

U.S. National Arboretum: Still Beautiful at 75



KEITH WELLS (K7474-18)

View of the National Herb Garden. A rose arbor in the background is part of the arboretum's Antique and Historic Rose Garden.

PETER BLOOMER (K9873-1)



This 35-year-old specimen, known as Pauper's Tea, or *Sageretia theezans*, is part of the arboretum's penjing collection.

On a typical fall day in the nation's capital city, a refreshingly cool breeze whips through the herb garden at the U.S. National Arboretum, shaking aromas from their floral sources and wafting them through the air for all to smell.

The eyes are the windows to the soul; but for one to best appreciate the site's spirit, the nose must also have its due.

Beneath the invisible layer of perfume and kneeling among the plants are several arboretum volunteers, clipping, pruning, weeding, and pushing dirt around the plant beds that house more than 100 types of herbs. That close to the ground, it can be hard for them to see the value of their work.

Jim Adams, curator of the National Herb Garden, throws some grass to the side of his brown boots, wipes the sweat from his brow with his forearm, careful not to damage his sunglasses, and surveys his garden with pride.

"What would you like to know?" he asks, ready with an encyclopedic description and history for every herb under his care.

Indeed, there is much to know about the U.S. National Arboretum; after all, the plants there can't take care of themselves.

The Historical Place

Like many institutions in Washington, D.C., the arboretum is one that the founding fathers didn't necessarily have in mind. In fact, this peaceful nature sanctuary wasn't even a glimmer in George Washington's eye.

It took an Act of Congress to establish the U.S. National Arboretum—on March 4, 1927—nearly 150 years after the birth of the nation. This year the woody retreat celebrates its diamond anniversary. It is administered by the U.S. Department of Agriculture's Agricultural Research Service.

Officials point to the fact that the arboretum is a facility for both research and



Tom Elias, director of the arboretum. But the more the merrier.

“We’d like to see even more visitors,” Elias says. Administrators feel that many people don’t know it exists, particularly in the metropolitan area. The problem may stem from the fact that there is no subway station near the grounds, a convenience that many other D.C. landmarks enjoy. Officials and the Friends of the National Arboretum (FONA) helped alleviate that problem by arranging for a weekend Metrobus to shuttle visitors to the grounds.

Besides beauty, the arboretum offers its guests special exhibits that often

KEITH WELLMER (K5377-10)



Acrocona cultivar of *Picea abies*.

public education. Each year more than 500,000 visitors from all parts of the world visit the 9,000 different kinds of plants growing at the arboretum. Another half million visit through the World Wide Web to learn about gardening and current ARS research.

Over the course of its history, the arboretum and ARS have introduced over 665 new plant releases and secured 13 patents and 2 Environmental Protection Agency biopesticide registrations.

Becoming More Inviting

Perhaps more than any other ARS research center or laboratory, the arboretum has an aesthetic appeal to visitors. Amidst the hustle and bustle of modern life—particularly the congested lanes of rush-hour traffic along New York Avenue—the 446-acre arboretum is an adult’s version of “The Secret Garden,” a hidden paradise of trees and flowers waiting to be explored.

Despite the fact that it’s hidden, visitors come from all around the world, says

attract a lot of attention. For example, the large attendance at special events like the highly successful Big Bugs sculpture exhibit in 2000 and the Asian Arts Festival in 2001 thrilled Nancy Luria, who leads the arboretum’s Education and Visitor Services Unit.

“Parents and children came back last summer (2001) and asked where the Big Bugs were,” Luria recalls. “We didn’t know just how successful that exhibit would prove to be.”

But suggestions left behind by visitors opened her eyes to the thoughts and needs of guests. Requests for more

KEITH WELLMER (K7486-6)

***Geranium sanguineum*,
in the herb garden.**





PEGGY GREB (K9870-1)

One of 14 giant insect models in the Big Bugs exhibit of 2000. The body is carved from black walnut, and the wings span 5 feet and are covered with plant fungi. Artist: Dave Rogers.

Glenn Dale azaleas flourish amid 446 acres of formally arranged trees, shrubs, and ground covers.

TIM MCCABE (K3558-1)



KEITH WELLER (K5369-5)



Sort of a “Secret Garden,” the arboretum is tucked into the nation’s capital. This view of the U.S. Capitol and the surrounding Washington, D.C., area was photographed from the arboretum’s Mount Hamilton—one of the highest points in the city.

parking and more public restrooms led the list. Visitors also wanted a snack bar.

In response to these needs, upcoming master plan renovations call for improved parking and more restrooms. And, over the fall, officials worked to get an agreement with a concessionaire to sell lunches and snacks to visitors.

Rooted in Research

Last year, ARS staff at the Henry A. Wallace Beltsville (Maryland) Agricultural Research Center, found a new appreciation for the arboretum’s Floral and Nursery Plants Research Unit (FNPRU).

A tornado tore through nearby Prince George’s County in Maryland, touching down at the University of Maryland-College Park, parts of Greenbelt, and along U.S. Route 1, where ARS research laboratories and the National Agricultural Library stood helpless. Many federal cars were destroyed, and parts of several buildings—including the library and most of the greenhouses—were heavily damaged. Many trees were

MARGARET POOLER (K9608-20)



The Don Egolf Chinese redbud, *Cercis chinensis*—a recent introduction by the arboretum.

uprooted or twisted and shattered so badly that they had to be removed.

Arboretum scientists and curators helped the Beltsville ARS facility with a gift of plant introductions to replace the ones lost during the storm.

FNPRU has a storied scientific tradition that goes back to when the arboretum was started. But the investigation of floral and nursery crops began in 1862, when Abraham Lincoln established USDA and the department initiated

programs such as plant exploration to find and introduce new species.

Today, FNPRU scientists use classical breeding, genetic engineering, molecular biology, entomology, and virology to solve problems for industry professionals as well as for the avid recreational gardener who's looking for hardy plants resistant to pathogens and pests.

Arboretum researchers recently used genetics to investigate plum pox virus, which spells trouble for the \$1.3 billion stone fruit industry that includes plums, peaches, apricots, nectarines, and other ornamental relatives. A technique called polymerase chain reaction allows ARS scientists to confirm the presence of PPV, detect the different strains, and assess their potential to damage host plants.

FNPRU scientists also help introduce new cultivars that can defend themselves against disease-causing pathogens. The lab recently released a new Chinese redbud, a cultivar called Don Egolf, a variety of *Cercis chinensis* with a natural defense against *Botryosphaeria dothidia* canker. A leafhopper-resistant variety of red maple with brilliant fall colors and elm trees resistant to Dutch elm disease are testaments to the work done by arboretum researchers to help protect America's backyards against both visible and invisible foes.

Volunteers to the Rescue

One of the arboretum's first famous plant introductions, the Glenn Dale azalea, almost got buried under weeds on the hillside of Mount Hamilton, located on the grounds.

Benjamin Yoe (B.Y.) Morrison, the second director of the arboretum, serving from 1937 to 1951, introduced Glenn Dale azaleas and oversaw mass plantings of the hardy, larger flowered hybrids.

From Mount Hamilton—one of the highest points in Washington, D.C.—visitors can see the U.S. Capitol. Yet, walking along covered paths through the trees and the hillside was once virtually impossible, and many of the interior

KEITH WELLES (K7461-11)



Purple iris, *Iris pallida*.

azaleas had become buried under invasive vines and other weeds.

Curator Barbara Bullock and her team of volunteers restored the beauty and value of the estimated 15,000 azaleas spilling down the hillside.

“For one reason or another, an important part of the arboretum's history was almost lost. My volunteers and I put in a lot of hours clearing the trails and accentuating the azaleas,” Bullock says, while whizzing her small utility vehicle along the narrow ways. “We rebuilt paths and placed markers so visitors will know which varieties are which.”

Thanks to their efforts, thousands of people once again enjoy the flowers on April weekends when the shrubs are in peak bloom.

Public-Private Partnerships

It would be difficult for the arboretum to function as effectively as it does without the support—financial or otherwise—of private-sector organizations. The Friends of the National Arboretum (FONA) is a key nonprofit organization

KEITH WELLES (K7473-11)

Daisylike flower,
Leucanthemum vulgare.



SCOTT BAUER (K9795-4)



Scepter holly cultivar introduced by the arboretum in 1999.

SCOTT BAUER (K9609-3)



Arboretum researchers devised a technique to develop a whole rose plant from genetically engineered cells. Here, technicians Brandy Jones (left) and Siobhan O'Connor examine rose cultivars regenerated from somatic embryos in tissue culture.

that provides valuable financial support, especially for arboretum internship programs, the maintenance of the gardens and collections, the Washington Youth Garden, and special projects. FONA also plays an important role in communicating the arboretum's needs to Congress, foundations, and others. Their quarterly newsletter, *Arbor Friends*, is an effective tool for disseminating information about the arboretum and about FONA's activities.

Another organization of great value to the arboretum is the National Capital Area Federation of Garden Clubs, Inc. This group maintains its headquarters at the arboretum and operates a gift shop as a service to visitors. In 1958, the federation was instrumental in establishing Fern Valley, the arboretum's native plant collection, and its members continue to support the arboretum by volunteering as gardeners and tour guides. The group also funds a variety of special projects.

One project that is partially funded by another support group, the National Bonsai Foundation, involves improvements to the National Bonsai and Penjing Museum. The museum was closed last fall so construction crews could give it a \$1.3 million, 7-month-long facelift. Funds for the project came from ARS and the foundation, which was established 20 years ago to support the creation, development, and ongoing activities of the museum.

Renovations to the bonsai museum's courtyard area make it more accessible to visitors with disabilities, one of the goals outlined in the arboretum's strategic plan. Narrow gravel pathways are being replaced with hard, wheel-friendly surfaces. Crews are also installing an automated irrigation system and lighting for nighttime events, and they are repairing grading and drainage problems.

"Newcomers are always amazed at the beauty of the bonsai collection and often become repeat visitors," says curator Jack Sustic. "Our goal when the museum

reopens is that their experience will be even greater than before."

Now comprising about 150 bonsai, the nation's collection—which is the world's first bonsai museum—began in 1976 as a Bicentennial Celebration gift from the people of Japan. Since that time, the U.S. National Arboretum has become the conservator of additional bonsai gifts made to U.S. presidents, beginning with one presented to Richard M. Nixon. The oldest tree, a 375-year old Japanese white pine, survived the nuclear bombs dropped on Japan more than 50 years ago. It was tended by a single family for six generations before it became part of the collection. The exhibit also features younger, "thirtysomething" bonsai of American trees like spruce and maple.

Like the bonsai, the U.S. National Arboretum has strong roots, which secure its place among the nursery industry, government, and the American public. There's something for everyone at this beautiful paradise for education, plant collection, and scientific exploration.—By **Lupe Chavez**, formerly with ARS.

For more information, contact the U.S. National Arboretum, 3501 New York Ave. N.E., Washington, DC 20002-1958; phone (202) 245-2726, <http://www.usna.usda.gov>. ♦