

The

REYNOLDA GARDENS  
of Wake Forest University

Winter  
1998

# Gardener's

JOURNAL

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## A lily for every garden

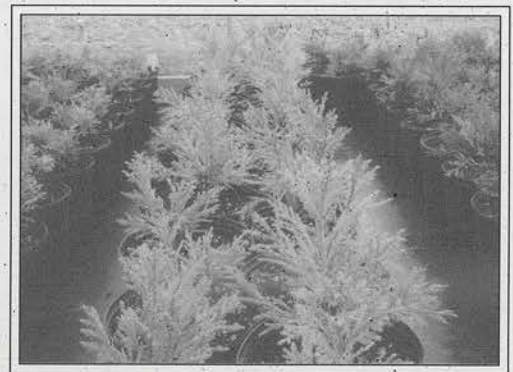
by Kim Tilley, assistant director

Many varieties of plants will be added to the formal gardens during the planting stages of our restoration. A total of about 225 lilies will be included in garden areas and borders. At Reynolda Gardens, we are limited to growing those lilies that were specified on the 1917 plan, but home gardeners have many from which to choose.

Lilies are among the royalty of perennial plants. With straight green stems crowded with leaves and topped by flower clusters, they add a certain grace and beauty to any garden. Emerging each spring from a bulb deep underground, a lily plant adds new stems every year and soon begins to naturalize. Lily flowers come in many forms and almost all colors except blue. Each flower has showy stamens and a single large pistil; most have dark spots on the inside of the petals. By selecting different types, you can have blooms from early summer right through to fall. As cut flowers, lilies last up to three weeks, blooming until the last bud has opened.

There are dozens of lily species and hundreds of hybrids. The hybrids are generally easier to grow than the species. Four groups of popular hybrid lilies are martagon, Asiatic, trumpet, and Oriental.

CONTINUED ON PAGE 2



JAPANESE CEDAR CUTTINGS TAKEN IN 1996 ARE THRIVING AT HAWK'S RIDGE NURSERY. THEY WILL BE PLANTED IN THE GARDEN IN FIVE TO SEVEN YEARS WHEN THEY ARE ABOUT FIVE FEET TALL.

## ART IN MOTION — BUTTERFLIES IN THE GARDEN

by Tom Pratt, greenhouse manager

This group of artists has been around, some say, since the beginning of time itself. Sometimes solo or sometimes within a group, they move on such a careful balance. They brag of their color and go by sophisticated names like eastern tiger swallowtail and cabbage white or romantic names like pearl crescent and fiery skipper. Commoners in life like you and I normally just call them butterflies.

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## LILIES

CONTINUED FROM PAGE 1

### Martagon lilies

Among hybrid lilies as a group, they are the earliest to bloom, flowering over a two-week period in early summer. Martagons have pendent flowers with backward curling petals in colors ranging from white to yellows, oranges, pinks, and deep wine purple. Their leaves grow in whorls around the stem, not alternately scattered as on Asiatic and Oriental lilies. **'Terrace City'** is a light orange martagon. Heavily speckled with brown spots, it grows four to six feet tall and blooms in early summer.

### Asiatic lilies

Asiatic lilies are by far the most popular hybrid, bred from species native to China, Japan, and Korea. Of all hybrids, Asiatics offer the greatest range of colors, the widest variety of flower types and sizes, and the longest season. They're good for cut flowers, as potted plants, and for forcing. Some Asiatics face upward, some outward. Still others are pendent. The pendent varieties resemble wild lilies and are well suited for old-fashioned gardens. **'Connecticut King'** has upward facing, spotless, bright yellow flowers with a golden blush in the center. **'Enchantment'**, over 50 years old, is still very popular. Its orange flowers are upward facing, with black spots. The plants are three feet tall. Both **'Connecticut King'** and **'Enchantment'** bloom in early summer.

### Trumpet lilies

The trumpets bloom in midsummer, a time when some perennial borders lack color. Their deliciously fragrant flowers can be funnel-shaped, bowl-shaped, flat-faced or backward curling. Many trumpets do not require staking the first year of planting, but staking becomes necessary years later due to the heavy flower heads of older plants. **'Moonlight'**, grows four to six feet tall. Large yellow flowers appear in midsummer. **'White Henry'** is a sunburst type with white flowers. Its orange throat is flecked with light brown spots. It grows four to five feet tall and blooms in late summer.

### Oriental lilies

Perhaps the most exotic hybrids are the Oriental lilies, derived from species native to Japan. Their flowers are large and open. Most Oriental lilies have spotted flowers that are outward facing and pendent, but some of the newest hybrids are upward facing, and some are spotless, like the wildly popular **'Casablanca'**, whose large, pure white flowers appear in late summer on five to nine foot plants. Orientals bloom over a long period—from mid-July into September. They have a pronounced sweet, spicy fragrance that can be overpowering in a closed room. **'Black Beauty'** is a very dependable Oriental. Flowers are deep red with a green throat and are strongly curved. Blooming in late summer, plants are five to nine feet tall.

### Planting time

The ideal time to plant lilies is fall, which is when nurseries dig the bulbs, but fall planting isn't always possible. Many Oriental and trumpet lilies mature quite late, and commercial growers cannot get them to market in time for fall planting. These lilies should be purchased as soon as they're available in the spring and planted immediately, since bulbs offered for sale in spring have been held in cold storage over winter. Never buy lily bulbs that have been sitting for weeks in a plastic bag in the spring. Pale shoots curling around in the bag foretell sure death for the bulb.

### Soil and planting

Most lilies like their heads in the sun and their bulbs in cool ground. They need light, highly organic soil. Loosen the soil to one foot deep and dig in lots of compost, leaf mold, or peat. Good drainage is a must; if your soil has poor drainage, consider growing lilies in raised beds. Asiatic and trumpet lilies tolerate a pH ranging from slightly acid to slightly alkaline. Martagons prefer a pH of 6.5 to 7.6. Orientals, on the other hand, prefer acid soil, with a pH of about 5.5 to 6.5.

A general rule for planting depth is to measure the bulb's diameter and multiply by three, then plant to that depth. Space Asiatic lilies six to eight inches apart. Martagons need more room to



multiply. You have to leave them in place because they don't like being dug up and divided. Most other lilies will benefit from being divided and moved to a fresh location from time to time. The Asiatics, especially, become overcrowded quickly, so they'll need to be moved every three to four years. Trumpets are slow to feel crowded and don't start putting on their best show until they've been in place two to three years.

Protect with three to four inches of mulch in the winter. If lilies emerge in the spring and late frosts are predicted, cover them. If they freeze, you'll be without flowers until the following year.

### Fertilizer

Lilies are heavy feeders. Use a fertilizer with an analysis of 5-10-10 or 5-10-15, along with a little bonemeal or superphosphate, or use Osmocote, a slow release fertilizer. In the spring, spread the fertilizer on the soil around the plant using about one tablespoonful per plant, slightly dug in. When the lilies are up and growing, water with Miracle-Gro, which contains trace elements that give plants lush foliage and nice blooms.

### Problems

Lilies are tasty, succulent plants, and many pests like to eat them. From rabbits chewing the early shoots and leaves, to voles mining for the bulbs, to deer munching on the flower heads, pests can spell disaster for your lily crop. The best solution for serious pest problems might be fencing in the top portion of the plant and using thin chicken wire to protect the bottom portion.

Healthy lilies usually aren't bothered by disease. Asiatic and martagon hybrids are particularly disease-free, but under stressful conditions problems can arise. One problem is basal rot, which occurs if drainage is poor. Botrytis leaf spot attacks above-ground lily parts. Leaves develop spots, and in severe cases, flowers can also be affected. To keep this from happening, grow your lilies in an open area with plenty of ventilation so leaves dry off quickly after dew or rain, and spray regularly with a fungicide. Lilies are susceptible to many viruses. Aphids pass viruses from plant to plant, so keeping the aphid population down as much as possible will help

keep lilies healthy and happy. Virus-infected plants show light streaks or mottling in the leaves. There's no cure except to discard infected plants. To avoid the problem, buy virus-free bulbs from reputable growers.

### Reynolda's lilies

Five varieties of lilies were used in the original plantings at Reynolda. We have been able to locate four of them and will plant these in the spring and late summer. All are species lilies.

### *Lilium candidum* Madonna lily

This pure white lily has been in existence for thousands of years. Its outwardly facing flowers have yellow throats. Blooming in early summer, it has a delicate light fragrance. Each stem reaches a height of two to five feet tall with eight to 15 funnel-shaped flowers.

### *Lilium speciosum rubrum* red lily

This lily is popular for its fragrant flowers and late summer blooming. The flowers are white and crimson, six inches across on stalks five feet high.

### *Lilium henryi* Henryi lily

Three inch flowers in light shades of orange, with brown spots, five to 20 blooms per stem. Henryi prefers a lime-rich soil, is virus tolerant and resistant to wilt disease. Staking may be necessary, as it reaches a height of four to nine feet.

### *Lilium speciosum album* white lily

Blooms in late summer on three to six foot stems. Flowers are white, four inches long, and pendent in form with a light fragrance.

### *Lilium longiflorum* var. *eximium* (formerly *L. harrisii*) Bermuda lily

This lily was once imported in large numbers from Bermuda. Because of disease problems, this variety has been largely replaced in cultivation by newer cultivars. These are widely grown and sold as the Easter lily. 🌸

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## BUTTERFLIES

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Everyone has a collection he or she is proud of, whether it is fine china, rare stamps or maybe just plain old baseball cards. Here at Reynolda Gardens our butterfly collection this season was certainly one of the best shows around.

On July 21 this past summer, a small group of volunteer observers traveled to several sites in Forsyth County for a one-day butterfly count under the auspices of the National Butterfly Association. This event, which has been held in Forsyth County for the past three years, is modeled on the Audubon Society's Christmas bird count. According to local volunteer Jim Nottke, this inventory is "used to study population-related trends at the local, regional, national, and continental scales." The group recorded numbers of butterfly species at each of four selected sites within a 15-mile radius of the intersection of Polo and Reynolda Roads. They found unusually high numbers of several butterfly species feeding on plants in the formal gardens.

Why all the interest in counting butterfly populations? It's because "butterflies are becoming increasingly important pollinators with the decline of bee populations," said Mr. Nottke. He added, "The watering and dead-heading at Reynolda created nectar-rich fresh blossoms that attracted an extraordinary number of skippers."

Butterflies are seen in all shapes, colors, and sizes here in the gardens. Each species is drawn to our garden, as well as yours, because it likes what's there. Butterflies are attracted to:

- large counts of nectar-laden fresh flowers,
- plants that flower at various heights (smaller species of butterflies tend to feed low while larger species prefer to stay high when feeding), and
- a sunny location sheltered from prevailing winds with available water close by.



To help you plan your butterfly garden for next year, I've highlighted below six plants from our garden this summer:

- **Rudbeckia sp. black-eyed Susan**  
This is a zone three perennial that grows three feet high. It attracts pearl crescents.
- **Liatris sp.** This zone two perennial grows from two to four feet tall and attracts the great spangled fritillary.
- **Aster sp.** A zone two perennial that ranges in height from three to five feet and comes in wonderful colors. Its effect is best when planted in masses.
- **Lantana camara** A zone eight shrub that grows one to three feet tall, it attracts cabbage whites.
- **Buddleia sp. butterfly bush** is hardy to zone five, reaches a height of six to 15 feet, and attracts western tiger swallowtails.
- **Clerodendrum trichotomum harlequin glorybower** is a small deciduous tree that tolerates temperatures to five degrees. It attracts all types of butterflies.

There are plans already for the 1998 local butterfly count. On Saturday June 28, volunteers will convene at SciWorks at 9:00 a.m. to count there and later, around 11:00 a.m., travel to Reynolda Gardens. On counting day or any day in the summer and fall, come on out and watch the "art in motion." 🦋



## And the winners are ... the All-America roses

by Mary Tapella, horticulturist

It's time again to talk about All-America Rose Selections winners. We grew them in the All-America Selections display garden last year. The winners are 'Opening Night', 'First Light', 'Sunset Celebration', and 'Fame'.

'Opening Night' is a dark, rich red hybrid tea that emits a pleasant light fragrance. The flower size of about three inches and the fragrance are worth noting. The plant did extremely well until late August when it appeared unkempt.

'First Light' is a petite landscape rose with unpretentious flat pink flowers, about two inches across. The pink shade becomes darker as it ages and has an occasional dark stripe through the petals. Although this one was planted a few weeks later than the others, it produced a nice plant with numerous flowers. Unlike many landscape roses, this one remained neat and attractive all summer. 'First Light' would look great in any flower bed or as a small hedge.

As the name implies, 'Sunset Celebration' is an amber cream hybrid tea that reminds you of a gorgeous evening sky. The flowers are fairly large and the petals hold well on the plant for several days. The overall appearance is an attractive three foot shrub with beautiful sherbet-colored roses.

Now, saving the best for last, comes 'Fame'. What a show-stopper! This introduction certainly merits its name. Although listed as a deep pink grandiflora, the description of hot pink seems more appropriate. Large, ruffle-edged petals last for days on this

three to four foot shrub with dark green foliage. The numerous blooms this plant produces are a constant delight and are great for cutting. A must have—bravo!

This year in the rose garden, we installed a new irrigation system that contributed to the success of the display and the overall health of the roses. We also added mushroom compost to the new planting holes as a soil amendment and are pleased with the results in terms of growth and plant health.



'SUNSET CELEBRATION'



'FAME'

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## Herbs, those marvelous weeds!

by Mary Tapella, horticulturist

The original plan for the "Nicer Fruit and Vegetable Garden" at Reynolda included only chives, parsley, and onions. We have expanded the herb plantings to include many more herbs. The herb gardens are favorites with home gardeners who study them to learn how to grow herbs at home and with the students and volunteers taking part in educational programs who find them fascinating to see, smell, and touch.

### Herb history

Herb gardens are so popular today that we forget how important herbs have been over time and how the concept of the herb garden developed. Cornflowers, figs, and poppies appeared in Egyptian wall paintings as early as 1473 B.C. Pollen analysis has documented that chamomile was used as a main ingredient in embalming oil by 1225 B.C.

The herb garden concept evolved from Islamic, Christian, and Egyptian gardens. Islamic gardens usually contained water features, while Christian gardens reflected the formal geometric Roman style. Many early Christian monasteries continued the practice of keeping enclosed gardens to protect herbs from animals, to conserve space, and to utilize water efficiently. Clipped hedges surrounded many herb gardens, much like those we see today. The importance of herb culture in monasteries became second only to prayer. Many herbs that were cultivated by monks are still common today, like rosemary and bay.

Herb gardening gained scientific prominence during the thirteenth century when universities in Europe began teaching botany and exploring medicinal qualities of these plants. The practice continued until the eighteenth century.

Herb cultivation was not restricted to Europe but was similar worldwide. In Mexico, the Aztecs cultivated over 3000 herbs, including cacao and vanilla. Any discussion of using herbs for their

medicinal qualities must recognize the important contribution made by the Chinese, particularly by Huang Di, a Chinese leader who compiled *Yellow Emperor's Classic of Internal Medicine*, which was published around 1000 B.C.

### Herb culture

The history of herbs and their contributions to modern medicine is fascinating, from the well known opium derived from poppies and aspirin obtained from willow bark, to the antimalarial quinine derived from cinchona bark. However, most gardeners enjoy growing herbs to use in their favorite spaghetti sauce and flavored vinegar or simply to enjoy their fragrance or appearance. Whatever the reason for growing them, herbs are simple, unassuming plants, requiring only that their basic needs be met. They need well drained organic soil that is nearly neutral, 6.8 pH. Place them where they can receive five to six hours of direct sunlight and adequate water. They do not like a lot of fertilizer nor do they require much attention. Think of them as weeds.

Cultivating herbs requires very little space, as evidenced by the famous knot garden design where a small area is partitioned into sections, each containing a different herb. Herbs are adaptable to containers for gardeners with a green thumb and very little space. Chives, oregano, basil, sage, parsley, rosemary, and thyme are good choices for pots and can be grown indoors. The strawberry jar so often used for hens and chicks makes a wonderful herb garden. If you don't want to go to that expense, simply use other containers. Old decorative cans or cookie tins with drainage holes punched in the bottom look beautiful with herbs spilling out. Be creative! If a container will hold soil and drains, try it.

Another popular use of herbs is to grow them as ornamental plants. Thyme, for example, looks great between paving stones and emits an incredible fragrance when lightly stepped on. Many public gardens use herbs in gardens designed for those with visual impairments. The wide variety in color, fragrance, and texture make herbs a valuable addition to a garden that is to be enjoyed by those with physical challenges.



Herbs can be helpful as companion plants in your vegetable garden as well. Plant bee balm and basil between your tomatoes to improve flavor and growth. Chamomile and dill help cabbage and onions, but carrots dislike dill. Garlic deters Japanese beetle, hyssop is a deterrent to cabbage loopers, and calendula deters tomato worms. There are many more herbs to interplant for healthy vegetables and space conservation as well as increasing pollination.

If you are a history buff, you can even create theme gardens such as Shakespearean gardens or medieval gardens using herbs and plants popular during those eras.

### Summer of 1997

The herb garden here at Reynolda did exceptionally well last summer. We had a few unusual additions:

- 🌿 **Phlomis fruticosa** **Perennial Jerusalem sage** reached a height of 24 inches, with large almost fuzzy leaves and yellow flowers.
- 🌿 **Salvia viridis** **Annual clary sage** got off to a slow start due to the cool late spring weather but did well, producing pink, purple and white bracts.
- 🌿 **Lavatera trimestris** **'Salmon Beauty' Lavatera**, resembling short pink flat-blossomed hollyhocks, was quite showy, but both the clary sage and the lavatera provided a spring show only.
- 🌿 A new plant that will definitely be planted again next year was **Monarda citriodora** **'Lambada'**. This was an annual bee balm with light purple flowers that appeared in whorls or clusters in the joints of the stem. The plant reached three feet in height and



THE HERB GARDEN, LOCATED IN THE WEST QUADRANT OF THE UPPER FORMAL GARDEN, FEATURES A VARIETY OF HERB SPECIES.

attracted numerous bees and butterflies throughout the summer but needed to be removed by late August when it began to decline.

We also tested several tropical herbs last summer. While some information was provided with these plants, more research is needed to completely understand them. My two favorites for ornamental value were the life plant and the grapefruit mint bush.

- 🌿 **Kalanchoe pinnata** **Life plant** has large dark green succulent leaves with a fluted margin. It can grow to six feet in height in full sun, but only grew to two feet tall in the garden last summer. This plant is claimed to have antibacterial properties, and it is used internally and topically for many conditions.
- 🌿 **The grapefruit mint bush** (genus and species unknown) is just what its name describes it to be. An open, woody bush about four feet tall, it emits a pleasant grapefruit scent when the leaves are crushed. In addition, the small lavender flower clusters appearing at the leaf joints are extremely dainty.

Other interesting newcomers include culantro and the toothache plant.

- 🌿 **Eryngium foetidum** **Culantro** is a small, prickly plant with many characteristics of other eryngiums or sea hollies. Its reported uses range from treatments for rheumatism, convulsions, and high blood pressure to food flavoring.
- 🌿 **Acmella oleracea** **The toothache plant** or salad cress caught the attention of the students who visited the herb garden. This 10–12 inch high plant has unique button like yellow flowers atop cress like foliage. Native Australians are said to use the leaves to relieve toothache. In other parts of the world, it is promoted as an antimalarial, antiviral, and antifungal, among other claims.
- 🌿 **Stevia rebaudiana** **Sweet herb of Paraguay** is semi-vining with long, thin cut leaves with serrated margins. Small white flowers appear at the tips of the branches. It is being researched in the U.S. for its potential as a commercial sweetener.

As you can see, herbs are a favorite of mine. Not many plants can boast so many attributes, have such an interesting history, require minimal care, and be so much fun. If you find herbs as intriguing as I do, you might want to join the new Piedmont chapter of the North Carolina Herb Association. For more information contact me at (336) 758-5593. 🌿



## THE DISTINGUISHED HISTORY OF THE GARDEN CHRYSANTHEMUM

by Preston Stockton, director

When the Gardens staff started analyzing the Thomas Sears plan for the formal gardens, one thing that was very evident was how important chrysanthemums were in this garden. Sears specified 215 plants throughout the gardens, including five different varieties in the pink and white garden alone. This really is not surprising considering what a rage these plants were in the U.S. during this time. We all pick up mums at the local grocery store once or twice a year, but little do we know how far this plant has come.

### Culture in Japan and China

The cultivation of chrysanthemums began in China over 2000 years ago. It is thought that our present day cultivars can be traced back to two small daisy flowered species, *Chrysanthemum indicum* and *C. morifolium*. There is no proof that the early Chinese were aware of hybridization as a science. It is more likely that variants were selected from the wild.

Cultivation of chrysanthemums became very fashionable in China in the fourth century. The Chinese used the flowers in meditation practices and reproduced their images on vases and in paintings. The oldest book found on chrysanthemums is Chinese and over one thousand years old. It references over 30 varieties.

The first reference of chrysanthemums in Japan is between A.D. 366 and 386, when seeds of Chinese plants were introduced from Korea. They produced plants of many colors including red, violet, yellow, and white. The Chinese were not

eager to export plants, however, and plants did not arrive in Japan until the eighth century. But once they did arrive, the Japanese loved them so much that they made great efforts to improve forms and colors. They especially loved huge, comparatively loose forms, in contrast to the Chinese forms that had elaborate incurving symmetry.

There are two eras of chrysanthemum culture in Japan. The first is called the Heian period (800 to 1200). The emperor Uda named it as the national flower in 910. In the twelfth century,

a chrysanthemum bloom with 16 florets was adopted as the imperial crest. The Japanese also used the chrysanthemum to adorn vases, paintings, tapestries and robes during this time.

The second great era, called the Genroku, began in 1736. The first illustrated Japanese catalog came out listing over 100 varieties. Chrysanthemum viewing was a pastime of the aristocracy. During the reign of Emperor Meiji in the late nineteenth century, the lower class was forbidden to grow or use chrysanthemums. The Japanese were so wild about this plant that at one point there were over 10,000 named cultivars in the country.

There were even rumors that they had developed a blue chrysanthemum that was jealously guarded from outsiders by Buddhist monks.

Belgian horticulturist Emil Rodriguez was so convinced the blue flower existed that he searched the countryside in 1890, but he did not find it.

If one did exist at some time, it has not been seen again.

World War II put an end to the great chrysanthemum pursuits. The chrysanthemum beds in the royal gardens were converted to vegetable beds. In the Shinjuku

National Garden only 150 varieties were spared to provide blooms for wounded servicemen.

### Culture in Europe

The first reference of chrysanthemums being introduced into Europe is in 1689, when six Japanese varieties were sent to Holland. The Dutch could not keep them alive, and they lost all six. In 1764, Philip Miller introduced a variety from China (*Matricaria indica*) to the Chelsea Physic Garden in England, but it too died. Permanent establishment in European gardens was not until 1789 when A. Blancard, a Marseilles merchant, brought three varieties from





China (white, violet, and purple). Only the purple variety survived. It was a crude, primitive form distributed as 'Old Purple'.

It was the French, not the English, who did all of the early breeding of chrysanthemums in Europe. In 1826, Captain Bernet was working in southern France to produce earlier blooming plants. Bloom time was a problem in Europe because frost would often kill back the plants in the fall before they could flower. The favorable climate in the south facilitated improvements of the plant by allowing them the time to set seed.

In 1846 Robert Fortune, a famous English plant hunter, brought the Chusan daisy from China to France. The French used it to produce the pompon chrysanthemum, the first hardy mum grown in the U.S. The English were very slow getting into breeding chrysanthemums, but true to English gardening tradition, once they developed an interest their devotion to this plant was not equaled outside Asia. The initial breeding emphasis was on the large exhibition types that were disbudded. The English became known worldwide for their elaborate shows and exhibitions, the first of which took place in 1847. In 1884 they established the National Chrysanthemum Society.

Up until this time most chrysanthemums bloomed too late in the fall for outdoor display in England. It was not until the twentieth century that the great wealth of hardy, early flowering varieties was developed. For many years the English were entirely responsible for the development of garden hardy mums.

#### **Culture in the U.S.**

Chrysanthemums arrived in here at the end of the eighteenth century. In 1798, John Stevens of Hoboken, N.J. imported a variety called 'Dark Purple'. By 1828 William Prince listed nearly forty named varieties growing in the U.S. in *A Short Treatise on Horticulture*.

The first chrysanthemum exhibit in the

### **IT APPEARS THAT NONE OF THE ORIGINAL VARIETIES USED IN THE GARDENS ARE AVAILABLE TODAY. LUCKILY, WE HAVE SOME VERY GOOD RESOURCES TO DETERMINE APPROPRIATE SUBSTITUTES.**

U.S. was sponsored by the Massachusetts Horticulture Society on November 20, 1830. Over the next 20 years, American breeders worked very hard on exhibition and florist mums, especially in greenhouses in the Philadelphia area.

In 1850 the French Chusan daisies arrived and immediately became very popular in American gardens, especially in the south. These button pompons did not bloom until November but were resistant to frost and very winter hardy.

The Chrysanthemum Society of America was founded in 1890. The next year, James Morton's *Chrysanthemum Culture for America* was published, and the number of enthusiasts blossomed. Also that year, there were 27 exhibitions of mums alone in the U.S. and Canada. A show at the New York Florists Club at the old Madison Square Garden offered \$6,500 in premiums. No wonder Americans were so enthusiastic!

In the early twentieth century, wealthy estate owners often had immense specimens of formally trained plants grown for exhibition and competitions. Up to this point, 90% of the plants grown in this country were grown for cut flowers or as potted plants. There is a wonderful photograph of the Reynolda conservatory showing large disbudded mums (plants Americans fondly call "football mums") displayed among the other plants. At that time, there was little interest in garden chrysanthemums because there was still poor selection and most available did not bloom until November and were not very

hardy. Honestly, they were not great plants. Finally by 1914 there were several catalogs offering September-blooming plants, and in the 1920s the Korean hybrids (*C. zawaldskii*) were introduced. These plants offered lovely tinting, tremendous vigor and hardiness, and generous branching. Other hybrids at this time had only one flowering stem and tended to be leggy and loose. By 1932, Alex Cumming of Connecticut had introduced many Korean hybrids that revitalized interest in garden mums. Today all of our present hardy varieties have ancestors stemming back to these Korean hybrids.

#### **Chrysanthemums at Reynolda**

Searching for the chrysanthemums used in this garden has been frustrating. It appears that none of the original varieties are available today. According to Galen L. Gross of the National Chrysanthemum Society, plants now grown in this country are subject to the desires of the commercial growers, who grow and market their own cultivars. In addition, Ted King of King's Mums reports that fungus and virus problems make most cultivars short-lived, making it unlikely that these varieties exist in any form today.

Luckily we have some very good resources to determine the flower color and form of each variety and to help us choose appropriate substitutes. Original invoices show that several varieties were purchased from the Henry Dreer Company in 1918. We have been able to obtain copies of the Dreer catalog from the Pennsylvania Horticultural Society library and the U.S. Agricultural Library in Beltsville, Md. These contain descriptions of several varieties. We have also received a description of one of them in a copy of a 1903 Peter Henderson and Co. catalog found by Richard Simon (*see "The Horticulture Detective" in this issue*). Further research in old catalogs and books should help us find suitable varieties for this garden. 🌱



## The horticulture detective on the trail of the 'Florham' daylily

by Camilla Wilcox, curator of education

In the summer 1996 issue of *The Gardeners Journal*, we discussed the daylily 'Florham' in relation to the modern character of the flower garden designed in 1917. To review, we knew then that this plant was the first daylily clone developed in America. Registered in 1899, it was developed by Arthur Herrington of New Jersey.

Now, thanks to Richard Simon, a landscape historian in Madison, New Jersey, we have been able to discover interesting details about the origin of this daylily, helping us to broaden our knowledge about the plant itself and to further our understanding of the period during which Reynolda's gardens were designed.

Arthur Herrington was born in England in 1866 and received his horticultural training there. He was employed first by the Royal Horticultural Society, then by William Robinson, who was considered to be the greatest horticulturist of his time in England. While Mr. Herrington was working in England, Hamilton Twombly invited him to take charge of horticulture at his new estate in Madison. The name of this property, Florham, combined the first names of its owners, Florence and Hamilton. Mr. Herrington and his family arrived at Florham in 1896.

During the period in which Mr. Herrington studied horticulture, interest in the culture of daylilies was beginning to build. By 1890, several daylilies of Asian origin were in cultivation in Europe. No new hybrids had been introduced in over three hundred years, but several existing species

were described in literature of the period. Two of them were described in Kew Gardens: the orange-flowered diurnal (or day-flowering) *Hemerocallis auriantiaca*, a native of China and Korea, and the yellow-flowered nocturnal (or night-flowering) *H. thunbergia*, a native of China. The larger-flowered *H. a. major*, which would be a parent of 'Florham', was described there in 1895.

In remarks published in *The Madison Eagle* on February 3, 1949, Mr. Herrington recalled bringing plants of *H. a. major* with him from England to Florham. When he saw this striking plant in bloom at the same time as *H. thunbergia* in a garden at Florham Farms, he decided to create and introduce a new hybrid. He hoped it would retain the beautiful large flowers of *H. a. major* and be hardy enough to survive New Jersey winters. He registered the new plant, a tall evergreen with clear yellow flowers, under the name 'Florham'. A short article in *Country Life Magazine*, May 1, 1903, announced that he planned to introduce the daylily in the spring of 1904.

Mr. Herrington decided not to introduce it himself, however, because he found that there was a great deal of variation in the seedlings of the original cross. Even so, it soon entered commercial trade. In the 1934 volume *Daylilies*, author A. B. Stout quoted a 1929 letter from Mr. Herrington explaining how plants under the name 'Florham' came to be sold. He said that plants "drifted into cultivation by pieces given away." Even though the plants may have been somewhat inconsistent in color, his letter continued, "In all its variant types, ... it was free-flowering and tall growing." Mr. Stout went on to say, "The New York Botanical Garden has received three clones under the name 'Florham' that are noticeably different in various minor characteristics."

By 1917, the Henry A. Dreer Company of Philadelphia listed the 'Florham' daylily in its wholesale catalog. Thomas Sears specified that it be planted on either side of the small fountain in the sunken garden of Reynolda and in the blue and yellow garden. An invoice dated April 20, 1918 shows that the plants were received. The cost for 16 plants was \$4.00. These plants were not present in the garden when the renovation began.

Will we be able to find the 'Florham' daylily today? We're not sure. In the course of his research, Mr. Simon found that horticulturists, plant and garden historians, and specialist growers recognize its significance. It was, he says, "a parent of later developments in the daylily field." But its historical significance may not have been enough to save it from becoming lost among later cultivars. Even grower Geraldine Couturier of Tennessee, who is considered by many daylily experts to offer the best chance for finding our elusive plant, reported that the 'Florham' plants in her nursery died out several years ago. She is currently checking her own archives to track down buyers who might still have some of the plants. The search continues. Watch for news of our progress in *The Gardeners' Journal*—or in the garden. 🌱





## More connections between Reynolda and Florham

The connections between Florham and Reynolda reached far beyond this single plant. The similarities between the two estates are striking:

- ❖ Like Reynolda, Florham was a large property that was home to a family. Both were the sites of sophisticated horticultural operations.
- ❖ Planning for the two estates was undertaken with great care for the placement of structures and the layout of natural features. Frederick Law Olmsted designed the landscape at Florham. The landscape engineering firm of Buckenham and Miller generated the site plans for Reynolda. Thomas Sears, a young graduate of the Harvard School of Landscape Design, was responsible for planting plans for the flower and vegetable gardens and other plantings throughout the property.
- ❖ Both estates employed trained horticulturists to oversee gardens. Arthur Herrington, son of a gardener, received the classic English horticultural education. Robert Conrad, the horticulturist at Reynolda, was educated at the institution that is now known as North Carolina State University.
- ❖ Like Reynolda, Florham is now the site of a university. The Madison campus of Fairleigh Dickinson University occupies much of Florham's original 600 acres.

## PRODUCT REVIEW: POLY PAVEMENT

by John Kiger, buildings superintendent

Maintaining Reynolda Gardens is an ongoing venture. There is always something to plant, cut, prune, rake, or spray, and the list goes on. It is because of these maintenance woes that we are always looking for products that will make our job easier and safer. I'd like to share with you information on a product that will help us control erosion of the granite dust pathways that lead visitors through the upper gardens and may be useful for home gardeners as well.

Poly Pavement is the name of the product and the company. No, it's not asphalt, but a polymer that, when mixed according to instructions, changes the integrity of the material you're working with. The company's literature boasts that the product has been tested and recommended by the U.S. Army Corps of Engineers. After a company representative assured me that this product will meet our needs, I ordered a

small amount to apply in a test area.

The first step was to perform a water absorption test. Per instructions, I poured 16 ounces of water onto the surface we were treating and observed. If the water stood on the surface or ran off, the polymer would not work. The granite dust readily absorbed the water.

The next step, the soil moisture field test, determines the ratio of polymer to water. I measured 100 ounces of granite dust in a bucket and filled a measuring cup with 16 ounces of water. I poured the water slowly over the granite dust, stirring the mixture with a trowel. Periodically, I grabbed a handful of granite dust and squeezed it. The soil moisture test is complete when the mixture will clump and stay together in your hand. It took five ounces of water to moisten my 100 ounces of soil properly. The dilution rate for our project was five to one; that is, five parts water to one part Poly Pavement.

I chose a four- by fifteen-foot section of the path adjacent to the main shelter in the upper garden to test because it was the site of the

CONTINUED ON PAGE 12

And whatever happened to Arthur Herrington?

Arthur Herrington became one of America's foremost authorities on horticulture. His interest in new plants, both hybrids and imports from other parts of the world, was legendary. Among his accomplishments, he is credited with introducing the Gerbera daisy (*Gerbera jamesonii*) to American gardeners, having entered it in the Grand Horticultural Exhibition held in New York City in May of 1901.

Mr. Herrington left Florham in 1910 to open his own practice in landscape architecture. In 1934, he closed his practice to concentrate on his duties as secretary and manager of the International Flower Show, a position he held for many years. He wrote, lectured, and exhibited extensively throughout his life, held high office in prestigious horticulture groups, and received numerous awards for his work. He died in 1950.



ARTHUR HERRINGTON  
(MADISON EAGLE, FEB. 3, 1949)



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Communications about Gardens development should be addressed to Preston Stockton. Correspondence concerning *The Gardener's Journal* should be addressed to Camilla Wilcox, editor.

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Layout by David Fyten

A calendar of events is published separately in January and September.

For a list of sources for plants mentioned in *The Gardener's Journal*, please send a SASE to Reynolda Gardens, 100 Reynolda Village, Winston-Salem, NC 27106.



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## POLY PAVEMENT

CONTINUED FROM PAGE 11

worst erosion. After tilling the granite dust to a depth of two inches, I mixed and applied the polymer to the tilled area at the predetermined rate using a backpack sprayer. To mix in the application, I tilled the area again and repeated these steps two more times. When the mixture reached an almost soupy consistency, I used a trowel to smooth and contour the area around the drains to allow water to flow directly into them, then roped it off and let it set for 48 hours before allowing visitors to walk on it. This procedure resulted in a permanent application, which was what we needed for this area. But after inspecting the final product, the staff felt that the treated area was too similar in appearance to concrete, with a surface texture that was not as attractive as we had hoped it would be.

I will test a method of application called scarifying (or scratching the surface of the soil) in the spring of 1998. This time, I will repeat the above soil moisture test in order to apply the correct ratio, but instead of tilling the area, I'll simply hand rake to loosen the soil. The surface treatment is not permanent, but it should last about two years. This method can be equated with something as simple as using hair spray,

as it should stabilize the top few inches of granite dust yet retain the softer finish of the old path.

Poly Pavement soil solidifier did work as promised, and it has many uses in the landscape. Homeowners would probably get the best benefit from using the product for patios and picnic areas, wheelchair access areas, and of course, walkways and narrow paths. Those who are interested may call the Gardens office for more information. 🌱



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