



Meadow Knapweed

(*Centaurea jacea x nigra*)

Description:

Meadow Knapweed (*Centaurea jacea x nigra*) is a perennial plant that grows from a woody root crown. It is a fully fertile hybrid of Brown Knapweed (*C. jacea*) and Black Knapweed (*C. nigra*), and individuals can closely resemble either parent or may combine the characteristics randomly. The upright stems range from 20 to 40 inches tall, branching near the middle. Leaves grow to 6 inches long and 1½ inches wide, edges are highly variable, ranging from smooth and entire to having lobes or teeth. Flowers are rose-purple, rising from round heads about the size of a nickel. Distinctive bracts surround the flower base, papery and rounded or dark and fringed, usually with both characteristics. In Thurston County, flowering can begin as early as May, with peaks in June and July. Flowering can continue into fall, especially on plants that have been mowed or damaged.



Impacts:

Meadow Knapweed out-competes grasses and other pasture species and has the potential to invade native prairie and oak savannah. It is commonly found along roadsides, sand or gravel bars, river banks, irrigated pastures, moist meadows, and forest openings. It also can invade industrial sites, tree farms, and grasslands. Meadow Knapweed is better adapted to Western Washington growing conditions than other knapweeds and forms large, thick stands where it excludes nearly all other vegetation.

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. The goal of Thurston County's pesticide use policy is to minimize the use of pesticides by utilizing and providing information about the most effective control options that are available and practical.

► Cultural / Habitat

The most effective control of Meadow Knapweed is prevention. Above all, prevent plants from going to seed. Meadow Knapweed has been grown for winter forage intentionally in the past and is still sometimes grown as an ornamental garden plant and is sometimes introduced as a component in wildflower seed mixtures. Review the ingredients of wildflower mixes to avoid accidental introduction, and avoid using wildflower mixes with unidentified seed components entirely. To prevent plants from spreading from known infestations, carefully clean vehicles, boots, clothing, and pets after visiting infested areas.



► Manual / Mechanical

Small, isolated infestations can be dug out if the soil is loose or sandy and plants are not well established. Large, woody root crowns make Meadow Knapweed difficult to remove manually. Be careful to collect and dispose of all the pieces of roots and crown to prevent them from re-establishing.

► Biological

Though some biocontrol agents have been released on a trial basis, it is not yet known if these populations can become established. Biocontrols depend on heavy densities of host plants to survive and they are sensitive to adverse climatic conditions.

► **Chemical**

Spot spraying with **glyphosate** (example: Roundup Pro®, Glyphos®, etc.) is effective in controlling Meadow Knapweed. Glyphosate products can be used to treat individual plants or small patches. Currently, products containing the active ingredient glyphosate are the only herbicides for the control of Meadow Knapweed considered “low in hazard” by Thurston County’s pesticide review process for the potential for chemical mobility and persistence.



Thurston County has observed that most ready-to-use, pre-mixed products do not contain sufficient active ingredients to be as effective as concentrated products that are then mixed with water to create a specific finished concentration. The following instructions are for products containing 41% glyphosate which will be mixed down to a specified dilution rate. Be sure to read your label carefully, and make adjustments to rates accordingly.

Foliar applications of glyphosate (ROUNDUP PRO™):

- Spot applications with glyphosate products are effective. Spot application means the herbicide is applied only to the plants and not on the surrounding plants or soil. Spray each plant thoroughly on the stems and leaves enough to be wet but not dripping.
- Glyphosate is non-selective, and will injure any plants that it comes in contact with, including grass.
- Keep people and pets off treated areas until spray solution has dried.

For selective control of knapweed in agricultural settings (pastures, hayfields, etc.): an herbicide containing the active ingredient **aminopyralid** (example: Milestone™, Milestone VM™, etc.) may be a preferred choice. Aminopyralid products will not harm grass and can be used around livestock (provided all label precautions are followed). **Do not use plant material or hay from treated areas for mulch. Likewise, do not use manure from animals that have grazed or eaten hay from treated areas.**

Aminopyralid is currently sold in agricultural labeled herbicides that are only to be used in areas listed on the label, and are available in farm supply stores. Aminopyralid products are considered moderate in hazard by Thurston County’s review process for the potential for chemical mobility and persistence.

Herbicide & Method	Product Rates	Mix
RoundUp Pro® Spot/Foliar	2%	To 1 gallon of water add 2.66 oz. RoundUp Pro®, apply to foliage at or beyond bud stage.
Milestone ® Spot/Foliar	1 tsp per 1000 ft²	To treat a 1,000 sq. ft. area: Using a 2 to 4 gallon backpack or tank sprayer, add half of the water needed to cover all plants with one teaspoon Milestone™, agitate, then add water to reach desired amount (0.5 - 2.5 gallons total volume, depending on quantity and size of plants). Lightly spray all knapweed plants in 1,000 sq. ft. area, then continue lightly spraying the knapweed until the tank is empty and all plants have been thoroughly covered. The addition of a non-ionic surfactant (at least 80% active ingredient) is recommended to enhance herbicide activity.

Timing: Apply either glyphosate or aminopyralid anytime plants are actively growing. For most effective treatments, apply before plants bloom and produce seed. Applications of aminopyralid are also effective in the fall before a killing frost.

READ AND FOLLOW ALL LABEL DIRECTIONS AND RESTRICTIONS. Obey all label precautions and safety measures. Always use personal protective equipment that includes coveralls, waterproof gloves, shoes plus socks, and protective eyewear. Use of brand names does not connote endorsement and is for reference only; other formulations of the same herbicides may be available under other names. Information provided is current as of the date of the fact sheet. Pesticide product registration is renewed annually and product names and formulations may vary from year to year.

REFERENCES:

Meadow Knapweed Invasion in the Pacific Northwest, U.S.A, and B.C., Canada, Northwest Science, Vol. 65, No. 1, 1991;
Biological Control Of Weeds In The West; PNW0566, June 2003

Written Findings of the Washington State Noxious Weed Control Board: http://www.nwcb.wa.gov/weed_info/Written_findings/Centaurea_pratensis.html



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