

SUNNYSIDE THYMES

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Space Invaders - Kudzu

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On a recent (and unscheduled!) trip from Knoxville to Louisville I was reminded of the presence, especially in the south-eastern states, of kudzu. I gazed in the twilight at this dreadful rapacious vine, draped eerily over extensive tracts of forest along I-75.

Kudzu, (*Pueraria montana* or *Pueraria lobata*) was brought to the U.S. innocently enough in 1876 for the Philadelphia Centennial Exposition as part of a beautiful Japanese garden exhibit. From there, Americans started incorporating it into their gardens. In the 1920's it was touted as a forage plant and in the 30's the CCC used it to control erosion because of its strong root system and ability to fix nitrogen. By the 40's the government was paying \$8 to farmers for every acre they planted.

Soon, but not soon enough, the ill effects of this plant became evident. The vines, growing a foot a day, can climb and cover everything in their path. Extremely hardy, kudzu is tolerant to drought and impervious to cold. Frost does not harm the underground root system. Storage roots can grow three feet underground and allow for early spring growth and recovery if damaged. Birds and mammals distribute the vast amounts of seeds produced in late summer and fall.

Identification of kudzu is not difficult. The leaves look like bean leaves, with hairy stems that can grow 60 feet long, alternate leaves, long and petioled with three dark green hairy leaflets on each leaf. Each leaflet grows about 7 inches long and terminal leaflets are three lobed and symmetrical. The reddish-purple flowers are pea-like and short stalked, with elongated clusters at the leaf axis. The fruit forms a dark brown pod, about 4 inches long and one-third inch wide, flat but full of seeds and covered in long

golden-brown hairs. The deciduous woody vines that are formed are high climbing, trailing and twining.

Kudzu is a very real threat to south-eastern forests in the U.S.,

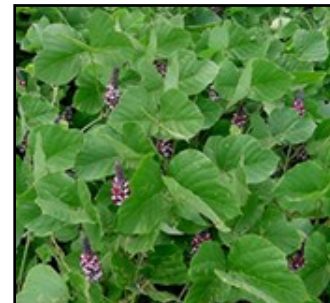
covering over 2,000,000 acres in this area, smothering trees under the weight of their vines and blocking sunlight. Some forests have been destroyed after only 2-3 years. It is spreading at a rate of 120,000 acres a year; controls are increasing to \$6 million yearly.

Control methods are varied and many are unreliable. Mowing has been tried, with only 'flail' mowers that can chop through thick mats of vines being effective. Close mowing does make treatment of re-growth much more effective. Grazing has been used but the entire patch must be enclosed and repeatedly grazed over several seasons to deplete the root stores. Sheep and goats are being used in some sites in New England, Florida and Georgia. Burning, as in controlled burns in the spring to limit erosion, help expose the root crowns for herbicide use. Herbicide use is common and expensive, and in some cases have intensified the rate of growth. At least 4 years and up to 10 years are required to kill this vine with the most effective herbicide. A biological control has also been tested, the fungus *myrothecium verrucaria*. It has been found effective but will also infect soybeans.

Although kudzu is usually found south of New York and east of Texas, it has been found as far north as Nova Scotia and as far west as Oregon! At least 33 counties in the lower half of Indiana have kudzu sites and three counties bordering Michigan. The DNR Division of Entomology and Plant Pathology are working with landowners to assist getting kudzu to a manageable level. To report a site call 1-866-NOEXOTIC or contact Ken Cote at the Bloomington field office at 812-322-7249. You may also email kcote@dnr.IN.gov.

References:

- http://www.columbia.edu/itc/cerc/danoff-burg/invasionbio/inv_spp
- <https://plants.usda.gov/core/profile?symbol=PUERA>
- <https://www.in.gov/dnr/entomolo/4538.htm>



Kudzu is an invasive species related to the soybean plant. (Purdue Extension photo/Chris Parker)



Completely covering everything in its path.

(www.in.gov/dnr/entomolo/files/ep-KudzuFactSheet2008.pdf)