



Invasive Species Management Plans for Florida

Skunkvine

Paederia foetida (L.) Rubiaceae

INTRODUCTION

Sometime before 1897 at a USDA Field Station, *Paederia foetida*, or skunkvine, was introduced from Asia to Hernando County, Florida as a potential fiber crop. Skunkvine was reported as a troublesome weed very early in its introduction, escaping into native areas throughout Florida. It was soon recognized as an economically important invasive weed. In 1993, skunkvine was labeled a Category 1 species on the Florida Exotic Pest Plant Council's List of Invasive Species. In 1999, it was placed on the Florida Noxious Weed List. Currently skunkvine is found in at least 17 counties in central and north central Florida.

This invasive plant did not receive its common name "skunkvine" for smelling like a rose. In fact the species name, *foetida*, is Latin for "stinky" or "foul smelling". When the leaves or stems of skunkvine are crushed or broken, a displeasing, foul odor is released. The foul odor of skunkvine is derived from the sulfur compounds in its leaves.

DESCRIPTION

Skunkvine is a woody vine that does not have thorns. Its vines are able to grow 30 feet in length, climbing up into tree canopies or crawling along the ground. For some unknown reason, the vines constantly twine to the right. The smelly, foul odor released when skunkvine is crushed may be a useful characteristic that can aid in identification. Skunkvine leaves vary in size and shape. Generally skunkvine leaf blades have rounded to cordate (heart) shaped bases and acuminate (pointed) tips, with entire (smooth) margins. Leaves may be opposite on the stem. In rare instances, leaves have also been found in whorls of three. Leaves and flowers are on petioles about 2 ½ inches long. Skunk vine flowers are small, light grayish pink or lilac, with red centers. The fruit are small, spherical, shiny brown having 2 black, non-winged seeds. Skunkvine is able to reproduce vegetatively and via seed. Its stems are able to root readily in soil. It is thought that seeds are eaten by frugivorous birds and spread, but has not yet been verified.

IMPACTS

Skunkvine is able to survive in a variety of Florida habitats including hardwood, mixed, and pine forests, sandhill, and floodplain forest and marsh. A serious invasive weed, skunkvine is able to displace native vegetation. The dense layer of vegetation created by skunkvine can both damage and kill native vegetation. Climbing vines can engulf and cover trees and shrubs. The weight of the vine mass climbing over vegetation can cause branches or entire trees to break or collapse. Crawling vines can form a dense layer of vegetation, smothering many shrubs and other plants growing in the understory.

MANAGEMENT

Preventative: Care must be taken when disposing of skunkvine since it is able to regrow when cut back, and produce new plants from stem fragments. Seeds are also able to germinate in brush piles. Prevent the transport of stem fragments and seed to other locations by ensuring machinery is free of seed and stem fragments. Flooded conditions can decrease the vigor of skunkvine; however skunkvine can live in marsh like conditions, able to survive for approximately 190 days under water.

Cultural: Weeds such as skunkvine generally invade open or disturbed areas – following a burn, clearing mowing, etc., so these areas are particularly vulnerable to invasion. Therefore, a healthy ecosystem with good species diversity will help to deter infestation.

Mechanical: Mowing and tillage will provide some measure of control, but are impractical in most situations.

Biological: There is much hope in biological control agents collected in Japan and Nepal by Agricultural Research Service Entomologists Robert Pemberton and Paul Pratt. Chrysomelid leaf beetles and two sawfly species were found feeding on the leaves of skunkvine. A stem gallmaker and a moth in the Sessiidae family were also found to attack skunkvine by causing the formation of galls on vine stems. The flea beetle, *Trachyapthona sordida*, has the greatest potential of all of the biological control agents listed to potentially control skunkvine. Flea beetles damage the host root system by feeding on roots and root hairs, leading to reduced uptake of nutrients and water by the host plant.

Chemical: Chemical control is one of the most effective means of control for skunkvine, but single applications will generally not provide complete control. This is due to resprouting from rootstocks or root crowns. A dilution of triclopyr (Garlon 3A at 1 to 2% solution or Garlon 4 at 0.5 to 2% solution) in water can be an effective control for skunkvine when applied as a foliar application. Be sure to include a non-ionic surfactant at 0.25% (10 mLs or 2 teaspoons per gallon of spray solution). A 2 to 3% solution of glyphosate (Roundup, etc.) may also be effective. These herbicides are systemic (move throughout plant tissue) so care must be exercised to minimize off-target damage. If skunkvine is growing up into trees or other desirable species, vines should be cut or pulled down to minimize damage to the desirable vegetation. Pulling the vines down without severing them from the root crown will allow the herbicide to move into the root and provide better control. The best time to apply an herbicide is in the spring and summer when skunkvine is actively growing. Be sure to allow adequate time for the plant to regrow from the winter to ensure movement of the herbicide back into the roots. (As plants grow and mature, they begin to move sugars back into the roots).

REFERENCES AND USEFUL LINKS:

Flores, A. 2003. Scouring the World for a Skunkvine Control. Agricultural Research Magazine, Vol. 51 No. 10. <http://www.ars.usda.gov/is/AR/archive/oct03/skunk1003.htm>

Langeland, K. A., R. K. Stocker, and D. M. Brazis. 2000. Natural Area Weeds: Skunkvine (*Paederia foetida*). IFAS Publication SS-AGR-80. Florida Cooperative Extension Service, Agronomy Department, University of Florida.

Langeland, K.A. and K. Craddock Burks. 1998. Identification and Biology of Non-Native Plants in Florida's Natural Areas. IFAS Publication SP 257. University of Florida, Gainesville. 165 pp.

Langeland K.A. and R.K. Stocker. 2001. Control of Non-Native Plants in Natural Areas of Florida. IFAS Publication SP 242. University of Florida, Gainesville. 34pp.

Florida's Cooperative Extension Electronic Data Information Source (EDIS):

<http://www.edis.ifas.ufl.edu>

Center for Aquatic and Invasive Plants Web Site: <http://www.plants.ifas.ufl.edu>

Invasive Plants of the Eastern United States:

<http://www.invasive.org/eastern/biocontrol/27SkunkVine.html>

Florida Exotic Pest Plant Council: <http://www.fleppc.org/>

Mature Plant

- Woody climbing vine, lacks thorns
- Always twines to the right
- Grows >30 feet in length



Leaves

- Leaves are found in various sizes and shapes
- Bases rounded, tips pointed with smooth margins
- May be opposite on the stem or in whorls of three



Flowers and Fruit

- Flowers are small, light grayish pink, red centers
- Fruits are round, shiny brown
- 2 tiny black seeds per fruit

