



Fire Tree

Morella faya (Ait.) Wilbur (previously *Myrica faya*)
Sweet Gale family (Myricaceae)

NATIVE RANGE

Azores, Madeira, and the Canary islands

DESCRIPTION

An evergreen shrub or small tree, usually 12-15 feet tall, fire tree can grow to 50 feet in height in some areas. Stems of fire tree are covered with hairs and its leaves are 2-4 inches long, dark green, shiny, smooth, aromatic, and alternate along the stem. Male flowers have four stamens (pollen-bearing structures) and occur in small hanging clusters near the branch tip. Female flowers, also grouped in small hanging clusters, occur in threes, further from the branch tip. The prolific and edible fruits of fire tree are small and red to purple when ripe.

ECOLOGICAL THREAT

Fire tree poses a serious threat to native plants on young volcanic sites, lowland forests and shrublands, where it forms dense, single-species stands. On the island of Hawaii, fire tree forms a dense canopy with an understory devoid of other plant life. The roots of fire tree manufacture nitrogen, which allows it to invade recent, nutrient-poor volcanic sites much sooner than native plants. Invasion by fire tree on these sites prevents typical plant community succession from occurring.



DISTRIBUTION IN THE UNITED STATES

Fire tree occurs on nearly all of the major Hawaiian islands (Maui, Hawaii, Kauai, Oahu, and Lanai). In the late 1980s, it covered more than 100,000 acres in the Hawaiian islands and fire tree continues to expand throughout the islands.

HABITAT IN THE UNITED STATES

Fire tree adapts to a wide range of habitats and soil types – from thin ash over lava to deep, well developed, silty-clay or loam soils. It occurs in recent volcanic cinder deposits and various types of native forest, and is most abundant on steep slopes, in seasonal montane forests, pastures, and roadsides.

BACKGROUND

Fire tree was originally brought to Hawaii by immigrants from Portugal in the late 1800s, most likely as an ornamental plant for its edible fruit, or for use as firewood. Portuguese laborers made wine from the fire tree fruit. In the early 1900s, it was sometimes planted in reforestation projects on the islands of Kauai, Oahu and Hawaii. By 1937, the invasive nature of this species had been recognized, and the first attempts to eradicate fire tree took place in 1944.

BIOLOGY & SPREAD

Fire tree propagates by seed which are produced in small fruits in June. The fruits are readily eaten by birds which carry the seeds into new areas, enhancing its spread.



MANAGEMENT OPTIONS

Herbicide is the primary tool used for fire tree. Because exotic birds and feral pigs are important dispersal agents of fire tree seeds, these animals should be controlled to limit further spread. Although no host-specific biological control agent has been identified for control of fire tree, the two-spotted leafhopper (*Sophonia rufostachia*) has been reported to kill fire tree on the island of Hawaii.

USE PESTICIDES WISELY: Always read the entire pesticide label carefully, follow all mixing and application instructions and wear all recommended personal protective gear and clothing. Contact your state department of agriculture for any additional pesticide use requirements, restrictions or recommendations.

NOTICE: mention of pesticide products on this page does not constitute endorsement of any material.

OTHER LINKS

- <http://www.invasive.org/search/action.cfm?q=Morella%20faya>
- http://www.hear.org/starr/hiplants/images/thumbnails/html/morella_faya.htm

AUTHOR

Nancy Benton, The Nature Conservancy, Arlington, VA

PHOTOGRAPH

Forest & Kim Starr, US Geological Survey, HI

REFERENCES

- Cronk, Q.C.B. and J. Fuller. 1995. Plant Invaders: The Threat to Natural Ecosystems. Chapman & Hall: London. World Wide Fund for Nature.
- Vitousek, P.M., L.R. Walker, L.D. Whiteaker, D. Mueller-Dombois, and P.A. Matson. 1987. Biological invasion by *Myrica faya* alters ecosystem development in Hawaii. *Science* 238:802-804.
- Whiteaker, L.D. and D.E. Gardner. 1992. Fire tree (*Myrica faya*) distribution in Hawaii. In: Alien plant invasions in native ecosystems of Hawaii. Stone, C.P., C.W. Smith, and J.T. Tunison, eds. University of Hawaii Press, Honolulu, Hawaii.