

# RUSSIAN KNAPWEED *(Acroptilon repens L.)*

## INTRODUCTION

Native to Mongolia, western Turkestan, Iran, Turkish Armenia, and Asia Minor, Russian knapweed is another highly competitive knapweed variety. Similar to diffuse and spotted knapweed, Russian knapweed was first introduced into Canada around 1900 as a contaminant of alfalfa seed. It is currently found in the largest concentrations in the Keremeos area, and in smaller patches in the east Kootenay region, Okanagan, Merritt, Kamloops and William's Lake areas. Unlike diffuse and spotted knapweed, Russian knapweed spreads through creeping horizontal roots and seed. This provides additional competitive advantages and makes it more difficult to control.

Knapweed plants are highly competitive, forming dense colonies in disturbed or overgrazed lands. Once established, knapweed can dominate an area and significantly reduce desirable vegetation. Russian knapweed is particularly a threat to the stability of ranching operations. Russian knapweed can reduce available forage and crop values and may even significantly devalue the land itself. Grazing animals generally avoid knapweed due to its bitter taste; however, under poor-range conditions animals will graze knapweed. While diffuse and spotted knapweed are non-poisonous, Russian knapweed is toxic to horses and can cause the neurological disorder, chewing disease. This disease is limited to horses and does not occur in cattle, sheep or goats.

## IDENTIFICATION

- Long-lived perennial
- Grows in dense patches of single stems
- Deep, creeping roots and stems 30-90 cm tall
- Young stems are covered with soft, short, gray hairs
- Solitary, greenish-grey urn-shaped flower heads
- Lavender-blue to pink flowers

## BIOLOGY

Russian knapweed shoots emerge early in spring, shortly after soil temperatures remain above freezing. This perennial forms rosettes and bolts in late May to mid-June. Russian knapweed flowers from July to September. While it does not appear to reproduce extensively from seed, one plant may produce 1,200 seeds per year. Seeds are dispersed in contaminated soil, hay and other seed. Animals probably also play an important role in seed dispersal.

Russian knapweed is also able to spread by lateral extensions of its roots, a characteristic lacking in diffuse and spotted knapweed. Buds on the horizontal roots can form adventitious shoots that may grow to be independent plants. The roots of Russian knapweed can extend more than 7 m below the soil surface with 2-2.5 m of growth occurring the first year and 5-7 m in the second year.



## INTEGRATED MANAGEMENT

The most effective method of control for Russian knapweed is to prevent establishment through proper land management. The healthier the natural plant community, the less susceptible it will be to Russian knapweed invasion. A combination of cutting and herbicides can be used to manage Russian knapweed. Areas free of Russian knapweed should be monitored annually and all plants found should be destroyed immediately.

### PREVENTION

- Maintain grasslands in a healthy, vigorous condition to ensure a productive plant community; competitive perennial grasses and forbs utilize water, nutrients and space that would otherwise be readily available to knapweed.
- Regularly patrol your property for knapweed plants and immediately treat new infestations.
- Cooperate with adjacent landowners and encourage them to control knapweed and other weeds. Immediately revegetate disturbed, bare soils with a suitable seed mix that provides dense, early colonization to prevent weed invasion.
- Clean your vehicles and machinery of plant material and soil before leaving a knapweed infestation. Check seed for contaminants and use only certified seed.
- Learn to identify the different species of knapweed and other noxious weeds.

### PHYSICAL CONTROL

Cutting or removal of the above-ground portion of the plant reduces the current-year growth and may eliminate seed production, but it will not kill Russian knapweed. Plants should be mowed or cut aggressively several times before plants bolt to weaken the root reserves. Plants that re-emerge are usually smaller in size and less vigorous. Once plants have bolted, there are no more buds on the roots capable of reproduction until they begin to form again in mid-August to September.

### BIOLOGICAL CONTROL

A nematode biological control agent, *Scubanguina picridis*, has been experimented with in BC and Colorado but is currently not available for general distribution. Biological control agents that attack diffuse and spotted knapweed will not transfer to Russian knapweed.

For further information on weeds in BC check out the provincial websites at: <http://www.weedsbc.ca> or <http://www.agf.gov.bc.ca/cropprot/weeds.htm>  
For more information about the Regional District of Okanagan-Similkameen Noxious Weed Education Program please contact the Regional District at 250-492-0237 or toll free at 1-877-610-3737.  
Information is also available on our website at: <http://www.rdos.bc.ca>



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