

White or Yellow Sweetclover *Melilotus officinalis*

Overview

Sweetclover is a biennial (sometimes annual) plant in the pea family. A native of Europe, it was introduced to North America as a forage crop and soil builder. It since has spread through the continent. It rapidly colonizes gravelly well-drained soils such as roadsides, waste areas, river banks and river bars.

Its ability to grow rapidly and fix nitrogen made it a popular green manure crop. However, because of its prolific spread and possible negative ecological impact, it is not recommended for cultivation.

Infestations are found throughout the southern Yukon, along the Alaska, Haines, North Klondike, Robert Campbell, Top-of-the World highways and a few km up the Dempster Highway.

Sweetclover is abundantly growing in Northern BC and Alaska where it is a serious problem on waterways.

Sweetclover can be mowed or hand-pulled. This is best done before it goes to seed.



Sweetclover is likely Yukon's most invasive and problematic invasive species.

Identification

Flowers: Sweet-smelling. The numerous flowers grow in long slender spike-like clusters. Flowering time is from June to September.

Stems: Sweetclover can grow 2 m tall but reaches usually less than 1 m. Stems are erect, freely branched above. It grows from a strong taproot. Stems are hairless or with sparse, very short hairs.

Leaves: The leaves are alternate on the stems. Each leaf is comprised of three leaflets. Margins are toothed.

Seed: The fruit is produced in pods, usually with 1 seed. Seeds are dispersed by water and wind. They are drought tolerant and winter hardy, but cannot withstand prolonged flooding.

One plant can produce 300,000 seeds that remain viable in the soil for more than 30 years.



*Plant with mature seeds.
Photo: B. Bennett*



Three leaflets with the middle one growing on a short stalk.

Similar Species

Seedlings are easily confused with **milk-vetch** (*Astragalus* spp.), **alfalfa** (*Medicago* spp.) and **clover** (*Trifolium* spp.) which can share the roadside habitat with sweetclover. The native milk-vetch has compound leaves with 8-11 pairs of leaflets. Alfalfa and clover are introduced and weedy. Both species have three leaflets but flowers in round heads.

Ecological Impact

Sweetclover readily establishes in disturbed areas. It invades open areas, forest clearings and on river banks. It spreads from seedlings and can form large monospecific stands, overgrow and compete with desirable native species. Under optimum conditions, sweetclover can invade natural riverside gravel bars and displace native vegetation and wildlife habitats and cause problems for river recreation. It has the potential to alter sedimentation rates of river ecosystems and being a nitrogen-fixer can change soil chemistry.

Prevention

- Plants which have not yet developed seeds can be pulled and left on the ground where they will shrivel up and die.
- Plants with developed seeds (green) should be removed and put in a garbage bag after pulling and brought to the landfill where the bag should be buried as fast as possible.
- To minimize the risk of dispersing seed as you remove or transport the plant, put the flowers and seed heads into the bag head first. Removing plants with mature seeds may not be the best because of the potential of spreading the seeds.



Sweetclover often forms dense colonies. Photo: L. Freese



Sweetclover serves as a nectar source for honey bees.

Control

Mechanical: Plants should be pulled or cut before or when flowering. Repeated cutting or pulling throughout the season may be necessary. Plants can also be cut at ground level with brush loppers. Pulling or cutting will have to be repeated over a number of years to deplete the seed bank.

Chemical:

Sweetclover can be managed using mechanical controls and should not require chemical use.

Habitat

Sweetclover grows well in direct sunlight or in partial shade and is most frequently found in open, disturbed areas, along roads and in settlements.



Sweetclover plants along roads obstruct signage and general visibility and can enhance roadside grazing.

Photos: A. Altherr unless otherwise noted.

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