Virginia Cooperative Extension

PUBLICATION 426-603

Boxwood in the Landscape

Diane Relf, Extension Specialist, Environmental Horticulture, Virginia Tech

Bonnie Appleton, Extension Specialist, Nursery Crops, Virginia Tech

Introduction

Boxwood is used extensively in the landscape development of homes, gardens, and public grounds in Virginia. Since colonial times, it has been an integral part of the landscape, and many historical gardens in the state are noted for their boxwoods. Today, many people who have colonial architecture select this plant because they feel it fits this style best, but boxwood is also being used with modern or contemporary homes.

Boxwood owes its popularity not only to tradition, but also to its many landscape uses. Some of the ways it can be used are:

- as plants alone or in combination with other plant material in foundation plantings for homes and public buildings;
- to separate, define, enclose, or screen areas;
- to provide background for other plantings;
- to provide the overall pattern or framework of a formal garden;
- for framing vistas;
- to outline a terrace, parking area, flower border, or walk;
- for planter boxes or large containers; or
- as topiary pieces, in lieu of sculptures.

Boxwood can be used in so many ways because of its many and varied forms, such as prostrate, globe, half-erect, weeping, columnar, and pyramidal. In addition, boxwood plants have a wide range in potential size and rate of growth. Low or tall forms and fast or slow growers are available. There are also interesting variations in size of foliage and texture characteristics. The ease with which boxwood can be propagated from cuttings has also contributed to its popularity.

However, boxwood is not popular with everyone. In fact, some violently dislike it and refuse to have it on their premises. Those who do not like it may have had difficulties in growing it and have become disillusioned. Others may develop a prejudice against it because they have seen so many examples of its use in poor designs. In almost any community, one can find round, clipped plants resembling basketballs in rows across a front yard. Such unattractive plantings often result when the homeowner has not studied landscape design or fails to get a nurseryman or trained landscape architect to help organize the plant material into a pleasing composition. Poor designs may also result from failure to properly maintain healthy, uniform plants.

Boxwood Species and Cultivars

There are about 30 species of boxwood found throughout the world. Primarily, two species, *Buxus sempervirens* and *Buxus microphylla*, and horticultural selections or cultivars of these, are grown as ornamentals. A cultivar is a natural or induced variety that can only be reproduced identically by vegetative propagation. Cultivars are selected and cultivated because they vary from the species in size, form, texture, color, leaf shape, fruiting, flower color, and insect or disease resistance.

Buxus sempervirens - Common or American Boxwood The American boxwood is a wide-spreading shrub or small tree with very dense, evergreen foliage. Although very old plants may reach 20 feet, it more commonly grows to a height of 5 to 10 feet. Leaves are dark green above and yellow green beneath, 1/2 to 1 1/2 inches long, and oblong to oval in shape. It is usually used as a foundation, corner, accent, or screening plant. This species and most of its cultivars are tolerant of cold weather.

***Buxus sempervirens* cultivars**

'Angustifolia' - largest leaves; often tree-like in habit

'Elegantissima'- cream-margined leaves

'Graham Blandy'- narrow upright, columnar; 9'x1$^{1}/_{2}$' in 20 years

'Pendula'- pendulous branchlets; grows into small tree

'Suffruticosa' - very dwarf, slow-growing, and compact; leaves up to 3/4 inch long; called "edging" or "English" boxwood; one of the most popular cultivars

'Vardar Valley'- low-growing, flat-topped, mounding form (2-3' by 4-5'); dark blue-green foliage

www.ext.vt.edu

Produced by Communications and Marketing, College of Agriculture and Life Sciences, Virginia Polytechnic Institute and State University, 2009

Virginia Cooperative Extension programs and employment are open to all, regardless of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Mark A. McCann, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; Alma C. Hobbs, Administrator, 1890 Extension Program, Virginia State, Petersburg.

VirginiaTech 1872 Invent the Future

VIRGINIA STATE UNIVERSITY

***Buxus microphylla* -** Japanese or Littleleaf Boxwood - The Japanese boxwood is a low-growing, compact shrub that rarely gets more than 3 feet tall. Leaves are bright green, elliptical to lance shaped, and usually 1/4 to 1 inch long. It is usually used as an edging, low hedge, accent, or rock garden plant. This species and most of its cultivars are heat tolerant.

***Buxus microphylla* cultivars**

'Compacta' - also sold as 'Kingsville Dwarf' - a very low-growing (about 1 foot tall), wide-spreading plant with dense, green foliage

'Curly Locks'- twisted branched form; makes a dense mound of yellow-green foliage

'Green Pillow'- similar to 'Compacta,' with large, deep, dull green leaves

var. *japonica* - slow-growing evergreen with leaves up to 1 inch long; may attain a height of 3 to 4 feet

var. *japonica* 'Green Beauty'- compact habit; glossy dark green foliage

var. *japonica* 'Morris Midget'- low-mounded, slow-growing; yellow-green notched leaves

Though not as popular, **Korean Boxwood (*Buxus sinica* var. *insularis*)** is also available. It is a loose, open-growing shrub; very hardy, but foliage turns brownish in winter. A cultivar, 'Justin Brouwers' is very hardy, has a nice cone-shaped form, and very dark green leaves.

Plant Culture

Planting Site and Soil Requirements

Boxwoods should only be planted in well-drained soils. They should never be planted near downspouts, under the dripline of a tree, or in any area that stays wet. While boxwoods will live in locations that receive full sun, they grow best in semi-shade. A soil sample should be taken four to six weeks before planting. Boxwoods grow in soils ranging from slightly acid to slightly alkaline (pH 5.5 to 7.5). Based on the soil analysis, the proper amount of lime or sulfur and fertilizer can be added to the area to provide proper nutrition for good plant growth.

Planting

In order for boxwoods to thrive, special attention must be given to planting. The planting hole should be twice as wide but only as deep as the rootball. For filling around the rootball, use a good-quality, porous topsoil. This will encourage rapid root growth. Balled-and-burlapped plants should be set in the landscape no deeper than they were growing in the nursery. The soil around plants that were container grown should come no higher than even with the top of the potting medium. Deep planting will usually cause an initial loss of plant vigor and eventually plant death.

After placing the plant in the hole, gently firm the soil around the roots and water thoroughly. Regular waterings are much more beneficial than frequent, light waterings or sprinklings. Thorough watering, which moistens the entire rootball and fill soil, encourages development of a well-branched, healthy root system. Properly watered plants will be more firmly anchored in the soil and less susceptible to drought and nutritional stress. Sprinkling or light watering moistens only the upper surface of the soil. This results in shallow-rooted plants that are poorly anchored in the soil, are susceptible to drought stress, and never develop adequate root systems to support good top growth. Additionally, light watering encourages the buildup of soluble salts which can damage the root system and cause plant death.

Mulching

Boxwoods are shallow rooted and grow poorly in hot, dry soils. To maintain vigorous plants, homeowners should add 2 to 3 inches of organic mulch over the soil surface. Suitable materials for mulching are pine needles, bark mulch, or wood chips. Do not place black plastic under the mulch. The mulch should extend from the plant stem outward to at least 12 inches beyond the foliage canopy. Plantings should be checked annually, and more organic material added as the depth of mulch decreases due to decomposition. Mulching not only keeps the plant root system cool, but also conserves water by slowing down evaporation of moisture from the soil. The use of clean mulch also reduces weed problems and adds to the aesthetic value of the planting. Avoid mulching more than 3 inches deep as this will encourage plant roots to occupy the upper strata of the soil and be more likely to dry out during periods of drought, causing significant damage to the plant.

Fertilization

Soil tests are necessary to establish a proper fertilization program. In the fall, soil samples should be taken from several places in the area where boxwoods are planted. Soil sample boxes, information sheets, and procedure information for taking your samples can be obtained from your local Extension office. Based on the soil analysis results, a recommendation will be made as to the amount and analysis of fertilizer that should be used for your boxwood planting.

In the Coastal Plain and lower Piedmont areas, boxwoods should be fertilized twice during the growing season. In the upper Piedmont and Mountain areas, a single annual application of fertilizer prior to new shoot growth is satisfactory for good plant growth. The initial fertilizer application should be made in early spring before plant shoot growth starts. In areas where needed, the second application should be made in late June or early July. Avoid applying any fertilizer to boxwoods in late summer since it can force late, tender growth that is extremely susceptible to frost damage.

The recommended amount of fertilizer should always be distributed uniformly over the planting area. Care must be taken to keep fertilizers off the plant leaves; never spread fertilizers closer than 6 inches to the plant stem. After fertilizing, plant foliage should be washed down with water, and the soil should be thoroughly irrigated.

Shearing and Pruning

Shearing is the uniform removal of all or part of the latest flush of plant growth. Plants are sheared to increase compactness or to maintain a specified size or shape.

During the first few years after planting, boxwoods should be sheared after each flush of growth to encourage additional branch development. Thereafter, they should only

be sheared to maintain a desired shape or form. However, be aware that continuous shearing causes a thick outer shell of foliage that creates dense shade on the interior branches. Continuous shading of the inner branches results in foliage drop from those shoots, thereby decreasing plant value and aesthetics. Do not shear boxwood in late summer since this might force new growth that will not have sufficient time to harden before frost.

Pruning is the removal of selected branches or plant parts. Plants are pruned to remove diseased, injured, dying, or dead branches. Unwanted branches are also removed by pruning, especially when plants are being trained to a specific form, such as a topiary or espalier. Boxwoods are best pruned, rather than sheared, to maintain a natural shape and to keep plants at a desired size so that they do not outgrow their landscape value too quickly. Boxwoods usually require some pruning in spring to remove any branches that have been killed during the winter. Also, as plants get older, some of the older branches may have to be removed so that light can get to the inner shoots.

Watering

Newly planted boxwoods must be watered during the first growing season whenever necessary to keep the soil from drying out around the roots. Frequent and light watering is often detrimental. Let the hose run slowly so that the water can soak completely into the root zone (6 to 8 inches deep). Mulching helps conserve soil moisture.

Established boxwoods should be thoroughly watered at intervals during spring and early summer if rainfall is deficient (less than 1 inch per week). Plants that suffer from lack of moisture in spring and summer may produce abundant, late growth if fall rains are heavy, and the new wood may be immature when freezing weather arrives.

If there is a deficiency of fall rain, soak the ground just prior to freezing weather. Broad-leaved plants like boxwood lose water through their leaves during winter. Having an adequate supply may help reduce winter browning of foliage. Water during the winter months if the ground becomes extremely dry.

Cultivation

Avoid digging around boxwoods as their roots are shallow, and plants can be severely weakened or killed by too much cultivation. Use mulch to control weeds. Boxwoods used as edging for flower beds are easily injured by cultivation of the flower bed area. Sometimes, only a portion of the planting will show injury; this can be traced to severed roots.

Boxwood Replacements

Where boxwoods are used extensively, such as lining a walk or in a formal, patterned garden, it is a good idea to grow a few replacement plants in a section of the vegetable garden or in some isolated portion of the yard. These can be used to replace injured or weak plants. Poor-quality plants can often be rejuvenated by moving them out of a formal garden and placing them in an isolated area or container for a year. After moving, reduce some of the top growth of weak plants, but be sure to prune following the plant's natural form. Fertilize to restore vigor.

Propagation

Boxwood is normally propagated from cuttings, although propagation from seed is possible. In fact, garden enthusiasts find that growing boxwood from seed is interesting because the seedlings produced have variations. The form might be upright, weeping, globe, or dwarf; and the texture of the foliage may be fine to coarse. Ability to withstand winter conditions also varies with seedling boxwood.

When boxwood is grown from cuttings, it will be identical to the parent plant. An easy method of cutting propagation is to place cuttings (about 4 to 6 inches long) in sand or sandy soil during summer months; keep the area moist (an outdoor mist system would be helpful); protect from direct sunlight and wind. After a good root system develops, transplant to a row in the garden. Partial shade is beneficial until the plant becomes established in the field. This shade could be provided by a section of snow fence.

Propagating in a plastic chamber is also a simple and inexpensive method. For this method, use a flat or container, rooting medium, and a plastic cover.

Steps:

1. Select a flat or plastic pot.
2. Be sure the container has drainage holes.
3. Fill container with sharp sand, vermiculite, or a 50% mixture of sand and peat moss; moisten well.
4. Collect cuttings 4 to 6 inches long, and protect them from drying out. Remove leaves from lower inch of each cutting.
5. Dip cuttings in a rooting hormone.
6. Insert cuttings about 1 inch into the medium.
7. Soak with water.
8. Cover the cuttings with plastic. Use a wire coat hanger or wooden arch to support the cover. Bamboo stakes are excellent supports if pots are used. Make sure the plastic is fastened to the container snugly.
9. Place in an area away from direct sunlight.
10. As roots develop, gradually remove the plastic to harden off the plant.

It may not be necessary to water the medium for several weeks. Water when there is no condensation of moisture on the plastic. When cuttings are well rooted, transfer to pots or a planting bed area. Some shade is needed until the plants become adjusted.

Winter Damage or Injury

Boxwoods are susceptible to winter damage and may show the following symptoms:

1. The foliage is reddish brown, yellowish, grayish green, or completely loses color.
2. Entire branches may die, especially in the middle and apical parts of the crown.
3. Sunken areas in the bark of the trunk just above the ground line, in the crotches, or along the sides of main branches

occur. Examination of the sunken bark may show that it is brown throughout or contains brown streaks and that, in many places, it has separated from the wood so that patches of considerable size can be stripped off. Cracks may develop in the stem.

Boxwoods that are low in vitality are more susceptible to winter damage. Plants that experience a growth check during the summer and are stimulated into untimely growth by rainy periods in the fall do not harden off their growth before freezing weather; therefore, they are susceptible to winter damage. In mild winters, plants that were dormant in the fall may be coaxed into cambial activity on warm days, especially if they are exposed to direct sunlight. The recurrence of freezing weather injures or kills the new tissue and sometimes causes the bark to freeze and separate from the wood.

Water loss may cause severe damage to boxwood. This loss occurs in winter when high winds or temporary warm weather causes a plant to give off an unusually high amount of moisture. This, coupled with frozen ground which prevents roots from taking up moisture, causes browning or burning of the foliage.

Spraying boxwood plants that have a tendency to winter burn with an anti-desiccant spray in late November may help to lessen winter burn or browning. A second application in late January is often recommended.

Various management practices may help to prevent winter damage:

1. Make sure the plants enter the dormant season in a healthy and vigorous condition with adequate soil moisture. Check to see that the center of the plant is free of dead leaves and other debris.
2. Water during dry periods throughout the year. If fertilizer is needed, apply before July, and do corrective pruning during the spring. Proper pruning aids the development of strong stems.
3. Provide wind protection for plants in exposed situations by using snow fences or lattice frames covered with burlap or pine boughs stuck in the ground.
4. Provide newly planted boxwood with a temporary burlap screen or snow fence for shade and wind protection. Do not let the burlap touch the foliage.
5. Mulch with wood chips, leaf mold, or similar materials. A mulch protects by preventing rapid temperature change at the soil surface, deep penetration of frost, and excessive loss of surface water.
6. Remove snow from boxwoods during or after a snow storm or as soon as practical by brushing the plant with a broom or stick. The weight of heavy snow may cause the stems to break, especially if they are weak. However, do not attempt to remove snow if branches are frozen as breakage will occur.
7. Avoid planting boxwoods under the eaves of the house where snow may fall from the roof and cause damage to the shrubs.
8. Large American boxwoods may be protected against snow damage by wrapping the outer branches with strong nylon cord. Tie the cord securely to a low branch, pressing the boughs upwards and inward; wrap cord in an upward spiral around the bush, having cords 8 to 10 inches apart. Have cord tight enough to prevent breakage from excess weight of snow or ice, but not tight enough to exclude air circulation around the plant.

Reviewed by Bonnie Appleton, Extension specialist, Hampton Roads Agricultural Research and Extension Center