Dog-strangling Vine

(Vincetoxicum rossicum)

Photo Credit: Stephen Smith

Best Management Practices Technical Document for Land Managers

May 2025

- DISCLAIMER -

This document conveys information recommended by leading professionals across Ontario. It contains the most up-to-date information available at the time of publication. It is not intended to provide legal advice. It is subject to change as new information emerges, tools and techniques evolve or as legislation or permitting requirements change. Tailor the timing of control to your region.

The prevention and early detection of dog-strangling vine is essential for an effective plant management strategy. Use this document after you have assessed your site(s) to help identify appropriate control options. An Integrated Pest Management approach is strongly encouraged - which involves using a combination of control tactics (e.g., herbicide application, cutting, and prescribed burns). For more information on the biology and life cycle of this invasive plant, please refer to the Ontario Invasive Plant Council's Best Management Practices document. Dog-strangling vine is regulated under Ontario's *Invasive Species Act* as a restricted species and is also listed as a Noxious Weed under the *Weed Control Act*. In addition to dog-strangling vine, Ontario has regulated black dog-strangling vine as restricted invasive species under the Invasive Species Act, 2015.

Strategy Overview and Cautions

- Remove the outlying populations (isolated plants or satellite populations) first to prevent further spread and treat smaller patches before they develop into larger patches.
- Dog-strangling vine, once established, is extremely persistent and complete eradication may take several years. As such, early detection and rapid response is essential.
- Small populations (≤50 stems) are most effectively eradicated by digging up the entire root crown. Care must be taken to remove the entire root system to prevent resprouting. Digging up the root crown is more effective than hand pulling.
- Small populations that occur in the full-sun can also be tarped in late spring. This involves cutting or mowing plants and covering the infestation with a plastic tarp that is opaque where no light can penetrate. Monitor the tarp edges for re-growth.
- Large populations (>50 stems) are most effectively controlled using a systemic herbicide.
- Follow-up is required to make sure seedlings do not germinate from the seed bank or re-sprout from missed rootstocks.

Caution: Some people may have an allergic reaction to the plant sap. Wear gloves when handling it and wash exposed skin with liquid dishwashing soap afterward. Make sure that boots, clothing, and all equipment is cleaned at the site to ensure seeds or root fragments are not transported from the site. See the Ontario Invasive Plant Council's Clean Equipment Protocol for more details.

Invasive Species Centre

ONTARIO INVASIVE PLANT COUNCIL

Photo Credit: Stephen Smith

Management of Small Populations (≤50 stems)

Digging is the most effective means of eradication for small populations. 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. If an infestation occurs in the full-sun, tarping can be an effective control measure. This involves mowing or cutting the plants to ground level and covering them with a tarp made from opaque dark material where no light can penetrate. This prevents photosynthesis. In addition, this method "cooks" the plants under the tarp which is also referred to as "solarization". This method is less effective in the shade.

Management of Large Populations (>50 stems)

When manual control is not an option, chemical control with a systemic 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 seed production. Single treatments are insufficient for complete control. Two to three treatments are recommended for best results in year one for established populations, with annual follow-up treatments for 3 or more years, as required. Drift may prohibit pesticide use near water.

Legislation and Permitting Requirements for Dog-strangling Vine Management

Depending on the location, timing of work, and the type of management activity proposed, permits, approvals or authorizations may be required from municipal, provincial, or federal agencies before dog-strangling vine control can be initiated. Land/vegetation managers are responsible for ensuring that any permits are obtained before proceeding. Additionally, if protected species or habitats are present, an assessment of the potential effects of the control project and authorization could be required. Depending on the species and its location, permit applications should be directed to the appropriate authorities.

The management of pesticides is a joint responsibility of the federal and provincial governments. The federal government's Pest Management Regulatory Agency (PMRA) is responsible for approving the registration of pesticides across Canada under the *Pest Control Products Act.* **The PCPA requires the user to ensure Canadian registered pest control products are being used according to the most up to date label requirements.** Ontario regulates the sale, use, storage, transportation and disposal of pesticides including issuing licenses and permits under Ontario's *Pesticides Act* and Ontario Regulation 63/09. Federally registered pesticide products are assigned one of four product class designations (i.e., Manufacturing, Restricted, Commercial or Domestic). The pesticide class determines who can sell or use the product and the restrictions placed on its use (e.g., requires a license and/or permit). All invasive species control programs require licensed exterminators to apply pesticides.

Note that dog-strangling vine is regulated as a restricted species under the Invasive Species Act, 2015. It is illegal to import, deposit, release, breed/grow, buy, sell, lease or trade this species in Ontario. It is also illegal to bring this species into a provincial park or conservation reserve and to possess, transport, deposit or release it in these protected areas. There are exceptions under the regulation for the deposit or release of a restricted invasive species for the purpose of control if reasonable precautions are taken to prevent its spread outside the immediate area where control is occurring.

The use of pesticides on land is subject to the Ontario Cosmetic Pesticides Ban. Unless they are certain biopesticides and low-risk pesticides on Ontario's "Allowable List", pesticides can only be used if they are permitted under an exception to the ban. Depending on the specifics of the extermination, invasive plant control may be permitted in accordance with exceptions for forestry, agriculture, public health and safety (e.g., plants poisonous to humans by touch and plants that affect public works and other buildings and structures) and compliance with other legislation (e.g., control of noxious weeds where required by the *Weed Control Act*). There is also an exception for the management, protection, establishment or restoration of a natural resource that may be considered if other exceptions do not apply. Ontario Regulation 63/09 specifies requirements for pesticide use under each exception and may include conditions such as a letter from the relevant Ministry (MNR or MECP) and/or others. The licensed exterminator can provide guidance on applicable extermination requirements. **For information on obtaining a license or a permit refer to Ministry of the Environment, Conservation and Parks website at** www.ontario.ca/page/pesticide-licences-and-permits.


Photo Credit: Stephen Smith

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

Note: Dog-strangling vine is regulated as a restricted invasive plant, under the *Invasive Species Act*. Prohibitions that apply to dog-strangling vine include import, deposit, release, breed/grow, buy/sell, lease or trade in Ontario. Under Section 22 of Ontario Regulation 354, there is an exception for deposit/release of restricted invasive plants to enable activities such as "control" to do so without an authorization from the Ministry, if reasonable precautions are taken to prevent the spread of the restricted invasive species outside the immediate area where the activity is taking place.

Forestry:	This plant negatively impacts managed woodlots, reforestation and forestry operations.
Agriculture:	This plant is increasingly abundant in agricultural fields and pasture lands, impacting agricultural operations. It is also listed as a Noxious Weed under the *Weed Control Act.*
Natural resource:	This plant 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 this species.

Herbicide Selection and Application

Pesticide applications can be an effective method for dog-strangling vine management when used as part of an integrated pest management program and in consideration of dog-strangling vine's biology and site-specific information. Pesticides must be applied in accordance with the federal *Pest Control Products Act*, Ontario's *Pesticides Act*, Ontario Regulation 63/09 and all label directions. Most invasive species control programs using a pesticide will require an appropriately licensed exterminator. The availability of pesticides to control dog-strangling vine may change over time, as may the label directions on how to use the pesticide so that it does not endanger human health or the environment.

Before using any pesticide, ensure you have the most current label. Pesticide labels can be accessed using the PMRA's label search tool, which can be found by searching "PMRA label search" in any major search engine. Always read and follow all directions on the label. The label is a legal document that must be followed exactly, including any applicable buffer zones. Using a pesticide to treat a species not listed on the label, or in a manner other than that specified on the label violates the *Pest Control Products Act* and may incur penalties.

Professionals consulted at the time this document was written, recommend using a systemic herbicide which is 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 for licensed professionals only for dog-strangling vine at the time this document was written.

Chemical Control Method	Chemical	Timing and Application
Foliar	Glyphosate	From late May to seed pod development (usually August to September). For best results use 2 - 3 treatments per growing season (approx. 2 months apart). Best for large monocultures.
	Imazapyr	Apply in early May. Subsequent applications in a growing year may be needed. Best when applied to small, emerged and vigorously growing plants. Caution must be taken when applying near desirable vegetation. Follow instructions on the label for directions of use, including specified buffer zones.


Photo Credit: Stephen Smith

Dog-strangling Vine Treatment Times

	J	F	M	A	M	J	J	A	S	O	N	D
Digging	J	F	M	A	M	J	J	A	S	O	N	D
Chemical (Foliar)	J	F	M	A	M	J	J	A	S	O	N	D

No Treatment Times
Optimal Treatment Times
Suboptimal Treatment Times
***Note: The above treatment times for herbicide application must consider weather conditions.**

Disposal

Do not compost viable plant material (fruits, seed pods and roots) at home or send to landfill. Dog-strangling vine can resprout from a small root fragment. Viable plant material must be solarized before disposal by placing it in sealed black plastic bags and leaving them in direct sunlight for 1 – 3 weeks. Plant material can be sent to large-scale municipal composting facilities where the compost pile reaches temperatures high enough to kill living plant material. Ontario composting facilities are required to routinely monitor the compost process and meet strict, provincially regulated time-temperature parameters for pathogen kill. Consult your local municipality to determine if this is an appropriate course of action. If flowers or seed pods have not formed, allow stems and roots to dry out completely before disposing of them. It is also important to safely dispose of any soil/sediment containing dog-strangling vine at an appropriate location to avoid further spread.

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 is recommended to monitor dog-strangling vine control sites for at least three years following management. Seedlings can quickly mature from established seed banks or adjacent source populations, making monitoring an important component of long-term control. Dog-strangling vine can re-establish via plants that were missed in the previous years treatment, suppressed or shaded by larger plants or have grown from new seed that came into the area. Thus, monitoring is an important component for long-term control.