



Invasive Species Management Plans for Florida

Rosary Pea

Abrus precatorius (L.) Fabaceae

INTRODUCTION

Rosary pea has been widely used in Florida as an ornamental plant for many years. The native range of rosary pea is India and parts of Asia, where this plant is used for various purposes. The roots of this plant are used to induce abortion and relieve abdominal discomfort. The seeds of this plant are so uniform in size and weight that they are used as standards in weight measurement. The seeds can also be used to make jewelry. **Interestingly, one of the most deadly plant toxins, abrin, is produced by rosary pea (*Abrus precatorius*). Studies have shown that as little as 0.00015% of toxin per body weight will cause fatality in humans (a single seed).** Interestingly, birds appear to be unaffected by the deadly toxin as they have been shown to readily disperse rosary pea seed.

DESCRIPTION

Rosary pea is a small, high climbing vine with alternately compound leaves, 2-5 inches long, with 5 to 15 pairs of oblong leaflets. A key characteristic in identifying rosary pea is the lack of a terminal leaflet on the compound leaves. The flowers are small, pale, and violet to pink, clustered in leaf axils. The fruit is characteristic of a legume. The pod is oblong, flat and truncate shaped, roughly 1½ - 2 inches long. This seedpod curls back when it opens, revealing the seeds. The seeds are small, brilliant red with a black spot. These characteristics give the plant another common name of crab's eyes.

IMPACTS

Rosary pea is found throughout central and southern Florida, including Marion, Lake, Palm Beach, and Manatee counties. All together, rosary pea has been collected from 27 counties throughout Florida. Undisturbed pinelands and hammocks are often invaded by *Abrus*. The Florida Exotic Pest Plant Council considers rosary pea a category 1 invasive species due to its ability to invade and displace native plant communities. Characteristic of a vining plant, rosary pea can grow over small trees and shrubs. Roots grow very deeply onto the ground and are very difficult to remove. Fire encourages the growth of Rosary pea.

MANAGEMENT

Preventative: Regular monitoring and rouging of plants can prevent the spread and establishment of rosary pea. Programs to educate homeowners on proper plant identification will also reduce the spread of this species.

Cultural: Native alternatives to rosary pea for use in home landscaping or natural areas include leather flower (*Clematis crispa*) or Carolina jessamine (*Gelsemium sempervirens*).

Mechanical: Hand-pulling and removal of entire plants, particularly the roots, is practical for small infestations. Aggressive tillage is an option and very effective, but impractical in many areas. Fire provides only temporary control.

Biological: There are no known biological agents for rosary pea.

Chemical: Timing of application is critical to effectiveness; with applications in the fall prior to seed set being the most effective. Triclopyr is effective as a cut-stump treatment on large woody vines immediately after the vines are cut down. Triclopyr amine or glyphosate can be applied to the foliage at 3-5% or 1-3%, respectively.

REFERENCES AND USEFUL LINKS:

United States Department of Agriculture Natural Resources Conservation Service Plants Database: <http://plants.usda.gov>

Invasives and Exotic Species of North America: <http://www.invasives.org>

University of Florida Center for Aquatic and Invasive Plants:
<http://aquat1.ifas.ufl.edu/welcome.html>

University of Florida's Cooperative Extension Electronic Data Information Source:
<http://edis.ifas.ufl.edu/index.html>

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.

Pacific Island Ecosystems at Risk (PIER). Plant Threats to Pacific Ecosystems:
<http://www.hear.org/pier/threats.htm>

The Hillsborough County Invasive Species Task Force
Identification and control of non-native invasive plants in the Tampa Bay Area:
http://www.tbep.org/pdfs/Invasive_Plants.pdf

Mature Plant

- Climbing, trailing woody vine
- Slender, green branches and stems
- Deeply rooted, often with trailing roots
- Responds favorably to fire



Seedling

- Bean-shaped cotyledons
- First true leaf trifoliate, then pinnately compound
- No terminal leaflet



Leaves and Stems

- Climbing vine
- Alternate compound leaves, 2 to 5 inches long
- 5 to 15 pairs of oblong leaflets



Flowers and Fruit

- Small pale violet to pink flowers
- Clustered in leaf axils
- Legume-shaped pod, oblong, flat – 1½ - 2 inches long



Seed

- Seedpod splits at maturity, seeds remain attached
- Seeds brilliant red/scarlet with a black spot
- Birds unaffected by toxin, readily disperse seed

