plants, there are endless sources to which I can

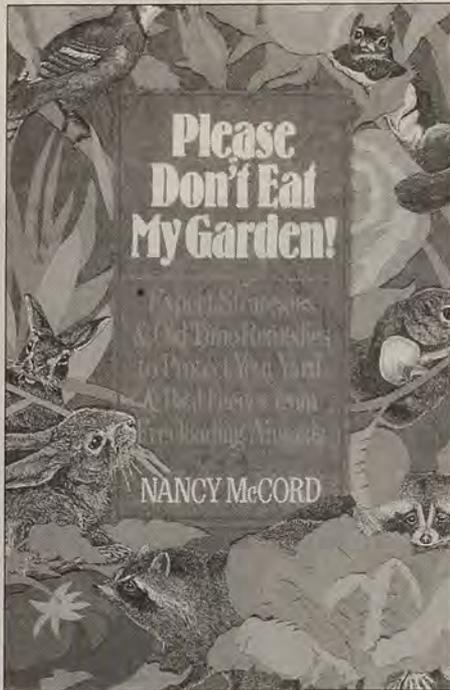
turn. But Lacy, as he did in his previous *Farther Afield*, offers inspiration, enrichment—his references to other authors seem endless—and a good deal of fun.

With a hand lens, Lacy takes us deep into the heart of hazels and crocuses. He takes us to the Rockwood Fillin' Station in Durham, Carolina, where he is "surprised by cotton" growing in a half whiskey barrel. He visits wonderful people like Kate and Fairman Jayne of Sandy Mush Herb Nursery, and J. C. Raulston of the North Carolina State University Arboretum; Raulston's newsletter gets its own chapter, deservedly.

He owns up to his failures, in teaching horticulture, running a chipper shredder, and saving a baby cardinal, and shares his romantic fantasy about the voice of Elizabeth Lawrence. Tried-and-not-always-true subjects are lifted above the mundane: The trip around his garden is taken from a window. Plants you should try are immersed in lore and personalities. There are little gems of wordsmanship: magnolia fruits *do* look like hand grenades, and Angliphilophobe is a fine name for those who've rebelled against the dictates of Jekyll.

Not all the essays are equally wonderful, of course, and I do weary of his references to Kansas as the gray land of Oz, much as an Asheville-area friend of mine bristled at Lacy's comparing rural North Carolina to Dog Patch. My friend and I may be Lacy's "brothers of the spade," but we are also home-state-ophiles. —K. F.





Please Don't Eat My Garden

Nancy McCord. Sterling Publishing Company, New York, 1992. 160 pages. 5 3/4" x 8". Black-and-white drawings. Publisher's price, softcover: \$9.95. AHS member price: \$8.95.

As far back as I can remember, I've longed for a place in the country, if not full-time, at least as a weekend escape. In my dreams, one of its many functions is to provide the gardening space I lack in my current suburban lot.

Yet everyone I know who has such elbow room, including land adjacent to undeveloped space here in our crowded metropolitan area, has problems that I almost never encounter—furry, four-footed problems.

McCord's subtitle is "Expert Strategies and Old-Time Remedies to Protect Your Yard and Bird Feeder From Freeloading Animals." As it indicates, her animal-repelling tips come from a wide variety of sources, ranging from formal research to "some say." She opts for approaches that are nonlethal, environmentally safe, and inexpensive. Although it would have been helpful to know more about the authorities she does quote—she usually just names the author and the magazine or book in which their advice appeared—it's probably enough to view all of them as fellow gardeners whose methods may or may not work for you. Some of them conflict; some are offered by McCord and then shot down. Pick and choose: the ideas are far too numerous to exhaust in even several growing seasons.

She begins by introducing us to the enemy, with a look at lifestyles of the voracious and infamous. The next chapter gives us lists of plants that

In Nature's Hands

Louise Riotte. Taylor Publishing Company, Dallas, Texas, 1992. 226 pages. 7" x 10". Publisher's price, softcover: \$13.95. AHS member price: \$19.95.

Fans of Louise Riotte will want her latest effort, which, as the subtitle explains, is "An Organic Gardening Potpourri, From Armadillos to Zucchini." (Actually, "armadillos" is the 12th entry; "A-frames" is first.) Like her previous works, *Carrots Love Tomatoes*, *Roses Love Garlic*, *Sleeping With a Sunflower*, and *Astrological Gardening*, it's friendly and reassuring. What would you expect from an author described on the cover as living "with her cat, Bootsie, in Ardmore, Oklahoma, where she is especially pleased with her five

different kinds of broccoli"? When her advice lapses into the regional it favors the South Central, understandably. The individual entries look like an effort to clean her file drawers of "interesting things I have read." There's a list of red and purple vegetables, a recipe for hush puppies, a defense of blue jays, ideas for recycling, descriptions of neglected vegetables and herbs, but mostly, tips and more tips—propagation, increasing yield, fending off pests, choosing plants, using plants. It's not particularly handy as a reference. If you wanted to find out how to candy violets, you would have to look under "F" for "Fun with Flowers." But it will be a delightful book to thumb through this winter for ideas on new plants and new techniques for next spring. —K. F.

animals allegedly eschew, rather than chew. This chapter's section on deer is frustrating in several ways: it notes that deer favor different foods in different seasons and even different regions. It also exemplifies a general problem with the book, which is a lack of clear organization. Following a list of plants favored by deer in Connecticut comes a narrative from New Jersey mixing plants favored and avoided. Then we get paragraphs on preferred plants in West Virginia. Then a sentence on plants disliked in Georgia. Long lists of deer-resistant plants are attributed to *The Sunset Western Garden Book* and a California Agricultural Experiment Station. Can it be that most of the authorities on deer anathemas just happen to be located on the West Coast?

The rest of the book is divided into "Diversionary and Camouflage Strategies," which generally involves using other plants or their trimmings; "Sensory Strategies" such as hot pepper, sweaty clothes, or commercial repellents (published studies recommend LifeBuoy soap over the one she mentions for deer); "Exclusionary Strategies" such as fabrics, cages, and fences, with some diagrams for building them; "Scare Tactics" such as fake predators and noisemakers; and lastly, others that defy categorization. The last chapter deals with raiders of the bird feeder.

In the flora-fauna feud, a lasting peace is unlikely. But while the book's disorganization is irritating, those who are ready to scream defeat are sure to find some remedies here that will allow them to win a few individual battles. As for me, I may opt for a cabin in the woods and do a lot of canoeing. —K. F.

Book Order Form

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- The Gardener's Eye . . . \$18.75
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Note: Since some of Louise Riotte's early books may be in short supply, please order by January 31, 1993.

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AHS Bulletin Board

Come Join Us at Eco Expo '93

Members and friends of the American Horticultural Society are invited to attend the first of what we hope to make an annual event. On April 3 and 4 our River Farm headquarters will be the site of Eco Expo '93, a two-day multidisciplinary exposition exploring the interdependence of people, natural resources, and the living world. The theme for this year's Expo is the development of a sustainable lifestyle through easily adoptable practices around the home, yard, and garden.

Expo '93 is co-sponsored by the Virginia Cooperative Extension Service. Initial funding has been provided by the State of Virginia Division of Soil and Water Conservation, to support educational efforts that will have an impact on the Chesapeake Bay and its tributaries.

Challenging ideas and helpful information will be presented by over 40 public and private agencies at exhibits and demonstrations. Throughout the two days, there will be small classes and workshops on recycling, composting, water conservation, and many other topics (see below). Numerous vendors will provide demonstrations and offer equipment and supplies that visitors can purchase to bring home the environmentally-friendly practices they will learn.

Classes and workshops topics planned for Eco Expo '93 include:

Air Quality
Children and the Environment
Composting and Soil Improvement
Edible Landscaping
Educational Programs
Energy Conservation
Forests and Reforestation
Genetic Diversity
Grasscycling and Lawn Care
Hazardous Materials and Disposal
Integrated Pest Management
Land Conservation and Open Space
Native Plant Conservation
Noise Pollution
Nonpoint Source Pollution
Organic Gardening
Recycling, Precycling, and Waste Reduction
Scenic Protection
Tree Care and Pruning
Water Quality and Conservation
Wildlife and Habitat Creation

Watch future News Editions for more information.



Building a compost pile was among activities in which 30 teachers participated during a Life Lab workshop at River Farm in August. Life Lab shows educators how to use gardens as living laboratories to teach science and nutrition. Among those at the event were AHS's first two teacher interns, Yvon Reader-Tinsley and Alex Thom.

Building a Greenbelt

A little bit of Deutschland will come to River Farm on November 6 at 11 a.m., when Klaus Jurgen-Evert gives a lecture on "The Greenbelt of Stuttgart."

A landscape architect, ecologist, and urban parks administrator, Jurgen-Evert is also a director of the upcoming "1993 International Horticultural Exhibition at Stuttgart: Seventy Years of Open Space Planning." The exhibition premieres the completion of an urban design plan that began in 1939 and has successfully linked the castle gardens, railway stations, and undeveloped purlieus of Stuttgart into a continuous, U-shaped greenbelt four-and-a-half miles long. Although Stuttgart is one of Germany's most densely populated cities, this greenbelt has helped preserve its Old World beauty.

Jurgen-Evert will share images of perennial plantings in various urban site conditions and garden themes, and explain innovative ways to use perennials in right-of-way plantings and to substitute hardy perennials for woody plants. He will also emphasize how increasing the diversity of flora and fauna enhances our urban environments.

Landscape architects Wolfgang Oehme and Edward B. Ballard will introduce the speaker. A reception will follow the

lecture. Admission is free for AHS members, \$3 for nonmembers. For more information, call Maureen Heffernan at (703) 768-5700.

Musical Discount

An ad in our October magazine offered discount coupons to the hit musical "A Secret Garden" during its appearance in Boston, Massachusetts, and Hartford, Connecticut, this fall.

If you don't live in either of those cities, don't despair. The same offer—\$5 off the normal price—will be available in eight other cities in coming months.

This spring the musical will appear in Fort Lauderdale, Florida; Atlanta, Georgia; Grand Rapids, Michigan; Louisville, Kentucky; Cincinnati, Ohio; and Columbus, Ohio. This summer, it can be seen in Houston, Texas, and in Seattle, Washington.

Grasscycling at River Farm

"Grasscycling," the environmentally sound practice of leaving grass clippings on a lawn after mowing, is a major component of AHS's Compost Education Program and an important feature of its National Home Composting Park.

This summer the turf areas of our River Farm headquarters were maintained solely with mulching mowers thanks to the generosity and support of many of America's major mower producers. Large plots are being mowed and aerated with a Toro 520-H Lawn Tractor and its 42-inch Recycler Mower Deck; difficult areas, like our dwarf fruit orchard, are being tended with a zero-radius Swisher Quick-Change Mulching Riding Mower; and our numerous pathways and smaller, typical lawn areas are being "grasscycled" with mulching mowers from Toro, Snapper, Homelite, and Troy-Bilt.

Leaving these grass clippings where they fall or using them for mulch returns valuable nutrients and organic materials to the soil and conserves moisture. Soil becomes a more hospitable environment for micro-organisms that keep it aerated and healthy, and eventually improves the health of turf as well, through the use of a "fertilizer" that is both natural and free. And of equal importance, grasscycling keeps these valuable organic materials out of overburdened landfills, treating them as an environmental resource and not just another environmental liability.

AHS members can receive a free Grasscycling Factsheet (#12), by sending a SASE to the AHS National Home Composting Park, 7931 East Boulevard Drive, Alexandria, VA 22308.



KATHLEEN FISHER

Right: Peewee Glass, groundskeeper at River Farm, mows our composting park with a Toro lawn tractor with a recycling deck.

Below: Program Director Joe Keyser mows a newly sodded area with a Toro mulching mower.



JOE KEYSER



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Gardeners' Dateline

Mid-Atlantic

◆ **Through Nov. 29. Chrysanthemum Show.** "Plants of Magnificent Voyages." U.S. Botanic Garden, Washington, D.C. Information: Holly Shimizu or Monica Kilby, (202) 226-4082.

◆ **Nov. 5-7. Ikebana Show.** Lewis Ginter Botanical Garden, Richmond, Virginia. Information: (804) 262-9887.

◆ **Nov. 7-10. American Society of Landscape Architects Annual Meeting and Educational Exhibit.** Washington, D.C. Information: (202) 686-2752. Fax: (202) 686-1001.

◆ **Nov. 14. Designing and Growing a Biblical Herb Garden.** Lecture. U.S. National Arboretum, Washington, D.C. Information: (202) 475-4857.

River Farm Events

Don your gay apparel and join the yuletide carol at River Farm Saturday December 5 when we'll celebrate with our annual **Holiday Open House** from 10 a.m. to 3 p.m. Our halls will be decked by local garden clubs, and choral groups from community schools will render traditional Christmas songs. Light refreshments will be provided.

Seasonal crafts and holiday plants will be on sale. Virginia Christmas trees and boxwood wreaths—created by the Alexandria Council of Garden Clubs—may be pre-ordered at a cost of \$25 each; pre-order deadline is November 15.

From October 28 until November 30, the etchings and oil paintings of **Lyndia Terre** will be on display. A "meet-the-artist" reception will be held November 12 from 5 to 7 p.m.

On exhibit from December 2 until January 5 will be the stained glass works of **Trish Hendershot** and **Glen Kamber**, and "Winter Trees," the landscapes of **Kathleen Ford Green**.

River Farm is four miles south of Alexandria on the George Washington Memorial Parkway. For pre-orders or additional information, call (703) 768-5700.

North Central

◆ **Nov. 4-30. Oriental Chrysanthemum Show.** Des Moines Botanical Center, Des Moines, Iowa. Information: (515) 242-2934.

◆ **Nov. 11, 17, 20. Kansas Farm Women: Growing Out of the Tilt.** Multi-image presentation. Newton, Garden City, and Hutchinson, Kansas. Information: Kansas Rural Center, (913) 873-3431.

◆ **Nov. 14-29. Reflections on the River.** Art and Flower Show. Olbrich Gardens, Madison, Wisconsin. Information: Sharon Cybart, (608) 246-4716.

◆ **Nov. 16. The Other Roses.** Lecture. Garden Center of Greater Cleveland, Cleveland, Ohio. Information: Susan Giambrone or Marilyn Sommer, (216) 721-1600.

◆ **Nov. 21. Flowers in the Snow.** Introductory Bonsai. Chicago Botanic Garden, Glencoe, Illinois. Information: (708) 835-5440.

◆ **December 4. Holiday Greens Workshop.** Garden Center of Greater Cleveland, Cleveland, Ohio. Information: Susan Giambrone or Marilyn Sommer, (216) 721-1600.

Northeast

◆ **Nov. 5. Fungus Among Us.** Lecture. Cornell Plantations at Cornell University, Ithaca, New York. Information: (607) 255-3020.

◆ **Nov. 6-9. Fifth National Conference on Specialty Cut Flowers.** Sponsored by the Association of Specialty Cut Flower Growers. Burlington, Vermont. Information: ASCFG, 155 Elm Street, Oberlin, OH 44074, (216) 774-2887.

◆ **Nov. 7, 14, 21. Woodland Work Days.** Volunteer reclamation project. Wave Hill, 675 West 252 Street, Bronx, New York 10471. Information: (718) 549-3200.

◆ **Nov. 10. Clio's Garden: The Historical Dimensions of Landscape Architecture.** Lecture. Massachusetts Horticultural Society, Boston, Massachusetts. Information: Walter Punch, (617) 536-9280.

◆ **Nov. 10-13. Turf and Grounds**

Exposition. Sponsored by the New York State Turfgrass Association. Rochester, New York. Information: (800) 873-TURF.

◆ **Nov. 16. Twentieth Century Garden Design.** Lecture. Pittsburgh Civic Garden Center, Pittsburgh, Pennsylvania. Information: (412) 441-4442.

◆ **Nov. 18. Annual Meeting of the Pennsylvania Horticultural Society.** Philadelphia, Pennsylvania. Information: (215) 625-8250.

◆ **Nov. 22. Weeds in Winter Walk.** Bartlett Arboretum, University of Connecticut at Stamford, Stamford, Connecticut. Information: (203) 322-6971.

◆ **Nov. 22. A Park Designed for People.** "Walks and Talks" series. Central Park, New York, New York. Information: Nancy McGrath, (212) 315-0385.



This neoclassical pergola and fountain formed part of an educational exhibit for the 1991 annual meeting of the American Society of Landscape Architects (ASLA), in Kansas City, Missouri. The 1992 ASLA meeting will be November 7 to 10 at the Washington Convention Center in Washington, D.C. Speakers will explore the ways significant issues of the 1990's, such as the prolonged recession and the environmental movement, influence landscape architecture. The meeting includes 350 educational exhibits and more than 40 seminars. Senator and vice-presidential candidate Albert Gore Jr. will deliver the keynote address. Roger K. Lewis, urban design critic of the Washington Post, will moderate three public forums on the "Fractious Landscape of Washington, D.C." For more information call Jan Rothschild, (202) 686-2752.

Northwest

◆ Nov. 10-11. **Alaska Greenhouse and Nursery Conference.** Soldotna, Alaska. Information: Cathy Wright, Alaska Division of Agriculture, SR Box 7440, Palmer, AK 99645, (907) 745-4119.

◆ Nov. 18. **New Plants for Home Gardens.** Lecture by Dr. J. C. Raulston. University of Washington Center for Urban Horticulture, Seattle, Washington. Information: Dave Stockdale, (206) 685-8033.

South Central

◆ Dec. 12. **Children's Victorian Christmas.** Long Vue House and Gardens, New Orleans, Louisiana. Information: (504) 488-5488.

Southeast

◆ Nov. 5-7. **International Plug Conference.** Orlando, Florida. Information: Julie A. Stewart, P.O. Box 532, Geneva, IL 60134-0532, (708) 208-9080. Fax: (708) 208-9350.

◆ Nov. 14-15. **Annual Fall Camellia Show.** Masee Lane Gardens, Fort Valley, Georgia. Sponsored by the Middle Georgia Camellia Society. Information: Betty Hotchkiss, (912) 967-2722.

◆ Dec. 1-Jan. 15. **Poinsettia Festival.** Cypress Gardens, Florida. Information: (800) 237-4826.

◆ Dec. 5-29. **Trees of Christmas.** "Visions of Sugarplums." Cheekwood, Nashville, Tennessee. Information: (615) 353-2150.

Southwest

◆ Dec. 5-Jan. 3. **Gift of Gardens.** Free holiday exhibit. The Dallas Arboretum and Botanical Garden, Dallas, Texas. Information: Jill B. Magnuson, (214) 956-9304.

West Coast

◆ Nov. 5-8. **Fall Plant Festival.** The Huntington, San Marino, California. Information: Lisa Blackburn, (818) 405-2140.

◆ Nov. 7-8. **Japanese Flower Arranging.** Descanso Gardens, La Canada Flintridge, California. Sponsored by the Los Angeles Chapter of Ikebana International. Information: (818) 952-4400.

◆ Nov. 14. **Landscaping Techniques on the Cutting Edge.** Symposium. Santa Barbara Botanic Garden, Santa Barbara, California. Information: Anne Steiner, (805) 682-4726.

◆ Dec. 3. **A Christmas Garden.** The Huntington, San Marino, California. Information: Lisa Blackburn, (818) 405-2140.



LIZ MASON / COURTESY OF THE SANTA BARBARA BOTANIC GARDEN

A symposium, "Landscape Techniques on the Cutting Edge in the '90s," will be held November 14 at the Santa Barbara Botanic Garden in California. Owen Dell, above, a landscape architect and water conservation expert, will be one of six panelists covering such topics as fire-resistant gardening, plant nutrition, biological controls for pests, irrigation, and recycling. For more information call Anne Steiner, (805) 682-4726.

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The Second Edition of *North American Horticulture: A Reference Guide*, edited by Thomas M. Barrett, is now available from the AHS Book Program. Compiled by AHS, the completely re-

vised and expanded *North American Horticulture: A Reference Guide* is the most comprehensive directory of U.S. and Canadian horticultural organizations and programs. Major new sections in this edition include native plant societies and botanical clubs; state, provincial, and local horticultural organizations; horticultural therapy; and historical horticulture. Thousands of organizations and programs are arranged in 28 categories, including: conservation organizations; international registration authorities; national governmental programs; horticulture education programs; botanical gardens, arboreta, conservatories, and other public gardens; plant societies; and community gardens. The volume is available to AHS members for just \$78.50 postpaid. To order, send a check to AHS BOOKS, 7931 East Boulevard Dr., Alexandria, VA 22308-1300. Visa or MasterCard orders, call (800) 777-7931.

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THE ORCHID GENUS BOOK by Patsy Weber, 1992. Every serious orchidist needs this study guide, arranged by classification, with concise discussion of most popular species, major taxonomic changes, geographic distribution, and unique characteristics. Features comprehensive bibliography for each of the 860 genera in the orchid family, drawn from 155 horticultural and scientific references. \$34, or send SASE for more details, to ORCHID EDUCATIONAL SERVICES, P.O. Box 780701, San Antonio, TX 78278.

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We at the American Horticultural Society are often asked to refer individuals to significant horticultural positions around the country. We are not in a position to offer full placement services to candidates or employers. However, as a service to our members—jobseekers and employers alike—we would be very glad to receive résumés and cover letters of individuals seeking job changes and employers seeking candidates. All responsibility for checking references and determining the appropriateness of both position and candidate rests with the individuals. AHS's participation in this activity is only to serve as a connecting point for members of the Society. Inquiries and informational materials should be

sent to Horticultural Employment AMERICAN HORTICULTURAL SOCIETY, 7931 East Boulevard Dr., Alexandria, VA 22308-1300.

CHIEF OF HORTICULTURE SERVICES, SMITHSONIAN INSTITUTION. DIRECTS ALL HORTICULTURE PROGRAMS AND LANDSCAPING DESIGN FOR THE SMITHSONIAN'S HISTORIC BUILDINGS AND GARDENS LOCATED PRIMARILY ON THE NATIONAL MALL IN WASHINGTON, D.C. PLANS AND MANAGES ALL PROGRAMS OF THE HORTICULTURE SERVICES DIVISION, INCLUDING: GROUNDS MANAGEMENT, INTERIOR AND EXTERIOR LANDSCAPING, OPERATION OF A NURSERY AND GREENHOUSE COMPLEX, EDUCATION PROGRAMS, AND EXHIBITION PROGRAMS INCLUDING NATIONALLY RECOGNIZED LIVE FLORA AND ORNAMENTAL FURNITURE COLLECTIONS. SUPERVISES A SKILLED AND EXPERIENCED STAFF OF 50 PLUS A COMPLEMENT OF ENTHUSIASTIC VOLUNTEERS. WE OFFER A CREATIVE AND CHALLENGING ENVIRONMENT WITH UNIQUE PROFESSIONAL OPPORTUNITIES. THIS IS A FEDERAL CIVIL SERVICE POSITION (GM-14). SALARY \$54,607 - \$70,987, COMMENSURATE WITH EXPERIENCE. FOR FULL DETAILS, PLEASE CALL (202) 287-3102 (OUR 24-HOUR/TOUCHTONE ACTIVATED REQUEST LINE), PRESS 9, AND REQUEST VACANCY ANNOUNCEMENT #92-2114e AND A FULL APPLICATION PACKAGE. APPLICATIONS MUST BE RECEIVED BY NOVEMBER 30, 1992.

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LECTURES

TRAVEL/STUDY TRIPS FOR THE AHS GARDENER

JANUARY 23-FEBRUARY 2, 1993 GARDENS OF THE LOWER CARIBBEAN AND THE VENEZUELAN RAIN FOREST

We'll travel on board the *MV Yorktown Clipper* in the Lower Caribbean, stopping in Trinidad, Tobago, Ciudad Guayana, the atoll islands of Venezuela's Los Roques Archipelago National Park, Bonaire, and Curacao. This program is led by former AHS President Carolyn Marsh Lindsay and Bob Lindsay and AHS Board Member Andre Viette and Claire Viette. Visits to many beautiful private gardens have been arranged, with lunch to be served in the Trinidad gardens of Clayton and Judith Procope, who have won numerous gold medals at the Royal Chelsea Flower Show.

FEBRUARY 18-MARCH 12, 1993 AROUND THE WORLD IN SEARCH OF FLORA, TIGERS, AND TEMPLES

This expedition begins in Bangkok, Thailand, and continues to Nepal and India. In Nepal, the itinerary includes Kathmandu and Tiger Tops in Royal Chitwan National Park. In India we'll visit Varanasi, Khajuraho, Agra, Bharatpur, Jaipur, and Delhi. Joining the program are regional horticulturists Pushpa Man Amatya and Uttar Bahadur Shrestha, who both hold posts with the Ministry of Forests, His Majesty's Government in Kathmandu. Dr. U. S. Kaicker, principal scientist, Division of Floriculture and Landscaping at the Indian Agricultural Institute in New Delhi, will travel with the group in India. Helen Fulcher Walutes, acting executive director of AHS, will lead the tour.

MARCH 16-29, 1993 NATURAL GARDENS OF PANAMA AND COSTA RICA

Our voyage on board the *MV Yorktown Clipper* begins in Panama, ends in Costa Rica, and offers daylight transit of the Panama Canal. The horticultural treasures of Costa Rica are revered by botanists the world over and one of the program's many highlights is an excursion from San Jose to Cartago to visit Linda Vista, the creation of Claude Hope. If you have ever planted petunias or impatiens in your garden, it is most likely the seed came from Linda Vista. Leading this program is former AHS Board Member Roy Thomas, recognized expert in tropical horticulture. Joining Roy is his wife Margaret, with whom Roy led our very successful program on board the *MV Yorktown Clipper* in the Leeward Islands of the Caribbean in 1989.

APRIL 28-MAY 2, 1993 GARDENS OF BARBADOS

This once-in-a-lifetime program, offered in conjunction with the Barbados National Trust, features an exceptional collection of historic homes and gardens where our hosts have invited us for special luncheons and dinners. A dinner reception at "Mallows," home of Paul and Rachelle Altman, provides a cordial welcome to Barbados. Mr. Altman is vice president of the Barbados National Trust. We also visit Andromeda Gardens, creation of Iris and John Bannoche. Started in 1964, this garden is acclaimed as the finest botanical garden in the Caribbean, home to thousands of tropical trees, shrubs, and flowers collected by the Bannochees from around the world. AHS Board Member Beverly White Dunn, from Birmingham, Alabama, will be the leader for this tour.

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

Calamity for Clematis

Looking for a special clematis that isn't widely available? The 'Betty Corning', for example, which received a Gold Medal Award from the Pennsylvania Horticultural Society this year? Or the 'Starfish' developed by Polly Hill of Martha's Vineyard and described in *American Horticulturist* this February?

You may have to put that particular gardening dream on hold for a while longer.

Arthur Steffen Inc. of Fairport, New York, the largest clematis nursery in the United States and the primary source for these plants, has "nothing available to the public" for next season, according to owner Arthur H. (Bing) Steffen Jr. Of approximately 1.1 million plants that the nursery had two years ago, 85 percent had to be discarded because of contamination by Benlate, a systemic fungicide that has now been taken off the market.

Thousands of plants died during the summer of 1991. Then the survivors, which had been washed and repotted, became stunted and necrotic. Bloom color shifted, with reds becoming a washed out pink. "Some varieties became unrecognizable," said Steffen. And some varieties are gone. "Of about 330 varieties, I'm now working with a core of about 35 premium varieties," he said. "Many of the stock plants that were lost were eight to 10 years old, and this included some very unique ones."

Claims against Du Pont, the makers of Benlate, have been in the hundreds of millions. In the past, the formula was found to be contaminated with a herbicide. No one is sure what was wrong with the most recent formulation, although one theory is that it reacts with heat and humidity to form some type of toxin. Steffen

said that he reached an "interrupted business" out-of-court settlement with Du Pont that made up for part of his loss.

The Steffen staff—he now employs about 20 people, compared to 60 two years ago—rebuilt and essentially sterilized about a half-acre of nursery space, removing soil and propagating benches and reskinning roofs. They will be evaluating the remaining 75,000 stock plants for any residual effects of the fungicide, and plan to start propagating next year for limited sales in 1994.

This doesn't mean that no one will be able to buy any clematis next year. Common cultivars are still widely available and sellers are expected to import more from Europe. Said Steffen: "The trouble with plants from England and Holland—I know I sound prejudiced—is that they have to be decontaminated when they come into the country, and that sets them back. Then they need to be grown out for a year or two to acclimate. I'm going to be getting some material in from England, but I can't be sure that it will be healthy. Benlate is still legal over there."

Smell, Don't Eat

HerbalGram, the journal of the American Botanical Council and the Herb Research Foundation, recently issued a warning against eating flowers of lily-of-the-valley. One award-winning cookbook, *Great Cakes* by Carole Walter, is being recalled by Ballantine Books as a result of its recommending the use of the flowers to decorate desserts.

The plant, *Convallaria majalis*, has been used as a diuretic and to treat heart ailments. The roots, leaves, and flowers contain active substances similar to those in foxglove (*Digitalis purpurea*), a source

of frequently prescribed heart medicines. Eating only a small amount of these flowers could be dangerous, especially to anyone taking such medicines, the magazine warns. Its staff has found at least three other cookbooks containing recipes that include lily-of-the-valley.

Urban Forestry Paper Available

Trees in the Community: Managing the Urban Forest is a new publication from the U.S. Department of Agriculture (USDA) Forest Service Division of Cooperative Forestry. It presents management strategies for effective urban and community forestry programs, management policies and practices, funding sources, and partnerships for improved urban and community forestry management. The paper details the benefits of the urban forest and describes the urban forest ecosystem. Also included is a list of state level Urban Forestry Coordinators, who work through the state forestry agency to provide technical assistance to communities and administer community tree project grants.

The paper was written by Rita S. Schoeneman, community tree specialist in the Washington, D.C., office of the USDA Forest Service Division of Cooperative Forestry, and Zanetta Doyle, a Forest Service intern and print journalism major at the University of the District of Columbia.

To request a copy of *Trees in the Community: Managing the Urban Forest*, write *International City Managers Association*, 777 North Capitol Street N.E., Suite 500, Washington, DC 20002-4201. Request *Management Information Service Report*, volume 24, number 5.



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