COLORADO STATE PARKS

BEST MANAGEMENT PRACTICES

WEED PROFILE

Date Created: April 25, 2003

Revised: April 1, 2005

Author: Various

Parks Affected: Many

Russian thistle

Salsola iberica **Sennen;** *S. kali* **L. var.** *tenuifolia* **Tausch;** *S. kali* **L. var.** *ruthenica* **(Iljin) Soo; and** *S. pestifer* **A. Nels** *S. collina* **Pallas**

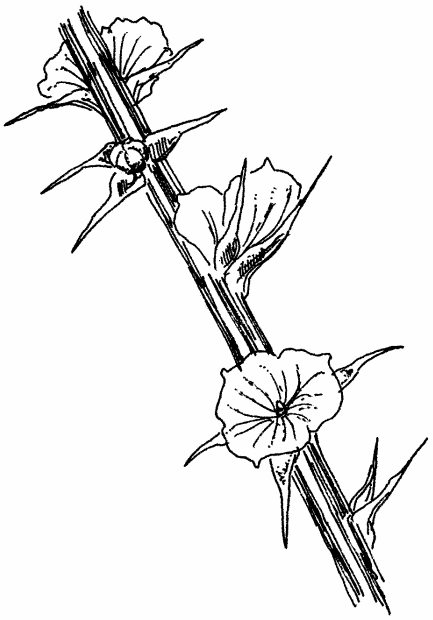
Family: *Chenopodiaceae* (Goosefoot)
Other Names: tumbleweed
USDA Code: SAIB, SACO8
Legal Status: Colorado Noxious List A (general weeds)

Keys to Identification:

- Stems of Russian thistle have purple stripes.
- Inconspicuous flowers are borne in leaf axils.
- Seedling plants have long, fleshy leaves.

Identification

Growth form: Annual forb
Flower: Inconspicuous flowers are borne in axils of the upper leaves. Each flower is accompanied by a pair of spiny, floral bracts (Whitson et al. 1996).
Seeds/Fruit: Small one-seeded fruits with winged tips. Seeds are round, black, smooth and shiny.
Leaves: Leaves are alternate, the first leaves are long, string-like and soft. Later leaves are short, scale-like and tipped with a stiff spine (Whitson et al. 1996).
Stems: Mature plants are 0.5-3 feet tall and are rounded, bushy, and highly branched. Stems are red or purpled striped.
Roots: The root system consists of a taproot that can grow 3 feet or more in depth with extensive lateral roots
Seedling: Seedling plants have long, fleshy leaves.



Similar Species

Exotics: Young Russian thistle plants resemble young halogeton plants, although halogeton lacks spines.
Natives: None known.

Impacts

Agricultural: It is well adapted to cultivated dryland agriculture, but is also found on disturbed rangeland, and wasteland.
Ecological: Russian thistle colonizes barren desert areas that cannot support other flora, and invades many different disturbed plant communities. Since its introduction it has become one of the most common and troublesome weeds in the drier regions of the United States (Whitson et al.1996). Russian thistle occurs in many communities. It is most common along disturbed grassland and desert communities. In disturbed big sagebrush communities, Russian thistle dominated for the first two years. After this time plants became overcrowded and stunted, and were replaced by mustards (FEIS 1996).
Human: No information available.

Habitat and Distribution

General requirements: Russian thistle grows in disturbed or unoccupied sites. (FEIS 1996). It grows on any type of well-drained, uncompacted soil with a sunny exposure. Russian thistle cannot tolerate saturated soil for extended periods of time.
Distribution: Found throughout central and western North America, up to 8550 feet (FEIS 1996).
Historical: No information available.

Biology/Ecology

Life cycle: In spring, Russian thistle seeds will germinate at virtually any conceivable seedbed temperature (FEIS 1996). Plants typically flower from July through October. Seeds mature during August through November. Russian thistle seedlings are poor competitors, and do not establish well in crowded communities (FEIS 1996).
Mode of reproduction: Reproduces by seeds.
Seed production: One plant can produce up to about 250,000 seeds (FEIS 1996).
Seed bank: Seeds remain viable less than a year.
Dispersal: After seeds mature in the fall the plant stem separates from the root. The plant is then blown by wind. Seeds, held in the leaf axils, fall to the ground as the plant tumbles.
Hybridization: No information available.

Control

Keys to Control:

- Maintain vigorous stands of perennial plants.
- Herbicides should be applied at the seedling growth stage for best results.
- Small infestations can be controlled by mowing or pulling young plants

Biocontrol: The Division of Plant Industry's Biological Pest Control Section has two moth species, *Coleophora klimeschiella* and *C. parthenica*, that may be available for redistribution.
Mechanical: Mowing or pulling young plants can be used to control Russian thistle. However this process may have to be repeated for several years to be successful.
Fire: Prescribed burning is not recommended for control of Russian thistle, since it favors disturbed communities and readily recolonizes burned areas (FEIS 1996).
Herbicides: Dicamba at 0.5 lb., 2,4-D at 1 lb, or glyphosate at 1.5 lb. ai/acre, have been used to successfully control Russian thistle (Calweed 1997).
Cultural/Preventive: Prevent the establishment of new infestations by minimizing disturbance and seed dispersal, eliminating seed production and maintaining healthy native communities.

Integrated Management Summary

For effictive control of Russian thistle, control methods should be accompanied by a program to maintain or enhance the natural plant cover. As with other annual plants which reproduce by seeds, Russian thistle can eventually be controlled by eliminating seed production until the soil seed bank is depleted. Cut/pull or treat plants with herbicide prior to seed set.

References

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