

FIELD SCABIOUS

Knautia arvensis (L.) Coult.

Family: *Dipsacaceae* (Teasel).

Other Scientific Names: *Scabiosa arvensis*.

Other Common Names: Blue buttons, pincushion.

Legal Status: Regional Noxious: Kootenay-Boundary, Thompson-Nicola, Bulkley-Nechako.



Identification

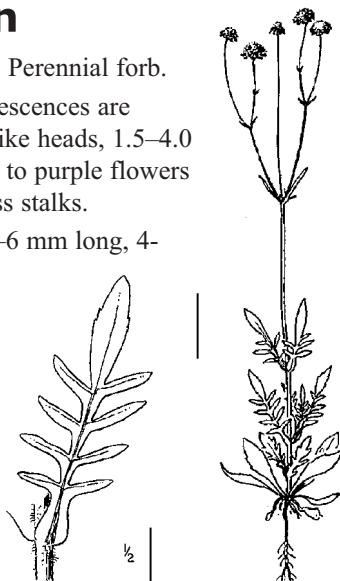
Growth form: Perennial forb.

Flower: Inflorescences are dense, clover-like heads, 1.5–4.0 cm wide, with violet-blue to purple flowers on the end of long, leafless stalks.

Seeds/Fruit: Seeds are 5–6 mm long, 4-angled, and densely hairy (Douglas et al. 1998).

Leaves: Basal leaves are coarsely toothed, while stem leaves are opposite and feather-shaped.

Lower leaves are 10–25 cm long but are smaller higher on the plant.



Stems: Stems are erect, hairy, and grow 0.3–1.3 m tall.

Roots: Well-developed woody taproot, often branched below the soil.

Seedling: The cotyledons (seed leaves) are club-shaped, 15 mm long, and 5 mm wide. The first leaves are rounded with wavy margins and have scattered white hairs. Later leaves become lobed (Royer and Dickinson 1999).

Similar Species

Exotics: Caucasian scabiosa (*Scabiosa caucasica*), an ornamental perennial for gardens, has a similar appearance to field scabious.

Natives: None.

Impacts

Agricultural: Competes with forage stands and native pastures, causing declines in hay production and pasture carrying capacity. Once established, it is difficult to eradicate.

Ecological: Plants establish easily along roadsides and disturbed areas and are capable of invading undisturbed plant communities (BC Ministry of Agriculture, Food and Fisheries. Undated).

Human: This plant is sometimes grown as an ornamental and butterfly attractant. It has a high oil content and is being considered as a source for high-performance lubricants and certain dietary fats.

Habitat and Ecology

General requirements: Adapted to nutrient-rich and moderately moist to dry loam soils (BC Ministry of Agriculture, Food and Fisheries. Undated). It is found on roadsides, pastures, and fields at mid-elevations.

Distribution: This plant is absent from Vancouver Island and the Lower Mainland but is present in all other agricultural reporting regions in the province. It is

most troublesome in the Kootenays, Okanagan, Thompson, and Omineca regions.

Historical: Introduced from Eurasia.

Life cycle: Life cycle in BC not described. Initially produces a rosette of basal leaves then sends up flowering shoots.

Mode of reproduction: By seeds.

Seed production: A single plant can produce up to 2,000 seeds.

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

Dispersal: Most seeds fall from the plants, but others can be spread by birds and human activities.

Hybridization: None known.

Management

Biocontrol: None.

Mechanical: Cut or mow pastures before seed-set. Cultivation can manage this weed. Heavily infested pastures and hayfields can be cultivated and rotated to an annual crop.

Fire: No information available.

Herbicides: Picloram and metsulfuron-methyl provide excellent control. Picloram can be applied spring or autumn, while metsulfuron-methyl should be applied to actively growing plants up to the early flower bud stage. 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: Small infestations of immature plants can be hand-pulled. Seed production can be

reduced by cattle grazing early in the season, but the plant becomes unpalatable as it produces flowering stalks. Maintain vigorous perennial plant communities and seed disturbed sites to provide ground cover and competition.

Integrated Management Summary

Seed production must be prevented to manage this weed. This can be done by grazing or mowing plants before they flower or by applying appropriate herbicides.

References

BC Ministry of Agriculture, Food and Fisheries. Undated. Plant Industry Branch, Crop Protection Program. Integrated Weed Management—Field Scabious. Fact Sheet.

Douglas, G. W., G. B. Straley, D. Meidinger, and J. Pojar. 1998. *Illustrated Flora of British Columbia*. Vol. 1: *Gymnosperms and Dicotyledons (Aceraceae through Asteraceae)*. Province of British Columbia.

Royer, F., and R. Dickinson. 1999. *Weeds of Canada and the Northern United States*. Edmonton: University of Alberta Press.

