

White Sweet Clover

(*Melilotus albus*)

Best Management Practice Technical Document for Land Managers

March 2017

- DISCLAIMER -

The intent of this document is to relay specific information relating to invasive plant control practices that have been advised by leading professionals across Ontario. This document contains the most up-to-date research and knowledge available at the time of publication and reflects current provincial and federal legislation regarding pesticide usage. It is subject to change as legislation is updated or new research findings emerge and is not intended to provide legal advice. The timing suggested will differ throughout Ontario and should be tailored to your region.

Use this document after you have performed monitoring, assessed your priority areas and made sure that the control options listed in this document are allowed and appropriate on your site. For more information, please refer to the Ontario Invasive Plant Council's Best Management Practices document for white sweet clover.

Strategy and Cautions

- Remove the outlying populations (isolated plants or satellite populations) first, to prevent further spread.
- Small populations (≤ 400 plants) can be removed manually.
- Large populations (> 400 plants) are most effectively controlled using a systemic herbicide.

Management of Small Populations (≤ 400 plants)

Pulling or digging works best for small infestations or in environmentally sensitive areas where herbicides cannot be used. Manual control should be performed before seed has set, but is easiest when the soil is wet and pliable. Hand cutting or brush cutting large populations is also an effective control method.

Management of Large Populations (> 400 plants)

A foliar application of a glyphosate-based herbicide is recommended for large populations. Pesticide drift may prohibit pesticide use near water.

Legal Considerations and Regulatory Tools for Chemical Control

Herbicides must be applied in accordance with the federal *Pest Control Products Act*, the Ontario *Pesticides Act*, Ontario Regulation 63/09 and in accordance with all label directions. Ensure you have the most current label and are aware of any re-evaluation decisions. The easiest way to find a chemical label is by using the PMRA's label search tool, which can be found by searching "PMRA label search" in any major search engine. Only licensed pesticide applicators are legally allowed to apply restricted pesticides in Ontario.

Ontario's *Cosmetic Pesticides Ban Act* prohibits the non-essential use of prescribed pesticides (Class 9) on land. Exceptions exist to allow the use of these herbicides for control of plants, such as white sweet clover, that are detrimental to the environment, economy, agriculture and/or human health. To qualify for these exceptions specific criteria must be met and appropriate ministry approval is required.



Table 1: Exceptions to the Ontario *Cosmetic Pesticides Ban Act* which may be applicable for control of white sweet clover.

Public health or safety:	Occasionally, white sweet clover can grow very tall along roadsides and obstruct traffic signs and visibility. It can also increase roadside grazing, which may be a concern for animal-vehicle collisions.
Forestry:	White sweet clover competes with native species and impacts reforestation/restoration efforts. This exception therefore applies to treed areas greater than 1 hectare.
Natural resource:	White sweet clover is a threat to endangered grassland and prairie habitats in Ontario. It degrades these areas by out-competing native species. It is allelopathic, meaning the roots release chemicals into the soil which can prevent the growth of native plants. For this reason, this exception applies.

For more information on these exceptions and applicable procedures, please refer to the Ontario Invasive Plant Council’s Best Management Practices document for white sweet clover.

Herbicide Selection and Application

Professionals consulted for this document recommend using a glyphosate-based herbicide. Herbicide needs to be applied annually until the seedbank is exhausted and/or other vegetation is sufficiently established.

Table 2: Chemical control techniques recommended by experts for white sweet clover.

Chemical Control Method	Chemical and Concentration	Timing and Application	Details
FOLIAR	Glyphosate (1.4% solution*).	Spring and summer. Must have growing leaves present to be effective.	For large populations.

*Based on a product containing 540 g/l of chemical. Please read the label in full before use to ensure that these recommendations meet the requirements of the herbicide you have selected.

Disposal

Do not compost viable plant material (fruit and seeds) at home or send to landfill. Even immature fruit can ripen on a pulled plant and produce viable seed. If your municipality has a high-heat compost program, plants can be sent there. Alternatively, solarize viable plant material by placing it in sealed black plastic bags and leaving them in direct sunlight for 1-3 weeks. Alternatively, place in yard waste bags, cover with a dark-coloured tarp and leave in the sun for 1-3 weeks.

Rehabilitation and Monitoring

White sweet clover invades disturbed areas so immediate rehabilitation of the area is vital for control. As white sweet clover changes the soil chemistry by adding nitrogen to the soil, soil rehabilitation may be necessary. Follow-up monitoring and removal of new growth is crucial for the following 5 years.