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Native Trees and Shrubs for Maine Landscapes

American Hornbeam

(Carpinus caroliniana)

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Go native!

This series of publications is the result of a five-year research project that evaluated the adaptability of a variety of native trees and shrubs to the stresses of urban and residential landscapes in Maine. Non-native invasive plants pose a serious threat to Maine's biodiversity. Plants such as Japanese barberry, shrubby honeysuckle, and Asiatic bittersweet, originally introduced for their ornamental features, have escaped from our landscapes, colonizing natural areas and displacing native plants and animals. By landscaping with native plants, we can create vegetation corridors that link fragmented wild areas, providing food and shelter for the native wildlife that is an integral part of our ecosystem. Your landscape choices can have an impact on the environment that goes far beyond your property lines.

Description

Form: a tree with a rounded canopy with horizontal, picturesque, slightly pendulous branches and fine texture; often low-branched or multi-trunked

Size: 35 to 50 feet high and wide

Ornamental characteristics:

Photo by Reeser C. Manley

- smooth, dark gray bark, fluted like sinewy muscle
- yellow, orange, and deep red fall foliage



Landscape Use

Because of its tolerance for both sun and shade, American hornbeam offers us a choice in terms of landscape use. You can use it as a relatively large understory tree in the woodland landscape, growing with native associates such as American beech (*Fagus grandifolia*), witchhazel (*Hamamelis virginiana*), pagoda dogwood (*Cornus alternifolia*), and shadblow serviceberry (*Amelanchier canadensis*). In this setting, expect hornbeam to acquire a more open and perhaps less symmetrical habit than it does in full sun.

Carpinus caroliniana can also be an excellent small shade tree in intimate landscape sites. Provided adequate moisture, hornbeam will thrive in full sun and be more dense and symmetrical than in shade. The orange to reddish green color of new foliage in spring is also more noticeable in sun.

American hornbeam is sensitive to drought, heat, and soil compaction. Plant it where soil moisture can be maintained with mulching and supplemental irrigation during summer drought, and away from the “heat island effect” of paving and building walls.



Culture

Hardiness: USDA zone 2

Soil requirements: prefers deep, rich, moist, slightly acid soils

Light requirements: full sun or shade

Stress tolerances:

soil compaction—intolerant

pollution—intolerant
deicing salts—intolerant
urban heat islands—intolerant
drought—intolerant
seasonal flooding—intolerant

Insect and disease problems: infrequent

Wildlife Value

The wildlife value of American hornbeam is considered to be generally low. However, the catkins are occasionally eaten by ruffed grouse, ring-necked pheasants, and quail. The nutlets are eaten by these birds as well as by yellow-rumped warblers and by foxes and squirrels.

Maintenance

Irrigation: During the establishment period, defined as one year after planting for each inch of trunk diameter at planting time, water your trees regularly during the growing season. Give the root zone of each tree 1 inch of water per week; in general, a tree's root zone extends twice as wide as its canopy. After the establishment period, provide supplemental irrigation during periods of severe drought.

Fertilization: Landscape trees and shrubs should not be fertilized unless a soil test indicates a need. Correct soil pH, if necessary, by amending the backfill soil. No nitrogen fertilizer should be added at planting or during the first growing season.

To learn more about native woody plants

Visit the Eastern Maine Native Plant Arboretum at University of Maine Cooperative Extension's Penobscot County office, 307 Maine Avenue in Bangor. Established in 2004, the arboretum displays 24 different native tree and shrub species that can be used in managed landscapes.

Reviewed by Cathy Neal, Extension professor, University of New Hampshire Cooperative Extension.

Photos by Reeser C. Manley.

Illustration by Margery Read, Extension master gardener.

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