

Wild Parsnip: A Public Health Perspective



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May 17, 2016

Leeds, Grenville & Lanark District

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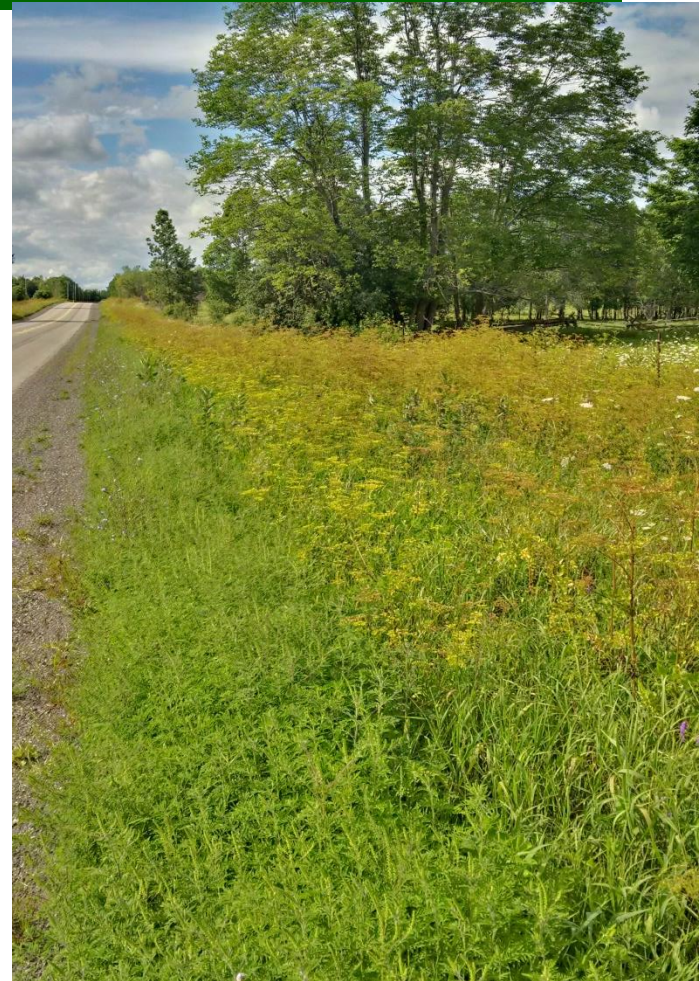
Purpose of Presentation

- To discuss:
 - Is there a public health risk from wild parsnip in roadside ditches?
 - Is there a public health risk from the herbicide (Clearview) used in spraying roadside ditches to control wild parsnip and other noxious weeds?



Know the plant: wild parsnip

- Found in disturbed areas
 - Most commonly found in railway embankments, roadsides, trails, shorelines, ditches, forest clearings, quarries
 - Ontario – along fence rows, edge of agricultural fields, water courses and drainage areas
 - Can invade agricultural fields



Know the plant: wild parsnip

- Grows for two years then flowers and produces a fruit containing thousands of seeds then dies
- Seeds mature by mid-summer
- Remain attached to dead stock with seed dispersal between August and November



Know the plant: wild parsnip

- Seeds can remain in soil for 5 years.
- Reproduce by seeds, majority germinate in the spring, plants found grow year after year to same place



Know the sap

- Sap on stem, leaves and flowers contains furocoumarins.
 - Furocoumarins are absorbed by skin
 - Sap most potent when plant is in flower
 - Moisture (e.g. Perspiration) speeds absorption
 - Animals may bring sap from plant into contact with people.



Know the sap

- Sunlight (UV radiation) interacts with furocoumarins under skin
 - Purplish skin discolouration (few hours)
 - Red painful rash within one day
 - Inflammation and blisters to skin within 3 days
 - Risk of long lasting scars, temporary or permanent blindness



Photo credit: Andrew Link, Winona Daily News, 2013



Know What to Do

- If skin is exposed to sap, wash area with soap and water as soon as possible
- Protect area from sun exposure immediately
- Watch for symptoms
- Cover area with a cool wet cloth and keep covered when in sun.
- Seek medical care if blisters form, do not burst them



Prevention of burns from wild parsnip

- Public education – avoid contact, what to do
- Health care provider education – recognize and treat burn
- Control of wild parsnip
 - Private property management
 - Public property management
 - Reducing the spread through ditches



Education

- Information on public health unit website www.healthunit.org/hazards/dangerousweeds.html
- Information sent to families via schools and daycares re dangerous weeds: Giant Hogweed and Wild Parsnip with tips to avoid burns
- Newsletter to health care providers
- Distributed fact sheets to municipal workers
- Presentations to community groups
- Distribute fact sheet to public upon request



Know What to Do

CAUTION! POISONOUS PLANTS

GIANT HOGWEED

Poisonous: Yes, do not touch this plant.

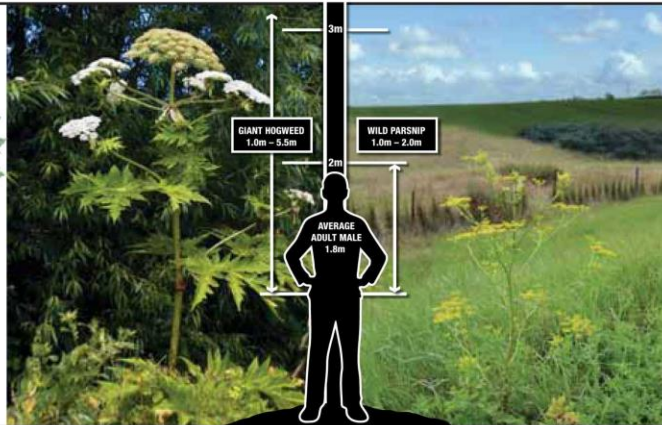
Height: 1 to 5.5 metres.

Leaves: Large, deeply cut with sharp coarse teeth, reaching widths in excess of 1 metre.

Stems: Covered in coarse, whisker-like hairs with red/purple spots.

Flowers: White, umbrella shaped, up to 1.2 metres across.

CAUTION: If you come in contact with this plant, you could experience severe burns to your skin. Contact with eyes can cause temporary or permanent blindness.



WILD PARSNIP

Poisonous: Yes, do not touch this plant.

Height: 1 to 2 metres.

Leaves: Pinnately compound with 2-5 pairs of opposite, sharply toothed leaflets.

Stems: Completely smooth and reddish/green in colour.

Flowers: Yellow, umbrella shaped, 10-20 cm across. Similar in appearance to dill.



CAUTION: If you come in contact with this plant, you could experience severe burns to your skin. Contact with eyes can cause temporary or permanent blindness.



HOW DO I PROTECT MYSELF?

WHEN WORKING NEAR THESE PLANTS:

- Wear goggles, rubber gloves, rubber boots and Tyvek coveralls
- Make sure to bring a bucket, soap, water and a scrub brush, and thoroughly wash rubber boots and gloves before taking off all of your protective clothing

IF I COME INTO CONTACT WITH THESE PLANTS:

- Seek immediate shelter (exposure to sap makes human skin hypersensitive to sunlight)
- Thoroughly wash exposed skin with soap and water
- If skin reacts, seek medical attention

STILL UNSURE?

Take a photo and submit it along with its location to the online weed identification service at www.weedinfo.ca



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Control of Wild Parsnip

- Mowing over repeated seasons (May – June)
- Removal by shovel
- Tarping
- Chemical control

From: Wild Parsnip – Best Management Practices in Ontario (Ontario Invasive Plant Council)



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Ontario Weed Act

- The intent of the Weed Control Act is to reduce:
 - The infestation of noxious weeds that negatively impact on agriculture and horticulture lands.
 - Plant diseases by eliminating plant disease hosts such as common barberry and European buckthorn.
 - Health hazards to livestock and agricultural workers caused by poisonous plants.
- Effective January 1, 2015, wild parsnip added to the Schedule of Noxious Weeds

Use of herbicides: Clearview

- Registered in Canada by Health Canada's Pesticide Management Regulatory Agency (PMRA)
 - Approved for control of broadleaved weeds and woody plants in roadside, rights of way and other non-crop use areas.
- **Is there a public health risk from the use of Clearview to control noxious weeds in ditches?**
 - Product Material Safety Data Sheet (MSDS)
 - Reports from US EAP, European Food Safety Authority
 - Report from Public Health Ontario
 - Opinion from Canadian Association of Physicians for the Environment (CAPE) and reviewed website



Impact of Clearview on plant

- Absorbed by plant leaves and roots and then moves through plant causing it to die
- Very low acute and chronic toxicity to most non-plant based species
- Does not bio-accumulate in the environment
- When ingested by animals, humans it is rapidly excreted in urine unchanged.
- Cattle and wildlife do not metabolize it so no grazing restrictions

Clearview Ingredients

Active

- Aminopyralid Potassium
- Metsulfuron-methyl

Non-Active

- Titanium Dioxide



Aminopyralid Potassium: Human Health Effects

- Not readily metabolized in humans
 - 74-100% of orally ingested excreted with 24 hours, mostly unchanged.
- Acute exposure has very low toxicity if individuals accidentally eat, touch or inhale residues
- Animals studies
 - Chronic doses linked to decreased body weight and inflamed mucous membranes including stomach, ileum, caecum.
 - Acute effect - eye irritation but no skin sensitization or reproductive effects
 - Estimate human exposures of greater than 5,000 mg/kg before adverse health would occur.
- No cancer risk – no tumours in rats and mice
- No human risk from food and ground water contamination under current conditions of use
 - Estimate of chronic dietary exposure from food and water is 0.3 to 1% of acceptable dietary intake



Note re Agriculture

- Little if any risk if contaminated groundwater is used to water crops as concentration is so low.
- Reports of crop damage e.g. UK potatoes
 - From farmyard manure where animals had been fed silage or hay that had been harvested from grassland previously treated with aminopyralid
 - Aminopyralid does not break down in anaerobic conditions like manure piles so persists in manure.



Metsulfuron-methyl: Health Effects

- Exposures uncommon, some in agricultural settings
 - Evaluated eating drift contaminated garden vegetables, berries – no health risk identified
- Rapidly eliminated from the body
 - 71-95% excreted in urine within 9 to 29 hours
- Severe toxicity only after deliberate ingestion
- Chronic doses – decreased appetite and weight loss
- Animal studies – moderate skin and eye irritation, lower growth and off-spring deaths at high doses
 - Average adult can ingest 17.5 mg/day over lifetime without risk
- No cancer risk

Titanium Dioxide

- Concentration of 0.1%
- Animal studies (rats) – inhalation led to lung fibrosis and tumours
- Human studies – no increase risk of chronic lung disease or lung cancer among workers
- No expected risk with spraying
 - Very low levels present in product along with low drift of product



CAPE Response

“Bottom line that I take from an albeit brief search is that human health concerns appear to be unlikely, (caveat - pesticide risk is rarely based on anywhere near complete information) and for roadside use it makes sense for people with livestock to avoid gathering any cuttings and or allowing horses, to graze on roadsides, to avoid contamination of their manure piles, assuming they would in turn use the composited manure for gardens.”

(Kathleen Cooper, Senior Researcher and Paralegal,
Canadian Environmental Law Association)

County Controlled Spraying

- Chemical diluted so small amount spread over ditch area
- Follow Material Safety Data Sheet precautions
 - Certified company
- Public notification
 - Option to request no spraying by property
- Buffer between roadside spraying and freshwater habitat
- Low vapour pressure so little drift once it is on plants
- Lanark – pilot 2015
- Leeds-Grenville –spraying in 2014 and 2015.

Summary

- There is a human public health risk of severe burns from exposure to the sap of wild parsnip.
- There is no research evidence of a health risk to humans with controlled spraying of roadside ditches with Clearview (or Truvist).
- Precautionary Principle: do not walk through freshly sprayed vegetation, avoid ingesting food or water in newly sprayed areas.



Visit our website:
www.healthunit.org

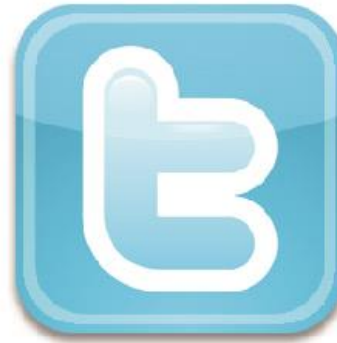
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