



Invasive Plants in Pennsylvania

Paper Mulberry

Broussonetia papyrifera



John Ruter, University of Georgia
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Background:

Paper mulberry was used extensively in the United States as a shade and ornamental tree, especially in the Southeast. Since its introduction in the early 1900s, this invasive has mainly become established in the East.

Range:

Native to Taiwan and Japan, paper mulberry can now be found in over a dozen countries around the world. In the United States, it ranges from Pennsylvania south to Florida, and west to Oklahoma and Louisiana.

Description:

Paper mulberry is a small deciduous tree with smooth bark and hairy, reddish twigs. The densely gray-pubescent leaves, which exude a milky sap when damaged, are ovate or variably lobed. Paper mulberry is dioecious; male and female flowers are produced on separate trees. Males produce catkins while females produce ball-shaped flower clusters. The fruits, which appear in summer, are reddish purple to orange in color.



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Habitat:

Paper mulberry grows in open habitats such as forest and field edges, taking advantage of disturbed sites. Floodplain forests and river terraces are especially prone to invasion.

Biology and Spread:

The seeds of paper mulberry are spread significant distances by wildlife that feed on the fruit. A vigorous grower, paper mulberry also spreads by vegetative expansion, producing new plants by sprouting and suckering from the roots.

Ecological Threat:

Native plants are easily out-competed and displaced by paper mulberry, which aggressively forms dense thickets. This negatively impacts all wildlife through the loss of appropriate forage, nesting and cover. Paper mulberry has a very shallow root system, making the tree susceptible to blow-over during high winds.



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How to Control this Species:

Manual and Mechanical

Paper mulberry seedlings can be easily pulled by hand, especially when the soil is moist.

Trees can be controlled through cutting and herbicide applications. During the growing season, trees should be cut near ground level, followed by an immediate application of herbicide to the stump in order to destroy the root system.

Look-A-Likes:

Paper mulberry may sometimes be confused with exotic white poplar (*Populus alba*), white mulberry (*Morus alba*) and native red mulberry (*Morus rubra*), sassafras (*Sassafras albidum*) and basswood (*Tilia* sp.).



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Chemical

Apply a 25 percent solution of glyphosate mixed with water to cut stumps or girdle wounds.

If cutting is not feasible and the tree is less than six inches in diameter, herbicide may be applied to the lower trunk. From late winter to late summer, a solution of 20 percent triclopyr (such as Garlon® 4) mixed in oil may be applied in a 12-inch band around the base of the tree. Foliar applications of 2 percent glyphosate mixed with water may be considered in areas where the risk to non-target species is minimal.

Native Alternatives:

Many native trees with small growing forms and beautiful foliage are wonderful substitutes for paper mulberry. These include sassafras (*Sassafras albidum*), red maple (*Acer rubrum*), hackberry (*Celtis occidentalis*), and black gum (*Nyssa sylvatica*).



Blackgum

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References:

Center for Invasive Species and Ecosystem Health:

<http://www.invasive.org/browse/subinfo.cfm?sub=5208>

Plant Conservation Alliance's Alien Plant Working Group:

<http://www.nps.gov/plants/alien/fact/brpa1.htm>

USDA Forest Service: http://www.na.fs.fed.us/fhp/invasive_plants/weeds/paper-mulberry%202.pdf

For More Information:

DCNR Invasive Species Site: <http://www.dcnr.state.pa.us/conservationscience/invasivespecies/index.htm>