Control Options for Knapweeds

General information

Control efforts for knapweed are best initiated before the plants flower. Do not compost buds or flowers. Regardless of which control option is chosen, sites must be monitored and control repeated for the knapweed to be eradicated. If soil is disturbed during control efforts, it is best to reseed the disturbed area with a desired species, to prevent further establishment of weeds. Encouraging grass growth through the use of applied fertilizers and/or rotational grazing will help prevent the reestablishment of weed species.

Manual/Mechanical Techniques

Both spotted and meadow knapweed can be controlled through hand digging. Spotted knapweed can also be controlled through hand pulling. Plants are easiest to pull or dig after plants have bolted (elongation of flowering stem has started), when the soil is moist and before plants bloom. When digging or pulling, try to remove as much of the root as possible to prevent regrowth. Gloves should be worn when pulling knapweed. Mowing can be used for knapweed management only if mowing is continued regularly throughout the flowering season. Mowing can start in May or whenever bud formation is first noticed on the plants. Mowing must then be repeated at least once a month until the first hard frost of winter. If mowing is discontinued before the plants go dormant for the winter, the knapweed will still flower and set seed. This method of management is best suited to small, easily mowed lots. Mowing will not kill the plants, and flowering can still occur to a smaller extent.

Chemical Recommendations

Knapweed can be controlled using specific herbicides. Knapweed should be sprayed in spring or early summer before flower buds appear to ensure plants do not produce seed after being sprayed. Spraying can also be done in the fall, to target rosettes that will overwinter. When using herbicides, always read and follow label directions for rates, spraying conditions, personal protective equipment and grazing intervals. If spraying is the chosen option, spray late in the evening to reduce the direct impact on pollinating insects. Do not spray when it is windy or raining or when rain is forecast. Do not mow sprayed plants for at least 2 weeks after herbicide application. Herbicides should not be sprayed within 60 feet of water bodies and creeks, without further consultation with the Noxious Weed Board. Remember, it is the herbicide applicators responsibility to apply the product in accordance to the instructions on the label. For most infestations of knapweed, plants should be treated individually (spot-sprayed). Spray plants until they are just wet. For large or dense infestations, it may be necessary to broadcast spray the entire area.

Glyphosate (Roundup®, many others) is generally not recommended for most sites, as it will kill any vegetation it hits, including the surrounding grass. A 2% solution of a glyphosate product (with at least 41% active ingredient) can be used on knapweed in the fall with good results or in spring at bud stage. Maintaining grass and other forbs will assist in weed control efforts by shading any weed seeds in the soil, making it more difficult for weeds to germinate.

2,4-D (many brand names) can be used when flower stems are beginning to elongate in the spring. Plants can also be treated in the fall.

2,4-D + Dicamba (Weedmaster®, Weed-B-Gon® and others) can be applied to knapweed at any time up to flowering, and again in the fall.
Aminopyralid (Milestone®, others) can be used on rosettes in the fall or in spring before bud stage. Consult the label for rates.

NEVER apply RoundUp® or other herbicides to standing water unless they are distinctly labeled for aquatic use. Ingredients in non-aquatic products may be toxic to fish and other aquatic organisms. Aquatic formulations of herbicides are generally only available to licensed pesticide applicators in Washington State. If the target plants are immediately adjacent to or are in standing water, a state permit may be required in order to treat those plants with an aquatically approved herbicide.

- **Always read and understand the label of the herbicides you choose to use.**
- **More is NOT better when using herbicides, and may actually hinder the ability of the herbicide to injure the target plant if the solution is too strong. This wastes money and effort and puts more product into the environment than is necessary. ALWAYS follow the recommended rates on the label.**
- **With all herbicides, when you apply them is as important as how you apply them.**

The mention of a specific product brand name in this document is not, and should not be construed as an endorsement or as a recommendation for the use of that product. Chemical control options may differ for private, commercial and government agency users. Herbicide information is taken from the WSU Pacific Northwest Weed Management Handbook.