



Japanese Knotweed

BVGC INVASIVE SPECIES FACT SHEET

Japanese knotweed (*Fallopia japonica*) can be found all over the United States and across all of Massachusetts. Originally introduced in the late 1800's as ornamental foliage, its invasive root system has the ability to spread horizontally through a network of underground rhizomes. Cut stems are also capable of regrowing new plants if in contact with moist soil. Roots can grow up to 6 ft deep and 65 ft long making them difficult to remove. It can crowd out native species, damage building foundations and ruin sidewalks. Here is a guide to detection and extermination.

Description: A herbaceous perennial that dies back completely in the winter, Japanese knotweed resembles bamboo, with smooth green stems and red & purple nodes where its leaves are attached. Spade-shaped leaves emerge at the nodes and can be up to 6" long. White flowers appear in late summer about 3-4" long. Height will reach 8 – 11 feet when fully mature. It grows in dense stands and can reach 11 feet tall when mature. It is found primarily in wetlands, stream corridors, forest edges and drainage ditches but tolerates many conditions.

JAPANESE KNOTWEED

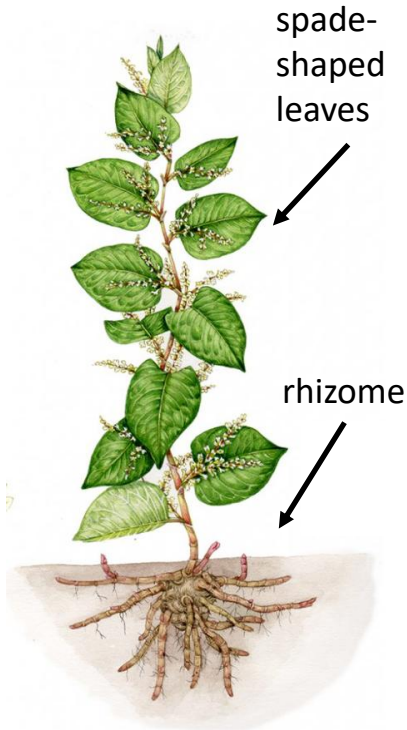


illustration: Lizzie Harper

Eradication

When removing Japanese knotweed, the primary objective is to eliminate the rhizome system. Once an area is treated or knotweed removed, the area needs to be maintained to ensure that there is no regrowth.

CHEMICAL TREATMENT (HERBICIDE): The most effective known means of removal uses herbicide as it directly impacts the root system. It will typically take at least two seasons. Suggested herbicide is Glyphosphate which has low toxicity to non target species and organisms and does not contaminate the soil.

Best practice calls for cutting the knotweed stalk in late June and then applying the herbicide about 8 weeks later in late Aug or Sept. Alternatively, the herbicide could be directly applied to the stalk in late Aug or Sept but it is more difficult as the plant is so tall. The late season application is effective as this is when foliage is sending sugars to the roots and rhizomes. The herbicide moves with the sugars. Treat area for two successive years in a row (or more if necessary) and monitor site for any new growth.

Please note: Herbicides should be used with caution and according to label. Any treatment near water requires Conservation Committee approval. Herbicides such as Triclopyr based (Garlon) are suggested as they are specific to broad leaf plants versus "Round up" which is non-specific. Please refer to product label for use.



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Eradication, continued:

ORGANIC METHODS: These methods require more time but do not require harmful chemicals to be introduced. All methods require continued vigilance to ensure that a new infestation does not occur. These are standard methods. Currently there are on-going experiments in Boxford to investigate alternative methods.

SMOTHERING: Removes the plant's ability to gather sunlight or water. Without sunlight, the plant cannot create energy and eventually the energy stored in the rhizomes will be depleted and the plant will die.

1. In early spring, cut down and remove the dead stalks of the Japanese knotweed from prior year. Clear the area out to 5 ft beyond the infected area on each side. Remove any plant that is worth saving and transplant to new area (may want to transplant items in the fall prior).
2. Place mulch or cushiony material on top to prevent sharp edges of stems from puncturing tarp.
3. Place UV resistant, opaque tarp (light does not go through) over the infected area and to at least 5 ft beyond the infected area borders. If using multiple tarps, overlap the tarps by ~2ft. Using lawn staples ensure that tarp is well secured. Cover tarp with wood chips or mulch to ensure that tarp remains in place.
4. Periodically walk on the tarp to suppress any growth underneath.
5. Leave in place for 5 years after which the plant should be dead. Monitor and retreat if any new growth is observed.

CUTTING: This method suppresses knotweed growth but does not eradicate unless used in conjunction with another method. When cutting, all knotweed pieces must be picked up and bagged for disposal as they can re-root and start a new infestation.

1. Cut back the knotweed to the ground. Remove and bag all pieces.
2. Using a lawnmower (with bag), cut area on regular basis (weekly) to reduce growth.
3. Do this every year until knotweed is depleted.

HARDWARE CLOTH: This is a test method. Hardware cloth is used to gird the plant stem as it grows, to kill the plant. It basically depletes the rhizomes of energy over time by starving the rhizomes. It requires a small hardware cloth opening (1/8 up to 1/2 inch opening).

1. In the spring, clear the infected area of old knotweed stocks and try to clear the area as much as possible. Include an area ~5 ft outside of the infected area.
2. Lay the hardware cloth tightly down to ground over infected sites. Overlap the hardware wire if necessary and extend at least 5 ft out from infected area. Secure site with lawn staples.
3. Leave in place for ~5 years and observe. The knotweed should be girded and die back every year, until the growth becomes less and less. This also allows for other growth to take its place (grass or other competing non-woody native plant.)

DIGGING: This method involves the mechanical disruption of the plant. Unless a very small area is involved, it is not recommended due to the depth and length of the knotweed root. It is extremely disruptive and expensive.

Disposal:

Carefully dispose of the knotweed by bagging it for trash removal. It can also be eliminated by burning in a brush pile. **Do not compost** as stems may re-root themselves in moist soil.