

Burning bush

Euonymus alatus

Fact Sheet

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Common Name: Burning bush

New Hampshire Invasive Species Status: Prohibited (Agr 3800)

Latin Name: *Euonymus alatus*

Native to: Asia



Leaves-opposite (summer)



Burning bush – Boscawen, NH



Branching habit (summer)



Flowers (spring)



Berries (summer)



Berries (fall)



Terminal buds (spring)



Corky bark (summer)



Fall foliage (Autumn)

Description: Deciduous shrub reaching 20' in height and width. **Stems:** Greenish with corky wings. **Leaves:** Oppositely arranged, simple and elliptic, 1-3" long by half as wide, light green. **Flowers:** Inconspicuous greenish-yellow, May to June. **Fruit:** Fleshy green capsule turning red in fall. **Zone:** 3 to 8. **Habitat:** Prefers dry upland soils, full sun to heavy shade, pH adaptable. **Spread:** Seeds are dispersed by birds and wildlife. **Comments:** Outcompetes and displaces native species. **Controls:** Hand remove seedlings and saplings. Use a spade or shovel to dig out larger plants. Large populations may be controlled with herbicide use.

General Considerations

Burning bush, also known as winged Euonymus, is often a multi-stemmed deciduous shrub that grows to 6-12' tall. It develops a dense branching habit and often is wider than it is tall. The bark of older stems is gray or brownish gray with small fissures/furrows. Younger stems are green having lateral tan corky wing appendages. Leaves are arranged oppositely along the stems and grow outward in a horizontal fashion (in the fall when the leaves turn color they droop). Leaves are 1-2½" long and ½-1¼" across; they are elliptic to broadly elliptic and finely serrated along their margins. Upper leaf surfaces are medium to dark green, while their lower surfaces are a lighter shade of green.

Flowers are somewhat inconspicuous and form in the axils of the leaves between May and June. Flowers are about 1/3" across, consisting of 4 yellowish green petals, 4 green sepals, 4 short stamens, and a central green disk, from which a multi-lobed stigma develops. The petals are well-rounded and widely spreading when a flower is fully open. The blooming period occurs during early summer and lasts about 3 weeks. During the summer, fertile flowers develop into 4-lobed seed capsules with smooth sides. At maturity during the fall, the seed capsules are up to 1/2" long and their exteriors become dark red or purple. Each capsule splits open along the margins of its lobes to reveal 1-4 orange-red arils. The fleshy exterior of each aril contains a single ellipsoid seed up to 1/3" long. The deciduous leaves become bright red during the autumn before they fall to the ground.

Burning bush tolerates full sun to medium shade, moist to dry-mesic conditions, and many soil types allowing it to become established in natural woodland areas. Typical habitats include disturbed woodlands, woodland borders, thickets, vacant lots, roadsides, and fence rows. This shrub is often cultivated in lawns and along highways; it usually naturalizes near urban and suburban areas.

Seeds are dispersed by frugivorous birds that eat the fleshy arils and spread their seeds to new locations. White-Tailed Deer avoid the foliage of Winged Euonymus. As a result, this shrub has a tendency to increase in wooded areas.

Control Options

See the following control guides: [Integrated Pest Management \(IPM\) for Woody Plants](#) or the [Control of Invasive Species by Numbers](#)

<i>Euonymus alatus</i> Burning bush	
Plant Type	Shrub
Habitat Type	Forests, field edges, roadsides
USDA Hardiness Zone	3-8
Rooting Structure	Deep and fibrous
Environmental Impacts	Outcompetes native understory vegetation by diminishes the availability of light. Foliage is not palatable to deer and so they avoid it and over brows other species.
Wildlife Impacts	Degradation of habitat
Leaf arrangement	Opposite
NWI Ranking	UPL
Soil Type	Adaptable to a variety of site conditions
Soil pH Range	6-6.5
Light Requirements	Very shade tolerant
Growing Season	
Growth Rate	1-ft per year
Mature Height	8.2 feet (2.5 m) tall
Life Span	250 years
Reproductive Age	5 years
Flowering Period	May to June
Flower Type	Dioecious
Pollination	Insects - bees
Seed Set	September and October
Seed Per Plant	Prodigious
Scarification Required	Not required
Cold Stratification	Yes
Seed Longevity	Unknown
Seed Germination Rate	-90%
Seedling Density	170-700/acre
Other Propagules	Suckering and layering
Dispersal Vectors	Frugivorous birds

Sources

Mehrhoff, L., 2001. Invasive Plant Atlas of New England, Catalog of Species, *Alliaria petiolata*: http://www.eddmaps.org/ipane/ipanespecies/shrubs/Euonymus_alata.htm

USDA Forest Service invasive species website: <http://www.fs.fed.us/database/feis/plants/shrub/euola/all.html#Palatability%20and/or%20nutritional%20value>

Invasives.org: <http://www.invasive.org/browse/subinfo.cfm?sub=3023>