INTEGRATED PEST MANAGEMENT PRESCRIPTION

Scotch broom

Description:

Scotch broom (Cytisus scoparius) is a perennial evergreen shrub that reproduces by seed, roots and plant fragments. Mature shrubs are about three to six feet tall and grow best in drier areas with full sunlight and well drained soil. It does not grow well in forested areas but will quickly establish itself after land clearing activities.

Scotch broom has stiff, angular stems with dark green broom-like branches. Many branches are leafless or have a few three-parted leaves which fall off in the winter. Bright yellow flowers (some may be yellow and slightly reddish) open between March and June and usually emerge individually along the stem. Brownish black seed pods (legumes - like peas) are produced within the base of the flower and reach a length of 3 - 5 cm long with fine hairs along the edges. Each pod produces about 5 - 8 seeds that can sprout after 50 years in the soil. Within 2 years a single plant can produce up to 60 seed pods.

Impacts:

Scotch broom is widespread across Thurston County's open areas, especially areas with recent soil disturbance. Scotch broom will displace native vegetation and beneficial plants causing loss of grassland and open forest habitat. The seeds and other plant parts are toxic to humans, horses and other livestock. In the year 2000, the Oregon Department of Agriculture estimated the financial impact of Scotch broom infestations to Oregon at 47 million dollars.

Cytisus scoparius (L.) Link
Image processed by Thomas Schoepke
www.plant-pictures.de

Control Options:

Thurston County's integrated pest management emphasizes cultural, biological, and manual control methods to keep pests and vegetation problems low enough to prevent damage. When chemical control is considered, the least toxic product is recommended when no other control methods would be effective or practical.

Scotch broom is classified as a Class B noxious weed in Washington State. Due to its abundance in Thurston County, plant removal is not required. But controlling it so it does not expand its territory and get established on new sites should be the minimum goal for any control efforts.

► Cultural / Habitat

Once mature plants have been removed, you can help them from coming back by killing or removing all new shoots and seedlings and densely re-planting the area. Plant the area with fast growing native plants or bushes that will cover the entire ground. trees can also be used to compete with Scotch broom. But, because trees grow slower, they should be planted close together and seedling removal beneath them will be important until the trees shade the entire area.

► Manual / Mechanical

Digging out Scotch broom is recommended for small infestations and when chemical control may cause injury to nearby plants. When removing the plants, dig out as much of the root as possible because any part of the root remaining in the soil can re-sprout. A "Weed Wrench"™ is a tool that is useful in removing woody stems. This method will be labor intensive and, to be effective, all plants must be removed to stop seed production. After mature plant removal, the site will need to be monitored for several years to remove seedlings as they sprout.

Mechanical methods can be used on larger infestations with the use of brush cutters, tractor-mounted mowers, or backhoes. Cutting stems in the spring and early summer will result in new shoot production and poor control. However, up to 80% mortality can be achieved by cutting down plants when they are drought stressed (July through September).

► **Biological**

There are currently no known biological agents for Scotch broom control that are available for purchase by homeowners. However, a seed weevil *(Apion fuscirostre)* and a seed beetle *(Bruchidius villousus)* have been introduced to Scotch broom infestations throughout Thurston County. Although these bugs have successfully multiplied at each site and are eating seeds, they have not kept up with the plants' seed production.

► **Chemical**

A systemic herbicide is recommended for the control of Scotch broom. Systemic herbicides are absorbed into the plant tissues and are distributed to all parts of the plant. Scotch broom plants will produce shoots from cut stems, stumps, and roots, so it is important to use an herbicide that will kill the entire plant. Contact herbicides are not recommended for control of Scotch broom because they only kill the parts of the plant that are sprayed, leaving the roots to produce new shoots.

Glyphosate is an active ingredient in many systemic herbicide products that are effective in the control of Scotch broom. Applications with a 1.5 - 2% glyphosate concentration are recommended. Many glyphosate products recommend mixing it with a non-ionic surfactant to improve results. Follow label directions to mix herbicide to desired concentration. Thurston County rates glyphosate products high in hazard for carcinogenic potential. The risk from spot spraying scotch broom is considered low provided that the applicator wears chemically resistant gloves, pants, and a long sleeved shirt.

Foliar application (spot spraying):

Applications with hand held spryers are recommended for large infestations. Spray the entire plant until it is wet but not dripping. Because glyphosate products are non-selective, you must shield any desirable plants from overspray or they will likely die or get injured.

Cut stem application:

Cut stem applications (applying product directly to a freshly cut stem) are most effective when herbicide is applied within 20 minutes after cutting. Application rates of concentrated products (up to 53.8% glyphosate) can be used at a 50 to 100% solution.

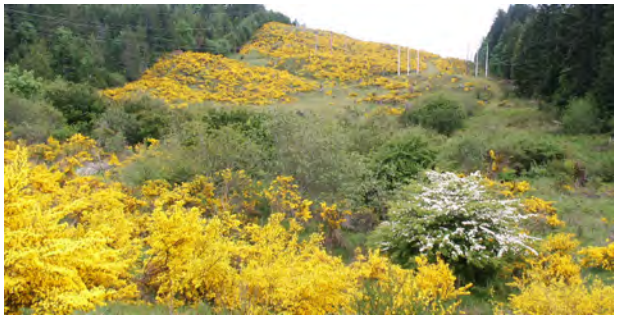
Basal bark / stem application:

Basal bark or applications (applying product to the base of woody stems) work well on large plants in early fall for killing the roots.

Timing: Manual and mechanical removal of mature plants in the drought stress time of the year (late July to September) will provide the greatest control. Chemical control of mature plants is effective when plants are in full bloom. Seedling control is best achieved prior to the plant getting mature enough to produce more seeds.

Pollinator Protection: To minimize negative impacts to bees and other pollinators, treatment prior to blooming is recommended. Removal of flowers before treating can be an option. If treatment must occur during blooming period, try to spray early or late in the day or on cloudy cool days.

READ AND FOLLOW ALL PESTICIDE LABEL DIRECTIONS AND RESTRICTIONS. Obey all label precautions, safety measures, and wear all recommended personal protective equipment. Use of brand names does not connote endorsement and is for reference only; only products with the same active ingredients may be available under other names. Pesticide product registration is renewed annually and product names and formulations may vary from year to year.



REFERENCES:

Harshovsky, Marc. Written Findings of the State Noxious Weed Control Board - Class B Weed. Scotch broom (Cytisus scoparius (L.) Link). 8/2001. http://www.nwcb.wa.gov/.

Oregon State University. PNW Weed Management Handbook. PNW Weeds – Control of Problem Weeds; Broom, scotch (Cytisus scoparius)

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