

Squarrose knapweed

Colorado Department of
Agriculture

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Key ID Points

1. Flowers are pink or rose colored.
2. Recurved bract tips
3. Stems are branched with deeply dissected lower leaves and bract like upper leaves.

Squarrose knapweed Identification and Management



Identification and Impacts

Squarrose knapweed (*Centaurea virgata* Lam. Var. *squarrosa*) is a taprooted long-lived perennial that reaches 1 to 3 feet in height. It has bract tips that are recurved or spreading with terminal spine longer than lateral spines. Flowers are borne in singles or pairs at the tip of each branch. The flowers are rose to pink colored and usually the plant only produces 3 to 4 seeds per head. The flower heads appear more slender than other species of knapweeds. Deciduous seed heads fall off the stems after seeds mature. Seeds are bur-like and are dispersed by animal movement. Stems are branched with deeply dissected lower leaves and bract-like upper leaves.

Squarrose knapweed can be found on rangeland sites as well as disturbed sites like roadsides and waste areas. Squarrose knapweed is extremely drought and temperature tolerant. It is found in pockets of Utah, Oregon and California. Squarrose knapweed is native to the eastern Mediterranean region.

Squarrose knapweed outcompetes native plant species and reduces available forage for livestock and wildlife. It disrupts native plant communities and forms

monocultures. The plant is not palatable or nutritionally sufficient for livestock and is allelopathic, preventing desirable plants from growing around it. The seed longevity is at least 3 years so the site must be monitored for at least 4 years after the last flowering adult plants have been eliminated and treatments repeated when necessary.

The key to effective control of squarrose knapweed is preventing the establishment of plant communities, by maintaining healthy native plant populations, and by surveying your land for any new infestations. If squarrose knapweed is present, using a combination of control methods such as mechanical and herbicides to eradicate populations is effective. Details on the back of this sheet can help to create a management plan compatible with your site ecology.

Squarrose knapweed is designated as a "List A" species in the Colorado Noxious Weed Act. It is required to be eradicated wherever found in the State. For more information visit www.colorado.gov/ag/weeds and click on the Noxious Weed Management Program. Or call the State Weed Coordinator at the Colorado Department of Agriculture, Conservation Services Division, 303-239-4100.



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Centaurea virgata Lam. Var. *squarrosa*

**CULTURAL**

Preventing the establishment of the squarrose knapweed is crucial, so maintaining healthy native plant communities is a priority. Contact your local Natural Resources Conservation Service for seed mix recommendations. Bare ground is prime habitat for weed invasions, so prevent bare spots caused by overgrazing.

**BIOLOGICAL**

Biocontrol agents are not included in the prescribed management plans by the State for List A species. Eradication is the management objective of all List A's. For more information on biocontrol in Colorado, please contact the Palisade Insectary of the Colorado Department of Agriculture at 970-464-7916.

**MECHANICAL**

Digging the entire taproot from the ground will eradicate Squarrose knapweed. Be sure to properly dispose of the plants, since seeds can mature and become viable after the plant has been dug out. Monitoring the site for regrowth from rootstalks is needed if entire taproot is not removed.

Integrated Weed Management:

Preventing the establishment of this plant in Colorado is crucial since it is not yet known to exist in the state. Monitoring your land for infestations is key to early detection.

Since squarrose knapweed looks similar to diffuse knapweed, it may go undetected. Knowing the key characteristics can help with proper identification.

Do not allow squarrose knapweed to go to seed.

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HERBICIDES

NOTE: The following are recommendations for herbicides that can be applied to range and pasturelands. Rates are approximate and based on equipment with an output of 30 gal/acre. Please read label for exact rates. **Always read, understand, and follow the label directions. The herbicide label is the LAW!**

Herbicide	Rate	Application Timing
Aminopyralid (Milestone)	7 oz. product/acre + 0.25% v/v non-ionic surfactant	Apply in spring to early summer during bolting to bud growth stages or in fall. Add 1 qt./acre 2,4-D when plants are treated in the bolt to flowering phase.
Aminocyclopyrachlor + chlorsulfuron (Perspective)	4.75-8 oz. product/acre + 0.25% v/v non-ionic surfactant	Apply from the seedling to the rosette growth stages. IMPORTANT: Applications greater than 5.5 oz. product/acre exceeds the threshold for selectivity. DO NOT treat in the root zone of desirable trees and shrubs. Not permitted for use in the San Luis Valley.
Additional herbicide recommendations for this and other species can be found at: www.colorado.gov/agconservation/CSUHerbicideRecommendations.pdf		

Top two photos, © Steve Dewey, Utah State University. Bottom photo, Dale Swenarton.