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On the Cover: Why not plan a front yard that entices the eyes, creates areas for outdoor relaxation, and shows off nature's cycles in a glorious twelve-month display of color? Such a landscape is the opposite of the boring yards so often found in suburban America. For some new ideas, turn to page 5. Cover photo from the U.S. National Arboretum.

Left: The trumpet-shaped Calla 'New Zealand' Hybrid Mix, a new introduction from Park Seed, is available in a range of shades for new color groupings in your garden. Our annual roundup of outstanding new plants for 1988 starts on page 15.
A good friend and mentor, John Eisley, recently encouraged me to learn more about Graham Stuart Thomas. I started by reading *The Art of Planting* in which Mr. Thomas again reminded me that we do not start young enough to learn and experience the full majesty of gardening. But Mr. Thomas further stated that there are ways to achieve some expertise, taste, and ability other than trial and error, which is thorough but exhausting. Visiting gardens is undoubtedly *the* best way of learning and the most enjoyable way! How wonderful to be reminded that, no matter how old or young we are, we can all learn and be stimulated by looking at what others have done. Seeing is the difference, seeing the long-sought solution to a perplexing problem right in front of you.

That is why the travel program of the American Horticultural Society has such variety in its offerings. Nancy Bole and Betty Corning are co-directing the new travel committee, assisted by Judson Brooks, Georgie Van de Kamp, and Dottie Temple. With their leadership, we will have even greater opportunities to learn more about gardening, because individually they have covered the world and together they will plan adventures many of us never deemed possible. They are hard at work organizing travel experiences to meet a wide variety of tastes and pocketbooks. Our new, three-year schedule will include adventures in our own country, as well as overseas, “that will excite and educate the members and heighten horticultural pursuits”—the very words of the AHS Committee Handbook. Since 1922, the purpose of the American Horticultural Society has been to encourage excellence in horticulture, and our new travel committee is doing just that. Please watch carefully for details in future publications.

Let me give you previews of only a few upcoming tours! At the end of April there is the Virginia Garden Tour, at the end of May a cruise of the British Isles, and during the second half of June, a tour of the Gardens of the Riviera and Burgundy. We have learned so much from the great gardeners who have joined us in the past and shared their experiences and ideas. We hope you will join us, too.
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Redefining the Front Yard

A visionary slice of the suburban landscape is being served up by the U.S. National Arboretum as the “New American Garden.” It promises to reclaim the front yard for living, with a connoisseur’s blend of some of the best ideas on gardenmaking. “How many square miles of America are lost to front yards in which people don’t do anything?” asks the Arboretum’s director, Dr. Henry M. (Marc) Cathey. “The reason we’re not a garden country like England or Japan is that we’ve given up the front yard to three shade trees and a lawn which is largely ceremonial.”

The typical front yard stretches green and blank across suburbia: lawn as display panel for the house, which is curiously obscured by foundation plantings; annual color competing with specimen trees for the sun. No one would call it a garden. Certainly it’s no place in which to relax with guests or a book, enjoying the sensual pleasures of the natural world. It reduces our activities to perpetual housekeeping; its high level of water, energy, and chemical consumption is environmentally unsound.

We may take pride in our apparent dominion over nature, but we are, in fact, enslaved. The typical front yard is a moat around every household that isolates us from landscape diversity and traps us in a never-ending cycle of drudgery. A wasteland of personal expression, it accomplishes nothing except conformity with one’s neighbors.

That’s where the New American Garden comes in, with solutions that make the traditional front yard obsolete. This delectable prospect is on display just inside the Arboretum’s R Street gate in Washington, D.C., at the Visitors’ Activity Center. Just over a year ago, the nondescript ranch house had typical foundation plantings, lawn, annuals—a bland setting indeed for the National Capitol Area Federated Garden Club headquarters, gift shop, and rest rooms. Aware that this highly visible area could be a model for the future, Director Cathey asked Oehme, van Sweden and Associates to express the “spirit of America” in a new home landscape where plants and design would be equal partners year-round.

At first glance, it seems a mirage of the great American prairie, an exuberant ocean of hardy perennials and grasses, barely contained by the street. A second look, through the loosely planted screen, reveals a seating area, sculpture, and the house,

“...England or Japan is that we’ve given up the front garden to three shade trees and a lawn which is largely ceremonial.”

Dr. Henry M. (Marc) Cathey
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and suddenly you realize that this is a garden that's been turned inside out. It's an adroit move. In pulling the plants away from the house, the landscape architects have opened up a new zone for garden living that mediates between home and street, private and public.

The concept of the New American Garden depends on a complementary design relationship between plants and space that has been pioneered on previous projects by Wolfgang Oehme and James A. van Sweden. Simply put, the house is a pavilion within an interlocking garden sculpture, where nearly self-sufficient plants are selected to express their changing characters throughout the year.

Dramatically unlike the traditional front yard with its foundation plantings pushed up against the walls of the house, the redefined front yard rearranges the furniture, so to speak. Pulled away from the house as a changeable green architecture, the plants now define a series of subspaces. Along the sides of the house, larger and more definite woody plants enframe the
house and create a buffer zone. Two of the major specimens are *Picea abies* 'Nidiformis' and *Corylopsis pauciflora*.

Adjacent to the house itself is a new kind of planted edge that doesn't conceal the foundation, but rather softens the transition where the building meets the ground. Here and there a shrubby specimen will rise above a loose jigsaw of ground covers. Several *Nandina domestica* seem almost randomly placed in a bed of *Deutzia gracilis* 'Nikko', a recent Arboretum introduction that heralds a new generation of ground cover shrubs. The planting bed adjacent to the front door stretches away from the house toward the outer bed, almost seeming continuous with it save for the broad walk that steps between them. In this way, the approach to the front door becomes a walk through the garden; set-backs along the way provide niches for seating and sculpture, allowing it to double as a garden terrace or entertaining area.

From the house toward the street, the planting design gains density in layers and materials. When sitting on a memorial bench in the garden, you can't see through the broad walk that steps between them. To the right, a young *Quercus rubra* and a *Miscanthus sinensis* 'Stricta', together screen the driveway. The planting design works equally well from the street to secure privacy for the garden interior, while allowing limited views of the house. Yet the control is never overbearing or static, because the entire composition is constantly changing throughout the year.

This is a garden of moments that are in a continuous overlapping stream, always available to the observer and never failing to captivate and reward. These effects are extremely subtle and acutely temporal, quickening the senses and romancing the observer.

The beauty of this planting design is that it is a concept rather than a formula. The concept is twofold: broad masses of the same plant, each blending into the next, and twelve months of color. In combination, the design delivers "a constant rotation of everything from foliage to flower to fruit to inflorescence," says Curator Lynn Batdorf. "It's a study in contrasts that looks...in a literate and charming style...as precise as a biologist's rendering and charming enough to accompany fairy tales...." — The New York Times
simple but is subtle and complex." Fortunately, Wolfgang Oehme is a consummate plantsman who, in collaboration with partner James van Sweden, has developed an exquisitely sophisticated palette that a novice gardener can handle, and that could not fail to enthrall the advanced gardener.

**"We're used to tidiness—deadheading, staking, spraying—all part of the modern age of agriculture. We've turned our backs on plants' intrinsic, built-in resistance to stress."**

Because this concept is founded on intricate counterpoints to the broad brush, Dr. Cathey sees it as a viable alternative to the collector's garden as we know it—a sporty, albeit interesting, display of plants that succeeds only in close-up. The alternative provides the advanced gardener with a flexible framework for mass and specimen display, while the emphasis on subtle blending allows for the exploitation of variations with a species. For instance, the New American Garden contains six cultivars of Miscanthus sinensis, including 'Condensatus', 'Silbertedter', and 'Floridulus', while there are more than 100 Calamagrostis X acutiflora 'Stricta', Rudbeckia fulgida 'Goldsturm', and Carex testacea in the garden.

The best way Dr. Cathey calls "elite" plants, meaning that they have been carefully selected by horticulturists according to a demanding list of criteria. They are aesthetically remarkable in several ways—such as foliage, color, flower, habit. Culturally, they are very nearly self-reliant. These undemanding plants tend to thrive on a simple regimen of well-prepared soil, good drainage (especially in winter) and an annual cut-back in early spring.

"We're used to tidiness—deadheading, staking, spraying—all part of the modern age of agriculture. We've turned our backs on plants' intrinsic built-in resistance to stress," laments Dr. Cathey. He points out that the New American Garden requires a new tolerance, an appreciation for aging, and a more intimate knowledge of each plant's capabilities allows for a phenomenon that Lynn Batdorf calls "timemaking," where the same plants share one space in the garden, but give their display at different points in time or in different levels of the space simultaneously. One of Batdorf's favorite effects is when the purple wands of Lilacis spicata emerge mysteriously from the lime-yellow flowering Coreopsis verticillata 'Moonbeam', which later plays host to the violet-blue haze of Perovskia atriplicifolia.

Advanced gardeners will readily understand the implications of the New American Garden. But you might still be asking what's "New American" about it. The plants originate in equal thirds from Europe, Asia, and America. Familiar ideas from all over the world include mass planting, perennials, borrowed landscape, temporal effects, prairie imagery, and so on. We may even have experimented with these concepts in our own backyards. What's new is the alchemy—combining these choice ingredients in an exotic way that reinvents the front yard and expresses the year-round beauty of the American landscape. Most of all, what's new is its gesture to community spirit. If the nation's advanced gardeners reclaim their front yards from anonymity, we can begin to build a landscape ethic that will bring us together in caring for our common ground.

—Susan Rademacher Frey

Susan Rademacher Frey was formerly editor-in-chief of Landscape Architecture and Garden Design magazines.

To visit the New American Garden: Be sure to bring a notebook, as the labels are exceptionally good. Handicapped access. The U.S. National Arboretum in Washington, D.C. is open every day, except December 25, from 8 a.m. to 5 p.m. weekdays and from 10 a.m. to 5 p.m. Saturdays and Sundays. Enter at R and 24th Streets, NE; call (202) 393-5485 for further information.
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My first sight of wildflowers was while I was roaming the spring countryside around Buffalo, New York, with my parents and my younger brother. After a winter on the edge of Lake Erie, traipsing about in a wood where the floor was carpeted with hepaticas and violets pushing up through the snow-worn leaves of the previous fall was enough to convince us that spring was approaching. Not only did these flowers of the wild bloom before their civilized cousins—those robust perennials that grew in my mother’s garden—but they were distinctly different: smaller, almost elfin, and quite refined in both color and form.

Soon I discovered a wonderful old book to help us in our search. *How to Know the Wild Flowers* by Mrs. William Starr.

Native wildflowers such as *Stylophorum diphyllum*, trillium, *Phlox divaricata*, ferns, and violets grace this garden in Metcalfe, Tennessee.
Dana, originally published in 1895, was found in a used bookstore in Buffalo. Within its pages were descriptions of 164 American native plants with charming pen and ink drawings accompanying each description.

Eventually, I established a woodland garden devoted only to American wildflowers; today it is my favorite part of the garden. If you have a setting suitable for wildflowers and have been considering establishing a wild garden, the following baker's dozen of nurseries are suggested. They are operated by people who would have delighted in spending a day with Mrs. Dana.

- **Donaroma's Nursery** is located on Martha's Vineyard. The owners are engaged in developing a collection of perennial wildflowers that could grace either a woodland spot near your back door or an adjacent field that is now nothing but weeds. Among the flowers featured in their catalog is the charming blue-dogbane, often called the willow Amsonia (Amsonia tabernaemontana), a lovely little plant that bears terminal clusters of pale blue flowers and attractive autumn foliage of soft yellow. Also featured are white snakeroot (Eupatorium rugosum), a shade dweller with flat-topped clusters of fluffy white flowers in the autumn, and a white form of the obedient plant (Physostegia virginiana 'Alba'), a peculiar item because the individual flowers can be pushed around the stem without any harm and will stay in the spot where one's finger moves them.

- **Natural Gardens** is found in Tennessee and is entering its fifth year of providing home-grown wildflowers. In addition to stocking a number of plants whose blossoms are attractive to butterflies, the owners also propagate the thimbleweed or wood anemone (Anemone virginiana) noted for its off-white flowers and leaves brushed with silvery hairs; the Tennessee coneflower (Echinacea tennesseensis), an endangered species with showy flowers bearing rose-colored rays; and the rough-leaved goldenrod (Solidago rugosa) bearing crinkled, bronze-colored leaves on three-foot stems and delicate sprays of yellow flowers. (It is the ragweed that causes allergy problems; the pollen of goldenrod is too heavy to drift through the air and must be carried from plant to plant by the bee.)

- **Niche Gardens**, in North Carolina, specializes in native plants of the Southeast. Among the fascinating offerings are the beautiful white wild indigo (Baptista pen-dula), a four-foot plant with leaves of gray-green. It bears white pea-like flowers in the spring and remains attractive as a backdrop even when not in flower. For bog gardens they stock the white-topped pitcher plant (Sarracenia leucophylla) with the typical purple-red, nodding flowers of the genus and, as their name implies, tall narrow leaves that are white on the top and graced with showy green and purple veining. And for those gardeners who have planting room at the rear of a wild garden, there is the ten-foot New York ironweed (Vernonia noveboracensis), a drought-tolerant perennial that is statuesque and works beautifully in both fresh and dried floral arrangements.

- **Passiflora**, also in North Carolina, includes both plants and seeds in its catalog. For the sunny garden, it carries one of the more attractive evening primroses (Oenothera erythrosepala) which ranges from being an annual to a short-lived perennial, and the blue-eyed grass of California (Sisyrinchium bellum), a member of the Iris family with its clusters of blue, star-like flowers. Look for the wild bergamot (Monarda fistulosa) with bright lavender flowers on three-foot stems—a perfect choice for naturalizing. Passiflora also maintains a research database and can locate sources for over 800 species of wildflowers and other native plants.

- **Prairie Nursery**, located in Wisconsin, has been in the business of supplying hardy native plants to both landscapers and backyard naturalists since 1972. Its owners are devoted to saving the open, grass-covered, treeless landscapes of middle America. Their catalog features the beautiful pale purple coneflower (Echinacea pallida) with its drooping rays or petals on top of five-foot stalks, which was used by the early settlers for burns and snakebites. The catalog also highlights the queen-of-the-prairie (Filipendula rubra) with its large pink plumes on six-foot stems—looking a great deal like cotton candy—plus one of my all-time favorites, prairie smoke (Geum triflorum), a plant that blooms in mid-spring and produces seed heads covered with silvery feathers like wisps of smoke. It makes a fine ground cover.

- **The Primrose Path** in Pennsylvania is propagating many of the rarely seen native plants of the Appalachian Mountains and, for eventual introduction to the Northeast, many more species from the Rocky Mountains. Among their attractive offerings are

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A CATALOG REVIEW

the New England aster (Aster novae-angliae) with large pink-to-purple flowers that crowd the tops of four-foot stems every fall; an alumroot native to the West Virginia shale barrens (Heuchera pubescens) that bears white-to-pink flowers coupled with leaves that turn red in winter; and coming in the spring of 1988, a new phlox (Phlox subulata) with flowers of a pale gray-blue called 'Allegheny Smoke'.

- Rice Creek Gardens in Minnesota not only excels in its selection of plants for the rock garden, the catalog has a special section entitled "Rock Plants and Wildflowers for Shade." There you will find my favorite flower of early spring, the hepatica (Hepatica americana), in colors of blue and white; Jacob's ladder (Polemonium reptans) with its clusters of clear blue, cupped flowers; and one of the all-time charmers of the wild garden, oconee-bells (Shortia galacifolia) originally from the mountains of North Carolina.

- Rocknoll Nursery of Ohio has continued to expand its collection over the past fifty years; it now stocks a number of American native wildflowers. Try black snakeroot (Cimicifuga racemosa) in the back of the wild border. This plant has an attractive form: white and fuzzy spikes of flowers spire up stalks that can reach eight feet if the soil is good and there is adequate water. It also stocks the downy rattlesnake orchid (Goodyera pubescens) with its dark green leaves traced with white lines, and twinleaf (Jeffersonia diphylla), bearing delicate white flowers that appear between deeply-lobed leaves on eight-inch stems.

- Sunlight Gardens is another Tennessee nursery where plant species originally found all over the country now flourish in their planting fields on the banks of the Tennessee River. They always stock the shooting-star (Dodecatheon meadia), a beautiful and desirable wildflower that is the emblem of the American Rock Garden Society. It has white or pink petals reflected to the sky and yellow anthers pointed to the ground. Also featured are the seashore mallow (Kosteletzkya virginica) with pretty two-inch flowers like a hibiscus that top four-foot stems, and Stokes's aster (Stokesia laevis), a showy flower with fringed rays or petals surrounded by lacy green bracts.

- Tripple Brook Farm in Massachusetts offers a wide line of plants, including a number of American native wildflowers. Selections include the wild ginger (Asarum canadense), a perennial ground cover with
large, shiny, heart-shaped leaves and roots that smell like ginger; the Virginia creeper (Parthenocissus quinquefolia), a fast-growing native vine with compound leaves that turn a glorious scarlet in the fall; and another personal favorite of mine, the purple flowering raspberry (Rubus odoratus), actually more a shrub than a wildflower but beautiful in any garden whether formal or wild.

- **We-Du Nurseries**, a North Carolina establishment now entering its seventh year, offers many quite unusual plants, both American natives and new immigrants from around the world. Usually available is the trout lily, often called the dog-tooth violet or the adder's-tongue (Erythronium americanum), a wilding with charming mottled leaves that bears nodding, lily-like flowers, and is a spring delight even though the leaves die back by summer. It also stocks the great Solomon's seal (Polygonatum commutatum), a plant truly noticeable in the garden because of its white flowers in spring and red berries in the fall, and great merrynbells (Uvularia grandiflora), with two-inch-long, bright yellow flowers nodding above lovely gray-green foliage.

- **The Wildflower Source**, in Illinois north of Chicago, has native-American orchids and a full line of the beautiful Trillium genus. The firm offers the large white wake-robin (Trillium grandiflorum) with its three green leaves and three white bracts that appear as petals carpeting the forest floor; the yellow trillium (T. viride var. luteum), bearing mottled green leaves setting off a flower of clear lemon yellow; and the painted trillium (T. undulatum), a lovely plant with wavy-edged white flowers, each suffused with veins of red.

- **Native Gardens** is a Tennessee nursery where the owners have been growing wildflowers from seeds or cuttings and adding more species every year. Last year the catalog featured cardinal flower (Lobelia cardinals), with its glorious red flowers, and its close cousin, the great blue lobelia (Lobelia siphilitica), which is easier to grow than the red (its name refers to its use as a medicinal aid in centuries past). They also have switch-grass (Panicum virgatum), one of the most attractive of the native grasses with stems up to eight feet, a perfect backdrop in a wild or woodland garden.

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Peter Loewer is a botanical artist, a scientific illustrator who writes and illustrates his own books.
The anticipation of a new season brings excitement to the grayest winter day, and planning for spring and summer gardens is even more intriguing when you add something brand-new to your list of favored standbys. Try a plant such as the vibrant early-flowering new hybrid *Impatiens* 'Super Elfin Red Velvet', or add interest to a sunny windowsill with the subtly-colored pink bracts of *Mussaenda erythrophylla*. For an apartment or town house garden, 'Salad Bush', an All-America Selections 1988 award winner, combines many outstanding characteristics of a cucumber in one compact, versatile plant.

Before stopping by your favorite nursery or garden center, browse through the following selection of interesting and attractive new plants that are being offered this year. These new selections, combined with a little imagination, will get your 1988 gardening plans off to an exciting start.
Delphinium 'Fantasia Mixed'
Huge spikes of showy blooms characterize this excellent new semi-dwarf delphinium from Burpee, which grows about 27 inches tall and doesn’t need staking. Colors include white, lavender, and shades of blue from light to dark, all with creamy white centers, or “bees.” The shorter plant size and profusion of flower spikes make ‘Fantasia’ ideal for bedding; this is also an excellent choice for cutting and makes an impressive show in the border.

Impatiens ‘Super Elfin Red Velvet’
This very early impatiens from Pan American Seed combines a vibrant, intense red bloom with bronze foliage and produces profuse flowers, making it an outstanding performer in its color class, which has tended in the past to late and scanty bloom. It exhibits good basal branching and makes an excellent basket or container planting.

Convallaria majalis ‘Fortin’s Giant’
Charles Klehm and Son Nursery introduces this extremely fine lily of the valley, which produces exceptionally fragrant flowers in the spring that are twice the size of the normal species. Foliage is also broader and darker green; the plant grows to 16 inches tall.

Achillea ‘Hoffnung’
Also from Charles Klehm, this new yarrow hybrid is excellent for cut or dried flower arrangements and is easy to establish in any good garden soil. Flower heads are flat or mounded with close, solid arrays of tiny light creamy-yellow daisy-like flowers borne on sturdy stems. Foliage is fern-like. These are full sun perennials.

Mussaenda erythrophylla 'Pink'
‘Pink’ came to Logee’s Greenhouses from Trinidad, where it is grown as a popular ornamental. Like the poinsettia, Mussaenda is noted for its colorful floral bracts, which outshine the small yellow flowers and last for months. The pink Mussaenda has a compact growth habit, remains under two feet in height, and is naturally branching. It thrives in any sunny window.

Hemerocallis ‘Red Landscape Supreme’
American Daylily and Perennials’ new daylily hybrid offers many outstanding characteristics including vivid color and near-continuous bloom. The plants proliferate quickly and can be naturalized in a lawn or used as a dramatic ground cover; blooms are brilliant crimson red with green-chartreuse throats. Plants
are about two feet tall and send up multiple new flower stalks as many as six times per bloom season. This new plant makes a colorful companion to other perennials in traditional borders or can serve as a bright garden accent.

**Dahlia 'T & M's Octopus' Series Mixed**
Thompson and Morgan has developed a breakthrough orchid-type dahlia which comes in a full range of colors and yields flowers six inches or more across. Wonderful for flower arranging, this plant is very free flowering in the border and easy to raise from seed.

**Cantaloupe 'Sweet Dream' Hybrid**
'Sweet Dream' is an outstanding new melon from Burpee with pale green, very juicy, sweet flesh. Vines are extremely vigorous and productive and hold well until late in the season; first fruit matures in about 79 days. Melons weigh about five pounds each and are six to seven inches in diameter with a very small seed cavity. Provides a fine addition to the home garden.

**Rhododendron mucronulatum 'Pink Pegnoir'**
A soft pink clone of the early-blooming, deciduous R. mucronulatum was developed by Bob and Jan Carlson of Carlson's Gardens in an unusually delicate shade of pink. It blends particularly well with the typical lavender of the species and adds a hint of subtle color to the landscape. The plant is hardy to 25 degrees below zero.

**Salvia splendens 'Fireworks'**
A 1988 All-America Selections award winner, this cucumber has a bush habit and is extremely versatile in terms of growing techniques. Vines extend only two feet, and the plants can be gently secured to a trellis or grown in a large container. In a raised bed or vegetable plot, 'Salad Bush' requires only two square feet, making it well-suited to intensive vegetable culture. The bush produces ripe cucumbers in about 58 days, is high-yielding, and has a high tolerance to viral and fungal disease. 'Salad Bush' will reward gardeners with six- to seven-inch slicing cucumbers over a long harvesting season.

**Salvia splendens 'Fireworks'**
This new introduction from Thompson and Morgan provides something a little different: a red salvia with dramatic, clear white stripes running through the bracts. Reaching a height of twelve to fourteen inches, this salvia produces a striking, effective contrast in the garden.
• **Crinum X powellii**
This classic (1732) English hybrid between two South African species is being offered by Wayside Gardens. Huge bulbs, almost the size of footballs, produce, in spring, basal clusters of broad, lax, strap-shaped leaves. In late summer and fall, sturdy three-to-four-foot stalks arise, bearing up to 10 fragrant trumpet-shaped flowers, four inches long, in various shades of rose, pink, and (rarely) white. This unusual plant provides a long period of late bloom, particularly valuable since relatively few flowers are at their peak at that time. The plant is hardy outdoors south of Zone 6 of the U.S. Department of Agriculture hardiness zones with protection and can be grown northward in large containers brought indoors for the winter.

• **Rosa 'Crested Sweetheart'**
Wayside Gardens' new hybrid carries on the fine tradition of the best old-fashioned roses, bearing clusters of fragrant, rose-pink flowers with exceptionally high petal counts. Foliage is healthy bright green and disease resistant, and the plant is strong and vigorous, suitable as a shrub specimen, in groups, or as a climber.

• **Craspedia globosa**
A half-hardy perennial from Park Seed, nicknamed “Billy Buttons” in its native Australia, this plant displays unusual one-inch, ball-shaped, golden yellow flower heads on wiry two-foot tall stems. Seldom seen in the U.S., this striking new introduction makes a fine cut or dried flower and is easy to grow from seed.

• **Calla 'New Zealand' Hybrid Mix**
The color range of this new hybrid calla takes it far beyond the whites, pinks, and yellows usually found in callas. Colors include reds, purple, lavender, orange, yellow, and bicolors, along with bronze tones, pink, and white. The green foliage is often accented with mottled variations. Flowers appear in the first year of planting and display their colors from early to mid-summer; blooms last three to four weeks either on the plant or in a vase. The plant is not cold-hardy; rhizomes must be lifted and stored over winter in cold areas. Calla 'New Zealand' Hybrid Mix is available from Park Seed.

• **Rhododendron 'Shanghai'**
Hardy and adaptable, this new hybrid, offered by Greer Gardens, is very vigorous and free-flowering and exhibits unusually large leaves and flowers. Flowering in mid-May, it grows to six feet in ten years and is hardy to more than 10°F below zero, making it...
adaptable in many areas of the country not generally suitable for rhododendrons.

- **Dianthus ‘Butter Up’**
  This special new picotee dianthus from New Zealand, available from Jackson and Perkins, exhibits blooms of soft butter yellow trimmed with a narrow band of dark red. The plant is vigorous, producing abundant, fully double, peony-like blossoms with rounded petals.

- **Iris ‘Supreme Sultan’**
  A real advance in flower size is represented by this new, tall bearded iris. Its huge blossoms measure more than six inches; stems with six to seven buds each stand a full 40 inches tall. ‘Supreme Sultan’ is a medium-to late-blooming bicolor iris whose butterscotch yellow standards contrast with deeper red falls. This new cultivar is available from Schreiner’s Gardens.

- **Clematis ‘Perrin’s Pride’**
  Four- to seven-inch diameter blooms with uniform rounded petals of deep velvety purple, darkening toward the petal edges, distinguish this new hybrid clematis. Bronze stamens slowly change to silver, adding a bright accent to the center of the blooms. ‘Perrin’s Pride’ needs no pruning and will reach a height of eight to ten feet; it blooms from June through September. ‘Perrin’s Pride’ is available from Wayside Nursery.

- **Saintpaulia ‘Royal Sensation’**
  A dramatic addition to the indoor plantscape, this new introduction is an African violet with dark velvety purple, double to semidouble stars with a white edge over green, yellow, and cream-colored variation. It is offered by Lyndon Lyon Greenhouses, Inc.

- **Pelargonium peltatum ‘Solidor’**
  This very early ivy geranium, offered by Fischer Geraniums USA, Inc., exhibits flowers of salmon rose; blooms are semidouble and very abundant. This compact variety adds extra appeal to smaller spaces.

- **Viola ‘Spring Magic White’**
  This year Harris Moran has released eight separate colors in addition to their popular ‘Spring Magic’ pansy mixture, characterized by earliness and a free-flowering habit. ‘Spring Magic White’ is a pure white with an abundance of two to two-and-a-half inch blossoms covering six-inch plants.

The plants featured this year are available from the sources listed in the descriptions; All America Selections are available from local garden centers or nurseries and from major mail order firms. For more information, write to them at the addresses listed in Sources.
Atlanta is becoming an early-season migratory destination for "snow birds"—visitors from colder climates who can no longer wait to see spring arrive at home.

Songwriters, who have long celebrated April in Paris, may now find new inspiration in Atlanta, Georgia. It is a bustling commercial city, yet Atlanta's horticultural heritage dates from before the Civil War. Now, an increasing population of Northerners, especially appreciative of Atlanta's early and prolonged spring growing weather, is joining with descendants of the original residents in creating new gardens, as well as restoring the old. Atlanta is becoming more and more an early-season migratory destination for "snow birds"—visitors from colder climates who can no longer wait to see spring arrive at home.

Spring 1988 promises to be a standout season for horticultural activities in Atlanta, beginning February 10-14 with the inauguration of the city's first flower show, cosponsored by the Atlanta Botanical Garden and the Atlanta Market Center. Even before local gardens begin to stir, flowering plants forced into early bloom will give winter-weary visitors a glorious show of color, fragrance, and variety.

The city has long been known for its magnificent azalea displays and for its Dogwood Festival. The latter, proclaimed by Atlanta's General Council in 1936, is now a two-week event in April in which such activities as horse shows, tennis tournaments, and hot air balloon races vie for
Wildflower and conservation developments are in evidence everywhere, displaying the wealth of Georgia’s native flora.

The visitor’s attention. But it is the dogwood tree, *Cornus florida*, both the species and its cultivars, that is the cause for all this festivity. In the South the tree is seemingly unaffected by the blight that has destroyed so many of its Northern counterparts. White, pink, and rosy-bracted dogwood flowers are seen in their lacy glory throughout the city from late March to the end of April.

April is also a prime month for viewing Atlanta’s public gardens. Wildflower and conservation developments are in evidence everywhere, displaying the wealth of Georgia’s native flora. Public buildings with formal gardens exhibit the pansy and tulip in sumptuous beds and borders. By the second week in April, hybrid azaleas begin to steal the show, especially the Indian azalea, a large-flowered hybrid usually seen in the North as a potted plant. The pageant continues with magnificent rhododendrons, tolerant of Atlanta’s hot summers, as well as other flowering shrubs, early perennials, flowering vines, and the first buds and blossoms of a wide variety of roses.

Perennials and roses come into their own in early May, when many of Atlanta’s busy gardeners try to take time off from their own activities to see what their neighbors are accomplishing. A half dozen or so of Atlanta’s finest private gardens may be visited each year on Mother’s Day weekend, an event called “Gardens for Connoisseurs.” In 1987 the fourth annual tour featured, among other intriguing highlights, a visit to “Le Jardin des Fleurs.” The owners of this cottage garden modeled their grounds after Giverny, the reconstructed

Tulips and azaleas adorn a raised bed planting at the Atlanta Botanical Garden.
French garden of impressionist painter Claude Monet. (See “Giverny” by Margaret Parke in the April 1987 issue of American Horticulturist.)

When I was last in Atlanta, I spent three full days in late April visiting several public gardens. An unexpected spring frost had delayed early flowering plants and I was able to enjoy a wide variety of ornamentals that do not always bloom at the same time.

At the Atlanta Historical Society twenty-six acres of gardens and rolling woodlands have been preserved for public enjoyment since 1966. This intricate complex is in the heart of the city’s Buckhead District, an area long known for its affluent manor houses. Two of its mansions, McElreath Hall and Swan House, contain historical and art collections within the landscaped estate. A Victorian playhouse, a restored 19th century farmer’s cottage, and a combination garage and servants’ quarters (Swan Coach House, now a restaurant and gift shop) complete the architectural picture. The buildings are of contemporary, Palladian, and plantation styles, and each is landscaped accordingly. For example, Swan House, an imposing structure of neoclassical Italian design, is surrounded by broad staircases, enormous stone urns, tall shrubbery, and a formal pool and fountain. In April, large specimens of white-blossoming azaleas swath the ornate stone building.

There are several woodland trails within the Historical Society’s grounds. However, the plantings around the restored Tulie Smith house are of the most horticultural interest. This two-story frame building, of considerable age, was transported to the site as an example of a simple plantation farmhouse. In the front yard, a tiny garden is planted with crape myrtle trees and old-fashioned annuals such as orange wallflowers. In the rear of the house are beds of mixed herbs and vegetables and a grape arbor. Clambering amid the outbuildings, old roses such as Rosa rugosa, R. banksiae, and R. laevigata begin to bloom in late April. Primitive garden tools are on display here as well.

Near the Smith house is the Mary Howard Gilbert Memorial Garden, a quarry garden containing three acres of native plants. While most are well labeled, it is helpful to first procure a booklet at the Society’s information desk which names and diagrams the planting schemes.

At the turn of the century, convicts hacked rock out of this quarry and loaded it onto mules, then into wagons waiting at the top of the hill. The rock was used for the county road construction. As the convicts worked, the stream and forest floor sank, leaving a high, rocky bank and a hole of fallen trees, all completely entangled in undergrowth. The site was rediscovered in 1972 by the Mimosa Garden Club, which hired horticulturist Eugene Cline to examine the ledges, redirect the stream and waterfall, and devise a design with rambling beds of Piedmont and Coastal plantings.

The quarry now is a woodland garden sheltered beneath tall sycamore and beech trees. There are also open areas, boggy streamside plantings, and a host of wildflowers, as well as a collection of native trees and shrubs. The shrubs are particularly interesting. Besides the common mountain laurel (Kalmia latifolia), there are representatives of other Kalmia species: K. angustifolia, K. cuneata, and K. hirsuta. At the time of my visit, a few of the shrubs seen in bloom were the tetterbush (Lyonia lucida), the Carolina allspice (Calycanthus floridus), and the purple amise (Illicium floridanum). The latter is a magnolia relative with reddish-purple, multi-petaled flowers, long-blooming and peaking in midsummer.

A half dozen miles east of downtown Atlanta, in the suburb of Decatur, is the Fernbank Science Center. The main building houses a planetarium and a museum of natural history. Visitors will find Fernbank’s botanical garden of interest, with its bonsai, herb, and perennial sections, and an exhibit of All-America Rose selections. The garden also contains part of “Wilson’s Fifty”—the famous collection of Kurume evergreen azaleas brought from China to the Arnold Arboretum by plant explorer Ernest Wilson in 1918. Clones of these famous azaleas have been collected in botanical gardens ever since.

Fernbank’s “Forest of Wildflowers” is a series of trails through a wooded area containing native Southern Piedmont plants. A brochure available at the entrance to the forest contains interesting data kept since 1976 on the blooming dates of these wildflowers. The records are a testimony to the ever-changing weather patterns which cause early-, mid-, or late-blooming cycles each year.

“We’ve got a whole lot growing on” is the byword of the Atlanta Botanical Garden. ABG, as it calls itself, is located on sixty acres of the city’s midtown Piedmont Park, leased only eight years ago. At that time, a small but dedicated group of horticulturists brought a dynamic personality into their fold to be executive director—Ann Lyon Crammond from Connecticut. This enthusiastic woman with an executive background undertook an enormous challenge. Piedmont Park was then the gathering place of derelicts who vandalized the grounds, leaving trails of garbage in their wake. Establishing a botanical garden on such a site required vision, planning, and financial backing. Ann Crammond was fortunate in finding support for this project among many of Atlanta’s wealthy cit-
izens, leading foundations, and corporations; she and her group were able to raise $3.6 million in endowment funds.

Soon the Dorothy C. Fuqua Conservatory, a major gift, will be completed. This contemporary three-climate-controlled greenhouse could very well increase the garden's attendance from its present 100,000 visitors annually to over a million. Ann Crammond describes it as a home for desert, tropical, and Mediterranean plants and hopes that in the future a refrigerated alpine house will become part of the structure.

ABG presently has five acres of formal gardens. In one place, a tiny Frog Baby Pool features the statue of a baby boy holding a fish above a circular pond. Anchusa and small yellow-flowered Louisiana swamp iris (probably a natural hybrid of Iris fulva) complete the composition. Nearby, tall empress trees, Paulownia tomentosa, spread a canopy of purple trumpet flowers overhead. This species is usually criticized for its fast, weak growth and its constant litter of leaves and twigs. Nevertheless, in a Southern park-like setting, the empress tree creates dramatic beauty when it blooms.

The Japanese garden is meant for viewing rather than strolling. This tiny, enclosed landscape is built around two scrub pines (Pinus virginiana), contorted and full of character, overlooking small pools ornamented with the common scouring rush (Equisetum hyemale). A few clumps of iris, a small stone bridge, several lanterns, and a green ground cover are all part of the scene. The typical Japanese ground cover of moss would be impractical here because of Atlanta's hot, dry summers; instead, Dichondra, a grass-like substitute, looks well, though it needs constant control.

The herb garden is encircled on three sides by a brick wall; the "pierced wall" design, used often in England, was a favorite with early American colonists. Herbs, in patterns of chartreuse, apple green, and silver, are pleasingly arranged in formal beds around a sundial and surrounded by low boxwood hedges.

ABG has made a fine beginning in its choice of specimen plantings such as crape myrtles, hybrid hollies, and magnolias. There are some unusual perennials here as well. The lovely purple-flowered trailers that cover one low bank are moss verbena, Verbena tenuisecta. These seed-grown plants have the appearance of delicate alpines, though they are of doubtful hardiness further north. Many other perennials are only on trial, because Georgia's hot summers do not provide ideal growth conditions.

Two research projects are now in their infancy: a wildflower plot showing the best use of native plants, and a camellia hardiness project. In many parts of the South, both Camellia sasanqua and C. japonica were devastated by recent erratic winters. Ann Crammond believes that excessive hybridization might have destroyed their hardiness. She hopes to procure older varieties of C. japonica to test, with the aim of reinstating the camellia as a choice plant for Southern gardens.

No visit to the botanical gardens is complete without a walk through Northwoods Trail, over twenty acres of former farmland that has grown into a natural hardwood forest right in the center of the city. On a tour through the woods, the guide pointed out environmental changes caused by the passing of the years. One of the guides has set up a "window in the woods"—a glass panel mounted on the side of a hill and covered with a door. Viewers can lift the door to see the underground action of mice, grubs, earthworms, and other subterranean creatures working to return forest debris to compost.

As in other botanical gardens, gathering collections of ornamentals is a prime goal. In the spring of 1987, ABG was the recipient of 300 kinds of woody and herbaceous plants from the Lewis Ginter Botanical Garden in Richmond, Virginia. These gift seedlings were grown from collections from the Far East and Russia and include tantalizing species and varieties of Clethra, beauty berry (Callicarpa), crape myrtle (Lagerstroemia), and maple (Acer). As they become mature, the garden's horticulturists will evaluate the use of these rare plants.

Visitors will be able to spot the new acquisitions easily, as each label will be marked with a green stripe. Such plant exchanges help to enlarge the range of little-known species which might possibly enrich our private gardens in the future.

A love of the good earth has always been a Southern characteristic. Modern Atlanta, a major city, is experiencing an upsurge of interest in the field of horticulture. Fortunately, many other places in the country also are getting caught up in this trend; as populations increase, so does the need for creating green sanctuaries everywhere to both excite and console the human spirit.

Ruby Weinberg is a gardener and writer living in Caliton, New Jersey.
FAR LEFT: Yarrow, daylilies and Shasta daisies draw artists to the Atlanta Botanical Garden. LEFT: The Frog Baby Pool is a familiar landmark to garden visitors. BELOW: Camellia sasanqua 'Yae Arare' is a subject of hardiness studies at the garden.
Star Quality

ORCHIDS

That Bloom in Trees

BY OLWEN WOODIER

A special garden flourishes in Miami, Florida, that is a paradise for macaws, warblers, hummingbirds, screech owls, wood ducks, and mallards. There is also one American Coot that returns winter after winter, announcing its arrival by walking to the back door and begging to be hand fed. This garden is also pure enchantment for people who, like "Sam" the coot, come back often to the home of Jim and Nancy McLamore.

Tranquil beauty seduces no matter where you walk in Jim McLamore's three-and-one-half acre garden. Gently rounded hills roll down to the fifteen-acre lake. Each large oak dotted along the 450 feet of lake frontage is a garden within a garden. The trunks and limbs of the tall oaks play host to staghorn ferns (Platycerium), resurrection fern (Polypodium polypodioideis), and several species of orchids. More orchids make their home around the bases, next to the bromelids and tree ferns.

A beautiful fifty-year-old gumbo-limbo tree (Bursera simaruba)—its bark peels away in thin slices, revealing a smooth, silvery-grey inner trunk—looks like many but is really only one spreading specimen. "I take a branch and grow another tree by sticking it in the ground," said Jim. Close by, the eye is arrested by an outcropping of rock, the backdrop to the blooms of a peach-colored hibiscus. Areas are hidden, one from the other, by clumps of palmettoes (Sabal spp.).

Another of Jim's creations is a little brook with a series of waterfalls. Surrounded by boulders, stones, and numerous plantings, it is built and lined with oolitic limestone rocks and runs underneath several oaks. He has called this creation Maddux Falls after his married daughter's family name. Other signs point to Chris' Corner (named after a grandson) and indicate the way to Peanut Point.

Then there is the swimming pool. Not the usual Olympic-style pool, it follows the configuration of a natural pond in a sylvan setting where you can reach out to touch shrubs, flowers, rocks, and stones. One does not think of doing laps here; rather, the desire is to float with your eyes closed and imagine that you are in a secret tidal pool on a secluded island.

When Jim McLamore, co-founder and chairman emeritus of Burger King and chairman of the board of trustees of the University of Miami, bought the property twenty years ago, the lay of the land was not at all this way. It sloped gradually down to the lake; there were huge pine trees and a tennis court. Not long after moving in, Jim and Nancy decided to install the swimming pool. The excavation created a mountain of earth that sent Jim's fantasies reeling. And that was the beginning of his foray into garden design.

Jim's garden fits the bill of a man-made miracle. There is not a tree or group of shrubs that fills a space by chance. Everything in the three-and-a-half-acre garden plays a role in the total picture. He had the pines removed because he likes lots of lawn space. Earth, boulders, and stones were moved around to create undulating effects.

When the property next door came up for sale in 1972, the McLamores bought it for a guest house. Again he built up the...
land, this time in the front and in the back of both houses. Shrubs were cleared out and thirty-two oak trees of varying sizes were root pruned and transplanted. Twenty­seven of the transplanted oaks survived.

The McLamores' pleasure in their secluded landscape is not reserved for daytime enjoyment alone. Dusk is a signal for the screech owls to come out of their nest box. It is also a quiet interlude for the McLamores, sometimes shared with friends. For eventide enjoyment of the plantings and landscaping, discreet lighting has been installed in and under trees, along the swimming pool, and by the waterfall. Everything is bathed in a luminous glow, and whether sitting on the outdoor patio among clumps of red and white begonias and impatiens or strolling about the grounds, it is still possible to admire the gardens. And in addition to the peaceful tinkling of the wind chimes and the gentle gurgling of water, there is soft music—everywhere. "There are eight speakers scattered throughout the gardens," said Jim. "No matter where you stroll, there is stereophonic music."

It is hard to decide what makes the plants flourish so well—the tender loving care from Papa McLamore, the lighting, or the music. Perhaps it's a combination, including the gentle watering from the sprinkler systems set twelve feet up in ten of the oak trees. Jim McLamore does have help in his garden, five days a week. But he is the designer and creator. He might not move the trees around or do much weeding (fortunately, Nancy finds it impossible to walk past a weed without pulling it up), but Jim plants and transplants.

Accomplished gardener that he is, Jim thrives on experimenting with plants and moving them about in a landscape that is constantly evolving and expanding.

For a number of years Jim has been cultivating a variety of orchids outdoors. He grows most of them directly on live oak trees. Despite his lack of technical knowledge, the orchids have survived and flourished through many winters—including the freak weather Miami experienced in January 1985. (The books say certain orchids cannot take temperatures of fifty degrees or lower, but Jim has proven them wrong.) And they bloom profusely nearly all year. There are pink Cattleya skinneri, cascading spikes of yellow Dendrobium aggregatum, lavender blue Vanda 'Nelly Morley', green-bronze clusters of fragrant Epidendrum tampense, creamy vandas, white and purple star flowers of a hybrid laelia cattleya, chartreuse cymbidiums, glistening cerise ascocendas, and the pink, moth-like phalaenopsis.

"My garden contains a great variety of plant and landscaping interests," said Jim. "The orchid culture is just a minor part of the whole and actually receives minimum attention. My philosophy," he continued, "is grow or go. I've learned by trial and error and in the process have developed some useful techniques. Maybe I've killed a lot of fine orchids in the learning process, but I've managed to produce some stunning results." However, much to the astonishment of professional orchid growers such as Bob Scully, president of Jones and Scully, a twenty-acre commercial orchid operation in Miami's farm country, Jim has been successful with the outdoor cultivation of many varieties of orchids.

His techniques are actually quite simple. He attaches the orchids' rhizomes to the east side of oak trees with staples. Orchids with clustered bulbs, such as E. tampense or D. aggregatum, are pressed to the tree with a nail and a tin roofing washer. On the trunk, just above the orchid, he staples a homemade nutrient pouch containing osmocote fertilizer. The fertilizer is released each time it rains or when the sprinkler system goes on for fifteen minutes each morning, giving the orchids a steady diet of nutrients. Once the orchids are established, their roots take hold in the bark crevices and gather further nourishment from the tree.

Jim believes that orchids love to be around staghorn ferns. The ferns' large leaves have
the ability to trap moisture and create a humid microclimate which has a positive effect on the orchids. “The orchid roots venture into the staghorn and use precisely the moisture they need,” said Jim. “Cattleyas, for example, will send roots right into the back of the fern, whereas vandas send searching aerial roots down into the leaves.”

McLamore grows the staghorn ferns on the trees in much the same way he grows the orchids. He attaches staghorn “pups,” with a backing of sphagnum peat moss, to the oak trees with nails and roof washers. Some of his staghorns that have been nurtured this way have grown to enormous sizes.

The resurrection fern is also used by McLamore as a companion for orchids. He has had vandas and cattleyas send out new roots on contact with resurrection ferns growing on lateral oak branches. Again, the ferns provide moisture, humidity, and nourishment for the orchids.

There are Cattleya skinneri growing on oak logs placed among rocks of oolitic limestone. Composted oak leaves underneath the logs encourage the orchids to send out root systems over the bark of the log and into the new medium. There are several orchid “logs” growing down by the brook and the waterfalls, an environment that gives the orchids’ roots the choice of searching out their ideal environment—dry, moist, sunny, or shaded.

Just like people, orchids have their preferences. During the eleven years that Jim McLamore has been cultivating orchids, he has come to know some of their likes and dislikes. He says oncidiums seem to prefer the crotches of trees and dendrobiums grow in crotches and on lateral branches. A cymbidium is vegetating in the pocket created when fronds of a palm, Bismarckia nobilis, were cut back and, much to Jim’s delight, it finally bloomed last summer. “I was afraid that the Miami climate would be too warm for it,” he confided.

For years Jim maintained that the plants were incidental, that his pleasure came from the shape of the garden. “I will not allow orchids, however hard they try, to manage my private world of gardening,” he announced. Jim McLamore’s resolve finally broke down. During the last year, he has admitted that the orchids have proven irresistible. “I’ve gone bonkers over the silly plants,” he says. “At the rate I’m going, I’ll be lucky to see the oak bark in a year or two!”

Olwen Woodier is a free-lance writer specializing in gardening, nature, and food.
A potted olive tree (*Olea europaea*) graced the altar of my church in Maine last year for the Good Friday service. The three-foot wisp of silver and green flanked a wooden cross, a sheen on its tough little leaves. "Started it from seed," I told those who asked where I got it. It was worth waiting three months for the seed to sprout and for the wonder of seeing an olive tree growing in Maine.

Last summer—a year after sprouting—a Chilean jasmine (*Mandevilla laxa*) climbed out of a box and bloomed in front of my house. The white tubular flowers, like waxy petunias, impressed everyone with their subtle tropical perfume.

In a letter to a friend I enclosed a dry leaf—it looked something like a bay leaf—with instructions to crush and smell it. "It's from a camphor tree, *Cinnamomum camphora*," I explained in the letter. I had

Not knowing what to expect is part of the fun of raising offbeat plants from seed. There will almost certainly emerge some striking plant that will whet your appetite for something even more daring.

Plants such as this fragrant *Mandevilla laxa*, a tropical American native, can be yours if you grow exotic plants from seed.

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picked it from a little tree with a bushy canopy of jade-green leaves that look like wax. Perhaps you'll see this beautiful "foliage plant" in a garden center or greenhouse in the near future; perhaps not. It's available, however, if you grow it from seed.

Folks in Argentina, Palestine, and Sri Lanka may laugh; I'd probably laugh, too, if someone raised a pot of dandelions and called it an exotic plant. Someone, somewhere in the world, is constantly showing off somebody else's weeds. But whatever "exotic" means to you, it no longer need involve a trip to a foreign country or a conservatory. A host of plants, from Acacia to Zamia (a cycad), can travel to your door in the form of seeds and, with a little patience and prompting on your part, will establish themselves in your garden or on your windowsill, perhaps to grow better than they did "at home."

The adventure begins with looking at catalogs from seedsmen offering rare and exotic plants. Considering whether to try sprouting the six-inch seed of American mangrove (Rhizophora mangle) in a glass of salt water, or to risk growing the poisonous rosary pea (Abrus precatorius), or to find something easy for indoors that is more exciting than ficus and philodendron, may not be as thrilling as hunting for plants in the wild, but it is safer and far cheaper. There is enough variety to satisfy every interest, be it culinary, educational, scientific, or conversational. And it's fun.

Catalog descriptions usually include hints on germination and indicate what seeds have no published data on germination and indicate what seeds may not be as thrilling as hunting for plants in the wild, but it is safer and far cheaper. There is enough variety to satisfy every interest, be it culinary, educational, scientific, or conversational. And it's fun.

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THE INDOOR GARDENER

useful in getting tough-coated seeds to wake up. Then there are seeds that need to be stratified. This means they need a period of cold to persuade them to sprout. Spraying the flat in a plastic bag and refrigerating for two weeks is a simple and efficient method. If the packet contains plenty of seeds, sow some of them direct, without stratification. Sometimes unstratified seeds germinate faster than treated seeds. (Hard fast rules do not abound in this business.) With lots of seeds, you can afford to experiment; with just a few, however, plant them all according to specific instructions. And do plant them all, don’t save some “for later.” Viability, freshness of seed, and other factors influence germination and early development. Combining math with healthy pessimism, expect a packet of eight to ten seeds to yield two to four plants—roughly one out of three.

Do not sow different species in the same flat. Some, like the bush morning glory (Ipomoea arborescens), germinate in less than five days after swelling in a warm-water soak. Others take longer: coffee (Coffea arabica) takes at least thirty days; olive (Olea europaea) takes at least eighty days. Some, like banana (Musa), are extremely irregular, taking anywhere from a week to six months to sprout. Even if the seeds are all the same size, managing a seed flat with such a mixed population is risky.

Exotic Seeds That Normally Germinate in Less Than 30 Days

This is a partial list. The (H) denotes a good houseplant.

Ahadaton (H)—Flowering maple
Acacia (H)—Wattle, mimosa
Adansonia digitata—Baobab
Adenanthera pavonina—Red sandalwood*, Circassian beads
Albizia—Silk tree, mimosa
Antigonon leptopus—Chinese love vine
Argyrea nervosa—Wooly morning glory, baby wood rose
Bauhinia blakeana—Orchid tree
Belostoma recurvatum—Ponytail palm
Beumontia grandiflora—Herald’s trumpet
Caesalpinia pulcherrima—Pride-of-Barbados
Calisthenium citrinum—Red bottlebrush
Carica papaya—Papaya
Casuarina —Senna
Cercidium—Palo verde
Cestrum nocturnum—Night jessamine
Coccoloba uvifera (H)—Sea grape
Colvillea racemosa—Colville’s glory
Cryptostegia grandiflora—Purple allamanda
Cyprus coniferifolius—Papyrus, umbrella plant
Cyphomandra betacea—Tree tomato
Dolichos regia—Royal poinciana, peacock flower
Desmodium motorius—H—Telegraph plant
Dicliptera elegantissima (H)—False aralia
Erythrina cristagalli—Lockspur
Erythrina vespertilio—Bat-wing coral tree
Eucalyptus (H)—Australian gum
Europia (H)—Spurge
Felicia amelloides (H)—Pineapple guava
Ficus benghalensis—Banyan tree
Ficus palmeri—Mexican fig
Firmiana simplex—Chinese parasol tree
Glicidium sempervirens—Madre de cacao
Grevillea robusta—Silk oak
Hedycheium coronarium—White ginger lily
Hypoestes phyllostachya (H)—Polka dot plant
Ipomoea arborescens—Bush morning glory
Ipomoea tuberosa—Wood rose
Jacaranda acutifolia—Jacaranda
Jasminum—Jasmine
Jatropha multifida—Coral plant
Jasminum pulcherrimum—Jasminum, Mexican water chestnut
Kalanchoe blossfeldiana—Life plant, air plant
Kigelia pinnata—Sausage tree
Kioelea paniculata—Golden rain tree
Lagunaria patersonii—Australian hibiscus tree
Manzella lutea—Chilean jasmine
Meconopsis aculeata—Blue poppy
Mimosa pudica—Sensitive plant
Mimulus mucifera—Succulent water lily
Nepenthes alata—Hindu pitcher plant, ramatan
Pisacaria chinensis (H)—Pistachio
Plumeria rubra (H)—Frangipani
Podalyria calpytrata—Keurig (pronounced “CURT-gee”)
Prosopis juliflora—Texas mesquite, honey mesquite
Protea—Protea
Punica granatum—Pomegranate
Schinus terebinthifolius—Brazilian pepper tree
Schizolobium parahybum—Brazilian fern tree
Sequoia sempervirens—H—Giant redwood
Simmondsia chinensis (H)—Jouba
Sophora japonica—Japanese pagoda tree
Spathodea campanulata—African tulip tree
Stapelia—Starfish flower
Stephanotis floribunda (H)—Madagascar jasmine
Syzygium cumini—Java plum, jambolan
Tamarindus indica—Tamarind
Trevesia palmata—Snowflake aralia
Tulipum repens minus—“True Irish Shamrock”
If you are new at indoor seed-starting, choose plants that germinate in less than a month for your first attempt.

It is important to establish these three hard-and-fast rules in your mind before you start:
1. Do not sow the seeds too deeply.
2. Keep the surface of the medium slightly moist—not wet—at all times.
3. Maintain the preferred temperature range (Between 70°F and 75°F) if you are in doubt.

Be sure to label the container and include the date. Except for stratification of some seed types, I do not recommend slumping seed flats into plastic bags to maintain moisture. Seeds sprouting in a stagnant, anaerobic environment are under stress when they are suddenly forced to adapt to yet another environment at the time the plastic wrap is removed. The trade-off between convenience and seedling mortality becomes critical with rare seeds.

Check the sowings daily, sprinkler in hand, and moisten any surface that begins to dry. If you are to be away for the day and worried that the sowing surface might dry out, give a light sprinkle and cover it with some newspaper. If you really must leave the container of unsprouted seed for more than one day, slip it in plastic and shade it, but then remove the plastic and return it to light when you return. Be sure to take notes to compare actual germination times to those published.

Young sprouts need no pampering, except perhaps to move them to catch the early morning and late afternoon sun. Strong light but not strong sun is the rule with seedlings. Do not feed them until well after they have been transplanted to their nursing pots, but if sown in 100 percent milled sphagnum moss, apply half-strength liquid food once a week.

As the seedlings form true leaves or as they become too large for the seed flat, transplant them to small pots, lifting them carefully and setting them at the same depth in the pot that they grew in the flat. Tamp the fresh Pro-Mix (moistened) or potting soil gently around the seedlings. Label the pots. Water lightly the first time—thoroughly thereafter when the soil looks dry (but before plants wilt)—and return the seedlings to their bright growing area. When the young plants are well along, the night temperature may be allowed to fall below seventy degrees down to sixty.

What you do with your baby exotics, once they outgrow their first pot, is up to you. Subtropicahs may be planted outdoors in the Sunbelt; tropicahs had better be kept in pots, tubs, or boxes and treated as indoor-outdoor plants. Shrubs and trees lend themselves to bonsai, or you can curb their development by pruning sharply in the spring or after blooming. Quite a few make fine houseplants.

I think the magic of planting seeds and having plants from all over the world pop up before your eyes is a most satisfying experience. While I'm not in the habit of talking to plants, I sometimes do find myself speaking to a young sprout and saying something like this: “Do you know you're not rising from a warm forest floor in India but from a bench in West Newfield, Maine?”

—Anthony De Blasi

Anthony De Blasi is a freelance writer and photographer living in West Newfield, Maine.

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*American Horticulturist* 33
Divine Flower” is the Greek translation of Dianthus, that large tribe of plants which includes carnations, pinks, and sweet William. Dianthus barbatus (the latter means barbed or bearded) is the sweet William of our grandmother’s garden. Such a reliable, easy-to-grow plant, which gives three or four weeks of showy, lightly scented blossoms and is a long-lasting cut flower, tends to be forgotten today. It is a classic cottage garden flower, good company for peonies, foxgloves, and Canterbury bells. Modern cottage gardeners like Faith and Geoff Whiten often use sweet William in their schemes.

Dianthus barbatus, a classic component of the old-fashioned cottage garden, is enjoying a resurgence of interest among gardeners.

Flowers, Their Language, Poetry, and Sentiment, written in 1870 by an anonymous author, claims sweet William is indigenous to Germany (other sources vaguely say southern and eastern Europe). It was sometimes called The Bearded Pink and in French was known as the “poet’s eye.” The author says the flower represents “Gallantry - Finesse - Dexterity” and lauds it with a poem:

Vintage image of a garden with sweet William flowers.
“The knights of old might envy thee
Thy courtly grace of mien
Thy noble daring, brave and free,
In every dangerous scene.
To age how kind thy courtesy
To woman how sincere!
Alike removed from vanity,
From artifice and fear.”

Published the same year an ocean away, William Robinson’s *The Wild Garden* was directing the British to plant primroses, peonies, poppies, lupine, and sweet William in the meadow grasses. Thirteen years later in *The English Flower Garden* he would claim sweet William to be “one of the most admired of garden flowers.” He disapproved of the double-flowered types, with the exception of the variety he called magnificus.

Margery Fish also loved this dark crimson double sweet William. “I am very fond of it and try hard to keep it... It is a very old plant having been produced by a Scottish nursery-man in 1770. It is sometimes called Murray’s Sweet William and at one time was immensely popular.” The foliage is bronze, and in Ireland it forms “great crimson carpets, which glow in the sunlight.”

Sweet William is thought to have been introduced to England by Carthusian monks during the twelfth century. It was bought for threepence per bushel for Henry VIII’s garden at Hampton Court. At one time there was also sweet John, which had narrower leaves than sweet William. In 1557 Thomas Tusser recommended both for “windows and pots.” Parkinson listed it under *Armeria* (Thrift) in the 1660s and called it Pride of London (not to be mistaken for London-Pride, which is a Gertrude Jekyll favorite, *Saxifraga umbrosa*).

Jean Hersey in *A Woman’s Day Book of Annuals and Perennials* says the sweet William acquired its English name from St. William of Aquitaine. Mary Durant in *Who Named the Daisy? Who Named the Rose?* claims it was named in honor of William the Conqueror. A fascinating story is that in Scotland, following the Battle of Culloden in 1746 when Bonnie Prince Charlie was defeated, this plant came to be called Stinking Billy after William Augustus (second son of George II) who was known as The Butcher and as Billy.

Some experts call sweet William a biennial and others label it a perennial. When James Crotte raised it in filtered sunlight, he treated it as an annual and pulled it out after flowering. In her remarkably

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American Horticulturist 35
OLD-FASHIONED FLOWERS

In a candid manner, Eleanor Perenyi of Green Thoughts explains the dilemma. "The plants you expected to pull up and throw away will often live on, causing you to plume yourself on having wrought a miracle when all you have done is enter the world of plants that are actually short-lived perennials but are labeled biennial because that is how they are likely to behave." Sweet William is such a perennial, grown traditionally as a biennial.

Happily, I knew none of this when I first started raising sweet William. I am uncertain of the origin of the plants which have been growing undisturbed for five years in a sunny bed next to the house. Most likely they came from a package of seeds picked up at the grocery store during a March episode of cabin fever. They have been completely carefree, blooming year after year and weaving themselves together into a handsome mosaic of dark reds, pinks, and bicolors. They produce offshoots from the parent plant. In this crammed part of the garden it is difficult to detect self-seeding, which sweet William is reputed to do. However, since they have not spread from where they were originally planted, my guess is that it is the offshoots which perpetuate the plants, not the seeds.

A more recent patch of sweet William will prove a better study. I bought the seed in England and sowed it in March in the greenhouse, using a mixture of two parts sterilized garden soil to one part vermiculite. That summer I was inundated with seedlings, and having more pressing purposes, they bloomed the following summer and became a solid mass of every shade and tint of red, with distinct, pure white exclamation points. Seen from the upstairs window, their sturdy blossoms of equal height patterned the ground like an ornamental carpet, reminiscent of seventeenth century parterre d'broderie (flower beds laid out in intricate designs and colors which were intended to be viewed from above and at a distance, like the gardens at Versailles).

My chance success is an excellent example of the effectiveness of massing plants of the same species or color. The sweet William now covers an area nearly twenty feet square, blooming at the same time and in similar hues from mid-June through July. It is a splendid display for almost four weeks and keeps the house full of bouquets.

If separate plants are incorporated in a perennial bed, they brighten a late-flowering area or combine well with other plants which blossom at the same time such as peonies, lupines, iris, foxgloves, poppies, pinks, cranesbill, lady's mantle, columbines, coralbells, thistles, and hardy gloxinia.

Sweet William is hardy to Zone 3 of the USDA hardiness zones and has single or double nickel-sized (sometimes fringed) flowers which form an umbel of blossoms five inches across on stiff straight stems about eighteen inches tall. Dwarf cultivars such as 'Indian Carpet', 'Pincocchio' (Jim Crockett's favorite dwarf), 'Namus', and 'Roundabout' are between six and nine inches tall. 'Summer Beauty' is a true annual about twelve to fifteen inches tall. Colors are varied: purplish maroon, vivid scarlet, carmine crimson, rose, salmon, a range of pinks, and pure white. There are also cultivars with "eyes," a white center which William Robinson called "Auricula-eyed." In a mixture of seeds the resulting orange-reds and blue-reds can clash, but as they are the same flower it is not so offensive. There are varying degrees of fragrance, described by Matthew Arnold as its "homely cottage smell." "Excelsior" and 'T & M Auricula-eyed' are quite fragrant; some cultivars have hardly any scent at all.

An interesting offspring of D. barbarus (sweet William) and D. plumarius (cottage pink) is Dianthus X salmonae, a sterile hybrid which flowers all summer long in a dense mat of sweetly scented blossoms. When using seeds of different color plants, one can imaginatively combine them without the surprises of a mixture. Christopher Lloyd's "smashing" display mentioned in The Adventurous Gardener consisted of a white strain and a dark red 'Morello'. He planted two dark reds to one white, filling up three rows for even color distribution.

In The Scented Garden, Rosemary Verey quotes a lovely description of sweet William. In 1578 Henry Lyte wrote in the Neue Herball, a translation of Dodoen's Historie of Plants, that the flowers were "three or four together at the top of the stalk, sometimes nine or ten together, like a nosegay . . . ." Past praises still apply. For all garden purposes and the heady delight of every sense, this "small bundell of flores" is still a top choice.

—Penelope Doan

Penelope Doan is a landscape designer and freelance photographer in Monore, Maine.
By Pat Branim

WET-FLEX HOSE

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WET-FLEX HOSE—When we first heard about this new hose that 'leaks' and 'sweats' from thousands of pores, the idea seemed too good to have been going on long in coming. When we learned further that it was made of recycled automobile tires, the idea seemed even better. Seventy hundred thousand feet later, our customers continue to give us feedback on the qualities of Wet-Flex Hose. Wet-Flex Hose works best on low pressure, reduces water usage and eliminates evaporation. Buried sub-surface (2 inches to 12 inches, depending upon the crop), Wet-Flex Hose conserves even more water and is "tough" enough to last for years.

Did you hear what happened on Frank's farm?

Some readers will remember a story published in the San Diego Union April 6 reporting a new soil conditioner made from enzymes. The first inkling I had concerning this product for gardening and commercial agriculture came from Acres, USA, a farmer's newspaper published monthly in Raytown, Mo.

The editor and publisher, Charles Walters, Jr., gave permission to quote the story about Frank Finger, a biodynamic farmer near Larned, Kan., and his experiments with enzymes on his soybean and alfalfa fields.

The difference between an inkling of information and an in-depth probe is about the same as Mark Twain's definition of the difference between a lightning bug and lightning. So when the opportunity offered, I made a trip to Frank Finger's farm.

There I set foot on the first enzyme-treated soil I have ever knowingly trod upon. All of central and eastern Kansas looks like a beautifully planned and meticulously maintained park, and Frank Finger's farm seemed to have an extra glow of well-being.

To understand what agricultural enzymes are and what they do, you must first know what they are not. Enzymes are not a fertilizer nor a plant nutrient.

Agricultural enzymes also will detoxify soils that have been chemicalized to death with inorganic fertilizers, herbicides and pesticides. They also will adjust the acid-alkaline balance to a favorable pH 65 to 7, which nearly all plants prefer. Even high alkali soils can be restored to production.

Perhaps the most important thing of all that enzymes do is improve the soil's "cation-exchange" capacity. Cation-exchange means the release of the natural minerals and plant nutrients by unlocking them and converting them to a form the plant can use to make its food by photosynthesis.

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Robert Herlocker of Girard, Kan., says: "I applied Nitron to 200 acres of soybean ground at the rate of 1/2 gallon per acre and in two applications. They received approximately 1 1/2" of rain before harvest; the normal for this period is 5 inches. Even though these beans were hailed on, there was no lodging (bousing or loss of foliage), and the 200 acres averaged 35 bushels per acre."

Frank Finger's wife, Gay, takes care of the vegetable garden, shrubs and house plants:

"Last spring I sprinkled my row of carrot seeds with 1/2 gallons of water with 1/4 cup of Nitron added before covering the carrots. In five days the carrots were up so thick, I had to thin them several times. We ate them through the season and mulched them when freezing weather came. We have been digging and eating them all winter."

Also, she has a cucumber story: "I accidentally over-treated one of my cucumber plants with a mixture of half water and half Nitron which I had intended to dilute; however, I watered the area deeply and that cucumber plant took over the whole patch. One day in July I picked 79 from it and picked 50 on each of three other days that week. I pulled up all my other cucumber plants to give this one room to spread."

There are many other stories about enzymes that border on fantasy. Perhaps I can tell about them later.

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The Banana Tree, 715 Northampton Street, Easton, PA 18042.
J.L. Hudson, Seedsmen, P.O. Box 1058, Redwood City, CA 94064.
John Brudy Exotics, 3411 Westfield Drive, Brandon, FL 33511.
George W. Park Seed Company, Inc., Cokesbury Road, Greenwood, SC 29647-0001.
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Sweet William: Gallantry, Finesse, Dexterity
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W. Atlee Burpee Co., 300 Park Avenue, Warminster, PA 18974 (seed).
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New Introductions for 1988

The plants featured this year are available from the sources listed in the article; All-America Selections are available from local garden centers or nurseries and from major mail order firms. For more information, or to obtain a catalog, contact them at the addresses below.

American Daylily & Perennials, Box 110, Dept. 340, Grain Valley, MO 64029.

W. Atlee Burpee Company, 300 Park Avenue, Warminster, PA 18974.

Carlson's Gardens, Box 305-AHP, South Salem, NY 10590.

Fischer Geraniums USA, Inc., 24500 S.W. 167 Avenue, Holmstead, FL 33031.

Greer Gardens, 1280 Goodpasture Island Road, Eugene, OR 97401.

Harris Moran Seed Company, 3670 Buffalo Road, Rochester, NY 14624.

Jackson & Perkins Company, Medford, OR 97501.

Charles Klehm & Son Nursery, Rural Route 3, Champaign, IL 61821.

Logee's Greenhouses, 55 North Street, Danielson, CT, 06239.

Lyndon Lyon Greenhouses, Inc., 14 Muchler Street, Dolgeville, NY 13329.

Pan American Seed Company, P.O. Box 438, West Chicago, IL 60185.

George W. Park Seed Company, Inc., Cokesbury Road, Greenwood, SC 29647-0001.

Schreiner's Gardens, 3625 Quinaby Road, NE, Salem, OR 97303.

Thompson & Morgan, Inc., P.O. Box 1308, Farraday and Gramme Avenue, Jackson, NJ 08527.

Wayside Gardens Company, Hodges, SC 29695-0001.
Herbs Through the Seasons at Caprilands.

Adelma Grenier Simmons. Rodale Press, Emmaus, Pennsylvania. 192 pages; illustrated. $19.95. AHS member price, $15.95

Mrs. Simmons does tend to write the same book over and over, but this latest replay, or medley, as she calls it, is as smooth as silk. An enticement for the novice, it sets forth, once more, the strong theme in all of her work. With “time, labor, lime, a great idea . . . and enthusiasm to carry it on,” she says, herb gardening and the study of herbs “touches all aspects of our lives, at all ages, under all conditions.”

The book is divided into four sections, for the four seasons, beginning with spring. Each section begins with a ‘Diary’ and includes specific planning and maintenance instructions, suggested parties, recipes, and activities appropriate to the time of year, such as a May bowl, summer potpourris, autumn harvesting, Christmas decorations, and salad suggestions for all seasons.

Adelma Simmons’ knowledge of herbal lore is so extensive that she is able, in a few pages, to give us a quick distillation of 5,000 years of history, including achievements and apt quotations by famous herbalists. Who could fail to be charmed by John Gerard’s “Organy (organ) is very good against the ramblings of the stomacke.”? But interestingly, I don’t recall her addressing the work of any of her distinguished peers in this field. This author writes highly personal accounts of her research and activities in her own public heartland. In Coventry, Connecticut, on fifty acres, Caprilands has more than thirty acres of history, including comparative ease of maintenance under the right conditions.

The book is divided into seven parts: Introduction; Structure and Botany; Cultural Requirements; Fests, Diseases and Other Ailments; Propagation and Hybridization; Specialized Fern Culture, Repotting, Fern Containers, and Housing; Ferns to Grow; and Appendices—Lists of Ferns for Various Purposes.

While home gardeners and house plant lovers will concentrate on parts five to seven, the book should also prove invaluable for commercial growers and as a text. The amateur should not miss the botanical sections, which are written simply and with admirable clarity. General interest in ferns is ever present; they have been a mainstay for centuries to please the sight and senses. Surely it took grit and singleminded devotion to detail to develop this enterprise, aided by the money one pays to take the tours, hear lectures, dine; to watch Morris dancers and other entertainments; to buy plants, recipes, Simmons’ books, spices, wreaths, and a myriad of herbal gifts. Not a stalk nor single seed is wasted.

The line drawings in the glossary are very good indeed, the artist only identified by “KB” beside each plant. Randa Bishop’s photographs, in color and in black and white, are also fine, but I wish that at the beginning of each section, instead of photographing different places, she had followed Monet’s example in his garden at Giverny, where he painted from the same spot throughout the seasons. My choice for her would have been the site where she photographed “Winter.” Maybe next book.

Encyclopaedia of Ferns: An Introduction to Ferns, Their Structure, Biology, Economic Importance, Cultivation and Propagation.

David L. Jones. ISBS, Portland, Oregon. 433 pages, 250 color plates. $55.95, AHS member price, $47.55

David L. Jones’s encyclopaedia is a superb edition, “destined,” he writes, “to stimulate interest in ferns both as an intriguing group of plants and as appealing ornamental subjects.” It is rare for a reference book to project so much enthusiasm for the subject, as well as erudition, as this one does.

The book is divided into seven parts: Introduction; Structure and Botany; Cultural Requirements; Fests, Diseases and Other Ailments; Propagation and Hybridization; Specialized Fern Culture, Repotting, Fern Containers, and Housing; Ferns to Grow; and Appendices—Lists of Ferns for Various Purposes.
for study and identification.

Jones, a professional Australian horticulturist, is author of *Australian Ferns and Fern Allies* and several other books and papers on Australian plants, palms, and orchids. After many years in the field, he now devotes his time to writing and consulting.

—Faith Jackson

Faith Jackson is a writer and gardener who resides in St. Inigoes, Maryland.

**The Garden Border Book.**

Mary Keen. Photographs and plans by Gemma Nesbitt. Landscape Design, but none need be lavishly followed, and can be adapted to your space and desires. Mary Keen frequently offers her own alternate plant suggestions to lengthen the blooming season, or for a change of exposure, for instance.

The author offers guidance for designing, but assumes you either have the horticulture knowledge or will seek it elsewhere. U.S. sources of plant material are given. A good addition to the serious gardener’s bookshelf. —Mary Read Cooper

Mary Read Cooper is a free-lance writer who resides in Vienna, Virginia.

**Errata:**

The reviewer of *Daylilies* by A.B. Stout in the September issue incorrectly stated that the color plates were made by “cutting and pasting plates from several books” whereas the color plates were made from collages of several artists’ work.

Page 42 of the October issue identified lily-flowered yellow tulips as “Mrs. John Scheepers,” but they actually were yellow “West Point.”

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