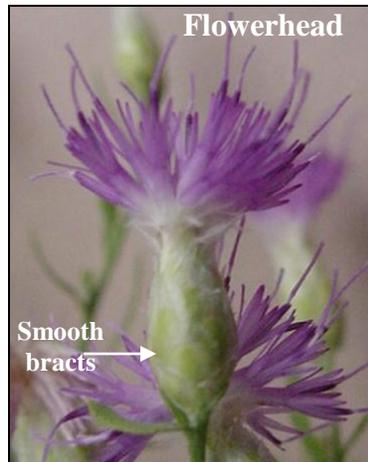


# Rangeland-Pasture Recommendations

## Russian knapweed Identification and Management

Russian knapweed (*Centaurea repens*) is a non-native deep-rooted perennial that spreads by seeds and aggressive, creeping, horizontal roots (rhizomes). The roots are black with a scaly appearance. Russian knapweed can grow up to 3 feet in height. The stems and leaves are covered with short, stiff hairs. The flowers are urn-shaped, pink to purple in color, and are solitary at the tips of the upper branches. Russian knapweed can be distinguished from other knapweeds by the pointed papery tips of the bracts that surround the flowers.

Russian knapweed emerges from its root system in early spring after soil temperatures remain above freezing. It produces flowers from June to August and sets seed in later summer to early fall. Russian knapweed reproduces primarily from its root system. Buds on the horizontal roots can form adventitious shoots that may grow to be independent plants. Russian knapweed can be managed with herbicides or insects, but long-term control must include planting competitive plant species to occupy bare ground once infested by the weed.



Russian knapweed is allelopathic, which means it contains a toxic substance that inhibits the growth of competing plants. This weed may also be toxic to horses resulting in serious injury or possibly death of the animal. Russian knapweed displaces native vegetation and reduces forage values on range and pasturelands. It can infest many land types, from roadsides, ditch banks, riparian zones, pastures, irrigated cropland, clearcuts, and cropland.

The most effective method of control for Russian knapweed is to prevent its establishment through proper land management. Maintain healthy pastures and rangeland and continually monitor your property for new infestations.

On the backside of this sheet are Russian knapweed management recommendations. If you have any questions, please contact the Weld County Public Works Dept., Weed Division at (970) 304-6496 ext. 3770. Please visit our website [www.weldweeds.org](http://www.weldweeds.org).

**Recommended management methods:**

**Cultural** – Seeding and maintaining aggressive grasses will help in competing with Russian knapweed and slow its spread. Species such as thickspike wheatgrass and streambank wheatgrass have proven to be effective competition against Russian knapweed infestations. Proper grazing management will stimulate grass growth and keep pastures healthy. Healthy pastures may be more resistant to Russian knapweed invasion. Bare spots caused by overgrazing are prime habitat for weed infestations.

**Mechanical** – Due to the extensive root system, hand-pulling this plant is not a viable option. Cutting several times before the plants bolt stresses Russian knapweed plants and forces them to use nutrient reserves stored in the root system. Combining mowing with herbicides will further enhance control of this weed. Mow repeatedly during the summer then apply a herbicide in the fall.

**Herbicides** – The following are recommendations for herbicides that can be applied to range and pasturelands. A combination of seeding competitive grasses and the application of herbicides have proven to be effective in managing Russian knapweed.

Always read, understand, and follow herbicide label directions. The herbicide label is the LAW!

Herbicide	Rate	Application Timing/Comments
Clarity + 2,4-D Amine	1 qt./acre for each product or 1 oz/gal water for each product	Spring- bud to early flower stage and/or fall rosette stage. DO NOT apply when outside temperatures will exceed 85 degrees. Add non-ionic surfactant @ 0.32 oz/gal water or 1 qt/100 gal water.
Curtail	3 qts./acre or 3.0 oz/gal water	Spring- bud to early flower stage and/or fall rosette stage. Add non-ionic surfactant @ 0.32 oz/gal water or 1 qt/100 gal water.
Tordon 22K *this is a Restricted Use Pesticide*	1 qt./acre or 1.0 oz/gal water	Spring- bud to early flower stage and/or fall rosette. DO NOT apply near or under trees or where soils have rapid permeability or where water level is high. Add a non-ionic surfactant @ 0.32oz/gal water or 1 qt/100 gal water.
Milestone	4 to 6 oz/ acre	Apply to plants in the spring and summer that are in the bud to flowering stage and/or to dormant plants in the fall. It is permissible to treat seasonally dry wetlands and transitional areas between upland and lowland sites. DO NOT rotate to a broadleaf crop within 1 year of application. Add a non-ionic surfactant @ 0.32oz/gal water or 1 qt/100 gal water.

