



Spotted Knapweed

Centaurea stoebe ssp. *micranthos*



Spotted knapweed

General	Family: Sunflower (Asteraceae) Native to Central Europe Introduced to North America in the late 1800's or early 1900's Colorado List B - Eradication Required in Jefferson County
Habitat	Long-lived biennial/short lived herbaceous perennial Found in meadows, pastures, roadsides, and sandy or gravelly floodplains of streams and rivers Causes serious decline in forage and crop production Roots do not hold soil as well as native vegetation so soil erosion is sometimes an associated problem Releases a toxin that reduces growth of forage species Areas heavily infested with spotted knapweed will probably need to be reseeded once the plant is controlled

PLANT

Vegetation	1-4 feet tall with 1-20 upright stems Rosette leaves are 6 inches long and deeply lobed Forms rosettes the first year. Bolts in the spring of second growing season (May to June)
Roots	Taproot
Flower	June-October Pink or purple Single 1/2 inch wide Bracts have black tips
Seed	Each plant can produce as many as 25,000 seeds Most seeds fall within 3 feet of the plant Seeds can stay dormant for 8 years
Seedling	Seeds germinate in spring or fall forming a rosette. Peak germination is in May
Reproduction	Seed

CONTROL -- CHEMICAL		
<i>Timing</i>	<i>Herbicide</i>	<i>Notes</i>
Spring or Fall - Rosette	2,4-D (various) (as a part of tank mix) 2,4-D + Dicamba (various) Aminopyralid (Milestone) Clopyralid (Transline); Clopyralid + 2,4D (Curtail); Clopyralid + triclopyr (Redeem) Dicamba (various) Glyphosate (various) Picloram (Tordon) Restricted Use	Use of a surfactant is recommended for most herbicides to help increase contact with the vegetation and to facilitate herbicide uptake. Refer to the specific label for the appropriate type of surfactant. Treating at the rosette and early bolt stage stops biennial weeds from using resources that desirable plants need to prosper. Refer to the individual label for allowed sites, specific timing, and restrictions about grazing and haying.
Spring to Early Summer Rosette to Early bolting	Aminopyralid (Milestone) Aminocyclopyrachlor + chloresulfuron (Perspective) Clopyralid (Transline); Clopyralid + 2,4-D (Curtail); Clopyralid + triclopyr (Redeem) Glyphosate (various) Picloram (Tordon) Restricted Use	Formulations of more than one active ingredient are available. For established populations, control will take a few years so treatment will need to be repeated.
CONTROL -- NON-CHEMICAL		
<i>Technique</i>	<i>Timing</i>	<i>Method</i>
Biological	N/A	
Burning	N/A	
Cultivation	Spring to Fall Rosettes and young plants 3-6 inches tall	May need to be repeated throughout the season and on an annual basis until the seedbank is exhausted. May allow more seeds to germinate due to disturbance.
Grazing	Early spring prior to bud stage	Sheep, goats, and cattle will eat
Mowing	N/A	Not effective. Plants will regrow from crown and produce as many seeds as un-mown plants.
Prevention	Anytime	Maintain the health of the site by encouraging native vegetation.
Removal	Spring to Early Summer Rosette to Bolting	Remove rosettes and young plants before they are more than 5-8 inches tall (before flower buds form). Remove at least the top couple inches of the taproot.
	Summer Flowering	Remove plants with flower heads, bag, and dispose of in the trash or landfill. Sever root at least a couple inches below the soil. Plants without flower buds do not need to be put in the trash.
	Fall - Rosette	Remove rosettes and at least the top couple inches of the taproot.
	Pulling when plants are small results in less bulk and makes disposal easier. Pulling will disturb the soil so it may contribute to more of the seedbank germinating.	

Use all chemicals according to the manufacturer's label. The label will provide specific instructions including allowed sites, application methods, rates, storage, re-entry requirements and personal protective equipment. No specific recommendation or endorsement is made or implied by listing the above methods or products. 9/2021