

Burning Bush, Winged Euonymus

Escapes Gardens, Runs Rampant in Forest & Field



All the red foliage shown here is from burning bush stems that resprouted from the roots of a large bush that had been cut to the ground without spraying herbicide on the cut stumps.

The Culprit

One of the most ubiquitous shrubs used in home and commercial landscapes, burning bush (*Euonymus alatus*) escapes such sites and spreads readily into neighboring woodlands, fields, other natural areas and agricultural land. Once escaped, it can grow into a massive, multi-stemmed shrub and reproduce undeterred in the wild. It destroys habitat by crowding out native plants in forests and challenges agriculture by taking over pastures.

Introduced from Asia to the U.S. as an ornamental in 1860, burning bush wasn't recognized as an invasive



This popular garden shrub is a menace if planted near natural habitat.

problem for more than 100 years. Now, escaped populations spell trouble up and down the East Coast and in the Midwest. Its sale is banned in many states, although not in Virginia. Please do not plant this burning bush in your yard and do remove any that are already planted in your landscape.

Follow all herbicide label directions.

Known Hangouts

If burning bush resides in your home landscape or in neighboring yards, look for escaped seedlings, and large and small shrubs in nearby woodlands and unmown areas. You may also find hundreds of seedlings beneath a large burning bush in the garden or in natural areas, in what is termed a seed shadow. Burning bush tolerates deep shade under mature forest canopy, as well as full sun in a field or roadside. It grows well in most soil types except very dry and invades coastal areas, unmown fields, roadsides, woodlots and mature forests.

Modus Operandi

Burning bush spreads via prolific seeds, which fall to the ground and are moved further by water or with soil on vehicles and feet. Birds eat the fruits during winter, spreading the seeds far and wide. Seed may be viable in the soil for only one or two years, which is certainly good news, although more research is needed to determine their viability more precisely. Because this invasive is highly shade tolerant, it flourishes in the forest understory. As its seeds drop and germinate readily the density of the invasion increases exponentially. Deer preferentially browse on native plants, and eagerly eat burning bush's native relatives, but usually don't munch on the invasive species.

Positive Identification

Burning bush is a large multi-trunked shrub that can reach 10 to 15 feet tall if left unpruned, although in the garden it is often pruned to keep it smaller or to use as a hedge. Its leaves are opposite to "almost" opposite, 1 to 3 inches long, widest in the middle and pointed at the tips, with finely toothed edges. Foliage is dark green in the summer and turns a brilliant red in the fall. Small 4-petalled, yellow-green flowers appear in late spring on long pedicels that extend above the foliage. Twigs and young branches usually



Opposite leaves held in a flat plane, 4-petalled flowers and corky twigs identify burning bush.



Burning bush's fruits are purple capsules that open to reveal a single red seed.

have green bark, while large mature trunks are brown-barked with pale stripes. The corky protrusions, called wings, that appear on twigs and branches vary greatly in quantity and size from plant to plant; and may be completely

absent in escaped burning bush. Dormant twig buds are conical and diverge at a distinct angle from the stems.

Fruits start off green and ripen in September and October to smooth purple-red capsules that open to reveal red, fleshy seeds. The wings of the capsule drop off, leaving the seeds hanging on the branches well into winter.

Mistaken Identity

Strawberry-bush (*Euonymus americanus*) is a small native shrub found in coastal plains and moist to dry upland forests; it might be confused with burning bush because it has green twigs and stems but it never reaches the large size of burning bush. Its stems are 4-angled and lack corky wings; old stems are also green compared to burning bush's brown or tan bark. Leaves vary in shape and size and feature very short petioles



Fruit of strawberry-bush is a warty capsule containing more seeds than burning bush.

(leaf stems). Flowers have five rather than four petals and are greenish-purple. Rather than being smooth like burning bush fruit, the fruit is a distinctive, warty-looking, pink capsule containing orange-red seeds.

Seedlings and saplings of the native sweetgum tree (*Liquidambar styraciflua*) have

corky twigs and stems like those of burning bush; however, their star-shaped leaves look very different.

Control

The easiest time to discover invasive burning bush plants is in mid- to late autumn when their intense red, magenta or pink fall color stands out dramatically from nearby vegetation. They are also easy to spot in early spring when the new leaves glow a vibrant light green before most natives leaf out. Search for burning bush any time of year. If you cannot control them at that time, mark the shrubs to be dealt with later.

Manual & Mechanical: Burning bush has a deep fibrous root system. Seedlings and young plants can be hand-pulled or pried up with a garden fork in moist soil.



Burning bush seedlings are easy to hand-pull in moist soil.

Cut Stump: Large shrubs are best cut close to the ground in summer or fall and the cut surface sprayed immediately with concentrated herbicide.

Basal Bark: Paint or spray a concentrated oil-based herbicide

mixed with horticultural oil on the lowest 8 to 10 inches of every stem, if the bark hasn't yet become rough. Treatment should not be done when there is snow on the ground around the plant. Do not apply to wet bark.

Foliar Spray: A foliar herbicide designed for broad-leaf plants is useful on small shrubs or on dense plants that grow beneath larger shrubs. Cut stump the large shrub first, then spray the seedlings.

Native Alternatives

Burning bush is valued in the garden and landscape primarily for its intense fall color. Several outstanding native shrubs boast alluring red fall color, so to create the same effect, you can rip out the burning bushes in your yard and replace them with any of these beneficial shrubs: Virginia sweetspire (*Itea virginica*), maple-leaf viburnum (*Viburnum acerifolium*), possumhaw (*Viburnum nudum*), red chokeberry (*Aronia arbutifolia*), silky dogwood (*Cornus amomum*), and high-bush blueberry (*Vaccinium corymbosum*).

For currently approved herbicide recommendations, check the Virginia Department of Forestry chart *Non-Native Invasive Plant Species Control Treatments*, which you can download from the Blue Ridge PRISM website.