

**JAPANESE KNOTWEED - A HOMEOWNER'S GUIDE TO CONTROL**



**Japanese Knotweed Early Summer** - Great Smoky Mountains National Park Resource Management Archive, USDI National Park Service. Buawood.org

### A Growing Problem

Japanese Knotweed, a large and extremely aggressive invasive weed poses a real threat to our New Hampshire yards, lakeshores, wetlands, waterways, and roadsides.

Patches of Japanese Knotweed often spread rapidly, crowd and shade out all other native vegetation, and create erosion problems near water.

As it grows, it becomes increasingly difficult and expensive to control. This non-native semi-woody perennial is very adept at colonizing a new area with small fragments of root or stem carried in fill or storm water runoff.

Japanese Knotweed is recognized as a major problem in many countries and many regions of the United States. The spread of Japanese Knotweed is accelerating locally and now is the time for active control.

### How Homeowners Can Help

#### Learn To Identify Japanese Knotweed

It is best to identify and begin treatment of newly established patches as soon as possible.

#### Control the Weed on Your Own Property

Although difficult to control, it is possible to eliminate a patch by using a choice of proven techniques to weaken and ultimately kill the plant's root system over time.

#### Share Information With Your Neighbors

If your neighbor has a patch, you will likely be doing them a favor by pointing it out to them. A coordinated neighborhood effort could bring resources together in a larger and more effective control effort.

#### Identification

- Grows in upright dense patches, primarily where sunny and moist such as along stream banks, roadsides, shorelines, and in yards.
- Sprouts in late March to Mid-April and grows rapidly to as high as 10 feet in a single season.
- Green leaves are heart shaped about 6 inches long and 3 to 4 inches wide.
- Distinctive stems resembling bamboo.
- Prolific flowers are greenish white and are very visible in late summer.



**Japanese Knotweed Late Summer** - Randy Westbrook, U.S. Geological Survey. Buawood.org

#### Control Basics

It is particularly important to quickly begin control measures on newly established small patches because larger infestations are more difficult to control. Additionally, there are fewer effective treatment choices available for large well established patches.

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**Control Basics (continued)**

- All control measures are centered on weakening and ultimately killing a strong and resilient root system. The roots/rhizomes of an established plant can reportedly extend out up to 60 feet and as deep as 6 feet.
- Before selecting a control approach, understand that successful elimination of an established patch of knotweed is typically a multiyear and multi-pronged project, and requires a strong commitment. Over time, persistent and repeated control measures will steadily reduce the root system's reserves and ultimately eliminate a plant's ability to grow and survive.
- The four available control methods are manual (pulling or digging), mechanical (cutting, or covering), chemical (use of herbicide), and a combination of several methods. Strictly manual or mechanical means are less effective and will take additional time to weaken the root system.



**Japanese Knotweed Leaf** - Steve Manning, Invasive Plant Control, Bugwood.org



**Japanese Knotweed in Winter**

- Chemical treatment is normally quicker, although it is still difficult to ensure complete coverage of plant material with a single treatment.
- The seasonal timing of control measures relative to the plant's growth cycle is very important to the effectiveness of control measures aimed at weakening the root system.
- As Japanese Knotweed can be spread by seed or small root and stem fragments, proper disposal of plant material in conjunction with control measures is critical.
- Vigorous re-sprouting often occurs shortly after initial treatments so a program of initial treatment and follow-up monitoring is important.

**Mechanical and Manual Control (Cutting / Covering / Digging / Pulling)**

Although control measures most commonly recommended include the use of herbicide, some homeowners prefer to minimize the use of chemical treatments, and use is restricted in certain sensitive areas. Mechanical and manual control measures will take longer to demonstrate results, but they do help to control the spread of the weed and with persistence can result in the elimination of a small patch.

- Cutting a patch close to the ground and covering the roots with 7mil or greater thickness of black plastic to block the sun is considered by many experts as a preferred approach for small patches in sensitive areas such as wetlands. The plastic should extend beyond the visible diameter of the patch and monitoring will be necessary around the edges of the covering. Mulch is often used to hide and weight the plastic once in position.
- Digging up small patches is an option, but small root fragments are likely to be left behind. This requires continued monitoring of the area for a couple of years in order to catch resurgence of the plant at an early stage, which can then be dug or cut again to further weaken the plant. Care should always

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be taken whenever digging where there may be underground utility lines and digging in wetlands requires special wetlands permitting .

- Simply cutting the plant as close to the ground as possible is only considered viable for small patches, and it is generally agreed that cutting at least twice a month during the growing season for two or more consecutive years will be the minimum required to be effective in depleting root reserves.
- Covering, cutting, or properly permitted digging may be the only viable control methods available in sensitive areas, such as wetlands, where herbicide use is restricted or unwelcomed.

### Proper Disposal of Plant Material

- Experts are in agreement that root extensions and fragments are a common way that Japanese Knotweed is spread. There is less agreement relative to stems and seeds. In any case, whether cutting or digging, plant material should be handled, transferred, and disposed of responsibly.
- The most common recommendation is to place root and stem material in doubled contractor trash bags and to then allow the bags to sit, preferably in the hot sun, for several weeks before discarding the bags of unviable plant material with normal trash.
- If there is little chance of cut stems being washed away, some experts suggest simply leaving cut stems on top of the patch to dry out, being careful to leave stem cuts away from soil.
- Seeds are less of an issue if plants are cut before flowers have gone to seed.



**Japanese Knotweed Bamboo Like Stem**  
Chris Evans, River to River CWMA,  
Bugwood.org

### Herbicide Treatments

Homeowners must form their own opinions about the use of herbicide to control Japanese Knotweed. Herbicide treatment alone or in combination with other treatments is the quickest way to control a patch.

- Although several herbicides have been demonstrated as effective in controlling this invasive weed, the most commonly recommended treatments make use of products that contain glyphosate as the active ingredient. Glyphosate is one of the most widely used herbicide ingredients in the world and is generally considered to be low risk when used per label instructions. Although there are many brands and generics which contain glyphosate in varied concentrations, commonly recognized glyphosate based brands include Roundup® and Rodeo®.
- Many herbicides containing glyphosate are readily available to homeowners in varied concentrations and small quantities at hardware stores and garden supply outlets.
- More herbicide is not always more effective. For example, an excess sprayed on leaves may kill the sprayed plant material before the herbicide can be transferred by the plant to the roots.
- Herbicide use in NH is strictly controlled by each herbicide product label. Labels typically include safety instructions, specify target pest species, describe application methods, and describe tools to be used in applications. Exceptions are made to label use restrictions in NH Administrative Rule PES 502.01 (d) in the case of certain State listed invasive species, including Japanese Knotweed. In the case of Japanese Knotweed and other listed invasive species, if a particular herbicide label includes the

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type of site to be treated as acceptable, a homeowner may use an herbicide with added flexibility. The current invasive species label exceptions are:

- The specific invasive species need not be listed in the label so long as the label does not indicate use against only those species listed.
  - Any application method may be used so long as the method is not specifically prohibited in the label instructions.
  - Dosages, concentrations, and frequencies may be varied so long as they are within any maximum limits specified in the label.
- Use of herbicides in or near wetlands, other surface waters, and in public rights-of-way requires special certifications and/or permitting. Many landscapers have been certified to apply herbicides in these sensitive areas and know how to obtain permits if needed.
  - If a homeowner feels that herbicide treatment is the best course of action, but the homeowner is uncomfortable in applying herbicides, they should seek the assistance of a certified professional.
  - Private homeowners may apply herbicides with the added flexibility as described above. However, without additional certification, herbicide applications can only be on the homeowner's own property.

### Cut Stem Herbicide Treatment

Spraying the leaves of Japanese Knotweed is a common way for professionals to apply herbicides. Another method used successfully is to apply herbicide directly to the cut end of all stems of a plant cut 2" to 3" above the ground in early and/or late summer.

- A glyphosate concentration in the range of 18% - 22% has been reported as effective when applied within a few moments after cutting. Higher concentrations are suggested less frequently. A small quantity of food coloring may be added when applying the herbicide with an applicator such as a sponge brush or a household spray bottle. This can help a homeowner ensure that all cut stems have been treated.
- Some suggest that this method is most effective in late summer before complete seed development and when the plant is most actively sending the herbicide with plant reserves back to the root system.
- This method helps minimize some concerns about foliar spray treatment reaching nearby desirable plants and the potential impact of foliar spraying on honey bees, which are fond of late summer Japanese Knotweed flowers.
- Stem injection and pouring a quantity of herbicide into a cut stem are also often described as treatments. However, these methods are used less often by homeowners as they are generally more labor intensive and require additional equipment.

### Herbicide Foliar Spraying

Spraying the leaves of Japanese Knotweed is the most common approach used by professionals when treating large patches and when hired by homeowners. Foliar spraying is considered the most effective treatment and least costly professional method for large patches.

- Most recommendations suggest a glyphosate concentration between 6% and 8% using an approved surfactant to improve the effectiveness. Some success is reported at a lower 2% to 4% concentration.
- If a single treatment is planned, the recommended time to spray is late summer shortly after flowering before honeybees begin to work the flowers. This is the time when the plant is most actively building reserves and most effective in sending the herbicide to the root system for maximum impact.
- In order to minimize overspray and restrict an infestation to a height size that is more manageable for

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spraying by a homeowner in late summer, a patch of knotweed can be cut in early June. This will cause the plant to use some of its energy reserves in June to sprout new shoots and the resurgent patch will be shorter and easier to spray in late August. There have also been reports of success with multiple cuttings and sprayings over the course of a growing season.

### Combining Approaches

The choice of Japanese Knotweed control treatment(s) will depend upon a homeowner's unique set of circumstances. Considerations will include the size and site characteristics of the patch, herbicide certifications and permits required, the desired timeframe for control, preferences concerning mechanical versus chemical approaches, and the homeowner's ability to tackle the project personally and persistently.

- It is important to remember that each treatment, regardless of type, will weaken the plant and its ability to spread and survive. Therefore, all treatments are positive steps toward control and may be combined effectively.
- If a homeowner is not comfortable in treating a patch on their property they are encouraged to turn to professionals. The longer a homeowner waits, the more established the patch is apt to become and more costly to eliminate.

### Cautions

*Mention of particular chemical herbicide products does not constitute endorsement. Please carefully read and follow all safety precautions and instructions for use on the labels of any products used, including the use of gloves and eye protection. Use the products in accordance with label application instructions in combination with New Hampshire invasive weed exceptions as described. Use of herbicides in or near wetlands, any surface waters, and right-of-ways in New Hampshire requires specific certification and/or permits. Therefore, treatments in these sites should be limited to mechanical treatments or performed by properly trained professionals.*

### Additional Information

This brief Control Guide was intended to increase awareness of the growing Japanese Knotweed problem and is an attempt to consolidate current and evolving thoughts about control methods available. Additional information is readily available on the Internet concerning treatments and use of herbicides. A few particularly good additional references include:

### References

- New Hampshire Invasive Species Fact Sheets, Nashua Conservation Commission, <http://www.nashuarpc.org/LMRLAC/documents/invasiveplants.pdf>
- New Hampshire Guide to Upland Invasive Species, prepared by Doug Cygan, NH Invasive Species Coordinator - [http://www.nh.gov/agric/divisions/plant\\_industry/documents/invasive-species.pdf](http://www.nh.gov/agric/divisions/plant_industry/documents/invasive-species.pdf)
- Managing Invasive Plants, Methods of Control / [http://extension.unh.edu/resources/files/Resource000988\\_Rep1135.pdf](http://extension.unh.edu/resources/files/Resource000988_Rep1135.pdf)
- Herbicide Advice for Homeowners / [www.FLEPPC.org/misc/herbicideadvice.pdf](http://www.FLEPPC.org/misc/herbicideadvice.pdf)
- Homeowner's Guide to Japanese Knotweed Control by the Northwoods Cooperative Weed Management Area / [http://dnr.wi.gov/topic/Invasives/documents/japanese\\_knotweed\\_control.pdf](http://dnr.wi.gov/topic/Invasives/documents/japanese_knotweed_control.pdf)
- Invasive Species webpage of the New London, NH, Conservation Commission / <http://www.nl-nhcc.com/Pages/InvasivePlants.html>

### Acknowledgements

Input was provided by many in developing this guide. Special thanks to Doug Cygan, Invasive Species Coordinator, NH Department of Agriculture, Division of Plant Industry, Bob Bruleigh, NH Department of Agriculture, Enforcement Program, Division of Pesticide Control, and Guy Giunta, NH Department of Transportation, Highway Design, Roadside Development.

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