

Kudzu Control Methods and Strategies

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Kudzu is an extremely aggressive plant. Left unchecked, kudzu devalues property in several ways:

- Kudzu will displace native grasses and forbs, leaving nothing more than an unsightly monoculture of kudzu vines and brambles.
- Kudzu will reduce accessibility of a property, making it useless for recreational uses and pursuits.
- Kudzu will kill existing trees and forested cover.
- Kudzu will out-compete new tree seedlings.

In short, kudzu is bad. When a landowner chooses to ignore a kudzu patch, the invasive plant spreads rapidly, impacting adjacent forested areas, fields, pastures, and even home sites. Large kudzu infestations are expensive to control. As a patch grows the cost to control the patch will also grow. For example, a kudzu vine can grow up to 60 feet a year. This could mean that one acre kudzu patch could potentially become an 11 acre patch after as few as ten years. Conventional herbicide treatments can cost as much as \$2000/acre to treat kudzu over the course of several years, so in this hypothetical example, a \$2000 expense has ballooned into over \$20,000 in expenses. A problem that could have been handled early on with a small investment has now become a major financial burden. In addition to having a large expense to control the kudzu problem, the property could have also lost a significant amount of timber, and severely impacted the beauty and integrity of the land. It pays to control kudzu.

Smaller patches of kudzu can be controlled through manual, mechanical, chemical, or a combination of methods. Consider working with a professional invasive plant specialist to develop a treatment strategy, and to implement control work on patches of kudzu over an acre in size. Large kudzu patches can be dangerous places, with draped ravines, ditches, and uneven ground.

Chemical treatment is the most practical method to eradicate large patches of kudzu. Because of the extensive underground root system of kudzu and layers of thick vegetation, older kudzu patches are more difficult to control than younger patches, and may require more sequential treatments for complete control. A patch may require as many as five to ten years of monitoring, inspection and spot treatment after the initial treatment to get it under control. For purposes of this article, I will mention some methods of control, some issues with timing, and the herbicide products that are used for kudzu control. I will not discuss product rates, but remember to always read and follow herbicide labels and treatment instructions, and get a site-specific prescription from an expert whenever possible.

Foliar treatment Methods

Several products are effective for foliar treatment of kudzu (see Table 1). Applications are most effective when they are made with high volumes of water (more than 50 gallons to the

acre). High volume foliar treatments are best made with ground equipment, like a truck or large ATV with a mounted hose reel sprayer. Spray coverage is a very important issue when dealing with kudzu. Kudzu forms multiple layers of thick vegetation, so the treatment must be made at a high enough water volume to carry the herbicides into all layers of the kudzu canopy.



Picture 1: Waccamaw Refuge kudzu patch at Yauhannah Bluff in Georgetown County before treatment



Picture 2: Waccamaw Refuge kudzu patch after two years of foliar treatment with Transline herbicide (grasses, forbs and hardwoods have been released by the treatment)

Each product has different selectivity features, so understanding the condition of desirable trees, vegetation and groundcover on a site is an important factor in the selection of a product and method of treatment. In mature kudzu patches, there is usually very little additional vegetation present except for kudzu, since it smothers most plants. Some foliar herbicides provide excellent selectivity for desirable hardwoods and pines, and careful treatment can reduce the chance of injury to your living and healthy trees. All of the products listed in Table 1 except for glyphosate have some level of selectivity for direct application to desirable grasses and some products are even safe for a lot of broadleaf plants as well.

Basal Bark and Cut Stem Methods

Basal bark and cut stem treatment methods allow for a more selective method of controlling kudzu, and are commonly used to either clean up smaller infestations, or for treatment of tree-draped and climbing vines. With smaller infestations, this is a treatment method which can be implemented by a landowner or manager without too much additional equipment.

Basal bark treatment involves the use of products like Garlon 4, which is mixed with an oil carrier, and is sprayed around the circumference of the vine so that the treatment encircles the vine. Treatment of approximately 2 feet of vine length near ground level should be sufficient to top-kill the vine, and it will translocate herbicide downward as well. Pathfinder II is a ready-to-use formulation that can be used in the same manner. For reducing errors in mixing, Garlon 4 plus bark oil can also be purchased as a custom blended product.

Cut stem treatment involves cutting a vine at or near ground level, and spraying an herbicide mixture directly onto the cut vine. This can prevent resprouting from the crown.

Both basal bark and cut stem treatment methods can be done during the dormant season, which can allow for easier access to the kudzu patch. In most cases, these methods are used in conjunction with foliar treatment as an integrated approach to controlling kudzu.

Table 1: Some product suggestions for kudzu treatments in different situations

Situation	Product	Method	Timing	Comments
Kudzu in open areas with no desirable tree cover	Tordon K (picloram)	Foliar treatment	May-October	Restricted Use product that required user to be a certified pesticide applicator
	Tordon 101M (picloram plus 2,4-D)	Foliar treatment	May-October	Restricted Use product that required user to be a certified pesticide applicator
Kudzu in sensitive areas or areas with desirable tree cover	Transline (clopyralid)	Foliar treatment	June-August	Transline is a legume specific herbicide, so it can damage desirable legumes such as redbud and black locust, as well as other trees such as persimmon, box elder and sassafras.
	Milestone VM (aminopyralid)	Foliar treatment	June-August	Milestone VM is a new product that shows promise as a kudzu control agent. Do not apply into the canopy of desirable trees
	Escort XP (mestulfuron methyl)	Foliar treatment	June-August	Escort XP can damage some desirable trees such as redbud, black locust, winged elm, and hackberry.
	Garlon 4 (triclopyr ester)	Basal Bark treatment	All year (except early spring)	Basal bark treatment to climbing vines will top kill tree draped kudzu and running vines.
	Pathfinder II (triclopyr ester)	Basal Bark treatment and cut stem	All year (except early spring)	Pathfinder II is a ready-to-use formulation for basal bark applications
Kudzu draped over water	Glyphosate (various aquatic formulations)	Foliar treatment	June-August	When spray contact with water is inevitable, aquatic glyphosate can be used to clear kudzu vines that are draping over water
	Garlon 3A (triclopyr amine)	Foliar treatment and cut stem	June-August	When spray contact with water is inevitable, Garlon 3A can be used to clear kudzu vines that are draping over water

Note: Tordon, Transline, Milestone, Garlon and Pathfinder are trademarks of Dow Agrosiences, Escort is a trademark of E.I. du Pont de Nemours and Company.

When making the decision to control a large kudzu patch on a property, the landowner or manager should be committed not only to making an initial treatment, but to following up on an annual basis to assess follow-up treatment that may be indicated. In almost all cases, multiple treatments will be necessary.

Kudzu eradication can be difficult. It is not uncommon that the landowner ends up spending time and money trying to do the work themselves, only to end up contracting with a professional after a couple years of less than satisfactory results. A kudzu vine can grow 60 feet a year. When a treatment does not adequately cover the infested area, kudzu regrows into the treated areas, and the progress is lost. An herbicide strategy with a large kudzu patch can include several years of sequential treatment to achieve a successful eradication.

About the Author: Matt Nespeca is a field representative with South Carolina Chapter of The Nature Conservancy, and is a co-chair of the Kudzu Task Force for the South Carolina Exotic Pest Plant Council. Matt is a registered forester and certified pesticide applicator in South Carolina. Prior to joining the Nature Conservancy, Matt worked in marketing, technical service, and sales with BASF Corporation, and spent 5 years working with forest landowners in South Carolina. Matt can be reached at 843-833-5250.