

Invasive Plants in Pennsylvania

Crown Vetch

Coronilla varia



Photo: Dan Tenaglia, Missouriplants.com,
www.forestryimages.org

Background:

Crown vetch was introduced throughout North America in the 1950s for erosion control, particularly along roadways. It is still being sold and used in many states that have not officially declared it to be invasive.

Range:

Crown vetch is native to Europe, Asia and Africa. Since its introduction to the U.S., it has spread throughout the country. It is currently reported as invasive in many states, especially through the center of the country and along the eastern seaboard.

Description:

Crown vetch is an herbaceous vine that usually forms sprawling mats or thickets up to three feet tall. The leaves are alternate and pinnately compound, with 15 to 25 pairs of leaflets. The pea-like flowers range in color from white to pink or purple, and bloom during the summer. It has a branched, fibrous root system.



Photo: Dan Tenaglia, Missouriplants.com,
www.forestryimages.org

Habitat:

Crown vetch prefers disturbed, open areas, especially with gravelly or sandy soils. This makes openings and disturbed areas such as fields, waste areas, roadsides and embankments perfect habitats for this species.

Biology and Spread:

Crown vetch spreads through both seeds and rhizomes. The rhizomes can extend up to 10 feet, and an individual plant can cover 70 to 100 square feet within four years.

Ecological Threat:

Crown vetch's main impact is the displacement of native plant species from their habitats. Although it can provide forage for some species, it prevents native flowers and shrubs from establishing in open areas. This, in turn, can be detrimental to native animals and insects which rely upon those native plants or the conditions they provide for food or shelter.



Photo: Chris Evans, River to River CWMA,
www.forestryimages.org

How to Control this Species:

Crown vetch can be controlled with a variety of methods, although some may prove more successful than others.

On younger or smaller populations, manual control can be effective. This can include pulling entire plants (making sure to include as much of the rhizomatous roots as possible). Mowing is another potential method of controlling crown vetch. The mowing should occur in late spring and then multiple times through the growing season, for several consecutive years.

Prescribed burning can also be effective when conducted in late spring and for several consecutive years.

Look-A-Likes:

Many plants in the pea family, like the native American vetch (*Vicia americana*) - shown below - can look similar to crown vetch, so be sure to positively identify this species prior to controlling it.



Photo: Dave Powell, USDA Forest Service, www.forestryimages.org

Few parasites or herbivores prefer crown vetch, although it is used in an agricultural setting for grazing or as a green manure. It is currently unlikely that any form of biocontrol will be introduced to combat this species, as it is used in many states agriculturally and as erosion control.

For areas where crown vetch has established large, dense populations, chemical controls can be used. Glyphosate, triclopyr and metsulfuron were shown in experiments to be effective at treating crown vetch. Herbicides can also be used after removing the aerial portion of the plant by mechanical means, which may improve results.

References:

Invasive Plant Atlas of the U.S.:

<http://www.invasiveplantatlas.org>

USDA Forest Service Northeastern Area: <http://www.na.fs.fed.us>

Invasive Exotic Plant Tutorial for Natural Lands Managers:

<http://www.dcnr.state.pa.us/forestry/invasivetutorial>

Virginia Department of Conservation and Recreation:

http://www.dcr.virginia.gov/natural_heritage

Lady Bird Johnson Wildflower Center:

<http://www.wildflower.org>

Weeds of the Northeast, 1997; R.H. Uva, J.C. Neal, and J.M. DiTomaso

Native Alternatives:

The best way to avoid crown vetch infestations is to avoid planting it in the first place. Native warm season grasses, such as big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*) and Indian grass (*Sorghastrum nutans*) can be used to control erosion. If a legume is desired, use partridge pea (*Cassia fasciculata*) or roundheaded bushclover (*Lespedeza capitata*).



Photo: Karan Rawlins, U. of Georgia, www.forestryimages.org