GIANT KNOTWEED
(Polygonum sachalinense)

Description: Giant knotweed is a member of the Polygonaceae or buckwheat family. Giant knotweed is a herbaceous perennial that can grow over 12 feet tall. Stems of the plant are hollow, reddish-brown in color and swollen nodes give the plant a bamboo-like appearance. Leaves are alternate, petiolate, often exceeding 1 foot in length and about two-thirds as wide, strongly cordate or heartshaped and gradually tapers to the tip. Flowers are green in color, sparse to numerous, and arranged in axillary panicles. Fruit is shiny, black, 3-sided and approximately 1/8 of an inch in length.

Giant knotweed

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

Plant Images:

Leaf comparison

Leaves

Flowers

Distribution and Habitat: Giant knotweed is now widespread throughout the United States. The plant is generally found in waste sites, abandoned gardens, along roadsides, railroad right-of-ways, and streambanks. Giant knotweed may also be found in moist conditions.

Life History/Ecology: Giant knotweed is a perennial that reproduces through seed production and large rhizomes. Rhizome development is the primary means of reproduction for the plant. Giant knotweed

growth characteristics generally resemble the growth habits of Japanese knotweed. Seedlings emerge in April and can establish as late as July or August. The plants grow rapidly in the spring and rhizomes are able to spread up to 30 feet in length. The plant may flower from August to September with seeds being produced approximately two weeks later. Seed production is not crucial for plant reproduction, as the plant only produces a small amount of viable seed.

History of Introduction: Giant knotweed is native to northern Japan and the Sakhalin Islands, and was introduced to the United States in 1894 as an ornamental and forage species. By the 1950s, giant knotweed had escaped cultivation and had established in Maine, Massachusetts, Connecticut and Rhode Island. Giant knotweed has continued to spread throughout the eastern United States and can also be found in the Pacific Northwest. At this time, populations are not being tracked in North Dakota.

Effects of Invasion: Giant knotweed is an aggressive species that quickly establishes by extensive rhizomes. The plant can dominate a site by out-competing desirable plant species for moisture and soil nutrients. Giant knotweed may also be able to form large colonies by producing allelochemicals that may suppress growth or reproductive vigor of surrounding vegetation.

Control: Management objectives for giant knotweed control should involve prevention, early detection and eradication. Giant knotweed spreads primarily through an expanding root system; consequently 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 giant 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 are available for giant knotweed control. Piclroam, glyphosate, dicamba, triclopyr, imazapyr, and 2,4-D, have been variably effective in controlling infestations. Herbicides may have more success when applied in the fall, but may be difficult due to the height of the plants. Foliar spraying, stem injections or cutting the stem followed by a spot treatment are two methods which can be used to apply the herbicides. Repeated applications 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 giant knotweed.

References:

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Giant knotweed and flowers photographs courtesy of Mehrhoff, Leslie J./IPANE.

Leaf comparison and leaves photographs courtesy of King County Noxious Weed Control Board, Washington.