



**Diffuse knapweed (*Centaurea diffusa*)**



**Spotted knapweed (*C. stoebe*)**

Collectively, knapweeds are invasive plants that range from annual to biennial to perennial in growth form. Diffuse and spotted knapweeds are listed as restricted, noxious weeds in Arizona and New Mexico. “Restricted pest” means any viable plant parts (stolons, rhizomes, cuttings and seed, except agricultural, vegetable and ornamental seed for planting purposes), found within the state shall be quarantined to prevent further infestation or contamination.

<https://agriculture.az.gov/pests-pest-control/agriculture-pests/noxious-weeds>

The University of Arizona Cooperative Extension states, “In northern Arizona, diffuse knapweed has taken hold in the Flagstaff and Sedona areas. In Flagstaff, it is all over the east side of town. In Sedona, you may see diffuse knapweed along Highway 179 between the Village and the “Y”, in the Seven Canyons/Upper Dry Creek area, the Palatakai Ruin site, or in other areas where it has spread.”

<https://cals.arizona.edu/yavapai/anr/hort/byg/archive/diffuseknapweed2011.html>

<https://static1.squarespace.com/static/57dc117803596e07ba9b9bfb/t/5929af3c1b631b84a14f45a6/1495904068361/diffuse-knapweed.pdf>

### ***Impacts/threats***

Knapweeds are highly competitive, persistent plants; and dense, impenetrable stands of knapweed can displace desirable vegetation. They are often the first plants to establish on disturbed sites, roadsides, or areas cleared in preparation for development. Spotted and diffuse knapweeds are aggressive weeds that rapidly invade disturbed rangeland, pasture, and fallow cropland. Knapweeds have high amounts of phytotoxins, and a high knapweed density at a site can make native plants appear to be sick and soils seem barren.

### ***Spread***

Knapweed seed is easily dispersed by wind and water. Seed can also be spread in hay that is not certified to be weed free. Seed adhering to surfaces and undercarriages of vehicles (especially road maintenance equipment) can be carried for long distances. Seeds may be carried for shorter distances on animals and humans. Birds transport and disperse seed after eating them. Mature stems of diffuse knapweed break off at the base and tumble over the landscape during winter, thereby dispersing seed.

## **Management**

To manage knapweeds, the first priority should be to prevent knapweed from establishing in areas where they are not currently present. Next, treat small infestations upon otherwise healthy sites. Finally, eradicate large infestations. Always closely follow knapweed control efforts with monitoring and be prepared to spot treat surviving plants and seedlings until none can be found. Regardless of the control approach, knapweeds typically cannot be eliminated within a single year or by using only one method. In most cases, at least 3 or more consecutive years of treatment are necessary to deplete knapweed seed in the soil.

A single herbicide spray application will reduce knapweed populations; however, it is important to anticipate the need for follow-up spot treatments for several years to ensure long-term control success. Knapweeds are best controlled with a selective, post-emergent, broadleaf herbicide that has little or no effect on associated native grass species. The most effective time to spray spotted or diffuse knapweeds is in the fall during the seedling to early rosette stage since lower rates of herbicide can be applied. In spring, higher rates should be used to spray plants during the late rosette or bolting stage; or before flowering when there are 4 to 6 inches of growth and good growing conditions.

[https://riversedgewest.org/sites/default/files/resource-center-documents/Field\\_Guide\\_Mgmt\\_Diffuse\\_Squar\\_Spot\\_Knapweed.pdf](https://riversedgewest.org/sites/default/files/resource-center-documents/Field_Guide_Mgmt_Diffuse_Squar_Spot_Knapweed.pdf)

## **Recommended Herbicide**

Aminopyralid products are post-emergence herbicides that control the entire plant and root, as well as offer soil residual activity for extended control of knapweeds. Aminopyralid moves systemically throughout the plant and deregulates plant growth resulting in death of susceptible plant species. In addition, aminopyralid has very low toxicity to birds, fish, mammals and aquatic invertebrates and is generally safe to use around trees and shrubs.

Milestone (aminopyralid) at 5 to 7 oz. product/acre

Milestone Label: [https://s3-us-west-1.amazonaws.com/www.agrian.com/pdfs/Milestone1d\\_Label.pdf](https://s3-us-west-1.amazonaws.com/www.agrian.com/pdfs/Milestone1d_Label.pdf)

Milestone Safety Data Sheet: [https://s3-us-west-1.amazonaws.com/www.agrian.com/pdfs/Milestone\\_MSDS1d.pdf](https://s3-us-west-1.amazonaws.com/www.agrian.com/pdfs/Milestone_MSDS1d.pdf)

*Top left photo: Diffuse knapweed, Norman E. Rees, USDA Agricultural Research Service, Bugwood.org*

*Top right photo: Spotted knapweed, Joseph M. DiTomaso, University of California, Davis, Bugwood.org*