envu™ Vegetation Management

Wild parsnip

The problem

Wild parsnip (*Pastinaca sativa*) is a poisonous invasive weed that has invaded roadsides, power lines, pipelines, and other non-crop lands in various areas throughout North America. Native to Europe and Asia, the plant is now in all Canadian provinces other than Nunavut and is ubiquitous within disturbed areas where it can form dense extensive stands.

Wild parsnip is a member of the carrot/parsley family and, like other members of the carrot family such as giant hogweed (*Heracleum mantegazzianum*), produces a chemical substance that can cause a painful blistering reaction when affected skin is exposed to sunlight. Furthermore, if the sap of the wild parsnip comes in contact with the eyes severe burning and, in some extreme cases, blindness can occur. With mature dense stands being able to grow up to 200 cm, people walking through wild parsnip can get exposed to the plant's toxins on their legs, arms, and backs. Its presence creates problems for workers, recreationists, and the general public alike.

What to look for

Wild parsnip grows as a biennial or short-lived perennial that dies once it flowers. It has a deep, thick tap root that can grow up to 1.5 m deep, allowing it to reach deep water. As opposed to most biennials, the wild parsnip root and crown must reach a critical size before the plant will flower, which can take up to five years. As a result, stands of wild parsnips contain a mixture of seedlings, vegetative rosettes, and flowering plants. Since the plant dies after flowering, control should focus on killing the rosettes and seedlings in addition to preventing further seed germination.

Eighty percent of the wild parsnip seed germinates within the first year. After the second season, the germination rate of any remaining seed falls off dramatically. Good post-emergent combined with pre-emergent control for two to three years is necessary for long-term control of this problem weed.

It is important to be able to identify wild parsnips, particularly seedlings, and rosettes. Seedlings have long, narrow cotyledons and a round, round-toothed first true leaf. Rosette leaves are compound with up to 15 leaflets, some of which may divide again to form leaflets. The leaflets are elliptic or elongated with toothed margins, some appearing to be mitten-shaped. In flowering plants, the erect stems are hollow between the nodes, grooved, and slightly hairy. The leaf petioles clasp the stems. Stem leaves grow progressively smaller until they form bracts around the flower clusters. The flower clusters are a tall, multi-branched compound umbel, with the florets having five small, yellow petals. The whole plant has a strong parsnip odour.

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Envu solutions

Post-emergent solutions

Applying Navius® FLEX to small parsnip plants – preferably when they are 10–15 cm tall – can improve control of established wild parsnip seedlings and rosettes. Additionally, Navius® FLEX can be used in preventing the emergence of new seedlings. If parsnip plants are taller than 15 cm, effective control requires complete spray coverage of the foliage. Use application equipment that gives the best coverage of all parsnip plants while minimizing spray drift. Remember, taller plants, railroad ties, guardrails, and other obstacles can shield or shadow smaller plants and limit contact with shorter parsnip plants. Since dense stands have seedlings and rosettes among the flowering plants, it may take a few years to get total control.

Persistent application period

For long-term control of this problem weed, two to three years of successful annual control in spring and/or fall may be necessary. After control, the establishment of competitive cover is important to prevent new infestations.

Cleaning equipment after herbicide application to a site, mowing, ditching, or any other work on infested sites will help to prevent linear spread down rights-of-way.

Wild parsnip flowering stalk.

Juvenile growth.

Wild parsnip leaf.

Dead fall stalk.

Application type	Solution	Rate	Application timing
Post-emergent selective weeding	Navius FLEX + 0.25% v/v non-ionic surfactant	167 g/ha	Spring emergence period (mid-May) – preferable before the wild parsnip grows to 10–15 cm in height Fall juvenile plant application period (September) – ensuring proper water volume for coverage of plant and that plants are actively growing

For more information about effective vegetation management, contact your Envu representative or visit ca.envu.com.

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