Controlling Giant Hogweed

NEW YORK STATE | Department of Environmental Conservation

Giant hogweed is an invasive plant that can cause painful skin burns and can also displace native plants and cause significant soil erosion. If giant hogweed is a menace on your property, read on for information about how to get rid of these harmful plants. For information on identifying giant hogweed, visit on.ny.gov/gianthogweed.

Understanding Giant Hogweed Growth

Giant hogweed plants are monocarpic perennials, meaning they regrow year after year until they flower and die. They begin growing in early spring and dieback in late summer/early fall. They start as rosettes (clusters of leaves) that regrow larger each year until they mature and put out their towering flower stalk. Mature plants flower in June and July and set seed in August. Most giant hogweed plants die after setting seed; however, flowering plants that are damaged or cut above the root before they set seed may regrow the following year.

Seedlings

Immature hogweed plants (rosettes)

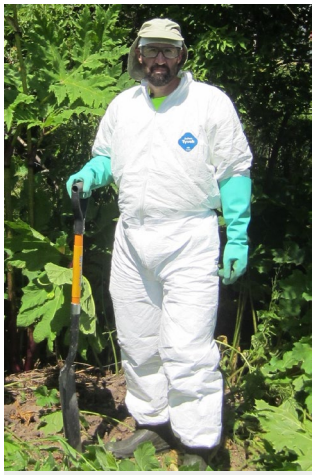
Mature flowering plants

An average plant produces 20,000 seeds, but some have reportedly produced more than 100,000. Most seeds (95%) are found within the top 2 inches of soil. Seeds can be dispersed short distances by wind, but can travel longer distances by water or when people dispose of seed heads improperly, transport seed-laden soil during construction, and mow along roadsides. Depending on soil conditions and the number of years seeds were produced, the seed bank may remain viable for up to 15 years.

Take Precautions

Giant hogweed sap causes phytophotodermatitis, meaning skin that's exposed to the sap and then to sunlight can be severely burned due to chemicals that increase skin sensitivity to ultraviolet light. Individual reactions depend on a person's sensitivity, but painful blisters can develop within 48 hours of exposure and scars from these blisters can last for years. The affected area often develops long-term sensitivity to sunlight. Take the following precautions while controlling giant hogweed to help protect your skin and eyes and to prevent serious injury:

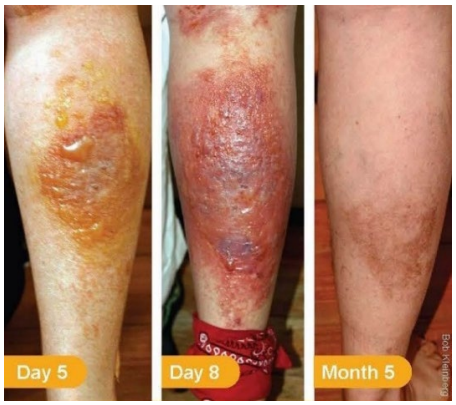
- Do not touch the plant with bare skin. The photosensitizing chemicals are present in all parts of the plant and burns can result from even lightly brushing against the foliage, stem, flower, or seed.
- Apply sunblock and wear long, thick waterproof gloves; long sleeves; pants; boots; and eye protection when working near or with giant hogweed.
- Keep water, soap, and eyewash near your work area in case of exposure to sap.



When possible, wear synthetic water-resistant materials (e.g., a rain suit or TyvekTM suit, rubber boots, and dishwashing gloves).

- Maintain distance from others when controlling giant hogweed as sap can splash three to four feet when plants are cut or damaged. To avoid increased exposure to sap, do not use a Weedwacker or brush cutter.
- When removing contaminated protective gear and work clothes, take care not to touch your skin.
- Wash equipment with soap and water and launder work clothes.
- If you cannot shower immediately after performing control activities, wash as best as you can on site and take a full shower as soon as possible, then limit your exposure to sunlight for the rest of the day.
- Additional precautions that can help protect against burns: wearing a face shield to protect against touching your face with sap-covered gloves and working after sunset or when the work area is shaded to limit sun exposure.

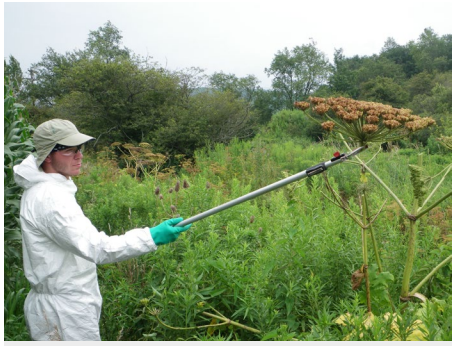
If you are exposed to sap, immediately wash the affected area thoroughly with soap and water. Keep the exposed area away from sunlight for at least 48 hours. If a reaction occurs, topical steroids applied early can reduce severity and ease discomfort. The affected skin will be extra sensitive to the sun until the reaction completely clears, so it's best to prevent sun exposure as much as possible until the area fully heals. If sap goes into your eyes, rinse them with water, put on sunglasses, and seek emergency medical care. Follow up with a physician if you have a reaction or have any questions. While a reaction to hogweed sap can be painful, it's unlikely to cause permanent scarring with proper medical treatment.



Control Methods

Recommendations for control vary based on the type of habitat, stage of plant growth, and size of the site. In some cases, it's best to use a combination of methods over time (e.g., using herbicide for a large site until it's small enough to be managed manually). Regardless of which control method is used, the key is to eliminate new seeds from being introduced. With no influx of seeds and persistent control efforts, giant hogweed can be eradicated at most sites.

Control Tips



Preventing new seeds from being introduced is a top priority for controlling giant hogweed infestations.

- Most of these control methods are best used during spring (late April to early June) while the plants are smaller or before they flower.
- Repeat control activities each year until no plants are found, then monitor the site for the next three years and every few years after that to make sure the seed bank has been exhausted.
- Clean all equipment on site after control activities to prevent from accidentally spreading seeds.
- Start managing an infestation from the outside edge and move inward, especially along waterways, roads, railroads, and other areas where seed can be easily spread. Additionally, for waterways, start upstream and work your way down.
- Coordinate with neighboring landowners and those that are upstream from you to help prevent new seeds from reinfesting your property.
- Don't wait! The longer an infestation is left to grow, the more established it becomes and the harder it is to remove.

Manual and Mechanical Control

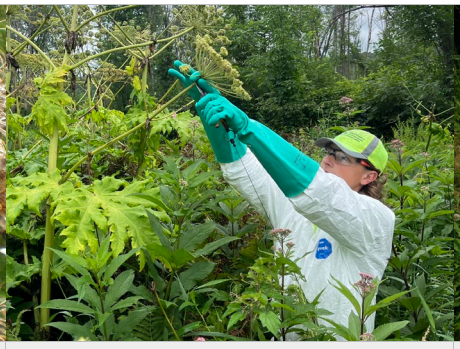
- **Umbel (flower/seed head) removal—most important for preventing new seed**

  When following umbel removal with other control methods, the umbels can be removed while in flower. **If this is your only control method, then timing is crucial.** Cut the umbel after all of the white flowers have fallen, but ideally before the seeds have dried out. If cut too early, new flowers will form on lower

branches and/or the plant may grow back the following year. If cut too late, dried seeds readily fall off, adding to the seed bank. Revisit the site after a couple of weeks to check for new umbels.

A cut-and-hold long-reach pruner is the ideal tool for this method, but any sharp cutting tool long enough to avoid direct contact with the plant will do. Seeds can mature on cut umbels, so proper disposal is essential. Carefully place them in heavy-duty trash bags and seal the bags tightly. Consider double bagging in case there is sap on the outside of the bag and to guard against puncture holes.

When removing dried umbels, take extra precautions to prevent scattering seeds.



If using a short pruner, your other gloved hand can help block any splash from the sap.

If possible, place bags in a sunny location for a week or more to destroy seed viability through solarization, then throw the bags in the garbage.

- **Cut or dig up roots—ideal for single plants or small infestations**

  Cut the root below ground level using a spade with a sharp blade. Make sure the cut is below the thick stem base bearing old leaf scars (depth will vary depending on plant age—usually 2–6 inches below ground; plants on slopes may be deeper—up to 10 inches) and remove the upper portion from the soil. If the plant regrows, cut the root again. Cut plants can be left on site to decompose. Leave their bases tipped up off the soil to guard against resprouting. If you choose to move plant material off-site, use extra caution to avoid sap from cut stems and roots. For best results, revisit the site periodically throughout the season to control any regrowth or missed plants (especially in July and August when flowering plants are easy to spot).

- **Hand pull—ideal for young plants (late April–early May)**

  This is easiest to do when the soil is loose and moist. The stems are not woody and will break easily, so it's best to pull them gently to ensure full root removal. Using a trowel or other small hand tool may help ease them out of the soil. Pulling won't work for mature plants because their taproots are too large.

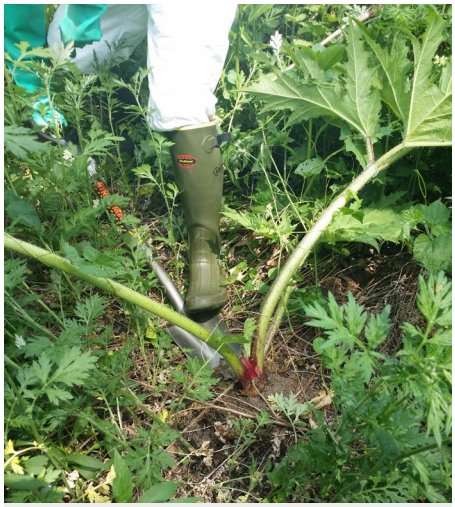
- **Cut and cover—effective for smaller areas**

  When done correctly, this method prevents plants from regrowing and seedlings from emerging. Cut plants down to ground level and cover the soil with black plastic. You can also cover a known infested area before the plants start growing in the spring. Check periodically to make sure plants aren't poking through the black plastic. After a few years, the black plastic can be removed, and the area can be replanted with native or noninvasive plants.

- **Bury plants and seeds using a skid loader**

  Use a skid loader to turn the infested area upside down and you'll smother and compost most of the plants and seeds. Bury the topsoil to a minimum depth of 20 inches and cover it with clean soil to prevent the emergence of new giant hogweed plants.

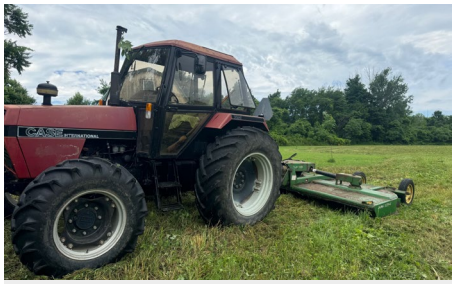
Cut here, below the thick stem base.



Cutting or digging up roots is labor intensive but will typically kill the plant after one treatment.

- **Mowing**

  If this is the only option available to you, be aware that plants must be mowed at least three times per growing season for several years to be successful. In the beginning, plants will typically grow back within a couple weeks of being cut. Start when plants are small and continue mowing throughout the season, but never mow plants that have gone to flower/seed without removing the umbels first.



An enclosed cab is a safer option to protect against sap exposure while mowing.

- **Plowing**

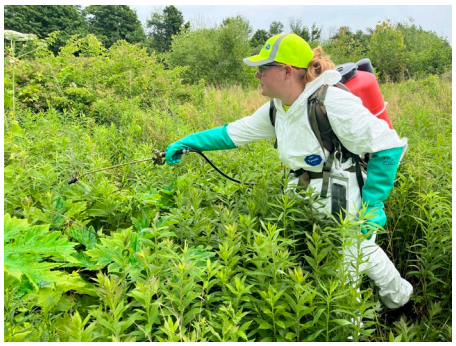
  This method generally cuts up and unearths the roots, but there are a few things that can make it more effective:

  - Large roots unearthed by plowing can be removed to prevent regrowth.
  - Deep plowing (deeper than eight inches) will significantly reduce seed germination since the upper soil layer is buried and most seeds are within the top two inches.
  - When plowing is done in the fall, frost and freezing temperatures over the winter help degrade the root stock.
  - Mowing or chemically controlling the infestation at least three weeks before plowing decreases the likelihood of plants regrowing.

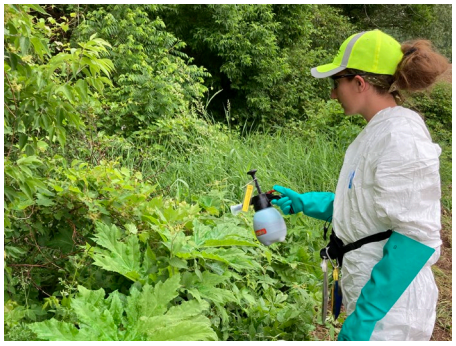
Herbicide Control—for single plant to large infestations

Herbicides can be used effectively for single plants or large stands. There are several herbicides available that are approved for treating giant hogweed in New York State. Consider hiring a certified pesticide applicator to ensure herbicides are properly and successfully applied. When controlling giant hogweed with herbicide, please consider the following:

- Two of the more common active ingredients found in herbicides used for giant hogweed are glyphosate and triclopyr. Both are very effective. Glyphosate is nonselective and kills any vegetation it contacts, while triclopyr selectively kills broad-leafed plants (not grasses), so treated areas can regrow with other vegetation faster when using this option.



- Instructions on the labels should be followed exactly—there is no advantage to using a higher dose.
- While applying herbicides, there should be little to no wind and weather conditions should be dry with no rain forecasted for that day. Plant leaves should be dry from rain or dew prior to spraying.



- Leaves should be thoroughly covered—but not dripping—with herbicide and dye can be added to the herbicide to show which plants have already been sprayed.
- Herbicide may be applied throughout the growing season, but the best time is early to mid-May when the largest plants are approximately knee-high. When treating in July or August, remove any flower heads before spraying to prevent seeds from developing while the chemicals take effect.
- Follow-up treatments may be needed for any regrowth or missed plants. It may take one to two weeks for plants to start dying, so plants that are still green after three weeks should be resprayed.
- When treating late in the growing season, only apply herbicide to plants that are entirely green and not dying back. The herbicide needs enough time to get pulled into the root and take effect, so treatments typically shouldn't be done past late September.
- Removal of dead plants is not necessary, but if you want to clean up the area, leave the plants in place until they are completely dead so the herbicide has time to kill the root.
- As with other control methods, herbicide treatments must be repeated for multiple years to be successful in eradicating giant hogweed.

Animal Control (Grazing)

Grazing by livestock, usually sheep, is very efficient for controlling large stands. Livestock prefer young giant hogweed plants, so it's best to start early in the growing season. Choose livestock that are hairy and have darker skin; these features help them resist the negative effects of the sap. There should be 8–12 animals for every acre to start, which should be adjusted as needed to avoid overgrazing a site. Animals that show skin inflammation or blistering must be removed from the field temporarily and all livestock should be monitored by a veterinarian. A single mowing of dense giant hogweed stands allows other plant species to establish, so livestock can have a mixed diet. Repeat grazing each year until no new plants are found.

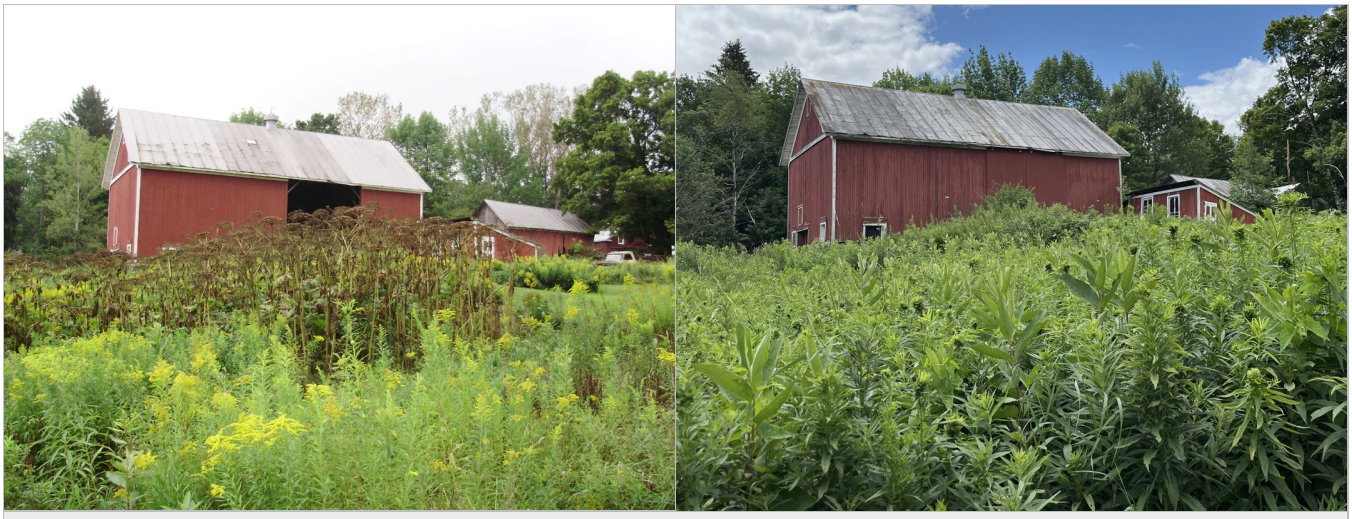
Monitor

Long-term monitoring is necessary since giant hogweed seeds can remain viable in the soil for up to 15 years. Once no plants are found during a growing season, check the site and surrounding areas for the next three years and every few years after that to ensure the infestation has been completely eliminated. Consider surveying your property periodically in case giant hogweed is reintroduced.

Hogweed seeds can float for up to three days, making it easy for infestations to pop up miles downstream.

Revegetation

After removing giant hogweed plants, you may be left with an area of bare soil that's vulnerable to erosion and other invasive weeds. Planting native or noninvasive vegetation may be necessary to help achieve your desired control outcome. Establishing new vegetation will also provide competition for any new giant hogweed seedlings.



There were approximately 3,000 plants at this site (left) in 2009. Herbicide was used on the

CONTACT INFORMATION

For more giant hogweed information, please visit on.ny.gov/gianthogweed. For questions, call 845-256-3111 or email ghogweed@dec.ny.gov.