



Russian Knapweed

Rhaponticum repens

FAMILY	Asteraceae - daisies & sunflowers	ORIGIN	Eurasia
LIFE CYCLE	Perennial	OTHER NAMES	Hardheads, Turkestan thistle, Creeping knapweed, Mountain bluet, Russian cornflower

QUICK FACTS

- Russian knapweed is **allelopathic**, meaning it can secrete chemicals into the soil that affect surrounding plants. In this case, it produces a chemical that **reduces the number of viable seeds** of other plant species, giving it an edge over native species.
- Russian knapweed has infested approximately **1,400,000 acres** in the western United States.
- The urn-shaped seed head usually fails to open, leaving the seeds trapped inside. While they could traverse **long distances** if caught in a water stream, the main method of growth and expansion seems to be through **root growth**.

Difficult to eradicate, this non-native plant can spread both from seed and from its roots. A root only needs to be one inch long to grow into a new plant and restart an infestation.

Russian knapweed is widespread in the US, but it is especially common in the more arid places of the western states. It is widespread in New Mexico and can be found in many areas of high disturbance (areas that have experienced both man-made and natural events that significantly alter conditions in a relatively short time), but has trouble establishing itself in areas with healthy native plant populations.

What does it look like?

Russian knapweed can reach up to 3 feet tall, with multiple branching stems. The stems are covered with fine white hairs that give it a blue-green color. The leaves at the base of the plant are about 2 to 4 inches long and up to 1 inch wide, but the leaves get progressively smaller and thinner the higher they are on the plant, and the wider leaves at the base can disappear with maturity. Flower heads, about ¼ to ½ inches and pink or lavender, are always found on the tip of the plant's leafy branches. The bracts, or the area directly behind the flower, feel smooth and papery; this sets the plant apart from other, spikier knapweeds.



Steve Dewey, Utah State University, Bugwood.org



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Eric Coombs, Oregon Department of Agriculture, Bugwood.org

Plant: Up to 3 feet tall, multiple branching stems.

Roots: Roots are scaly and dark brown to black, and can extend up to 14 feet wide and 23 feet deep. New growth grows directly from the roots, making this plant difficult to remove once it becomes established. They can release a chemical that can inhibit the growth of other plants.

Leaves: The leaves at the base that form the rosette are wider than the rest and can disappear as the plant matures. The leaves on the lower stem are pointy (linear-lanceolate), deeply lobed, and larger than those on the upper stem, which are less pointy (oblong) and toothed.

Flowers: The flowers are ¼ to ½ inches in diameter, pink to lavender in color, and are always found at the tip of the plant's leafy branches. They flower between June and September.

Seeds: Seeds are oblong, grey-brown in color, and are slightly less than an inch in length and ⅓ of an inch in width. The seeds are covered in fine white hairs and can survive in the ground for up to 5 years. The main method of expansion for this plant is producing new growth from existing roots, as the seeds cannot leave the seed pod once it dries. It's proposed that a main source of new infestation is contaminated hay bales carrying seeds.

Impact and Management

Economic

This weed will become a monoculture through aggressive vegetative growth and by secreting chemicals that reduce nearby plants' growth. It can reduce available forage for domestic livestock, as they will avoid it due to its bitter taste, and can cause serious neurological harm to horses if consumed for over a month.

Wildlife Habitat

Russian Knapweed is highly aggressive and, if left unchecked, can form localized monocultures, which reduce biodiversity and lower the availability of food for wildlife. It secretes a chemical from its roots that reduces the growth of nearby plants. That chemical can linger in the soil after the plant is removed, further degrading the environment.

Agriculture and Food Security

The edges of the leaves and the stem have needles, which can be painful if handled with bare hands. There are no known toxins in musk thistle, but it is frequently sprayed with herbicides to control its population.

Horses

Reduces overall forage for livestock, is toxic to horses, and can cause a neurological disorder called "chewing disease" if fed on for over a month.



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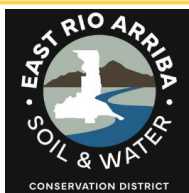
Russian knapweed is difficult to eradicate once it has been established in the environment, so the most effective management strategy is to prevent it from being established in the first place and remove seedlings early before they can become established. While small-scale infestations may be pulled by hand, the use of machinery is discouraged as it might carry root fragments and expand the infestation. Animals tend to avoid grazing on this plant due to its bitter taste. Herbicides were shown to be effective if applied after the emergence of leaves. An integrated control method, such as selective application of herbicide after weekly disk mowing and planting competitive perennial grasses, seems to be the only effective way to control this plant, according to the USDA. Still, it will take years of effort to truly remove it from a given area, which is why it is so important to remain vigilant and take action before an infestation gets out of hand.

DO's

- Plant native perennial grasses to out-compete knapweed.
- Target the root structure.
- Clean vehicles, boots, livestock, and equipment after visiting infested sites to prevent the spread of seeds to new areas.

DON'Ts

- Burn the plant, as it will likely leave the root structure unharmed.
- Leave roots in the ground, as they will regrow to full plants.
- Feed to horses, as it can cause chewing disease.



For more information on managing Russian knapweed, please visit www.nmweeds.org

