

BIRDSFOOT TREFOIL

Lotus corniculatus L.
Plant Symbol = LOCO6

Contributed by: USDA NRCS Rose Lake Plant
Materials Center, Lansing, Michigan



Robert H. Mohlenbrock
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Midwestern Wetland Flora
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Alternate Names

birdfoot deervetch

Uses

Erosion control: Birdsfoot trefoil is used along roadsides to control wind and water erosion.

Wildlife: Birdsfoot trefoil is a choice food for Canada goose, deer, and elk. As ground cover, it provides green cover most of the year and blooms profusely. It is used for pheasant cover on shooting preserves and around ponds at duck clubs.

Livestock: This species is used for green chop, hay and pasture. It is seeded in combination with grass and grazed as a non-bloating legume. It yields 4 tons of hay per acre on deep, well-drained soils receiving irrigation or adequate rainfall. As a dryland pasture

legume, birdsfoot trefoil produces 20% more growth after July 1 than most dryland grass legume mixtures.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Weediness

This plant may become weedy or invasive in some regions or habitats and may displace desirable vegetation if not properly managed. Please consult with your local NRCS Field Office, Cooperative Extension Service office, or state natural resource or agriculture department regarding its status and use. Weed information is also available from the PLANTS Web site at plants.usda.gov.

Description

Birdsfoot trefoil is a moderately long-lived herbaceous perennial legume. It has a well developed, branching, tap-like root with side roots near the soil surface. Most cultivars are erect and grow to a height of 2 to 3 feet. The stems are slender, branch well, and are moderately leafy. Leaves are smooth and consist of 5 leaflets. The bloom is made up of a cluster of bright yellow flowers arranged in a whorl at the end of the flowering stems. When ripe, the brown seed pods extend outward from the stalk and look like a bird's foot. The plant remains green and succulent during and after seed ripening. There are an average of 375,000 seeds per pound.

Adaptation and Distribution

Birdsfoot trefoil is generally used in areas that receive 20 inches of precipitation or more. It is suited to low and moderately fertile soils with relatively poor internal drainage but is usually less productive than alfalfa on fertile, deep, well-drained soils. It performs well on soils too shallow or too poorly drained for alfalfa. It is equal to alfalfa in tolerance to saline-alkaline soils and is adapted to soils of medium acidity. The best pH range for establishment is 6.0 to 6.5 though it tolerates a broader pH range of 5.5 to 7.5.

Birdsfoot trefoil is distributed throughout the majority of the United States. For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Website.

Establishment

For forage production birdsfoot trefoil is typically seeded at 4 to 8 pounds per acre either alone or with a grass. Seeding rates for erosion control practices may run considerably higher depending on the mix and geographic location. Seed should be inoculated and drilled 1/4 inch deep during early spring or late summer, with orchardgrass, timothy, meadow foxtail, or tall fescue. If planting in late summer or in sandy soils, increase seeding depth to 1/2 inch. Midsummer seedings are hazardous unless soil moisture is above normal and growing conditions are good. Seedbed preparation and seeding must be done carefully. Seed is small and many stands are lost by poor seedbed preparation, deep seeding, inadequate soil fertility, poor inoculation or failure to use specific inoculant, and excessive competition from weeds. The seedbed needs to be mellow, firm and smooth. Band seeding of birdsfoot trefoil is highly recommended. Fertilize and lime according to soil tests. Phosphorous is particularly critical in low fertility soils and is best utilized if banded 1 1/2 - 2" directly below the seed. Since birdsfoot trefoil seedlings grow quite slowly, rapidly growing weeds will shade and stunt its growth. Early weed control will greatly improve the chance of a successful planting. Control pests, especially spittlebugs and leafhoppers.

Management

Regrowth of birdsfoot trefoil differs from that of alfalfa in that it originates at buds formed in leaf axils. Close grazing that takes all stem growth is very detrimental to regrowth and stand life. Delay spring grazing until plants are at least 8 inches high. Allow 24 to 38 days regrowth between grazings and leave a 4 inch stubble after grazing. Additionally, 60 day rest periods every 3 years helps to maintain the stand. Hay harvest should leave 4 to 6 inches of stubble to ensure good regrowth.

Birdsfoot trefoil does not cause bloat in ruminant animals. To protect the life of the stand, it does require careful management. Birdsfoot must be allowed to grow to maturity every third year or so in order to produce a seed crop--thus sustaining the stand. Birdsfoot trefoil benefits from readily available phosphorous. Phosphorous should be applied annually based on local soil testing recommendations.

Pests and Potential Problems

Crown and root rots are the most significant diseases of birdsfoot trefoil. The trefoil seed chalcid,

Bruchophagus kolobovae Fed., is a small, black, wasp-like insect that can be destructive in seed fields.

Cultivars, Improved, and Selected Materials (and area of origin)

Some of the most common upright or hay-type varieties used in the Northeast US are 'Norcen', 'Viking', 'Mansfield', and 'Leo'. 'Empire', 'Dawn', and 'Fergus' are low-growing, pasture-type varieties. The European trefoil is not a variety, but merely refers to trefoil seed imported from Europe. European trefoil is lower yielding than the US varieties and this seed is not recommended. 'Cascade' (France), 'Granger', 'Mackinaw' (IA naturalized), and 'Kalo' (France) are principal cultivars in the west. Seed is readily available at commercial seedhouses.

Control

Please contact your local agricultural extension specialist or county weed specialist to learn what works best in your area and how to use it safely. Always read label and safety instructions for each control method. Trade names and control measures appear in this document only to provide specific information. USDA, NRCS does not guarantee or warranty the products and control methods named, and other products may be equally effective.

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For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

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