

## JAPANESE KNOTWEED

(*Polygonum cuspidatum*)

**Description:** Japanese knotweed, also referred to as fleeceflower and Japanese bamboo, is a member of the Polygonaceae or buckwheat family. Japanese knotweed is a shrub-like, perennial herb that can range in height from 4 to over 10 feet tall. Stems of Japanese knotweed are stout, hollow, reddish-brown in color and have slightly swollen nodes that give the plant a bamboo-like appearance. Stems are simple or somewhat branched and glabrous with tiny membranous sheaths. Leaves are alternate, short-petioled, broadly ovate, 2 to 6 inches in length and about two-thirds as wide, narrowing to a pointed tip. Flowers are greenish white to cream, densely arranged in axillary panicles, and 1/6 to 1/8 of an inch long. Fruit is shiny, black, approximately 1/8 of an inch long and 3 sided.



Japanese knotweed

Japanese knotweed can be distinguished from giant knotweed by leaf size and shape. Japanese knotweed leaves are 2 to 6 inches in length, while giant knotweed leaves can exceed 1 foot in length. Japanese knotweed also has a leaf base that is truncate or squared-off at the bottom, while giant knotweed has a heart-shaped leaf base.

### Plant Images:



Leaf comparison



Leaves and flower cluster



Bamboo-like stems

**Distribution and Habitat:** Japanese knotweed is native to eastern Asia and is now widely distributed throughout the United States. The plant has been found on a variety of soil types that include sand, loam, silt, and can occur in soils with a pH ranging from 4.5 to 7.4. Japanese knotweed can establish on both xeric and hydric sites, but is primarily associated with moist, unshaded habitats. Shaded areas tend to limit the spread of the plant. Pastures, roadsides, ditch banks, streambanks, and wetlands are areas where Japanese knotweed can thrive. The plant is also common on disturbed sites.

**Life History/Ecology:** Japanese knotweed is a perennial that reproduces through seed production and large rhizomes. Seedlings generally emerge in April, but can establish as late as July or August. The plant grows rapidly in the spring and rhizomes can spread up to 30 feet in length. These extensive rhizomes are the primary means of reproduction for the plant. Japanese knotweed flowers from August to September and seeds are produced about two weeks later. Seed production is not crucial for plant reproduction. Stems of Japanese knotweed die back after a hard frost and emerge the following spring from the extensive root system of the plant. Root and stem fragments are also able to form new plant colonies.

**History of Introduction:** Japanese knotweed is native to eastern Asia and was introduced to North America in the late 19<sup>th</sup> century as an ornamental. The plant was also used for erosion control and landscape screening. Japanese knotweed has since escaped cultivation and is now becoming widely distributed throughout the United States. In the eastern states, Japanese knotweed was able to quickly spread to new sites by means of rivers and creeks that carried root fragments of the plant. Japanese knotweed now occurs in much of the Midwest and several western states. Japanese knotweed is still being sold through horticultural trade as a garden ornamental. At this time, in North Dakota invasive populations are not being tracked throughout the state.

**Effects of Invasion:** Japanese knotweed is an aggressive species that quickly establishes by extensive rhizomes. The early growth habit of Japanese knotweed allows the plant to out-compete and crowd out desirable native species. Consequently, the plant reduces bio-diversity and reduces wildlife habitat. In riparian areas, deposited root fragments from the plant can quickly form new colonies.

### **Control:**

Management objectives for Japanese knotweed control should involve prevention, early detection and eradication. Japanese knotweed spreads primarily through an expanding root system; therefore, newly established stands should be eradicated before they become established. Control methods should be combined into an integrated management system for the best long-term control of the plant and areas should be monitored for several consecutive growing seasons to prevent germination of new plants.

*Mechanical* - Digging or hand pulling can be used to control small infestations of Japanese knotweed. However, the disturbance and root fragments left behind may lead to a larger population. Digging or hand pulling should be repeated as new sprouts are found and root materials should be disposed of carefully. Cutting or mowing has had variable results, but may be successful if repeated several times throughout the growing season. In the Pacific Northwest, plants are mowed as low as possible at least every 2 to 3 weeks from April through August. Covering the plants with thick black plastic after stems have been cut down to the ground surface may reduce infestation. There are no reports of successful long-term control using covering alone as a control method.

*Chemical* - Several herbicides: picloram, glyphosate, dicamba, triclopyr, imazapyr, and 2,4D have been variably effective in controlling infestations. Herbicides may have more success when applied during the fall. However, herbicide applications may be difficult to apply due to the height of the plants. Foliar

spraying, stem injections or cutting the stem followed by a spot treatment are two methods that can be used to apply the herbicides. Repeated application may be necessary.

Contact your local county extension agent for recommended use rates, locations, and timing.

*Biological* - No biological control agents are available for control of Japanese knotweed. Goats are reported to eat Japanese knotweed and may control infestations to some extent.

### References:

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- Japanese knotweed photograph courtesy of Mehrhoff, Leslie J./IPANE.
- Leaf comparison photograph courtesy of King County Noxious Weed Control Board, Washington.
- Leaves and flower cluster photograph courtesy of Mehrhoff, Leslie J./IPANE.
- Bamboo-like stems photograph courtesy of J. C. Schou, Biopix.dk.