

SQUARROSE KNAPWEED

Centaurea virgata Lam. var. *squarrosa* (Willd.) Boiss.

Family: Asteraceae (Sunflower).

Other Scientific Names: None.

Other Common Names: None.

Legal Status: Not categorized.



Identification

Growth form: Perennial forb.

Flower: Flower heads are small, numerous, and have 4–8 rose- or pink-coloured flowers. The flower bract tips are spreading, with the terminal spine longer than the lateral spines on each bract.

Seeds/Fruit: No information available.

Leaves: Lower leaves are deeply dissected, upper leaves are bract-like.

Stems: Mature plants are typically 30–45 cm tall with highly branched stems.

No illustration available.

Very similar in appearance to diffuse knapweed.

Roots: Taproot.

Seedling: Seedlings have deeply indented, grey-green leaves.

Similar Species

Exotics: Often confused with diffuse knapweed (*Centaurea diffusa*), but a true perennial, and bracts are recurved. Unlike diffuse knapweed, seed heads are deciduous, falling off the stems soon after seeds mature.

Natives: None known.

Impacts

Agricultural: Can reduce forage production potential for livestock and wildlife.

Ecological: A highly competitive weed that can

displace native rangeland plants. This species is well adapted to dry disturbed areas.

Human: No information available.

Habitat and Ecology

General requirements: Squarrose knapweed is generally found on light, dry, porous soils. It appears best adapted to open habitats. It is rare on cultivated lands and irrigated pasture in the US because it cannot tolerate cultivation or excessive moisture.

Distribution: Not present in BC. In the US, squarrose knapweed is found on plains, rangelands, and forested benchlands and is currently established in California, Utah, Oregon, and Washington.

Historical: Introduced from Eurasia.

Life cycle: Perennial forb. Squarrose knapweed may remain as a rosette for several years before it bolts and produces seeds (Roche and Roche 1991). Once it has

matured, it can continue to flower and produce seeds for several years. Squarrose knapweed flowers from June through August. Seed heads are deciduous and fall off the stems soon after seeds mature.

Mode of reproduction: By seed.

Seed production: Each seed head produces 3–4 seeds.

Seed bank: Seeds may remain viable in the soil for several years.

Dispersal: The seed heads readily attach to animal fur and vehicle tires.

Hybridization: No information available.

Management

Biocontrol: *Urophora affinis* (fly) and *Urophora quadrifasciata* (fly), which attack spotted (*Centaurea maculosa*) and diffuse knapweed (*C. diffusa*), will apparently use this species as an alternate host. However, there is no information indicating that these insects have any impact on the plant.

Mechanical: Cutting, mowing, and removing the plant before it sets can reduce seed production, but it is not likely to eliminate the infestation. A program with cutting and mowing over several years will typically be required for long-term management.

Fire: Burning is not recommended for managing squarrose knapweed. Roche (1999) reported that this species will increase when fire is applied to dry rangeland sites.

Herbicides: Picloram, clopyralid, dicamba, and glyphosate all have been effective management agents (Beck 1997; Youtie 1997; Watson and Renney 1974). Herbicides should be applied before the mature plants

set seed to maximize effectiveness, but autumn application to newly re-sprouted basal leaves can also be effective (Roche 1999). Consult the most recent edition of BC Ministry of Agriculture, Food and Fisheries Crop Production Guides for specific recommendations. **Before applying herbicides, read the label for full use and precautionary instructions.**

Cultural/Preventive: Prevent establishment of new infestations. Manage land use to maintain vigorous native communities.

Integrated Management Summary

This species does not occur in the province and should be a priority for immediate eradication if it is found.

References

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