

The *Boxwood* Bulletin

A Quarterly Devoted to Man's Oldest Garden Ornamental



An array of unusual boxwood plants on display at the Langley Boxwood Nursery in England. See story pp. 29-30. (1999 photo by Tom Saunders)

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Technical articles, news, history, lore, notes, and photographs concerning boxwood specimens, gardens or plantings are solicited for possible publication in *The Boxwood Bulletin*. Material should be submitted to:

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Growth, Survival and Aesthetic Quality of Boxwood Cultivars as Affected by Landscape Exposure in Kansas

Alice Le Duc, Director of Education, The Sarah P. Duke Gardens

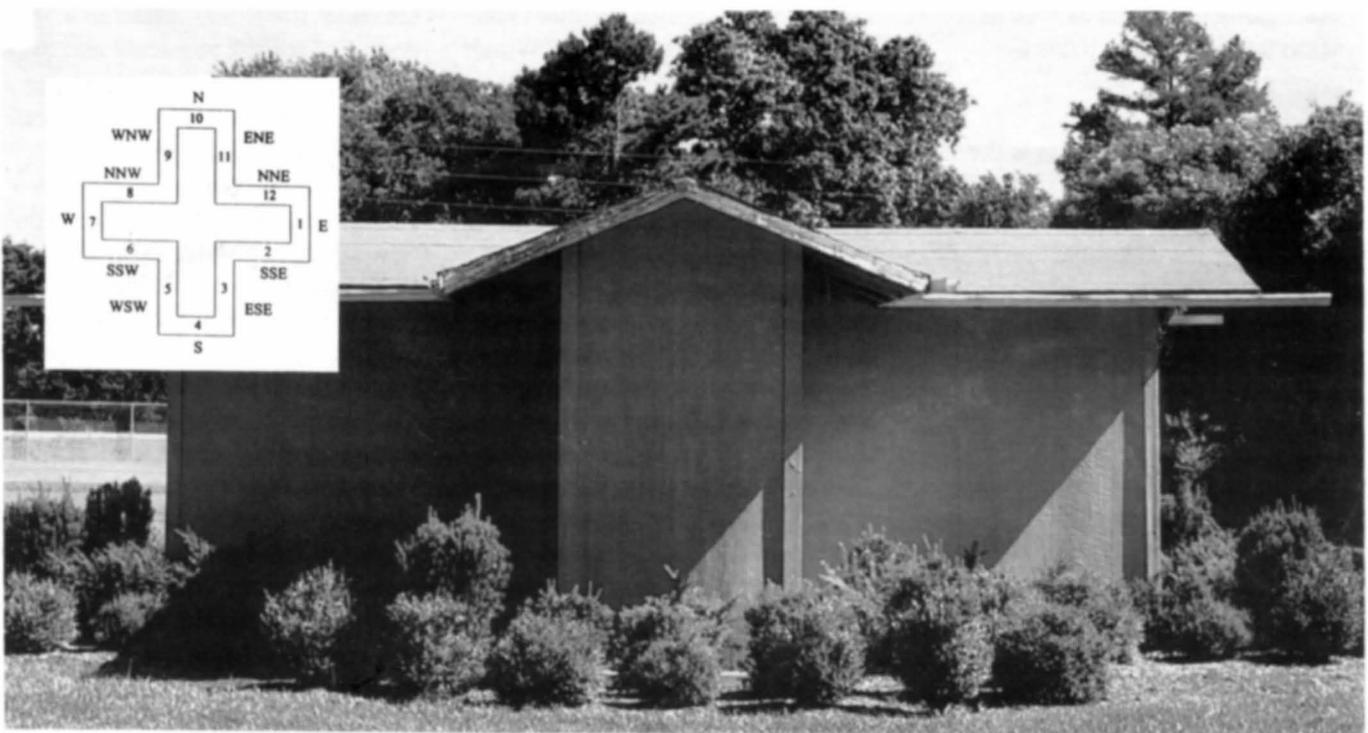
Great importance is placed on evergreen plants in the landscape industry because they serve as primary design components in many landscapes. In regions of the country where cold winters limit the number of species that remain evergreen, mainly conifers are used, because very few broadleaf-evergreen plants are available. Kansas winters are not only cold but usually involve numerous freezing and thawing sequences that, when coupled with the desiccating effects of wind and sun, place considerable stress on ornamental plants. In addition, landscape exposure-induced microclimates affect the performance of plants. Several cultivars of *Buxus*, broadleaf evergreen boxwood, have been reported to be hardy to USDA hardiness zones 4

and 5. Three such cultivars were selected to evaluate growth, survival and aesthetic qualities at two sites in Kansas, and to study the effects of landscape exposure-induced microclimates.

The study was conducted at the Horticultural Research Farm, Ashland Bottoms, Manhattan (Zone 5) and the John C. Pair Horticulture Center, Wichita (Zone 6). Three structures at each site were used to simulate typical residential dwellings. The structures were cross-shaped with four equal arms and aligned due north/south/east/west to create 12 different geographic direction exposures (N, ENE, NNE, E, SSE, ESE, S, WSW, SSW, W, NNW, and WNW). The cross design also created both inside and outside corners. Each

structure was 8 ft tall, 5 ft in length on each side, and 9 ft high at the gabled peaks at the end of each arm, and had a 2-foot roof overhang. The structures were painted with green all-weather paint. All structures were located on level ground spaced such that no building or landscape plants shaded any of the structures, thus only structure-exposure related shade patterns affected the study.

The three cultivars selected for study were 'Green Velvet' and 'Green Mountain', and 'Winter Gem'. Twelve plants of each cultivar were planted around the exposure huts in June 1995. Adequate soil moisture was maintained throughout the three growing seasons. Plants were treated as needed to remain free of insects and disease. Winter plant



Cross-shaped structure created to simulate residential dwellings in testing the hardiness of three cultivars: 'Green Velvet', 'Green Mountain', and 'Winter Gem'. (Photo: Alice LeDuc)

quality and injury to the plants were rated visually in December and March, and summer plant quality was rated in July, August and September. Plant height and spread were measured in spring and fall. The following aesthetic qualities were evaluated by visual rating using a scale of 0-9: appearance (9=no appreciable defect, 7=some foliage discoloration due to summer sun scald or winter bronzing, 5=50% of plant alive, and 0=dead); winter color (9=green, 5=reddish brown, and 0=brown/gray-brown); and bronzing (9=no bronzing, 5=50% of foliage bronzed, and 0=all foliage bronzed). Bronzing is a term used to describe bronze or orange-brown foliage discoloration often associated with winter stress (cold temperature, desiccation, high light, etc.). At each site, leaf canopy and soil temperatures were monitored around one of the structures by thermocouples attached to a strip chart recorder. The weather data documented the distinct microclimates that were created by the structures, permitting an accurate description of diurnal as well as seasonal temperature patterns.

Results

In Kansas, winter stress is the greatest threat to plant survival. The 1995-96 winter was one of extremes. Mid-winter low temperatures of -25 °C at Manhattan and -23 °C at Wichita were recorded at local official weather stations, along with sharp 24-hr drops of 31-32 °C in January and March. Thermocouple data showed up to a 15.7 °C difference in canopy temperatures between NNW and ESE exposures on the day when lowest temperatures were recorded (Table 1). Extremely dry, desiccating conditions persisted throughout the 1995-96 winter. In contrast, the following two winters were milder, with -19 °C being the lowest temperature recorded (Manhattan, 11 January 1997). Variation

in dieback and mortality following winter stress was noted between species at different sites and exposures. Plants of 'Winter Gem' suffered dieback at southern exposures SSE, S, WSW and SSW in Manhattan, and at ESE in Wichita; one 'Winter Gem' plant died at southern exposure WSW and one 'Green Mountain' plant died at southern exposure SSW in Manhattan. Cold injury reflected by degree of bronzing was exposure-dependent for all cultivars irrespective of site. Bronzing was more severe at southern exposures SSE, ESE, S, WSW, and SSW for 'Green Velvet' and at SSE, S, and SSW for 'Green Mountain'. Both severity of winter and exposure affected degree of bronzing in 'Winter Gem'. Quality of overall winter appearance differed between cultivars, sites, and exposures. The conditions of 'Green Mountain' and 'Green Velvet' at southern exposures S and WSW in Manhattan were significantly better than those of 'Winter Gem'. Similarly, 'Green Velvet' outperformed 'Winter Gem' at Manhattan exposure SSE. 'Winter Gem' appeared significantly better at Wichita southern exposures S, SSE, SSW, and WSW than at equivalent exposures in Manhattan.

Recovery from winter dieback and growth during the summer of 1996 following the harsh 1995-96 winter varied with cultivar, site, and exposure. 'Winter Gem' grew most in height, with best growth exhibited at ESE and NNE exposures in Wichita. Growth of 'Green Mountain' and 'Green Velvet' was similar, with slightly greater increases occurring in Manhattan and 'Green Velvet' performing slightly better.

Both 'Green Mountain' and 'Green Velvet' showed the greatest recovery growth at exposure WNW regardless of site. Total growth of the two cultivars over the period of the study did not differ significantly

except at exposure N in Manhattan, where 'Green Velvet' grew more in height. Total growth of the two cultivars also did not differ significantly between sites, although the greatest changes at both locations were found to be exposure-dependent. Growth of 'Winter Gem' over the period of the study was significantly greater than that of both 'Green Mountain' and 'Green Velvet' and was both site and exposure dependent, with significantly better growth found at ENE, NNE, E, ESE, and WSW exposures in Wichita.

Kansas summer heat can place as much stress on ornamental plants as can winter cold and desiccating winds. The summer of 1996 was typically hot and dry. Thermocouple data showed soil temperatures as high as 29 °C at Wichita and 25.6 °C at Manhattan on the days when highest temperatures were recorded (Table 2). Canopy temperatures varied as much as 17.8 °C between NNW and SSE exposures at Manhattan. Heat stress was reflected in the degree of foliage sun scald and overall quality of summer appearance.

Plant condition differed between cultivars, sites, and exposures. 'Green Velvet' performed significantly better than 'Green Mountain' at southern exposures ESE, SSE, SSW, and WSW in Manhattan. 'Green Velvet' also outperformed 'Winter Gem' at Manhattan exposures S, SSE, and WSW and at Wichita exposure ESE. The condition of both 'Green Velvet' and 'Winter Gem' was significantly better than that of 'Green Mountain' at the WSW exposure in Wichita. 'Winter Gem' appeared significantly better at Wichita southern exposures S, SSW, and WSW than at equivalent exposures in Manhattan. Similarly, 'Green Mountain' looked better at Wichita exposure SSW than at its equivalent in Manhattan.

Conclusion

The best overall performance was exhibited by 'Green Velvet' and 'Green Mountain' with the former showing better performance at the Manhattan site. 'Green Velvet' had better winter foliage quality in Wichita, though the bronzing differences were less noticeable at the colder location (Zone 5), where both 'Green Velvet' and 'Green Mountain' displayed considerable bronzing. Both 'Green Velvet' and 'Green Mountain' performed adequately under all exposures (even full sun of S, WSW, and SSW), but their

performance was consistently better in ENE, NNE, E, ESE and WSW exposures. If more rapid growth rates are considered an advantage, then 'Green Velvet' should be selected over 'Green Mountain'. 'Winter Gem' suffered considerable winter dieback during the winter of 1995-96, especially at the Manhattan site.

However, subsequent relatively mild winters and a rapid growth rate enabled it to attain a size larger than either 'Green Velvet' or 'Green Mountain' at the end of the experiment. Though lacking in hardiness, 'Winter Gem' could still be used in protected sites.

Acknowledgments

The author wishes to acknowledge the donation of *Buxus microphylla* 'Winter Gem' by Greenleaf Nurseries, Park Hill, Okla., and *Buxus* 'Green Mountain' and 'Green Velvet' by Nortex Tawakoni Plant Farm, Wills Point, Texas.

Alice LeDuc was formerly Assistant Professor, Department of Horticulture, Forestry and Recreation Resources, 2021 Throckmorton Plant Science Center, Kansas State University, Manhattan, KS 66506-5506.

1. Leaf and soil temperatures recorded for all exposures on the coldest winter days in 1996 at Wichita and Manhattan, Kansas.

Ex- posure	Leaf temperature (°C)						Soil temperature (°C)					
	Wichita, 18 Jan.			Manhattan, 2 Feb.			Wichita, 18 Jan.			Manhattan, 2 Feb.		
	1100hr	1300hr	1500hr	1100hr	1300hr	1500hr	1100hr	1300hr	1500hr	1100hr	1300hr	1500hr
N	-14.0	-12.0	-11.0	—*	—	—	-5.0	-4.5	-4.5	-6.8	-6.9	-7.0
ENE	-13.5	-12.0	-11.0	-20.4	-18.1	-16.7	0.5	0.5	0.5	-5.4	-5.5	-5.5
NNE	-13.5	-12.5	-11.0	-15.7	-18.2	-16.9	-0.5	-0.5	-0.5	-4.2	-4.1	-4.2
E	-13.5	-12.0	-11.0	-19.7	-16.2	-16.2	-1.5	-1.5	-1.5	-2.3	-2.4	-2.4
SSE	-13.5	-11.0	-10.5	-13.9	-7.3	-14.3	-0.5	-0.5	-0.5	-4.3	-4.2	-3.9
ESE	-13.0	-11.0	-11.0	-7.7	-2.7	-13.1	0.5	0.5	0.5	-3.7	-3.4	-3.0
S	-13.5	-11.5	-11.0	-9.2	-9.8	-10.7	0.0	0.0	0.0	-2.1	-1.9	-1.9
WSW	-14.0	-11.5	-10.0	-19.1	-8.6	-9.1	2.0	2.0	2.0	-3.9	-3.3	-3.0
SSW	-13.5	-10.5	-9.0	-17.3	-12.6	-11.0	1.0	1.5	1.5	-4.2	-4.1	-3.9
W	-14.0	-12.0	-10.5	-15.4	-13.4	-13.5	-2.0	-2.0	-2.0	-5.6	-4.8	-4.4
NNW	-14.0	-11.5	-11.0	-21.0	-18.4	-15.5	-1.0	-1.0	-1.0	-7.8	-7.3	-7.9
WNW	-14.0	-12.0	-11.0				-1.0	-1.0	-1.0			
Difference between extremes:												
	1.0	1.5	2.0	13.3	15.7	7.8	7.0	6.5	6.5	5.7	5.4	6.0

2. Leaf and soil temperatures recorded on a representative hot summer day in 1996 at Wichita and Manhattan, Kansas.

Ex- posure	Leaf temperature (°C)						Soil temperature (°C)					
	Wichita, 20 July			Manhattan, 19 July			Wichita, 20 July			Manhattan, 19 July		
	1100hr	1300hr	1500hr	1100hr	1300hr	1500hr	1100hr	1300hr	1500hr	1100hr	1300hr	1500hr
N	36.5	28.5	30.0	—*	—	—	27.5	28.5	28.0	25.3	25.6	25.3
ENE	36.5	39.0	33.5	35.2	30.7	33.6	26.5	27.5	27.5	23.9	24.1	24.2
NNE	37.0	34.5	35.0	48.4	27.2	30.0	27.0	28.0	27.5	24.0	24.3	24.3
E	35.0	40.0	36.0	42.0	38.4	36.5	26.0	27.0	27.0	24.7	24.9	25.1
SSE	34.0	38.5	39.0	48.6	43.4	35.9	26.0	27.0	29.0	24.8	25.2	25.5
ESE	32.5	38.5	36.0	47.7	37.3	36.3	26.0	26.5	27.0	24.5	24.8	24.9
S	30.0	39.0	39.0	38.2	40.7	44.6	27.5	28.0	28.5	25.0	25.2	25.5
WSW	27.0	34.0	42.0	34.1	38.4	42.7	25.5	26.5	27.5	24.3	24.5	24.8
SSW	30.0	36.0	39.0	33.9	37.8	39.4	25.5	26.0	27.5	24.8	24.8	25.0
W	28.5	34.0	41.0	33.9	26.3	38.2	25.5	26.5	28.0	25.0	25.2	25.4
NNW	30.0	32.0	35.0	33.5	25.6	37.6	25.5	26.0	26.5	24.7	24.9	25.0
WNW	29.5	32.0	38.5				26.0	27.0	27.5			
Difference between extremes:												
	10.0	11.5	12.0	15.1	17.8	14.6	2.0	2.5	2.5	1.4	1.5	1.3

* Data incomplete because of rodent injury to the probe wires.

A Box Tree Grows in Winchester, Virginia

As we drove along a busy downtown street in Winchester recently, an enormous tree boxwood caught our eye. We returned shortly afterward to have a closer look and take some measurements. With a tape we ascertained that the trunk diameter was about one foot and the circumference, 26" (both measured at a height of 3' from the ground). We estimate the height at somewhere between 20 and 24'. The tree displayed a pendulous habit of growth. It stood isolated in the corner of a small grassy plot fronting on the Public Safety Building, 126 N. Cameron Street. It was suffering from leaf miner. Poison ivy had taken hold on its trunk and branches.

Upon learning that the tree was under the jurisdiction of the City Police Department we inquired as to whether they could give us any information on it. One of the long-time employees recalled that there had once been a mayor of Winchester who took special interest in preserving the tree because of its age and rarity. The office file revealed only that it was a "Weeping Box" (*Buxus sempervirens* 'Pendula') and that a certain Tom Ewert had recommended applying blood meal in the fall and bone meal in the spring when he was asked about improving its vigor. (Thomas E. Ewert served as Director of the Bland Experimental Farm from 1972 to 1985 and was on the ABS Board from 1979 to 1985.) We hope the City of Winchester will continue to protect this unusual public monument and take steps to eliminate the leaf miner and poison ivy. Be sure to stop and see this box tree of unknown age and provenance when next you're in Winchester.

In researching this plant, we found

the following in *The Boxwood Bulletin* Vol.6, No.1, July 1966:

MR. WADE E. MULDOON added an unscheduled and interesting note with slide pictures of a large old weeping box growing in front of a business building on Cameron Street in Winchester. This rare specimen, which must be at least a hundred years old to have

attained its present height, has gone unnoticed or regarded as an ordinary tree until recently. The heightened interest in and knowledge of boxwood—we think, stimulated by the American Boxwood Society—has called attention to it, and suggested plans for future protection of this living antique.

-Joan and Scot Butler



"Weeping" Box Tree (*Buxus sempervirens* 'Pendula') as rediscovered by Scot and Joan Butler in 1998 at 126 N. Cameron Street, Winchester, Va. (Photo: Scot Butler)

Some Early History of the Weeping Boxwood

There were Weeping Boxwoods at Stratford Hall Plantation, home of the Lee family, Northern Neck, Virginia in the 18th century as that was where George Washington obtained his early plants or cuttings. Bob Fisher, Horticulturist at Mount Vernon, gave Colonel Robert Burhans, then Director of Kenmore in Fredericksburg, Va., plants of the Weeping Boxwood raised from cuttings of the original at Mount Vernon. Bob Fisher told me some years later of this source of Washington's plants. Dean Norton, present Horticulturist at Mount Vernon, said that the large clump there is all that remains of an original and was formed by natural layering, the center having died out. (This may have been the result of the layered pieces taking the strength from the parent plant.)

Kenmore



Weeping Boxwood at Kenmore, the home of Fielding and Betty Washington Lewis, built in the 1770s. This plant came from Mt. Vernon years ago when Bob Fisher was horticulturist at Mt. Vernon. He reported that George Washington received his original plants from Stratford Hall. (Photo: Decca Frackelton)

Stratford Hall Plantation



A pair of Buxus sempervirens 'Pendula' (Weeping Boxwood) beside a gateway opening into a walled garden. Although old and handsome, these probably do not date back to the 18th century. (Photo: Courtenay Altaffer)

Mount Vernon



A view inside the clump of Weeping Boxwood at Mount Vernon, showing large trunks of the layered pieces. (Photo: Decca Frackelton)



A large Weeping Boxwood at Mount Vernon across the way from the clump at right. (Photo: Decca Frackelton)



This clump of Weeping Boxwood at Mount Vernon is all that is left of the original plant. (Photo: Decca Frackelton)

Other large Weeping Boxwood have been found at Dedona Manor, the Leesburg, Virginia home of General George C. Marshall; at the College of William and Mary in Williamsburg, Virginia, probably planted by Dr. J. T. Baldwin in the 1950s; in Annapolis, Maryland, and at the ABS Memorial Garden, Orland E. White Arboretum in Clarke County, Virginia.

-Decca Frackelton

Dodona Manor



At the home of the late General George C. Marshall is a handsome plant of Weeping Boxwood. (Photo: Decca Frackelton)

College of William and Mary



A Weeping Boxwood near Ewell Hall, probably planted by Dr. J. T. Baldwin in the late 1950s. (Photo: Carter Frackelton)

Annapolis



A Weeping Boxwood seen in Annapolis during the ABS Annual Meeting Tour, June 2, 2000. (Photo: Scot Butler)

ABS Memorial Garden



Buxus sempervirens 'Pendula', Weeping Boxwood, in the ABS Memorial Garden at Blandy. (Photo: Decca Frackelton)

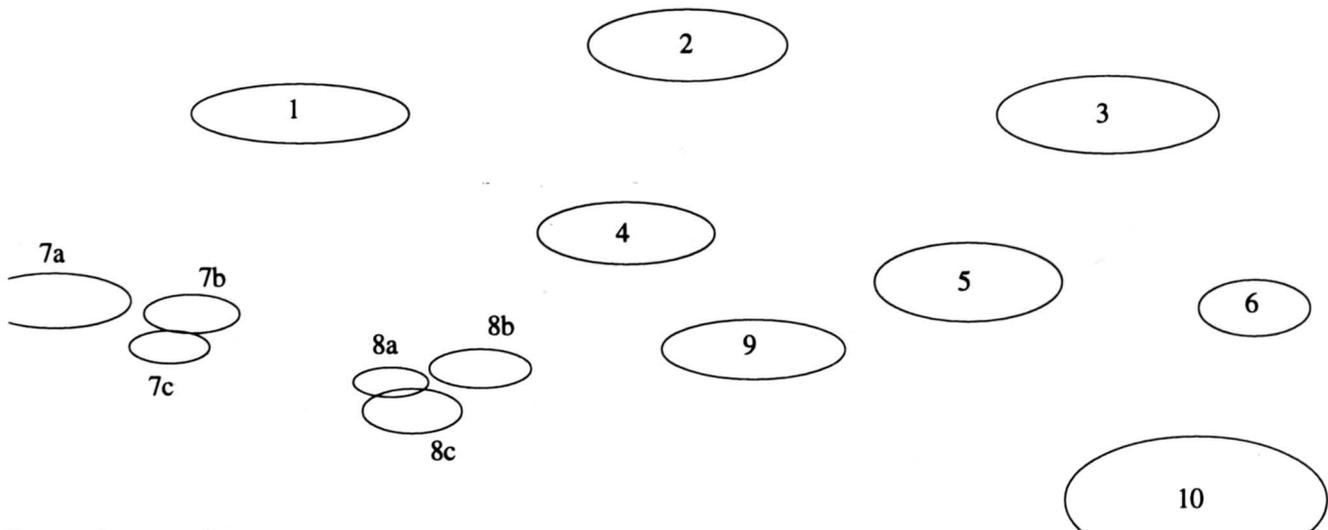
Boxwoods from the Braimbridge Collection at Langley Boxwood Nursery in England

The Braimbridges of Langley Nursery are interested in preserving the collection of Cuban species in the Havana Jardin Botanico. Twigs of three Cuban boxwoods are, L. to R.: Buxus wrightii, B. leoni, B. gonoclada. (Photo: Elizabeth Braimbridge)





Some of the boxwoods collected by Elizabeth Braimbridge shown at the Langley Boxwood Nursery. (June 1999 photo by Tom Saunders)



Key to photograph:

- 1. *B. henrii* China, W. Hubei, W. and E. Sichuan and Guizou. Found on wooded slopes, 1,200-2,000m, rich green leaves 4-7cm long. Shrub about 3m, pendulous branchlets.
- 2/3. *B. macowani* South Africa - Cape box, limited and erratic appearance, coastal sand dunes, or on Beaufort shales or dolerite soils. Forms pure forest stands. Slow-growing with bushy crown, mature leaves 1-1.5cm long, juvenile leaves linear.

4. *B. ekamani* Cuba, on karstic (weathered limestone) elevations, large leaves, some stoloniferous growth. Shrub 1-1.5m.
- 5/6. *B. natalensis* South Africa—Natal and E. Cape. A large, wide-leaved small tree to 10m in height, an under-story plant in coastal evergreen forest and bush. Bark corky.
- 7a/8a. *B. crassifolia* Cuba. Tiny cutting, from humid forest area. Thick-textured oblong leaves, multi-branched shrub.
- 7b/7c. *B. leoni* Cuba. Serpentine forests of thickets, or streamside (see foliage photo page 29). Narrow linear leaves, low growth.
- 8b. *B. glomerata* Cuba. Dry forests and thickets. Woody shrub with elongated narrow leaves.
- 8c. *Buxus* species Cuba. Elongated narrowly oval leaves with marginal vein.
9. *B. rugulosa* var. *intermedia*
China. Silvery grey oval leaves, slightly red winter stems, low habit, found on stony hillside.

-Elizabeth Braimbridge

NOTICES

Search for Golden Weeping Boxwoods

The Golden Weeping Boxwood (*B. sempervirens* 'Pendula') was reportedly very popular on the Eastern Shore of Maryland, especially in the Victorian period. A large one was seen at Myrtle Grove on an ABS Tour in 1985. Also, at the Southern Garden History Society Meeting in 1996 at Easton, Md. and vicinity, several were noted at Wye House. Anyone having or having seen mature plants, please send information about them, accompanied by photos, for a future article in *The Boxwood Bulletin*. Send to

Mrs. Robert L. Frackelton, 1714 Greenway Drive, Fredericksburg, VA 22401-5209.

Address Corrections

Please check your name and address on the envelope of your latest issue of *The Boxwood Bulletin* to see whether any corrections are needed. If so, please notify Mrs. Robert L. Frackelton, 1714 Greenway Drive, Fredericksburg, VA 22401-5209.

Mark Your Calendar

The 40th Anniversary ABS Annual Meeting will be held at Blandy Farm on May 17-19, 2001.

In Memoriam

Mr. Bart Nelson
Member since 1991

Mr. Donald Nelson
Member since 1982

Captain William Sheehan,
USN Ret'd.
Member 1981-1998

Mr. J. Ward Walker
Member since 1984

NEWS OF THE SOCIETY

Memorial Garden Update

ABS Memorial Garden Chairman Joan Butler and Committee Member Sigrid Harriman have been busy with plans and planting at the Garden.

They met with Blandy Director Michael Bowers to discuss plans for extending the Garden across the path at the west end and for putting in a *Buxus* hedge along the north side.

Mrs. Harriman is drawing up plans to implement the discussions and Mrs.

Butler has been working with the implementation of earlier plans.

Eleven of the K-series *Buxus* pictured on the next page were selected to go on the east end of the Center Bed in the Garden which had been reserved for the "Ks." K-81 was already in place. These are Balkan plants, grown from seed by Edgar Anderson at the Missouri Botanical Garden. A collection was sent to Henry J. Hohman at

Kingsville Nurseries where they were numbered with the K prefix. They were later distributed further. Some have been named, such as 'Agram', which was K-79.

Other plans include a hedge of *Buxus sempervirens* 'Inglis' to be located on the north side of the Garden and planting some pines across the path at the west end as a wind-break.

K-Series Boxwoods for the ABS Memorial Garden



Two of the selected K-Series: K-114, 26" tall, and K-89, 31" tall.



*Part of the K-Series for the Center Bed, east of the allée of *B. sempervirens* 'Graham Blandy': K-32, 30" tall; K-29, 32" tall; and K-7, 30" tall.*



K-Series for the east end of the Center Bed: K-119, 30" tall, K-19, 30" tall, and K-106, 24" tall.



K-Series selected for the Center Bed, east area: K-70, 30" tall, K-146, 24" tall, and K-144, 36" tall. (Photos: Sigrid Harriman)

New ABS Director



Aubrey Haviland Zaffuto

“Born in a small suburb of Philadelphia, my first known encounter with boxwood was as a toddler in my grandmother’s garden. She had a boxwood-lined path down to the green house. After a degree from the University of Pennsylvania in biology, I went to New York City to find work. I ended up with a career in economics rising to be the chief U.S. economist for a venerable British Merchant Bank advising them on financial and market conditions. Later I switched to a prestigious Japanese Bank. In doing so I was able to travel extensively in the UK, Europe, and Japan, visiting gardens at every opportunity. After giving up the grueling pace of work in the city for a slower-paced consulting arrangement, I was lucky enough to line up with a fast-growing economics client. This year will prove very interesting since

the firm includes the chief architect of economic policy for George W. Bush.

Since I wanted more than a desk job, a friend of mine saw an article about a lady in the U.K. who started a boxwood nursery and she encouraged me to call Elizabeth Braimbridge. Elizabeth advised me to contact the ABS if I wanted to know more about boxwood. From that point on I was totally hooked.

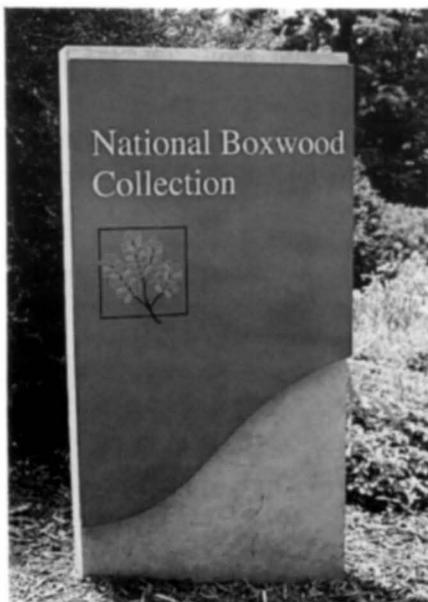
Not only did it take me back to my childhood but introduced me to wonderful friends. Boxwood Hill Farm is now growing from a small base. As if I do not have enough on my plate I just was named chair of a new firm whose mission will be to market specialty plants developed by Rutgers. Our first introduction will be a new lily.”

-Aubrey Zaffuto

Childhood photo taken in grandmother’s boxwood garden.



New Sign for the National Boxwood Collection at the U.S. National Arboretum



New sign at the U.S. National Arboretum, for which the American Boxwood Society contributed. (Photo: Lynn R. Batdorf)

Correction

The tree planted at Blandy in honor of Joan Butler was incorrectly identified in *The Boxwood Bulletin*, Vol.39, No.4, p.85. The correct photo of the *Styrax japonica* is shown here.



Summer Display in ABS Memorial Garden



Three potted plants that winter in the greenhouse were placed in the ABS Memorial Garden for display last summer. The two in pots at left are *Buxus balearica*. Next, in ground, is *B. harlandii*. Potted plant at right is *B. harlandii* 'Richard'. (Photo: Decca Frackelton)

Minutes of Fall Board Meeting, September, 2000

The fall meeting of the ABS Governing Board of was held on Thursday, September 28, 2000, at the Orland E. White Arboretum (Virginia's State Arboretum), Blandy Farm, Clarke Co., Virginia. In attendance were: Thomas Saunders, President, Dr. Henry Frierson, 2nd Vice-President, Katherine Ward, Executive Treasurer, Sigrid Harriman, Secretary, Lynn Batdorf, Registrar, Michael Bowers, Director Ex-Officio and the following directors: Decca Frackelton, Ian Robertson, Jim W. Saunders and Aubrey Zaffuto; and Joan Butler, Chairman of the ABS Memorial Garden and liaison with Blandy. Also in attendance were Dave Carr, Arboretum Curator, Dr. Robert Wright, Dept. of Horticulture, Virginia Tech and his wife.

Absent were Charles Fooks, 1st Vice-President, and Directors Richard D. Mahone, Dr. Gary Richardson, Clyde Weber and Steve Zapton.

President Saunders welcomed all attendees at 1 p.m. in the Memorial Garden and Joan Butler led a brief tour to the planned expansion areas currently

under construction. When completed, the first of seven expansion beds will contain all available K-Series Boxwoods (on public display for the first time). All other beds will be planted with boxwood cultivars presently stored at Blandy's greenhouse and shade areas. Tom Saunders contributed ten *Hydrangea quercifolia* 'Snow Queen' as companion plants to a row of 27 *Buxus sempervirens* 'Inglis', which Charles Fooks had provided before leaving for Europe. This row of plants will create a natural barrier between the entrance road and the Memorial Garden. Two clumps of three native pines are to be planted across the path on the west side of the Memorial Garden to provide more windbreaks.

The meeting then continued in the Learning Center. Tom Saunders welcomed Aubrey Zaffuto as new director to the Board. He introduced Michael Bowers, Director of Blandy Experimental Farm, who briefly outlined a 10-15 year master plan for the Arboretum and circulated the master plan for the attendees to see. It calls for a new loop road

around the entire property, relocation of greenhouses, creation of a new Visitors' Center, and other improvements.

The next speaker was Dr. Wright, who presented preliminary results of his study on four boxwood cultivars—'Suffruticosa', 'Justin Brouwers', 'Vardar Valley' and *Buxus sempervirens*—to develop cultural criteria for the production of boxwood in containers. His study has three objectives: to develop methods for spring propagation of boxwood cuttings, to determine the level of fertility required to promote optimal growth of spring-rooted cuttings, and to determine if pruning or the application of growth regulators will promote multiple flushes of growth on boxwoods. Dr. Wright had brought samples of the four boxwood cultivars with and without growth regulators and pruning. The differences were quite impressive. At the end of the project, he plans to publish a thorough report on the study. He asked the Board to help finance the study which he calculated will need about \$18,900.00. The Board agreed to fund the study with \$5,000.00.

Following Dr. Wright's presentation, the minutes of the Spring Board Meeting and Business Session on June 1 and 2, 2000, were approved as published in *The Boxwood Bulletin* Vol.40, No.1, pp.17-19.

Treasurer's Report: Mrs. Ward reported a total income of \$17,232.26 as of September, 2000. A second CD of \$10,000.00 was purchased at 6.8% annual interest. The balance in the checkbook is \$11,977.52, in addition to two CDs of \$10,000.00 each.

Registrar's Report: Mr. Batdorf reported on his work to complete the *Illustrated Encyclopedia of Boxwoods*. Fine tuning of text and final proofing is performed by Joan Butler. The finished product will have between 400-550 pages with a possible publishing date of June 2001. The decision of how many copies to be printed will have to be made based on an estimate for printing and publishing costs. The importance of the *Encyclopedia* to many professional organizations such as arboreta, growers, nurseries, and

the American Nurseryman's Association will be a factor. It is expected the Internet will be useful to notify the public.

The Boxwood Bulletin and Membership: Mrs. Frackelton reported ABS membership of 578 for the fiscal year 2000 with 30 new members to date for the 2000-2001 year. She reminded all that those who have not renewed will not receive the October issue of the *Bulletin*. As always she appreciates submissions of articles with pictures to be included in the *Bulletin*. Jim Saunders promised an article on the Boxwood Trial Garden he had started at Saunders Brothers.

ABS Memorial Garden: Mrs. Butler distributed copies of the brochure for the ABS Boxwood Memorial Garden. The brochure is available at the information kiosk, located between the visitors' parking and the Memorial Garden. There was a discussion on spring spraying for insect damage and planned pruning work. She reported on the expansion plans for the Memorial Garden. Sigrid Harriman distributed a detailed plan she had prepared of the Garden and its various expansion beds laid out in formal boxwood patterns.

At that time, Mr. Bowers pointed out that he had been unable to locate any formal agreement between Blandy and the ABS spelling out the financial and other responsibilities regarding maintenance, expansion, and general upkeep of the Memorial Garden. Mr. Bowers promised to prepare a draft for consideration at the next Board meeting.

Next followed a brief report by Dave Carr, who had brought three large boxes of uncataloged papers and notes regarding the research of Dr. J. T. Baldwin, Jr., at the College of William and Mary. There is also a collection of herbarium specimens. Some may be duplicates of Dr. Baldwin's collection at the College of William and Mary. Mrs. Butler, Mrs. Frackelton and Mrs. Harriman volunteered to go through the material to be placed in ABS storage space at the Learning Center.

Research Committee Report: Dr.

Frierson reported on Dr. Egon Köhler, Professor Emeritus at Humbolt University, Berlin, author of in-depth study on DNA frequencing of the species *Buxus*, who has been invited as a speaker at next year's annual meeting. The ABS will pay for his travel expenses. Some of Dr. Köhler's research was also funded by the ABS. Mrs. Harriman will check on the cost of a round-trip ticket from Berlin-Dulles Airport and forward the information to Dr. Frierson.

Dr. Frierson reported on the work done to establish an ABS web page. He has contacted Jeff Miller who proposed to create the web page and monitor it for six months. The establishment will cost \$450.00 with links to other organizations and the monthly fee and service will be \$60.00. The Board approved funding for the proposed web page.

Year 2001 Annual Meeting: Mrs. Ward reported on her work concerning next year's annual meeting. It will be the 41st Annual Meeting of the ABS and the 40th anniversary of the Society, founded in 1961. Therefore, it is appropriate to have the meeting at Blandy where the founding took place. The date has been set for May 17-19, 2001. Tentative speakers are Dr. Köhler, Paul Saunders, Dr. Wright and Andre Viette. Thursday will be a hands-on work day at the Memorial Garden with additional information about species, diseases, care, growing habits, etc.

Year 2002 ABS Annual Meeting: Mrs. Zaffuto, new ABS Director, will chair the 2002 meeting to be held in northern New Jersey. She suggested a tour of the Brooklyn Botanic Garden, a visit to the Seward Johnson gardens and the Willowood Arboretum in New Jersey. Further plans are being developed.

The winter Board meeting was set for Thursday, February 8, 2001, at Pargo's Restaurant in the Seminole Shopping Center, Charlottesville, Va.

The meeting adjourned at 4:39 p.m.

Sigrid Georgii Harriman
Secretary

