Dog-strangling Vine

(Cynanchum rossicum)

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 dog-strangling vine.

Strategy and Cautions

- Dog-strangling vine is regulated under Ontario's *Invasive Species Act* as a restricted species.
- Remove the outlying populations (isolated plants or satellite populations) first to prevent further spread.
- Small populations (≤400) are most effectively eradicated by digging up the entire root crown.
- Large populations (>400) are most effectively controlled using a systemic herbicide.
- Dog-strangling vine, once established, is extremely persistent and complete eradication may take several years.
- Follow-up is required to make sure seedlings do not germinate from the seed bank or re-sprout from missed rootstocks.
- The sap of this plant can cause an allergic reaction in some people. Wear gloves when handling it and wash exposed skin with liquid dishwashing detergent afterward.

Management of Small Populations (≤400)

Digging is the most effective means of eradication. Care must be taken to remove the entire root crown, as the plant will re-sprout from buds on the rootstock if not properly removed. Hand pulling is not recommended as the plant will send up multiple shoots from root fragments. If digging is not an option, then cut plants at ground level repeatedly to prevent seed production.

Management of Large Populations (>400)

Chemical control with a glyphosate-based or imazapyr-based herbicide is the most effective method for managing large populations. Unless otherwise indicated on the product label, plants should be treated after leaves are fully developed but before onset of flowering. Single treatments are insufficient for complete control. Two treatments are recommended for best results in year one, with annual follow-up treatments for 3 or more years, as required. 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 dog-strangling vine, 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.

Invasive Species Centre | Ontario Invasive Plant Council | EDRR | Ontario Trillium Foundation / Fondation Trillium de l'Ontario

Table 1: Exceptions to the Ontario *Cosmetic Pesticides Ban Act* which may be applicable for control of dog-strangling vine.

Forestry:	Dog-strangling vine negatively impacts managed woodlots, reforestation and forestry operations.
Agricultural:	Dog-strangling vine is increasingly abundant in agricultural fields and pasture lands, impacting agricultural operations. It is also listed as a Noxious Weed under the *Weeds Act*.
Natural resource:	Dog-strangling vine can have a negative impact on native biodiversity.

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

Herbicide Selection and Application

Professionals consulted for this document recommend using glyphosate-based or imazapyr-based herbicides. Both are broad spectrum, non-selective, systemic herbicides which are translocated throughout an actively growing plant. Herbicide needs to be applied annually until the seedbank is exhausted or other vegetation is sufficiently established.

Table 2: Chemical control techniques recommended by experts for dog-strangling vine.

Chemical Control Method	Chemical and Concentration	Timing and Application	Details
FOLIAR	Glyphosate (1.3% - 5% solution*).	From late May to seed pod development (usually late August / early September). For best results use 2 treatments per growing season (approx. 2 months apart).	Best for large patches / monocultures.
	Imazapyr (3% solution**).	Apply in early May. Subsequent applications in a growing year may be needed.	Best when applied to small, emerged and vigorously growing plants.
WICK	Glyphosate (22% solution*).	From mid-June to seed pod development (usually late August / early September).	Best for small patches and individual plants mixed with native species. Very labour intensive for areas >1 ha.

*Based on a product containing 540 g/l of chemical. **Based on a product containing 240 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 (seeds and roots) at home or send to landfill. If your municipality has a high-heat compost program, plants can be sent there. If flowers or seed pods have not formed, allow stems and roots to dry out completely before disposing of them. 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

Heavily infested areas should be rehabilitated after control to avoid colonization by other invasive plants. Dog-strangling vine may change the soil chemistry of the habitat. Rehabilitation of the soil may be necessary before planting. Consult the Ontario Invasive Plant Council's Best Management Practices document for more details.

It's recommended to monitor dog-strangling vine control sites for at least three years following management. Seedlings can quickly mature from established soil seed banks or adjacent source populations, making monitoring an important component of long term control.