

# Wild Parsnip

(*Pastinaca sativa*)

## 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 wild parsnip.

## Strategy and Cautions

- Wild parsnip reproduces only via seeds, making seed reduction and prevention an important factor in control.
- Remove the outlying populations (isolated plants or satellite populations) first to prevent further spread.
- Small populations ( $\leq 400$  plants) can be removed manually.
- Large populations ( $> 400$  plants) are most effectively controlled using a systemic herbicide.
- Motorized tools (whipper snipper, mowers, etc.) are not effective long term control, but can prevent seed production. These techniques may create greater risk of sap exposure to operators and to anyone/anything walking through the site.

**SAFETY WARNING:** Wild parsnip sap contains furanocoumarins, phototoxic (reacts with UV light to create a toxin) compounds which may cause phytophotodermatitis, 2<sup>nd</sup> degree burns, permanent scarring and/or eye damage. Extreme caution and protective clothing is essential when working with this species. Wear waterproof gloves, long sleeve shirts, pants and eye protection (or face shield when working with plants at or above chest height). See the Ontario Invasive Plant Council's Best Management Practices document for wild parsnip for details.

### Management of Small Populations ( $\leq 400$ plants)

Digging or pulling is the most effective method for controlling small populations or in environmentally sensitive areas where herbicides cannot be used. The average plant can be pulled out like a carrot. For larger or more difficult plants, use a hoe or shovel to sever the taproot 3-5 cm below the soil line. Removal is easiest after a rain when soil is soft, or in times of drought when the taproot shrinks. Spring is best, when the taproot is at the beginning of its growing season.

### Management of Large Populations ( $> 400$ plants)

Using a glyphosate-based herbicide is the most effective form of control for large populations. If a plant is flowering, herbicides are not effective and control methods should focus on carefully removing the flower heads. Herbicide treatments need to be repeated annually until the seedbank is depleted. 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 wild parsnip, 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 wild parsnip.

<b>Public health or safety:</b>	The sap of wild parsnip poses a hazard to human health.
<b>Agricultural:</b>	Wild parsnip can reduce the quality of some agricultural forage crops and is listed as a Noxious Weed under the <i>Weed Control Act</i> .
<b>Natural resource:</b>	Wild parsnip can negatively impact the environment, reduces biodiversity and degrades the quality of wetland and riparian habitats.

For more information on these exceptions and applicable procedures, please refer to the Ontario Invasive Plant Council's Best Management Practices document for wild parsnip.

## Herbicide Selection and Application

Professionals consulted for this document recommend using a glyphosate-based herbicide. Glyphosate is a broad spectrum, non-selective systemic herbicide which is translocated throughout an actively growing plant. 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 wild parsnip.

Chemical Control Method	Chemical and Concentration	Timing and Application	Details
<b>FOLIAR</b>	Glyphosate (1 - 5% solution*).	Late April / early May. Follow with summer application for missed plants or those that may have re-grown.	Not effective if a plant is flowering.
	Aminopyralid/metsulfuron mix (0.14 – 0.23 g/l solution**) plus surfactant.	Apply before bud stage or early flowering.	Must have growing leaves present.
<b>WICK OR WIPE</b>	Glyphosate (22% solution*).	Spring to fall.	Must have growing leaves present.

\*Based on a product containing 540 g/l of chemical. \*\*Based on a product with 53/10% mix 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 (seeds and roots) at home or send to landfill. Burning is not recommended, as it is unknown if smoke as an exposure route is a problem. If your municipality has a high-heat compost program, plants can be sent there. Alternatively, solarize viable plant material by placing it in 3.0 MIL gauge black plastic bags, seal the bags tightly and leave them in direct sunlight for about 1-3 weeks. **Note:** Using weaker, thinner bags will increase the chance of tearing and exposure to sap.

## Rehabilitation and Monitoring

Wild parsnip invades disturbed areas so immediate rehabilitation of the area is vital for control. Control is much more successful when heavily infested areas, often with seed-saturated soil, are re-planted with native tree and plant species that are able to out-compete new growth. See the Ontario Invasive Plant Council's Best Management Practices document for more details. Follow-up monitoring and removal of new growth is crucial for the next 3 to 5 years, until the seedbank is depleted.