



Asotin County Noxious Weed Control Board

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Russian knapweed *Acroptilon repens*

Description: Russian knapweed is a member of the sunflower family. This invasive perennial is characterized by its extensive root system and relatively low seed production. This knapweed can form dense patches with 100-300 shoots per square meter produced primarily by root buds. Russian knapweed produces an allelopathic compound that hinders the growth of competing vegetation. In Asotin County rosettes may be produced in the late fall. Young plants are covered with short gray hair. The leaves vary from a deeply lobed linear shape on the lower plant to an oblong toothed shape on the upper stem. The flower heads are urn-shaped with pink to purple petals. The major means of seed dispersal is probably contaminated hay.

Habitat: Initially, Russian knapweed invades clearcuts, waste places, pastures, ditches, riverbanks, and roadsides. After establishment it invades other areas with a healthy vegetation cover. Russian knapweed will invade any crop. It has been shown to reduce grain yields by 28-75% and the fresh weight of corn by 64-88%. Russian knapweed reduces rangeland production. It does especially well in clay soils, but is not limited by soil type. Excess moisture and excess shading seem to limit its range.

Mechanical: Pulling, cutting, and disking two to three times per growing season will reduce the vigor of the stand but it has not been shown to eliminate the infestation.

Biological: There are two biological controls that have been approved by the USDA. Both of these need APHIS permits to transport them between states. The Russian knapweed gall nematode (*Subanguina picridis*) causes galls to form on stems, leaves and root collars causing a reduction in seed production and plant growth. This nematode does best in areas with wet winters and springs. The Russian knapweed mite (*Aceria acroptiloni*) forms galls on the leaves and in the flower heads of both Russian and diffuse knapweeds. A heavily galled plant may die. Neither of these biological controls is known to be present in Asotin County.

Fire: Although there are no studies that are available to show the effects of burning on Russian knapweed, it may be assumed that since most burns will not affect the roots and that this knapweed is an excellent competitor in disturbed soils, that a burn may actually increase the size of the infestation.

Cultural Control: Because of its bitter taste, Russian knapweed is avoided by most grazing animals. It causes “chewing disease” in horses. This disease does not seem to affect cattle, sheep, or goats.

Fertilizer: Unknown

Chemical: These chemical recommendations are for noncropland areas and are summarized from the “Pacific Northwest Weed Management Handbook - 2004”. These recommendations are not intended to be a complete resource guide. Label requirements need to be followed for restrictions, concentrations, timing, and nontarget interactions. Chemical control can be effective, but must be maintained for several years. Please contact the Weed Office for updated information on herbicide controls.

- **Picloram** (Tordon)
 - Rate: 1 lb ae/A
 - Time: Late spring or during flower stem elongation
 - Caution: Do not apply on or near susceptible crops or desirable plants. Label includes buffer zone restrictions, air temperature limits, and grazing restrictions. Do not contaminate water or where surface water from treated areas can run off to adjacent cropland. Do not apply to snow or frozen ground. Do not allow grazing in areas where poisonous plants were sprayed until plants have died, herbicide may increase palatability. Do not spray pastures if the forage legume component is desired. Do not move treated soil. Do not transfer livestock onto crop areas for at least 7 days after grazing on land treated with picloram. See label for other restrictions.
- **Glyphosate** (Roundup, etc)
 - * Rate: 3 lb. ae/A
 - * Time: Apply to actively growing plants when most are in the bud stage.
 - * Remarks: Glyphosate kills grasses and competing vegetation in addition to knapweed plants.
- * **Clopyralid** (Transline)
 - * Rate: 0.25 to 0.5 lb ae/A (0.66 to 1.33 pints/A) see label
 - * Time: Apply up to the bud stage
 - * Remarks: See label for registered sites. See Redeem label for additional application possibilities.

* Caution: See label for restrictions. Some crops may be injured up to 4 years after application.

* **Imazapic** (Plateau)

* Rate: 0.188 lb ai/A

* Time: Apply in fall or early winter after plant has senesced.

* Remarks: Use 1 quart/A methylated seed oil as the adjuvant.
Selective to most native grasses.

* Caution: Note crop rotation restrictions.

Distribution: Russian knapweed is found in scattered populations between the County landfill and the County Public Works shop on Critchfield.

ACNWCB Policy: This species has been established in its approximate locations for many years. The rate of spread seems to be slow. The ACNWCB is working with landowners to reduce the size of the present infestations especially when it is bordering neighboring lands.

1/24/05

