

Pueraria montana var. lobata, **Kudzu**



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Common Name:	Kudzu, Japanese arrowroot
Scientific Name:	<i>Pueraria montana var. lobata</i>
ID Description:	Kudzu is a perennial, semi-woody vine that has dark-green, pubescent, alternate, compound leaves, 2 – 8 inches (5 – 20 cm) in length with three oval- to heart-shaped leaflets 3 – 4 inches (8 – 10 cm) long at the end; these leaves may be slightly or entirely lobed. Purple or pink flowers may form on vertical vines.
Current Distribution in US and VT:	According to EDDmaps confirmed in 33 states and Ontario, Canada (see map below). The majority of the infestation is in the Southeastern states. Not known to be in Vermont currently.
Habitat:	Forest edges, roadsides, abandoned fields and disturbed areas in almost any soil type. Prefers full sun
Regulated/restricted in these Northeastern states:	CT, MA, NH, NY, PA
Concern:	Kudzu grows extremely rapidly and smothers or girdles other vegetation. It can grow up to 60 ft a years and has a massive underground root systems that can survive changing environmental conditions (droughts, floods)
Means of Introduction and Spread:	Native to Japan/ China, kudzu was introduced to U.S. in 1876 as ornamental and intentionally spread in the Dust Bowl Era for erosion control. Generally spreads through vegetative means (runners); can also spread through seeds (less common)

Plant Pest Designation Rationale

Ecological Threat:

Kudzu (*Pueraria montana var. lobata*) is a non-native, perennial, semi-woody vine that is widespread throughout the southern US and has been found as far north as New York. Kudzu vines have massive underground root systems and grow extremely rapidly, over 60 feet in one season. Kudzu is a landscape threat because it smothers other plants with a dense blanket of leaves and girdles or uproots trees. IT is known as “the vine that ate the South”. Kudzu is not established in Vermont, but VAAFM has determined that it poses a significant threat to the state’s ecosystems and agriculture. With increasingly milder winters, kudzu may be able thrive in many parts of Vermont. Kudzu can grow in a wide range of soil types and appears acclimated to neighboring Northeastern states. Because it is a legume and fixes its own nitrogen, it can rapidly outcompete native plants in poorer soils, creating a virtual monoculture. Vermont’s landscape is already impacted by a large number of invasive plants and kudzu could further threaten rare & endangered species.

Economic Impact:

The economic impact of kudzu infestation in the northeastern United States is significant, posing challenges to various sectors, including agriculture, forestry, infrastructure, and land management. Kudzu's rapid growth rate and dense vine coverage can smother and outcompete native vegetation, reducing crop yields and forest productivity. In agricultural settings, kudzu infestations can result in decreased land productivity, increased costs for control measures, and potential losses for farmers due

to reduced crop quality and yield. Additionally, the presence of kudzu along roadsides, utility lines, and other infrastructure can lead to maintenance and safety concerns, requiring costly efforts for clearance and maintenance. Kudzu's ability to degrade natural habitats and alter ecosystem functions can have broader economic implications, including impacts on ecosystem services, biodiversity, and recreational activities, which contribute to local economies.

Feasibility of control and spread prevention:

The best way to protect against the damage caused by kudzu is to prevent its introduction. Kudzu primarily spreads vegetatively (runners & rhizomes) but also can spread through seed. Soil should not be transported from infested areas and any transplanted plants should be bare rooted; nursery owners should carefully monitor new stock. Equipment and tools should be thoroughly cleaned after being used in kudzu invaded areas. Stone or wood products could be a pathway of spread if they have viable vines or seeds on them.

Once established, Kudzu is extremely difficult to eradicate even with chemical means. It may take 5 to 10 years of intense effort to eradicate a mature population. The main reason that kudzu is so difficult to eradicate is that it has a massive root/rhizome system that stores large amounts of starch and can regrow new shoots rapidly if the tops are removed. If using herbicides, they should be applied multiple times during the growing season to deplete the rhizome storage. Smaller populations can be mowed or cut every two weeks while actively growing; all plant crowns must be cut so that the vine network is depleted. Cut material should be disposed of by burning or landfilling. In some cases, intensive grazing by goats or sheep can reduce long-term growth.

Overgrowth of kudzu over natural vegetation



Kerry Britton, USDA Forest Service, Bugwood.org

Kudzu overgrowth of a southern highway embankment



Photo credit: Chris Evans, Illinois Wildlife Action Plan, Bugwood.org

Reported US distribution of *Pueraria montana* var. *lobata* in EDDMaps



EDDMapS. 2024. Early Detection & Distribution Mapping System. The University of Georgia - Center for Invasive Species and Ecosystem Health. Available online at <http://www.eddmaps.org/>; last accessed February 16, 2024.

References:

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Clark, J. K., Finch, D. M., & Tainter, F. H. (2001). Kudzu (*Pueraria montana*): history, physiology, and ecology combine to make a major ecosystem threat. *Critical Reviews in Plant Sciences*, 20(2), 401-413

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*This content was edited with the assistance of a generative artificial intelligence, ChatGPT. The content has been reviewed and verified to be accurate and complete and represents the intent of the Plant Health Section of the VT Agency of Agriculture, Food and Markets.

Other Resources:

[WI Department of Natural Resources](#)

[University of Maryland Extension](#)

[Ontario Fact Sheet](#)