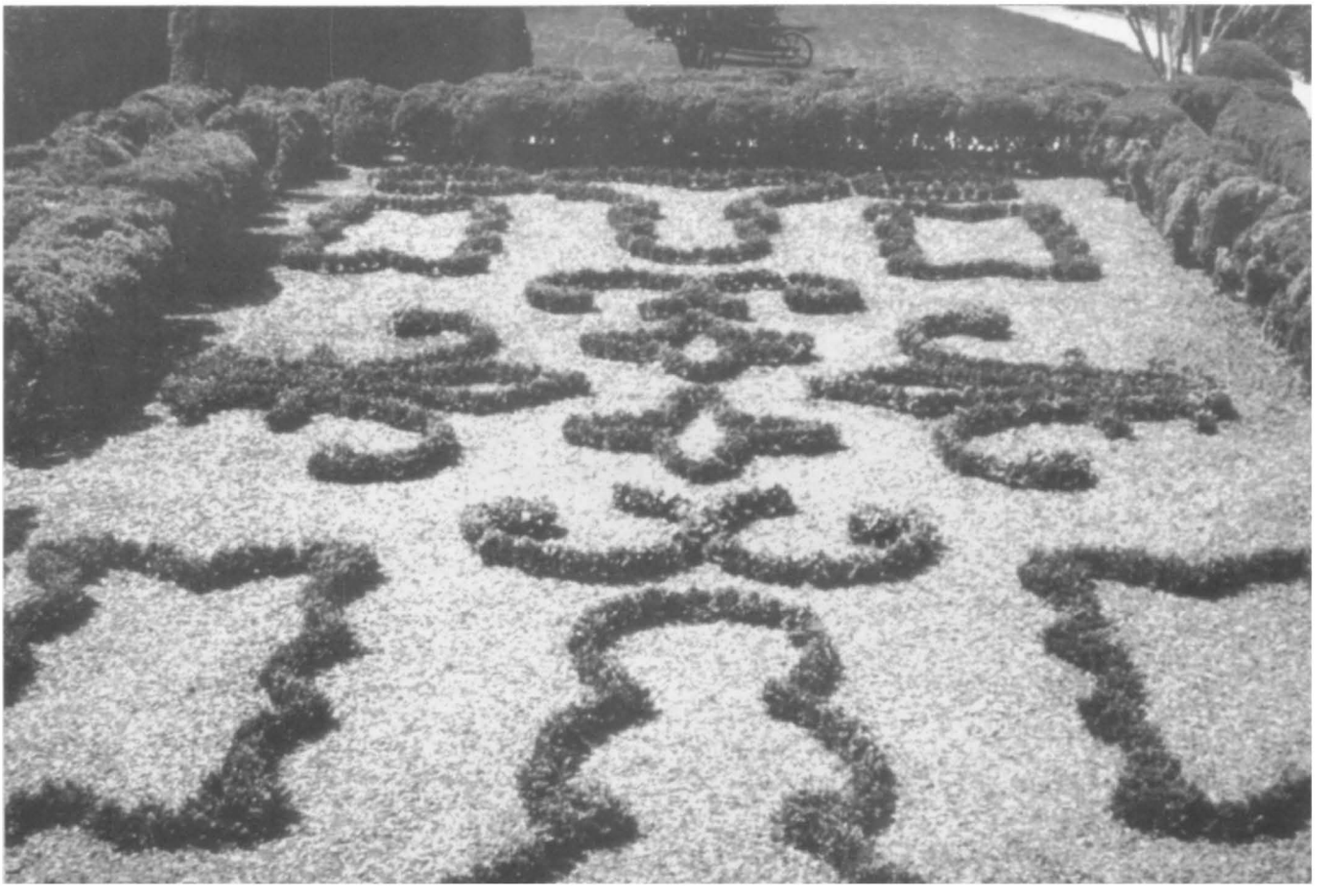
# The Boxwood Bulletin

*A quarterly devoted to Man's oldest garden ornamental*

*The fleur-de-lis design of a boxwood garden at Mount Vernon was described by Benjamin Latrobe when he visited George Washington in 1796. See story on page 29. (Photo: Mount Vernon Ladies Association)*

## IN THIS ISSUE




October 1989 Volume 29, Number 2

# The American Boxwood Society

The American Boxwood Society is a not-for-profit organization founded in 1961 and devoted to the appreciation, scientific understanding and propagation of the genus *Buxus* L. There are more than 700 members in the United States and nine foreign countries.

## *Officers:*



## *Memberships:*

Memberships for the year May through April include $12 for four quarterly issues of *The Boxwood Bulletin:*

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| Individual | $15 | Contributing | $30 | Life | $250 |
| Family | $20 | Sustaining | $50 | Patron | $500 |

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| | |
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| Back issues of *The Boxwood Bulletin* | $ 4 |
| *Boxwood Buyer's Guide (2nd Edition)* | $ 6 |
| *International Registration List of Cultivated* Buxus *L.* | $ 3 |
| *Index to The Boxwood Bulletin 1961-1986* | $ 10 |

## *Contributions:*

Gifts to the Society are tax-deductible and may be undesignated or applied to:

Boxwood Memorial Garden Fund
Boxwood Handbook Fund
Boxwood Research Fund
Boxwood Monograph Fund

## *Correspondence:*

For address changes, memberships, dues, contributions, or to order back issues or publications, write:

Treasurer, The American Boxwood Society
P.O. Box 85, Boyce, Va. 22620

For general information about the Society, advice concerning boxwood problems or cultivar selection, write to The American Boxwood Society at the same address. You are also welcome to write directly to the President:

Mrs. Robert L. Frackelton
1714 Greenway Drive
Fredericksbug, Va. 22401

## *Call for Papers:*

Technical articles, news, history, lore, notes, and photographs concerning boxwood specimens, gardens or plantings are solicited for possible publication in *The Boxwood Bulletin.* Photographs should be suitable for reproduction and fully captioned. Suggestions regarding format and content are also welcome. Material should be submitted to:

Chairman, Bulletin Committee
1714 Greenway Drive
Fredericksburg, Va. 22401

Material to be returned to the sender must be submitted with a self-addressed envelope carrying suitable postage. Every effort will be made to protect submittals, but the Society cannot be responsible for loss or injury.


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# Cold Injury to Stems of Japanese Boxwood

Thomas J. Banko and Marcia A. Stefani

During the summer of 1988 we were concerned to find an extensive amount of what appeared to be stem cankers on the Japanese Boxwoods (*Buxus microphylla* var. *japonica*) in our boxwood research planting at the Hampton Roads Agricultural Experiment Station in Virginia Beach, Virginia.

Although the plantings also contain Korean, "English," "American," and several other *Buxus sempervirens* cultivars, only Japanese Boxwood was affected. The most immediately noticeable symptom was a yellowing or bronzing of the leaves near the ends of several stems on each plant.

Closer inspection showed that the stems below the yellow foliage were partially or completely girdled, that is, the bark was completely gone, leaving areas of varying sizes with only the woody center of the stem remaining. In most cases the bark above and below the girdled area had produced callus tissue in response to the injury, giving the area a swollen appearance.

The Plant Clinic at Virginia Tech reported that the symptoms were not caused by a pathogen, and suggested the possibility of cold injury from a previous winter. We tend to agree with this diagnosis. The injured area was at about the same level on all the branches, and all of the Japanese Boxwoods (about 75 plants) were affected.

We have observed bark splitting of these plants due to cold injury and apparently, if the bark splitting is severe, the bark from the damaged area will slough off completely. The remaining bark above and below the injury then produces callus in an attempt to heal the wound. If the callus cannot bridge the injury, a girdled area results. This cuts off nutrients to the foliage above, causing yellowing later in the year.

Japanese Boxwood is apparently less cold tolerant than the other boxwood cultivars in our planting. The only remedy is pruning out the affected branches.

*Stem of Japanese boxwood showing bark splitting, exfoliated canker area (on main stem), canker on left stem, and callus tissue*

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*Dr. Banko, who has been doing reasearch at VPI&SU for ten years, received M.A. and Ph.D. degrees from the University of Idaho. Ms. Stefani, a research scientist, received an M.A. in plant pathology from the University of Georgia and has been at the Agricultural Experiment Station for five years.*

# In Search of Boxwood Along the Waterways

Decca G. Frackelton

In the 18th century, access to the grand homes was often by water, so the finest features of the homes and gardens were usually on the "water" side. Herein, with brief descriptions, are pictured boxwoods found at some of these places which, by virtue of loving care, have survived wars and hardships and even progress.

Sotterly mansion, circa 1717, located in St. Mary's County, near Hollywood, Maryland, and billed as the nation's longest continuously operating plantation, is steeped in history. Situated with a magnificant view of the Patuxent River, the existing garden contains boxwood borders and specimens, though not of great age.

A succession of blooms from daffodils in early spring to Celosia in the autumn gives way to the green outlines of boxwood for winter design.

Along the main crosswalk is a handsome, though not historical, Italian carved stone well-head which covers an obsolete water well.

Mulberry Fields, circa 1755, also in St. Mary's County, features a mile-long "Avenue Field" lined with trees, stretching to the Potomac River, as described in *Colonial and Historic Homes of Maryland*, with etchings by Don Swann and text by Don Swann, Jr. The path fron the south facade, bordered with ancient boxwood, descends to a ravine; then the land rises gently as the fields spread toward the water.

On the north side, the garden is separated from the house and dependencies by a wall of billowing boxwood with two large tree boxwoods accenting the entrance. One of these had the dubious distinction of being struck by lightning. A good bit of the interior had to be cut out, but it survived.

Wye Heights, in Talbot County, Maryland, originally part of the Lloyd holdings, has a "ha-ha" ditch which permits an uninterrupted view from the house to the river, and keeps the livestock off the lawn. On one side is a ten-acre walled garden. In addition to the considerable boxwood plantings within the walled garden, the driveways and the long path to the boathouse are bordered with boxwood.

*Sotterly: Celosia rises above the boxwood hedge in a formal garden (Photos: Decca G. Frackelton)*

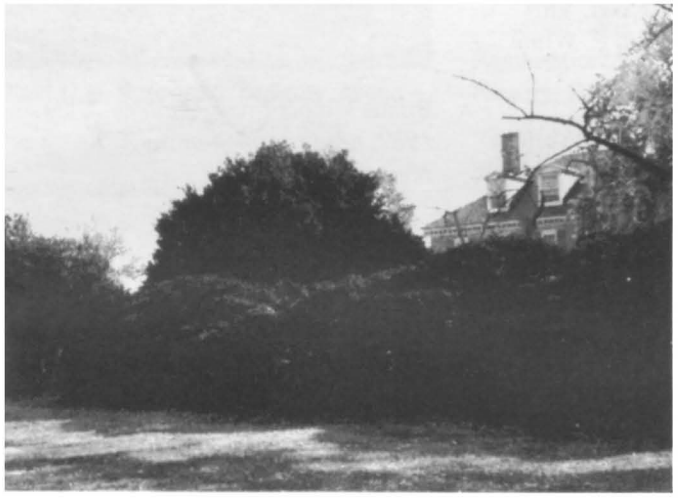
*Sotterly: A pair of shaped boxwood provides a focal point for viewing the Patuxent River in the distance.*

Carter's Grove, located on the James River, was named by Robert "King" Carter who stipulated in his will that it should always go by that name. His grandson, Carter Burwell, began the construction of the Georgian house in 1750.

After many changes through the years, it is now under the care of Colonial Williamsburg to interpret its history from the first unfortunate settle-

*Sotterly: An ornamental well-head covers an obsolete well.*

*Mulberry Fields: South facade with massed boxwoods*



*Mulberry Fields: North side of house has a wall of boxwood and two large tree boxwoods at the garden entrance.*

*Wye Heights: Deciduous shrubs dot the massed boxwood plantings within the 10-acre walled garden.*

*Carter's Grove: Boxwood topiary; barn cupola in the background*

*Carter's Grove: Circular garden walled with boxwood*

ment in the 17th century to the present day.

As would be expected, boxwood of many sizes and shapes are to be found on the grounds. Some reach to the top of the first story windows and some almost close vistas. Shown are two photos of a circular garden which has a topiary as the center ornament. This "walled room" contains benches to provide visitors a place to rest and admire colorful plantings and the five-tiered topiary which is on an axis with an elegant barn cupola.

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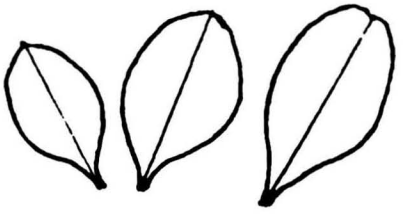
*Mrs. Frackelton, President of The American Boxwood Society, has a special interest in garden history.*

# Eleven New Boxwoods at the ABS Memorial Garden

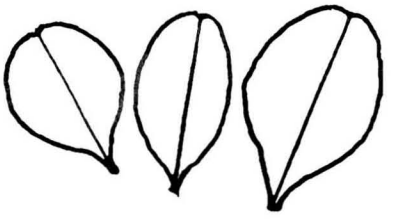
P. D. Larson

Name: ***Buxus microphylla* 'Jim's Spreader'**
Size (25 years): Insufficient data
Natural Form: Insuficient data. Indications are that it will be in the mounded category, but quite loose and of open habit
Annual Growth Rate:
Leaf Color: Medium green
Leaf Shape: Obovate, tending toward rotund; obtuse tip and lightly retuse; cuneate base
Leaf Size: Medium; 3/4 to 1 1/8 long; 3/8 to 9/16 wide
Leaf Surface: Glossy, shiny and smooth



Internodal Length: Medium; 5/8 to 3/4 inches
Flowering Habit: Not observed
Hardiness: Believed to be USDA zones 6 through 8
Plant Use: Specimen
Registration: Not registered
History: Released by Saunders Orchard & Nurseries, Piney River, Va.
Known Locations: Orland E. White Arboretum (State Arboretum of Virginia)

Name: ***Buxus microphylla* 'Liberty'**
Size (25 years): Insufficient data
Natural Form: Insufficient data
Annual Growth Rate: Insuficient data
Leaf Color: Medium green
Leaf Shape: Rotund to somewhat obovate; obtuse tip and lightly retuse; cuneate base
Leaf Size: Large; 3/4 to 1 1/8 long and 7/16 to 5/8 wide
Leaf Surface: Glossy, shiny and smooth
Internodal Length: Medium; 1/2 to 3/4 inches



Flowering Habit: Not observed
Hardiness: Believed to be USDA zones 6 through 8
Plant Use: Specimen
Registration: Not registered
History: Released by Saunders Orchard & Nurseries, Piney River, Va.
Known Locations: Orland E. White Arboretum

Name: ***Buxus sempervirens* 'Abilene'**
Size (25 years): Large; 7 to 8 feet high; 8 to 8 1/2 feet wide
Natural Form: Pyramidal and billowy, tending toward ovate
Annual Growth Rate: Fast; 3 to 4 inches in height; 4 to 4 1/2 inches in width
Leaf Color: Medium green
Leaf Shape: Lanceolate; slightly revolute with some elliptic; acute tip with some obtuse; cuneate base
Leaf Size: Large; most 7/8 to 1 1/8 inches long, 1/4 to 1/2 wide
Leaf Surface: Glabrous and smooth

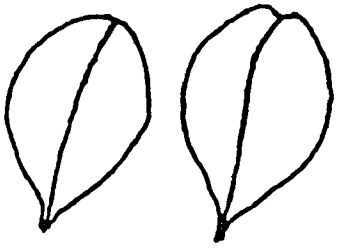
Internodal Length: Long; 1/2 to 5/8 inch
Flowering Habit: Not observed
Hardiness: Zones 5-8
Plant Use: Specimen, hedging, grouping for background and area separations
Registration: Inventory, Beal-Garfield Botanic Garden, E. Lansing, Mich., 1960

Buxus sempervirens *'Abilene', July 1989, newly planted in the ABS Memorial Garden*

History: The original clone is believed to have come to Abilene, Kansas, in about 1891 from a Pennsylvania nursery. Mrs. Emma Wolf purchased six as a gift for her mother, Mrs. Katrina Hasbaggen, a native of Germany. Only one plant survived to become the parent of the 'Abilene' clone.
Bibliography: *The Boxwood Bulletin*, Vol. 11(3): 38-40, Jan. 1972
Known Locations: Eisenhower Library, Abilene, Kansas; Orland E. White Arboretum; U.S. National Arboretum

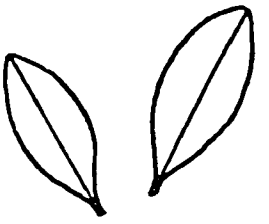
Name: ***Buxus sempervirens* 'Denmark'**
Size (25 years): Large; 9 to 10 feet high; 8 to 9 feet wide
Natural Form: Pyramidal with stiffly upright branches; somewhat loose and open habit
Annual Growth Rate: Fast; 4 1/2 to 5 inches in height; 4 to 4 1/2 inches in width
Leaf Color: Medium yellow-green; prone to bronzing in direct winter sun
Leaf Shape: Rotund and slightly

revolute; obtuse and retuse tip; cuneate base
Leaf Size: Large; 1 1/8 to 1 3/16 long; 5/8 to 11/16 wide
Leaf Surface: Glossy and smooth



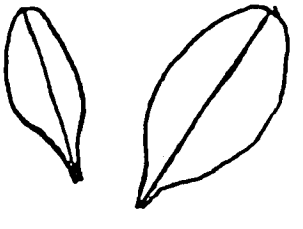
Internodal Length: Medium; 7/16 to 3/4 inches
Flowering Habit: Sparse flowering and fruit set
Hardiness: Zones 5 (protected) - 8
Plant Use: Specimen, hedging, grouping for background and area separations
Registration: M. A. Gamble and P. D. Larson in The Boxwood Bulletin, Vol. 28(2):28, Oct. 1988
History: Mr. Bagby, a plant propagator at Gray Summit, Missouri, received cuttings from Neils Alfred Paludan (an exchange student at the Missouri Botanical Garden) of Hellerup, Denmark, in 1953. Efforts to determine the parent clone of these original cuttings have been unsuccessful.
Bibliography: *The Boxwood Bulletin*, Vol. 28(2):28, Oct. 1988/28(3):42, Jan. 1989
Known Locations: U.S. National Arboretum (34916); residence in Florissant, Missouri

Name: ***Buxus sempervirens* 'Holland'**
Size (25 years): Medium; 5 1/2 to 6 feet high; 4 to 4 1/2 feet wide. A 40 year-old specimen measures 12 feet high and 8 1/2 feet wide.
Natural Form: Somewhat conical with loose, open habit
Annual Growth Rate: Medium; 3 to 3 1/2 inches in height; 2 to 2 1/2 inches in width
Leaf Color: Medium green
Leaf Shape: Elliptic; acute tip and



cuneate base
Leaf Size: Medium; 7/8 to 1 inch long; 5/16 to 3/8 inches wide
Leaf Surface: Glabrous and smooth
Internodal Length: Medium; 1/4 to 3/8 inches
Flowering Habit: Not observed to have flowered or set fruit
Hardiness: Zones 6-8
Plant Use: Specimen, hedging, grouping for background and area separations
Registration: Not registered
History: Believed to have originated as an open-pollinated seedling somewhere in Michigan. Was listed in the Weller Nursery Company catalog in the early 1940s
Bibliography:
Known Locations: Orland E. White Arboretum (6411[?]-40)

Name: ***Buxus sempervirens* 'Liberty'**
Size (25 years): Medium; 4 1/2 to 5 feet high; 3 1/2 to 4 feet wide
Natural Form: Ovate
Annual Growth Rate: Medium; 1 1/2 to 2 inches in height; 1 to 1 1/2 inches in width
Leaf Color: Dark green
Leaf Shape: Ovate; slightly revolute with upright habit; obtuse tip with some retuse; cuneate base
Leaf Size: Large; 3/4 to 1 inch long; 5/16 to 1/2 inch wide
Leaf Surface: Glabrous, smooth and tending toward matte



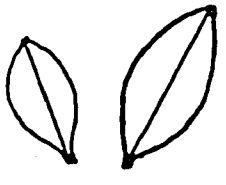
Internodal Length: Long; 3/8 to 1/2 inch
Flowering Habit: Moderate; somewhat conspicuous flower and moderate fruiting
Hardiness: USDA zones 5 through 8
Plant Use: Particularly effective as a specimen, hedging, grouping for background and area separations
Registration:
History: The original cuttings were brought from Michigan by Mrs. Schrader of Schrader Peony Gardens, Liberty, Indiana, due to the plant's demonstrated hardiness and to ultimately border the peony beds. Mr. James A, Clark, Indiana state nursery inspector, observed these boxwood plants for several years and particularly noted their hardiness after a severe 1955 winter. In 1956, Mr. Clark propagated 25 cuttings from these plants and by 1961 he named the plant 'Liberty' and commenced producing additional plants to ultimately be released by Cunningham Gardens, Waldron, Indiana.
Bibliography:
Known Locations:

Name: ***Buxus sempervirens* 'Mary Gamble'**
Size (25 years): Small; 3 to 4 feet high; 3 to 4 feet wide
Natural Form: Spherical
Annual Growth Rate: Slow; 1 to 1 1/2 inches in height and width
Leaf Color: Medium green
Leaf Shape: Lanceolate to elliptic and slightly revolute; acute tip and cuneate base
Leaf Size: Small; 1/2 to 11/16 inches long; 3/16 to 5/16 wide
Leaf Surface: Glabrous and smooth

Internodal Length: Short; 1/4 to 5/16 inches
Flowering Habit: Not observed to flower of set fruit
Hardiness: Zones 5-8

Plant Use: Specimen, edging, hedging, grouping for background and area separations
Registration: The Boxwood Society of the Midwest in *The Boxwood Bulletin*, Vol. 26(2)34-35, Oct. 1986
History: Records indicate that the parent plant may well have had its beginning in Westfield, Mass. in the early 1800s, moved on to Weston, Mass., where it was discovered by Lucy Mason of the St. Louis, Mo., garden of Peggy Marsh. In 1971, Lucy Mason brought cuttings back to be tested by The Boxwood Society of the Midwest. The cultivar was named in 1986 for Mary A. Gamble, first President and one of the founders of the BSMW.
Bibliography: *Missouri Botanical Garden Bulletin* Vol. XXVI(3):8-10, May-June 1988. *The Boxwood Society of the Midwest Bulletin*, April 1986. *The Boxwood Bulletin*, Vol. 26(2):34-35, Oct. 1986/ 27(2):36, Oct. 1987
Known Locations: Orland E. White Arboretum, Missouri Botanical Garden

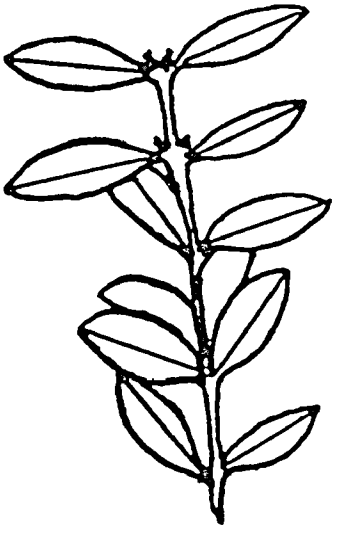
Name: ***Buxus sempervirens* 'Nish'**
Size (25 years): Medium; 3 1/2 to 4 feet high; 4 to 4 1/2 feet wide
Natural Form: Pyramidal, moderately billowy, somewhat open habit
Annual Growth Rate: Medium; 1 1/2 to 2 inches in height and width
Leaf Color: Dark green with yellow undertone
Leaf Shape: Elliptical to lanceolate and slightly revolute; acute tip and cuneate base
Leaf Size: Medium; 5/8 to 7/8 long; 5/ 16 to 3/8 inches wide
Leaf Surface: Glabrous and smooth



Internodal Length: Medium; 1/4 to 3/8 inch
Flowering Habit: Not observed in flower or to have fruit
Hardiness: Zones 5-8
Plant Use: Specimen, hedging, grouping for background and are separations
Registration: M. A. Gamble in *The Boxwood Bulletin*, Vol. 14(4):61, April 1875
History: Originated from seed collected by Dr. Edgar Anderson from Yugoslavia in 1935. It is named after a town in Yugoslavia.
Bibliography: *Missouri Botanical Garden Bulletin* Vol. LXXVI(3):8-10, May-June 1988. *The Boxwood Bulletin*, Vol. 14(4):Cover, 61, April 1975/24(2):50, Oct. 1984
Known Locations: Orland E. White Arboretum, U.S. National Arboretum (6010), Missouri Botanical Garden, Longwood Gardens.

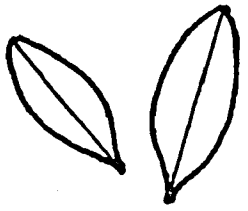
Name: ***Buxus sempervirens* 'Ed Wycoff'**
Size (25 years): Insufficient data
Natural Form: Insufficient data; indications are that it will most likely be in the pyramidal category, but quite open and of loose habit
Annual Growth Rate: Insufficient data; indications are that it will most likely be within the medium range of 2 to 3 inches.
Leaf Color: Medium yellow-green
Leaf Shape: Elliptic, tending toward rotund; acute to obtuse tip; cuneate base
Leaf Size: Medium; 5/8 to 7/8 inch long; 3/16 to 1/4 wide
Leaf Surface: Glabrous and smooth

Internodal Length: Medium; 5/16 to 3/8 inch
Flowering Habit: Moderate and somewhat conspicuous flowering; moderate fruit set
Hardiness: USDA zones 5 (protected) through 8



Plant Use: Specimen
Registration: Not registered
History: The plant is believed to have originated as a natural open-pollinated seedling, discovered by Mr. Ed. Wycoff of Bedminster, N. J., who sent it on to Mr. Henry Hohman of Kingsville Nurseries, Kingsville, Md., for further propagation, testing and possible naming and release.
Known Locations: Orland E. White Arboretum, U.S. National Arboretum (33827), University of Washington Arboretum

Name: ***Buxus sempervirens* 'Joe Gable'**
Size (25 years): Large; 9 feet high; 8 feet wide
Natural Form: Insufficient data; indications are that it will be in the pyramidal category, but quite open and loose of habit
Annual Growth Rate: Insufficient data; indications are that it will be in the medium range of 2 to 3 inches
Leaf Color: Medium green
Leaf Shape: Elliptic; acute tip tending toward obtuse; cuneate base
Leaf Size: Medium; 3/4 to 1 inch long; 3/16 to 3/8 wide
Leaf Surface: Glabrous and smooth, trending toward glossy



Internodal Length: Medium; 5/16 to 3/8 inch
Flowering Habit: Not observed to flower or set fruit
Hardiness: USDA zones 6 through 8
Plant Use: Specimen
Registration: Not registered
History: The plant is believed to have originated as an open-pollinated seedling, discovered by Mr. Joe Gable of Stewartstown, Md., who sent it to Mr. Henry Hohman of Kingsville Nurseries in Kingsville, Md., for propagation, testing, naming and release. The following appeared in the 1946 catalog of Kingsville Nurseries: "*Buxus sempervirens* 'Joe Gable' - Dark green leaves, holding color in very cold weather. Growth fast and strong. It is apparent that this box will develop to quite a large size."
Known Locations: Orland E. White Arboretum, U.S. National Arboretum (4210/4239), University of Washington Arboretum (1983)

Name: ***Buxus sempervirens* 'Rochester'**
Size (25 years): Insufficient data
Natural Form: Insufficient data
Annual Growth Rate: Insufficient data
Leaf Color: Medium green
Leaf Shape: Elliptic; acute tip; cuneate base
Leaf Size: Medium; 3/4 to 7/8 inch long; 1/4 to 1/2 inch wide
Leaf Surface: Glabrous and smooth
Internodal Length: Medium; 1/4 to 3/8 inch
Flowering Habit: Not observed
Hardiness: Believed to be zones 5-8
Plant Use: Specimen
Registration: Not registered
History: Best information indicates that it was selected by Monroe County Department of Parks, Rochester, N.Y., sometime in the late 1950s and first released by Girard Nurseries, Geneva, Ohio, in the late 1960s. The Royal Botanical Gardens, Hamilton, Canada, recorded having received four plants of 'Rochester' in 1965, but by 1976 could not be located. Girard Nurseries listed the plant in their 1976 catalog: "Has a leaf like the regular *sempervirens* but a little darker and compact growing. The most important thing is it's extremely hardy which rivals the Korean boxwood." The 1988 catalog included: "'Pride of Rochester' - Aristocratic, slow growing compact evergreen. Good for small hedgings, urns, porch boxes and edgings. Our own hardy strain."

*Cdr. Larson is an ABS Director and Chairman of the Memorial Garden Committee.*

# Experiences of Boxwood Gardeners at Mt. Vernon

Susanne Schrage-Norton and J. Dean Norton

Mount Vernon has had a boxwood maintenance program since 1977. It was that year that Mr. Harrison Symmes hired Dean as a boxwood gardener. Since then the authors have worked on the "English" boxwood (*Buxus sempervirens* 'Suffruticosa') planted by George Washington in 1798. We have learned much about boxwood over the years and would like to share some of our experiences on the following cultural practices: soil testing and liming, fertilizing, pruning, winter protection, watering and transplanting.

*Soil Testing:* Soil testing is simple, easy, yet often overlooked. Before beginning a boxwood care program, you must determine the status of the soil. A soil test will reveal the soil's pH and the presence of certain elements, such as phosphorous and potassium, and will serve as a guide in your lime and fertilization programs.

After extensive testing, the soil at Mount Vernon was found to be very acidic, with an average pH of 4.3, and very low in nutrients. This information was quite enlightening and certainly a contributing factor to the poor health of the boxwood. The natural tendency when a boxwood looks weak is to apply fertilizer, but when a low soil pH exists, such as ours, all nutrients are bound in the soil and are unavailable to the plant. If we had fertilized while the pH was low, we would have wasted our time and money. It really pays to check your soil condition first.

A low soil pH can easily be raised by adding lime at any time during the year. We have used both ground limestone and dolomitic lime. We did not try to correct our pH problem overnight by applying a large quantity of limestone in one application; instead, we worked on it for several years to avoid a drastic change in the soil environment. We applied lime by hand to the soil under the plants and two feet beyond the drip line. This was done three times a year, in spring, summer, and fall. Each application could be called a dusting, evenly spread on the soil surface and not left in piles. By the third year the soil pH ranged just over 6. Our target was a pH of 6.5, which is excellent for boxwood.

For those of you who have boxwood growing in full sun and have problems with the foliage turning reddish-orange in winter, lime can help. An application of dolomitic lime, which contains magnesium, in late August will

*Boxwood hedges at Mount Vernon, believed to have been planted by George Washington in November 1798, have been controlled in height by formal pruning since the late 1800s. (Photos: Mount Vernon Ladies Association)*

*Snow fencing, here covering a six-foot hedge, is no longer used at Mount Vernon.*

promote a healthier green color to foliage late in the season.

If your soil has the proper acidity, lime is not necessary, but your plants still require calcium. An application of gypsum every few years is very beneficial. Gypsum supplies the plants with calcium without altering the soil pH.

***Fertilization:*** Once you have determined your soil pH, and corrected it if necessary, you can begin a fertilization program. We have tried many different types of fertilization at Mount Vernon. After years of experimentation, we have concluded that it is of primary importance that boxwood receive nitrogen, phosphorous and potassium, applied at the proper time. The source for these nutrients was found to be secondary. For the past six years we have fertilized every other year with 10-10-10 granular fertilizer. It is spread by hand, as with lime, and applied at the end of February or early in March. Due to the unpredictability of our winters, we do not fertilize in the fall.

***Pruning:*** The first year as boxwood gardener was devoted to removing dead branches and debris from our vast collection of boxwood. It was a job that seemed to take forever, but the end result was well worth the time. You could never imagine how good the boxwood looked after pruning and cleaning. Their appearance improved 100%!

Good, healthy boxwood should have foliage growing along the interior stems. This habit of growth is encouraged by removing dead branches and debris and keeping the plant well plucked to allow air and light passage into the interior. Properly cleaned and plucked boxwood has a stronger branch structure and can better resist disease.

Occasionally boxwood requires severe pruning, the removal of more than four inches of foliage. We have had our greatest success when we severely pruned during the first two weeks of March. This is just before the new buds break, thus allowing a full growing season for new foliage to develop. If you are contemplating severely pruning your boxwood, we would suggest that you prepare your plants by removing the dead branches and debris and thinning out some of the foliage in the first year; then prune severely the following year. This simple procedure will help your plants recover more quickly.

***Winter Protection***: In the area of winter protection, we have just about tried it all. For several years we constructed elaborate burlap covers over our boxwood, trying to protect them from the winter sun and wind. It truly looked as if the circus had arrived

in the garden. These covers were hard to build and took several weeks to complete. Later we experimented with covers made of snow fence. They were easier to build, but their benefits were minimal. In recent years we have stopped using cover altogether. Now we apply an anti-dessicant to the foliage in late November. This application does appear to prevent severe winter burn.

Mount Vernon has been continually plagued by winter damage to the small boxwood planted in the two formal parterres. A few years ago Susanne discovered the best winter protection for these small plants was pine needles. There was little or no winter burn and frost heave was virtually eliminated. We have followed this practice each winter since, and the results remain consistently outstanding. So if you have small boxwood, try the following: after the second hard freeze, when the ground is cold, apply a thick layer of pine needles, 6-8 inches deep, over the roots of the plants. Pine needles are light and airy, and will not readily compact. The needles keep the soil temperatures from fluctuating greatly and prevent the soil from freezing deeply. They also act as a buffer against the winter wind. Remove the pine needles after the threat of severe winter temperatures has passed, usually around mid-March.

***Watering:*** There are many opinions on when to water and the amount to apply. The best suggestion is: when you water, water deeply. The best method of application is by trickle tube, soaker hose, or by the open hose. Overhead irrigation should be avoided if possible. Boxwood foliage tends to shed water, not allowing the water to reach the foliage within the drip line and thus promoting a shallow root system. The deeper you encourage your boxwood roots to grow, the more tolerant they will be to drought conditions.

***Transplanting:*** There are few plants as easy to transplant as boxwood. We prefer to dig them in the fall (September to October), but will move them in the spring (March to April) if necessary. The key to transplanting boxwood is to thin them before digging and apply an anti-dessicant to the foliage. This will help compensate for the root loss that occurs when the plant is dug. The less time the boxwood is out of the ground the better. Advance preparation is also very important. Have your new planting hole prepared before you dig the boxwood. If the boxwood cannot be replanted directly and must be left out of the ground, place it in the shade and keep the root ball moist. If you must plant in summer, shading with a burlap cover may be necessary.

***Planting:*** When it comes to planting boxwood, we learned a very valuable lesson several years ago that is worth sharing. Whenever you plant boxwood, use as much of soil from the original hole as possible. A few soil amendments are fine, but don't go overboard. Once we planted 1500 small boxwood in a soil mixture in which the plants should have thrived; peat moss, perlite, bonemeal, compost and sand were combined with very little of the original soil. Surprisingly, the little boxwood were dead within a year. The wondrous soil mix had created a well! Water would not move from the soil mix to the original soil until it had reached the saturation point. In other words, there was a total lack of oxygen.

Please learn from our mistake. When planting any plant, remember: what comes out of the hole, put back in the hole. The addition of some compost or manure and definitely some bonemeal is highly recommended, but that's all. We have followed this practice for ten years and have been thrilled with the results.

For years boxwood has been known as a low-maintenance plant. That is *low* maintenance, not *no* maintenance. Generally the boxwood found to be weak or suffering have been neglected. One does not need a boxwood maintenance program as intensive as ours at Mount Vernon, but with a little attention given to the soil condition, watering technique, fertilization and pruning, we can all enjoy healthy boxwood today and for many years to come.

*1500 boxwood died because the soil texture within the planting hole was altered.*

*Susanne-Schrage-Norton, a Director of the ABS, is in charge of boxwoods at Mount Vernon. J. Dean Norton, Horticulturist at Mount Vernon, was a featured speaker at the ABS annual meeting in May 1989. This article was submitted as a follow-up.*

# 19th-Century Boxwood in Upper North Carolina

Davyd Foard Hood

As was true for much of the South in the antebellum years, the prosperity of the plantation economy in North Carolina saw its expression in the construction of new plantation houses and the development of the gardens and grounds surrounding these rural seats. Perhaps the largest surviving concentration of these handsome old places is to be found in the tier of counties that carry across the top of North Carolina along its border with Virginia.

From Halifax County on the east to Rockingham County on the west these seven counties are the location of important country places that are signal in the gardening history of North Carolina. It is also not without coincidence that these surviving gardens are almost exclusively formed by boxwood plantings.

A number of these important gardens were illustrated in the seminal *Old Homes and Gardens of North Carolina*, published in 1939. The splendid photographs by Bayard Wootten focus principally on architecture for even then, much of the landscaped setting of the state's important houses had been lost to neglect, to the changing economic fortunes of the border region, or to new owners with different tastes. However, Wootten's photographs handsomely depict the primacy of boxwood plantings in those gardens that do survive. In some instances the complete original planting of boxwood continues to grow whereas in others what survives is but a fragment of a larger more impressive scheme.

Many planters of substance preceded their houses with boxwood allées of paired rows (usually of "English" boxwood, *Buxus sempervirens* 'Suffruticosa') flanking the main approach to the house from from the carriage drive. However, there were exceptional planters who conceived gardens in much larger terms and as extensions of the architecture of their houses. These more elaborate plantings or parterres took one of two forms: that of a cross, or a heart. These were often fomed by concentric plantings of boxwood, usually with "American" boxwood (*Buxus sempervirens*) forming the outer enclosure with one or more rings of "English" boxwood forming hearts, beds, or paths within the embrace of "American" boxwood.

In reality these schemes are difficult to illustrate in photographs since views from porches or upper story bedroom windows only provide a partial overview of the scheme. Further complicating the visual representation of these gardens is the fact that during one hundred or so years of growth—more often than not marked by only partial control by the gardener—the rows of plantings have grown together and the architectural lines of the garden design are now obscured. Aerial views would be the best solution short of an even more important one—scaled measured drawings—that would add important information to our documentation of the use of boxwood in America in the 18th, 19th, and early 20th centuries.

There are three places in Warren County—two in Warrenton, the county seat—where the antebellum boxwood gardens survive largely intact and in remarkably good condition. At the outbreak of the Civil War Warren County was one of the wealthiest in North Carolina and had a rich, cultivated society of planters with strong ties to Petersburg, a principal market for tobacco, its most important cash crop.

In Warrenton, Eaton Place on North Main Street, is a grand Classical Revival mansion erected in 1843-1844 for William Eaton as his "in-town" summer house. Here the handsome five-bay facade of the house, defined by broad arched openings in the central bays, a full-scale Doric cornice, and a columnar one-story porch, serves as the

*Boxwood in heart-shaped design at Eaton Place, Warrenton, N. C., in Warren County (Photos: Davyd Foard Hood)*

*An allée of boxwood from the front porch to the street at the Somerville-Graham House, Warrenton, N. C., in Warren County*

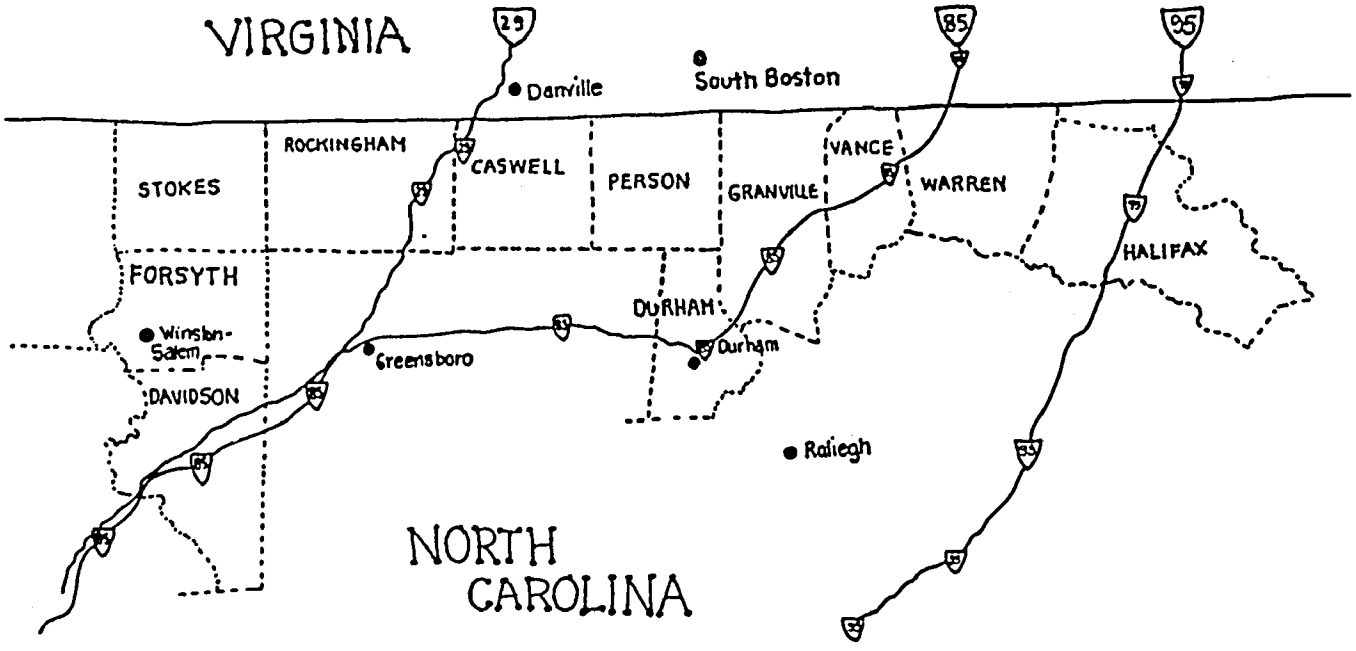
*Elgin, in Warren County, N. C., built in the 1830s for Peter Mitchell*

background for the heart-shaped planting that fully occupies the lawn from the steps to the street. The planting of the garden is believed to be contemporaneous. A single row of "English" boxwood forms the inner "heart"—itself enclosing a greensward—that is, in turn, flanked by walls that lead from the bottom point of the heart at the street to the high steps up to the front door. These paired curving paths are then embraced by a second and outer planting of "English" boxwood that reenforces the shape of the heart. "American" boxwood is used to define the broad lawns to either side, and a like but simpler and circular planting of "English" boxwood is centered on the house's rear elevation.

The Somerville-Graham House, also built in the 1840's, stands but a few blocks away in this village where the house grounds more often than not occupy a full city block (or more). Here there are two major allées of "English" boxwood focused on the Classical Revival elevations of the two-story frame house. The principal one leads straight from the steps of the front porch out to Front Street, marking the central approach. A secondary—but longer—allée leads diagonally from the corner of the house to the intersection of Front and Macon streets, reaffirming the houses's relationship to the courthouse and town center in that direction. The pendant half of the front lawn was formed into beds, and here portions of an ellipse and a circle (and scattered plants) survive.

Elgin, the handsome house erected in the early 1830s for Peter Mitchell, stands a few miles outside Warrenton. At Mitchell's death in 1846 the Elgin estate comprised some two thousand acres, and in 1873 Elgin was acquired by Andrew Crinkley (and others) whose descendants have owned the house to the present. The boxwood was probably planted early in the Crinkley ownership of the property, judging from a turn of the century documentary photograph of the house. While embellished with the classical vocabulary of architectural details that likewise define the character of the two aforementioned houses in Warrenton, Elgin is unusually handsome and even more impressive.

The gabled front form of the house takes on a temple-like appearance; a one-story classical porch is centered on the front elevation. It stands at the head of the allée leading up to the house. But here at Elgin, the allée formed by a single inner row of "English" boxwood flanked by paired outer rows to either side—does not end at the front steps. Instead it branches to the right and left and continues around to the sides of the house, which are also marked by handsome one-story pedimented




classical porches. While most of the side arms of the plantings have grown together the wishbone (or "Y") shape of the plantings remains discernible.

In Halifax and Vance Counties, to the east and west respectively of Warren County, there are boxwood gardens worthy of note and a visit. Shell Castle, near Enfield and the seat of the Whitaker Family since 1789, was also illustrated in *Old Homes and Gardens*. Here the garden which appears to have originally consisted of four large and four small alternating, symmetrical beds enframing a central circular bed to form the parterre. "English" boxwood was used to define the beds and "American" boxwoods were planted as specimen shrubs throughout the garden. This evocative and somewhat derelict garden, which had its origins in the antebellum period, has been rehabilitated and in-planted by the descendant generations of the Whitaker family.

Ashland, in Vance County, the property of the Henderson family from the colonial period to 1901, is also a handsome frame plantation house. Here an "English" boxwood-lined walk leads up to the Greek Revival porch. Adolphus E. White purchased the plantation in 1901 and it was probably his son, Col. Henry White, who planted the row of now towering "American" boxwood that encloses the rear and side lawns of the house and the other secondary plantings.

The Garden at Hill Airy, the Gregory family seat in Granville County, is the most extensive and perhaps the most important of the antebellum gardens discussed in this article. In 1841 Dr. Francis Roger Gregory, then living in Mecklenburg County, Virginia, followed his brother William's lead, and purchased a tract of some 2,370 acres on Island Creek adjoining William Gregory's property. In that year or shortly thereafter he erected a small but impressive one-and-a-half story frame house on a knoll that dropped gently away in all directions. At this time relatively little is known of Gregory's life and his training and practice as a physician. According to family tradition he studied at the University of Virginia, and his sons were educated there and at the University of North Carolina. Francis R. Gregory made his will in 1853 and it was proved in 1854. However, the most remarkable aspect of the man's life and the gift he made to his family and posterity is the boxwood garden he planted on the north side of his house and where he presumably received visitors. Hill Airy, taking its name from its favorable location, is unlike the other houses mentioned here in that the porch is recessed within the body of the house and has the appearance of an open room, handsomely detailed with a chair-rail and paneled wainscot. From this elevated prospect—the house is raised on a stone foundation—Gregory could look to the north and overlook his garden laid out in the shape of a Greek Cross.

The south avenue from the steps of the house to the crossing of the four arms is 100 feet long. The east, north, and west arms of the cross are each 80 feet long. The four walkways are each flanked by rows of "English" boxwood that are, in turn, sheltered by towering rows of "American" boxwood, enframing here the single row that each arm has in common.

That Gregory considered and intended the north side of the house to be a garden distinct and separate from the rear kitchen yard, is certain. There are great rows of "American" boxwood, some 58 feet in length that stretch to the east and west from the north front corners of his house. They terminate at a point on axis with the ends of the east and west arms of the cross. While the

measurements given in this article are based on a pacing approximation, it is clear that there is a well-ordered mathematical symmetry to Dr. Gregory's garden.

Person County is immediately west of Granville County and there are no known major antebellum gardens that survive there; however, Caswell County—to the west of Person—was, like Warren County, the location of a sophisticated plantation society in the antebellum years. Here in Yanceyville, the county seat, the Roan-Johnston House, has a grand avenue of boxwood leading up to the house that, according to tradition, was remodeled in the Tudor Revival style in the 1870s.

In the village of Milton, on the Virginia border and overlooking the Dan River valley, The Clay-Lewis-Irvine House has boxwood parterres in its garden. According to tradition they were planted in the 19th century (1830-1886) when the house was the residence of Nicholas Meriwether Lewis and his sister, Lucy. An important plantation community existed around Locust Hill, in the western part of the county, and here the boxwood at the Brown-Graves House is worthy of note.

To this writer's knowledge there is but one plantation in North Carolina to which boxwood gave the house its name, Boxwoods, at Madison, in Rockingham County. The large double-pile brick house, overlooking the plantation bottomlands along the Dan River, was built about 1815 for Randall Duke Scales, who also founded the town of Madison. Scales left his plantation, then known as Rural Retreat, in the 1840's and moved to Mississippi. In 1848 John D. Watkins purchased the 830-acre plantation. It is he and his wife who are responsible for the elaborate and expansive plantings of "English" and "American" boxwood that give the house its name.

According to tradition the boxwood was brought from the Watkins family place, Cascade, in Pittsylvania County, Virginia. John and Phebe Watkins cultivated the grounds and gardens of Boxwoods for thirty years until they sold the place in 1878 to Joseph M. Vaughan, whose descendants have owned the estate to the present.

*At Beallmont in Davidson County, N. C., boxwoods border the paths leading to the house, where a pair of heart-shaped parterres are planted with hostas. The smaller of the two girls at left in 1920 photo is the present owner. (Photo: North Carolina Division of Archives and History)*

Although much removed from the Virginia border, Beallmont, in Davidson County was also featured in *Old Homes and Gardens*, and like Boxwoods is a handsome place with strong family associations. The property on which Beallmont stands was acquired in 1763 by Dr. Robert Moore whose son, Ebenezer, also a doctor, inherited the homeplace. Beallmont acquired its name through the person of Burgess Lamar Beall (1799-1853) of Maryland who came to study medicine with Ebenezer Moore, married his mentor's daughter, Eleanor, and stayed in Davidson County where he developed the Moore property into a fine country estate.

The charm of the place survives today through the nuturing of his descendants who continue to live here. According to family tradition the boxwood plantings were made around 1840 from Dr. Beall's cuttings. The front walk of the house, visible in the documentary photograph of 1920, has the appearance of a "Y." The top of the "Y" splays near the house where the secondary paths lead to the right and left while the center walk continues to the house. A small pair of hearts, with their curved tops edging each side of the main path, form parterres that were planted with specimen hostas. There is a third heart formed by boxwood on the west side of the house.

Clearly, the garden at Beallmont, together with those in the border counties discussed earlier, were important in their own day. Their survival today, in good or derelict condition, is a matter of concern, for they tell us much not only about the planter society of upper North Carolina, but as well about the garden history of North Carolina and the extensive use of boxwood in the mid-19th century.

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*Mr. Hood, an architectural historian, spoke to the ABS on Tuesday evening, May 16, 1989, at Blandy Farm. This article is adapted from his presentation.*

## CORRESPONDENCE

# Boxwood Settling Into New Nursery at Missouri Botanical Garden

To: *The Boxwood Bulletin*, The American Boxwood Society

In preface, we think a brief review of boxwood nursery history at the Missouri Botanical Garden (MBG) in St. Louis, Missouri, is in order as a prologue to the story of the most recent move. It shows the tenacity of the plant, the determination of the boxwood enthusiasts who comprise the Boxwood Society of the Midwest (BSMW), and the interest, support and respect of the Garden for the extensive collection of Boxwood varieties and cultivars which have been proven Midwest-hardy in the testing program carried on in the nurseries over the past 20 years, a collection that is practically irreplaceable.

It began in 1969 when the Boxwood Study Group of the St. Louis Herb Society (which became the Boxwood Society of the Midwest in 1976) received its first shipment of *Buxus* cuttings from the late Dr. J. T. Baldwin, Jr., of the College of William and Mary, Williamsburg, Virginia. The cuttings were of two cultivars of *Buxus sempervirens*: the historic 'Pyramidalis Hardwickensis' and the then unregistered 'Aristocrat'.

We had been referred to Dr. Baldwin by the late Dr. Edgar Anderson, distinguished scientific member of the Missouri Botanical Garden staff and our group's inspiration and botanical mentor. "Dr. Baldwin," Dr. Anderson told us, "is the qreat American authority on boxwood."

We took the cuttings to the MBG greenhouses where the late Mr. Paul A Kohl, for 40 years Floriculturist at MBG, was our horticultural teacher. He taught us how to propagate boxwood from cuttings, gave our project greenhouse and cold frame space. Cuttings continued to come from other boxwood enthusiasts and centers, including Arnold Arboretum; the U.S. National Arboretum; Royal Botanic Garden, Kew; the Holden and Morris Arboreta; as well as many private gardeners. As plants from the first cuttings neared their third spring (the youngest Mr. Kohl felt would be safe to set them out), it became apparent we needed an organized test area. The Garden, which had encouraged and cooperated fully with us, found open space at its north end bordering on Shaw Avenue. Nursery No. 1 was built there.

It started with two rows in 1973. It grew row by row as young test plants reached their third spring. In five years the nursery census numbered over 2,000 test plants. But we were advised that the Garden's master building plan was ready to move into high gear. The Ridgway Center (the Garden's handsome new entrance) would be built and the boxwood nursery was smack in the middle of the area which would become one of the parking lots needed to serve the thousands of Garden visitors.

The Garden found space for Nursery No. 2 within the grounds, near the center and to the west, bordered by Alfred Avenue, a residential street running north and south. Just ahead of the bulldozers, the boxwoods were moved, and the census cut to 799 by careful selection of plants within varieties and cultivars.

The 1979 nursery move was started in June and completed over 9 1/2 weeks. It was done by Walter Behrendt, Garden staff member; and, as we noted at the time, "with care, deliberation and a great deal of sweat". Losses from that move were negligible and those occurred in a lower part of the new nursery where drainage proved to be poor. The plants, said Walter, were spaced to "hold without undue crowding for three years."

Ten years later, in 1989, boxwood history repeated itself. The Garden was ready to make another major move in its master building plan--the exciting new Center for Home Gardening, for which ground is to be broken in 1990.

The second nursery (which many ABS members visited when the ABS Annual Meeting was held in St. Louis in 1987) covered 12,300 sq. ft. Its highest census was close to 900 plants. It paralleled a berm and Alfred Avenue. The move from this nursery started on June 19, 1989, and had been virtually completed by the end of August. It was handled by the Top Tree Service of St. Louis County. We asked Mr. Robert Bowden, Chief of Horticulture at the Garden, to tell us how this firm was selected.

*Digging and balling boxwoods for move (Photos: Claude Badeusz)*

Mr. Bowden pointed out first that to the Garden the nursery move was a capital investment in an important, irreplaceable asset: the living collection of boxwoods.

"Five firms with extensive experience references submitted bids. Top Tree Service was chosen because its references indicated it would do a good job. It has a reputation for quality work. Quality was the first consideration. Our instructions emphasized that the plants being moved were not 'just a bunch of shrubs,' but a living collection which is important to the Missouri Botanical Garden."

They were told to "take your time; and handle every step in the right way for the plants." Bowden's judgment of the job: "I was very impressed."

These few details suggest what was meant by "care." Each plant was balled with old-fashioned burlap (nothing synthetic). With the smaller plants the burlap was pulled up and itself tied around the stem of the plant. As the balled plants reached (by truck) the nursery area (which had some time earlier been treated with weed deterrent) what Mr. Bowden described as a "$5.00 hole" (Every gardener knows what that means!) was dug to order for its plant. When a small plant was settled into its hole, soil (mixed with turface to help break up the clay) filled in the hole almost to the top. The burlap was then untied from the trunk, spread over the soil and more soil

*Boxwoods were transported by forklift and truck.*

added until it was covered and the proper planting depth reached. With larger plants the burlap balls were tied with jute (not plastic) rope and the same planting process followed. Almost needless to say, a thorough soaking followed planting at earliest feasible time.

Bowden says he would have preferred an earlier start than late July but since that was impossible, he and all BSMW members were grateful for the several gentle, soaking rains that fell during the move; and that the thermometer stayed under 100° F. He says that future waterings will be on an "as needed" basis. The nursery will be sprayed again for the ubiquitous mites; and when a feeding is indicated a high nitrogen content fertilizer (such as "triple 12") will be used.

He believes that "if we have a good winter with plenty of rain and a good spring with no surprises, the boxwoods should be in good shape by fall 1990, and normal growth rate should have resumed by spring 1991." He estimates that, considering the move, the spacing of the boxwoods in the newest nursery should "hold" for three to five years.

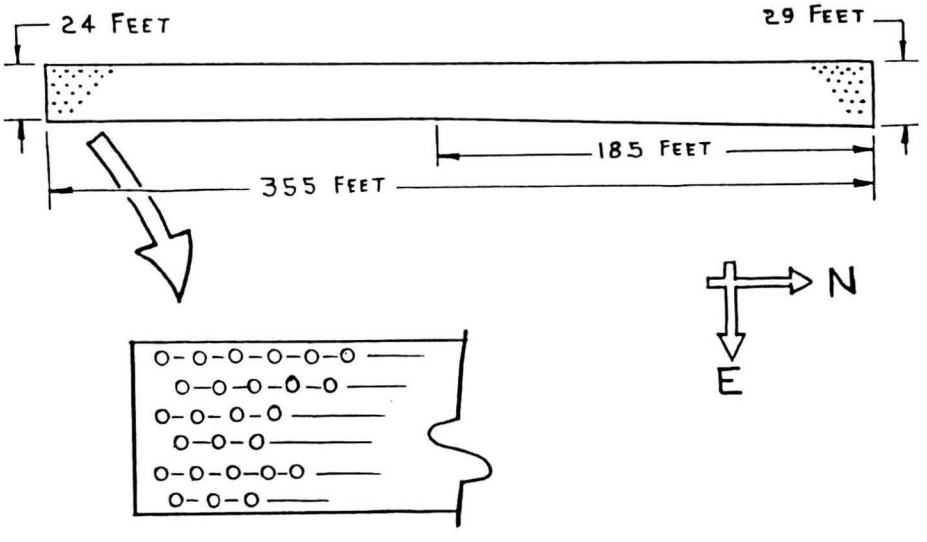
As this is written some of the larger plants are yet to be moved, so we do not yet have an exact census of the new nursery. The Garden is placing a number of these in appropriate permanent locations throughout the Garden. (We'll report on them when completed.)

Claude Badeusz, BSMW Horticulture Chairman, has sketched the new nursery and described its planting. His sketch is below.

Here is his description: "The relocated boxwood nursery occupies an area of 3,000 sq. ft. on a rectangular plot 24 to 29 ft. wide and 355 ft. long, the length running north and south. The nursery is 3/4 the area of its former location but the spacing will accommodate approximately 530 plants. There are six rows spaced four feet apart. The spacing within each row varies in order to maintain a 12-inch space between boxwoods. Four to six inches of shredded wood mulch is used to suppress weeds and conserve moisture.

A thorough soaking was given to the transplanted boxwoods. No low spots are evident in the nursery and drainage appears adequate. It is not yet known whether the nursery located in a corridor between the garden berm and nearby street buildings will be the beneficiary of southern ventilating breezes; also how will the winter winds from the north affect the new nursery."

Dr. Peter H. Raven, Director of the Missouri Botanical Garden, expressed




TYPICAL PLANTING LAYOUT

6 ROWS — 4 FEET BETWEEN ROWS — STAGGERED PLANTING WITHIN ROWS IN ORDER TO MAINTAIN 12 INCH SPACE BETWEEN BOXWOOD

the Garden's appreciation of the Society's contribution to the cost of the move.

Dr. Raven wrote to John Ansboro, Society President: "Thank you and your colleagues for your generous gift of $3,000 to help defray the cost of relocating our boxwood collection in preparation for the construction of our Center for Home Gardening Pavilion. Your assistance in this is sincerely appreciated, and we look forward to using them actively in the development of the Boxwood Garden over the next few years."

And John Ansboro speaks for the membership of BSMW when he says, "When Robert E. Bowden informed our Society that the boxwood nursery would be moved to a new site within the Garden grounds he expressed at the same time his appreciation of the 'prime quality' of the boxwood plants in the collection, and of the care Society members had given the plants over the years.

"We look forward to many more years of the same cordial relationship between Garden staff and Society membership with a mutual respect for our continuing search for Midwest-hardy boxwoods."

*Mary A. (Mrs. D. Goodrich) Gamble*

*The new boxwood nursery at the Missouri Botanical Garden lies between a berm and the perimeter fence.*

## IN MEMORIAM

Mr. J. B. Puller, Jr.
Mrs. Richard M. Trent

Mr. Puller had been a member of The American Boxwood Society since 1967.

## CORRECTION

How many of you alert readers caught the error in the *Bulletin* for July 1989?

(The photos on page 11 were inadvertently transposed.)

Our apology.

## NEWS OF THE SOCIETY

# New ABS Director

Dr. Stephen Southall was raised on a farm in Deltaville, Va., where as a youngster his main pleasure was working on the land with "his" tractor. His first exposure to "English" boxwoods was here, since there were approximately 800 surrounding the main house. He graduated from the University of Richmond and earned a Ph.D. in Psychology at the University of Virginia. Dr. Southall is Associate Professor of Psychology at Lynchburg College. He is currently in the process of integrating computer laboratories into his courses.

In 1984, with co-owner Ken Shumaker, he established English Boxwoods of Virginia, a wholesale growing operation of the 'Suffruticosa' cultivar exclusively. They market plants ranging in size from rooted cuttings to four-foot specimens.

Stephen's entire family is involved with boxwoods. His wife, Sally, helps in the office and his daughter, Sarah, age 14, works during both rooting and potting times. David, age 6, like his father at that age, prefers to help with "driving" the tractor, and Rebecca, age 3, can spot an "English" boxwood at 50 yards.

# The Seasonal Gardener

***Practical tips for boxwood enthusiasts from Society members***

Tips on Fall and Winter Care of Boxwood:

As the cooler weather arrives gardeners feel renewed energy for fall's outdoor activities. Boxwood plants can be given some help to promote healthier, more vigorous growth next spring.

***Drought:*** After an extremely dry summer in the eastern states, boxwoods will need extra water to meet their weekly requirement of at least an inch of moisture. This is particularly important in late fall, so that plants will go into winter with ample moisture to help them withstand frozen ground and drying winds. Boxwoods which were planted or moved last spring will benefit from extra attention to help them flourish through the winter.

***Mulching to Conserve Moisture:*** In addition to furnishing adequate moisture, mulching to a depth of one inch will conserve it and will keep the soil at a more constant temperature. Do not allow mulch to touch the central trunk or low branches. If possible some shade will promote better color and protect foliage from bronzing, as will some protection from strong winds. Evergreen boughs around plants or straw scattered sparsely on the foliage can be useful. Mulching materials include wood chips, pine bark, pine needles, straw, leaves and compost. Two other materials have serious disadvantages: peat moss can dry and cake into a hard crust which will prevent any moisture from reaching the root area; and sawdust, if not very old and partially decomposed, may draw nitrogen away from the soil and starve the plants.

***Fall Planting:*** In areas where some mild periods are normal during winter, fall planting gives boxwoods a head start: roots will continue to grow and will be better established when new spring growth begins. However, copious watering is necessary at planting time and during the following weeks, and may also be needed during any winter warm spells. When the ground is frozen, roots cannot replenish moisture to supply the foliage; during thaws this lack must be made up. If plants are located on a site exposed to wind or sun, this replenishment of moisture is critical to prevent winter damage. Newly set out plants will benefit from some thinning (plucking) in the upper portion, so that the reduced root network has less foliage that it must support and nourish.

***Preparing for Winter:*** If large established boxwoods have weak stems that could be damaged by snow or ice storms, wrapping the whole plant loosely with strong nylon cord, from bottom to top in a spiral, may provide support. Tie cord securely to a bottom branch, pressing the boughs upward and inward as you wrap the cord in an upward spiral aroung the bush at intervals of 8 to 10 inches. Have the cord tight enough to prevent breakage from excess weight of snow or ice, but not so tight as to exclude air circulation through the plant. If there are many large plants which need thinning and shaping, it is possible to find commercial firms which will do this work in fall to furnish "clippings" for florists' Christmas decorations. Such thinning and pruning encourages much stronger and more vigorous plants.

*Joan Butler, Secretary of the ABS*

THE AMERICAN BOXWOOD SOCIETY

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