

## DILLENIUS' TICKTREFOIL *Desmodium glabellum* (Michx.)DC.

Plant symbol = DEGL4

Contributed by: USDA NRCS Rose Lake Plant Materials Center.



David G. Smith, copyright 1997-2009  
[www.delawarewildflowers.org](http://www.delawarewildflowers.org)

### Alternate Names

Panicle ticktrefoil, perplexed ticktrefoil, tall tick clover, Dillen's ticktrefoil (Connecticut), smooth ticktrefoil.

### Uses

Dillenius' ticktrefoil attracts birds and is a grazing and browsing plant for livestock and mammalian wildlife. Dillenius' ticktrefoil enriches the soil through nitrogen fixation (Hilty, 2013). Long-tongued bumblebees (*Bombus pensylvanica*) collect pollen from the flowers. Other long tongued bee pollinators include leaf-cutting bees (*Megachile brevis brevis*, *Megachile mendica*, and *Megachile petulans*), and digger bees (*Melissodes bimaculata bimaculata*). The seeds of the Dillenius' ticktrefoil are eaten by upland game birds, small rodents, wild turkey, rabbits, groundhogs and livestock. It is also an excellent deer browse (Hilty, 2013).

### Status

Dillenius' ticktrefoil is considered a species of concern on the list of threatened, endangered, or species of concern plants in Connecticut, due to its low population in the State (CT Dept. of Env. Prot., 1988).

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 value.)

### Description

Dillenius' ticktrefoil is a member of the pea family. This native perennial forb grows between 2 ½ to 5 feet in height. The leaves are alternate, composed of three entire leaflets. The leaflets are about 1 ½ - 3 ½ inches long and about half as wide. The petioles of the compound leaves are about ½ - 1 ½ inches in length. They are egg shaped with little or no point. Its tiny flowers are pink or purple and irregular in shape. These flowers have a typical structure for members of the bean family. The flowers turn light blue when spent. Bloom time is from mid-summer to early fall and lasts about a month. Seeds form in seed pods (flat loments) that are about ¾ - 1 ½ inches long. Each seed pod consists of 2 - 5 rounded segments with a single seed in each segment. Long tongued bees are the primary pollinators (Hilty, 2013). The seed pods are covered with tiny hooked hairs that enable them to stick to the fur of passing animals and the fabric of humans, thus providing a mechanism for dispersal (USDA, 1961).

*Distribution:* Its range is from New York to Iowa and from Florida to Texas. It is common throughout the Midwest States (USDA, 2013).

For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

### Adaptation

Dillenius' ticktrefoil prefers partial sun and dry to slightly dry conditions. It usually grows in soil that contains loam, clay-loam, or some kinds of rocky material. Its habitats include savannas, rocky upland forest, edges of wooded areas, thickets, and limestone glades (Hilty, 2013).

### Establishment

A clean, firm seedbed is essential for establishing Dillenius' ticktrefoil. A good seedbed can be prepared by disking and harrowing, following by cultipacking. Planting into no-till conditions can be effective provided weeds are controlled and residue is managed prior to

planting. Good seed-to-soil contact is important for germination and establishment (USDA, 2008).

The seedbed should be firm enough to allow the seed to be planted ¼ to ½ inch deep. Cultipacker seeders and band seeders followed by press wheels or a cultipacker help ensure shallow seed placement and good seed-to-soil contact. Apply phosphorus and potassium fertilizer only as recommended by a soil test (USDA, 2008). Nitrogen fertilizer is not recommended since ticktrefoil species fix nitrogen from the atmosphere.

Inoculating seeds with *Rhizobium* before planting is recommended. Consult inoculant supplier for recommendations on specific *Rhizobium* strains for Dillenius' tick-trefoil (Shockley et al., 2011).

Seeding rates for Dillenius' ticktrefoil should be as part of a wildflower, legume, and grass mix developed to meet the objective of the planting. Seed can be planted in the spring or early fall. Early Fall seeding may be preferable for longer establishment period to potentially hot and dry summer conditions. If fall planting is not possible due to weather, store seed dry at 34 – 36° F and plant in the spring.

#### **Management**

Reduce weed competition by mowing at a height that will not affect the tick-trefoil seedlings. For grassy weed control use a grass herbicide and follow label recommendation, as weed control will encourage a good stand. Note: Some herbicide products may not be registered on this legume species in your state.

#### **Pests and Potential Problems**

Japanese beetle adults feed on flowers and leaves. White mold has been observed on some *Desmodium* species (Observations at the Rose Lake Plant Materials Center, East Lansing, Michigan).

#### **Environmental Concerns**

None at this time.

#### **Seeds and Plant Production**

Dillenius' ticktrefoil produces seed annually. Protection from deer browse may be needed to ensure seed production. Seed pods stay attached to the stem late into the fall, so shattering loss is not a big concern. Harvest seeds by hand or with a combine harvester when seed pods and stems are brown and dry. A plant desiccant may be used to aid plant dry down. Seeds may or may not separate from the seed pod during harvest. Seeds can be separated from the pod using a brush separator, hammer mill, or similar equipment. Seed can be further cleaned using a fanning mill (Observations at the Rose Lake Plant Materials Center, East Lansing, Michigan).

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

Alcona Germplasm Dillenius' ticktrefoil is a tested class release from the Rose Lake Plant Materials Center in East Lansing, Michigan. It was collected from native stands in Alcona County, Michigan and released in 2006.

Marion Germplasm Dillenius' ticktrefoil is a selected class release from the Rose Lake Plant Materials Center in East Lansing, Michigan. It was collected from native stands in Marion County, Illinois and released in 2009.

#### **References**

- Connecticut Department of Environmental Protection. 1988. Endangered, threatened, and special concern plants. State of Connecticut. [www.ct.gov/deep/cwp/view.asp?a=2702&q=323482&depNav\\_GID=1628](http://www.ct.gov/deep/cwp/view.asp?a=2702&q=323482&depNav_GID=1628). Verified 2/22/2013.
- Hilty, J. Editor. 2013. Perplexing Tick Trefoil (*Desmodium perplexum*). World Wide Web electronic publication. [Illinoiswildflowers.info/savanna/plants/perplexing\\_ttrefoil.htm](http://Illinoiswildflowers.info/savanna/plants/perplexing_ttrefoil.htm). Verified 2/22/2013.
- USDA. 1961. Seeds. The Yearbook of Agriculture. U.S. Printing Office. Washington, DC. 591 pp.
- Shockley, F. W., R. L. McGraw, and H. E. Garret. 2011. Growth and Nutrient Concentrations of two Native Forage Legumes with Rhizobium and Mycorrhiza in Missouri, USA. *Agroforestry Systems* 60:137-142.
- USDA-NRCS. 2008. Conservation Practice Standard 327 – Conservation Cover. NRCS-MI Field Operations Technical Guide.
- USDA-NRCS. 2013. PLANTS Database. [www.plants.usda.gov](http://www.plants.usda.gov). Verified 2/22/2013.

**Prepared By:** USDA-NRCS Rose Lake Plant Materials Center, East Lansing, Michigan.

#### **Citation**

Leif, J. 2013, Plant Guide for Dillenius' ticktrefoil (*Desmodium glabellum*). USDA-Natural Resources Conservation Service, East Lansing, Michigan. 48823.

Published March, 2013.

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

PLANTS is not responsible for the content or availability of other Web sites.