University of Missouri Extension

G4510, Reviewed October 1993

Crownvetch

Howell N. Wheaton
Department of Agronomy

Crownvetch, *Coronilla varia* L., is a cool season, hardy, perennial legume. It is not a true vetch, although it resembles common and hairy vetch. Crownvetch spreads from rhizomes and will form a dense cover. It has been used for soil stabilization and as an ornamental for many years.

Adaptation

Crownvetch has a wide range of climatic adaptations, but its performance has been superior on well-drained soils. It is tolerant of both low pH and low fertility soils. However, it is highly responsive to lime, phosphorus and potassium.

Crownvetch is particularly adapted to road bank stabilization and erosion control. At the present time this seems to be one of the best uses for the plant.

Acceptability and nutritive value as a forage crop

In recent years crownvetch has been considered as a source of forage for livestock. Information about the acceptability and nutritive value of crownvetch is still limited, and there is not enough evidence to make a dependable statement as to its merits as a forage crop. It is a non-bloating legume. Some research has indicated that the young growth is palatable but that more mature growth is not readily accepted. In other grazing trials, animals were slow to accept it, but after a few days their performance on crownvetch was comparable to that of other common grass-legume pastures.

Chemical analysis of crownvetch hay has shown that its crude protein and crude fiber content is similar to that of other legume hays. Digestible dry matter of crownvetch hay was below that of other grass-legume hays harvested at the same stage of maturity. Crownvetch hay is often difficult to wilt and cure.

Varieties

There are three varieties of crownvetch available. They are Emerald, Penngift and Chemung. Seedlings of Chemung and Emerald are more vigorous than Penngift. Chemung and Emerald usually have taller growth, coarser stems and broader leaves than Penngift. Emerald is well adapted to the soil and climatic conditions of the Midwest, but Chemung appears to be better adapted than Emerald to low fertility sites in the Northeast.

Inoculation

Crownvetch has not been extensively grown, and seed should always be inoculated before seeding. A specific strain of bacteria is required for proper inoculation of crownvetch. This can usually be obtained at the source

where seed is obtained. Crownvetch seeds are very small and smooth. Take special care to be sure the inoculation adheres to the seed. Water sweetened with sugar will make the inoculum mix more adhesive.

Seeding

The usual seeding rate is 5 to 15 pounds per acre. Seed prices are high, so you will want to keep seeding rates low. If low seeding rates are used, techniques designed to ensure maximum plant establishment are of the utmost importance. These techniques include the use of a seed inoculant, chemical weed control and special seeding equipment. If possible, apply lime, phosphate and potash based on red clover requirements. Do not use nitrogen because it will stimulate weeds more than the young crownvetch plants.

Crownvetch may be seeded by several methods.

- Spring seed on a prepared seedbed from March 15 to May 15. If possible, the sod should be fall plowed to control weeds and provide a firm seedbed.
- Seed on a litter or mulch from dead Sudan grass from October to April.
- Seed in early spring on a prepared seedbed. Prior to seeding, incorporate either 2 to 3 pounds of EPTC or 1 to 1-1/2 pounds of Benefin or 1/2 to 1 pound of Trifluralin into the top 1 to 2 inches of the soil with a disc and harrow. Take care not to mix the chemical too deeply in the soil because it may result in poor weed control. Chemical weed control is perhaps the best way to ensure a stand of crownvetch.

The herbicides will generally control weedy grasses and several of the broadleaf weeds. If broadleaf weeds become a problem, control them by mowing during the summer. If the weeds become extremely dense, shred them with a rotary mower. If you use a conventional mower, you may have to remove the weeds after mowing to prevent smothering of the young crownvetch plants.

- Broadcast crownvetch seed and roll or pack the soil. You may also seed in rows and cultivate to control weeds. The creeping ability of crownvetch will enable it to fill the rows.

Management

Once the seedlings are established, relatively few crownvetch seedlings per acre will result in good stands because of its spreading habit due to the strong, vigorous rhizomes.

Crownvetch will persist under hay and grazing conditions if soil drainage and fertility is adequate. Its slow recovery after hay harvest suggests that it should not be overgrazed. A 3- to 4-inch stubble left after harvest is desirable to keep it in a productive state.

Crownvetch grows best on well-drained soils that have been limed as for clover. Hay yields have been less than alfalfa, so potash and phosphate should be applied as for red clover.

G4510, reviewed October 1993

Related MU Extension publications

- G6835, Selected Ground Covers for Missouri
  http://extension.missouri.edu/publications/DisplayPub.aspx?P=G6835
- NCR400, Ground Covers for the Midwest
  http://extension.missouri.edu/publications/DisplayPub.aspx?P=NCR400

Order publications online at http://extension.missouri.edu/explore/shop/ or call toll-free 800-292-0969.

UNIVERSITY OF MISSOURI Extension

■ Issued in furtherance of the Cooperative Extension Work Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. Director, Cooperative Extension, University of Missouri, Columbia, MO 65211
■ an equal opportunity/ADA institution ■ 573-882-7216 ■ extension.missouri.edu