Bromus inermis Leysser

Smooth brome

Family: Poaceae
Range: Most contiguous states, except a few southeastern states; very common in the northern mountain states.
Habitat: Forests and wooded areas, edges of fields, ditches, roadsides, overgrazed pastures, prairies, rangelands, grasslands, meadows, riverbanks, and other disturbed sites. Typically not shade tolerant.
Origin: Native to Eurasia. Introduced for cultivation in California in the late 1800s. Smooth brome is cultivated for forage and has been used for revegetation of burned sites.
Impacts: Because of its vegetative spread from rhizomes, stands of smooth brome can persist for many years. Dense populations can form a thick sod and exclude other desirable species, and often lead to nitrogen deficiency. In some cases it may desirable to use smooth brome to increase C:N (decrease available N) and favor early successional species. Smooth brome is also known to significantly impact the population dynamics and movement behavior of several native arthropod species in North American prairies. It may also serve as an alternate host for viral diseases of crops. Its deep root system allows it to tolerate prolonged drought conditions. However, smooth brome is considered a desirable forage for livestock and large wild ungulates in many western locations.

Smooth brome is a cool-season perennial to 3 ft tall or more, with an extensive creeping rhizome system. Stems are glabrous and leaves can be 6 to 16 inches long. Like many other members of the genus, the sheaths are closed. Ligules are membranous and usually less than 1 mm long.

Inflorescences are erect open panicles, 2 to 8 inches long, with one to four branches per node. The spikelets are nearly cylindrical, 1 to 1.5 inches long, glabrous, and often purple-brown. Although more commonly absent, when awns are present they are less than 3 mm long. Plants are self-incompatible. Smooth brome reproduces by seed and through rhizome development, which begins 3 weeks to 6 months after germination. Individual rhizomes are reported to have 1 year longevity. Seeds remain viable for 2 to 10 years.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	A single well-timed close mowing in the boot stage is an effective method of control, and appears to be as effective as multiple mowings, although repeated mowing is often recommended. Ideal timing is when conditions are hot and moist, followed by a dry period.
Cultural	Burning can help control the spread of smooth brome, but does not appear to eliminate it. Most studies show that fire is not very effective for the control of smooth brome. The best time for burning has been reported to be both in the early spring when plants are in the four to five leaf stage, and in the boot to early bloom stage. Earlier timing allows resources to be used by native warm-season grasses. In some cases fire can injure its competitors allowing smooth brome to increase.
Biological	There are no biological control agents for smooth brome.

CHEMICAL CONTROL

The following specific use information is based on reports in published papers or by researchers and land managers. Other trade names may be available, and other compounds also are labeled for this weed. Directions

for use may vary between brands; see label before use. Herbicides are listed by mode of action and then alphabetically. The order of herbicide listing is not reflective of the order of efficacy or preference.

LIPID SYNTHESIS INHIBITORS	
Fluazifop *Fusilade*	**Rate:** 1 to 1.5 pt product/acre (4 to 6 oz a.i./acre) **Timing:** Postemergence in spring. **Remarks:** Fluazifop is grass-selective and will not damage broadleaf species. It has no soil activity. Use crop oil concentrate surfactant.
AROMATIC AMINO ACID INHIBITORS	
Glyphosate *Roundup*, *Accord XRT II*, and others	**Rate:** Broadcast foliar treatment: 1.33 to 2.67 qt product (*Roundup ProMax*)/acre (1.5 to 3 lb a.e./acre). Spot treatment: 1.5% v/v solution **Timing:** Postemergence from May to June, before stems have elongated. **Remarks:** Glyphosate is a nonselective herbicide. Its effectiveness is increased by addition of ammonium sulfate. Best where smooth brome is growing in pure patches. Glyphosate has no soil activity.
BRANCHED-CHAIN AMINO ACID INHIBITORS	
Imazapic *Plateau*	**Rate:** 8 to 16 oz product/acre (2 to 4 oz a.e./acre) **Timing:** Postemergence before stem elongation. **Remarks:** Imazapic has soil residual activity. It is a broad-spectrum herbicide that tends to favor members of the Asteraceae and some grasses. It is not as effective on smooth brome as *Landmark XP* or *Oust*. Imazapic is not registered for use in California.
Imazapyr *Arsenal*, *Habitat*, *Stalker*, *Chopper*, *Polaris*	**Rate:** 2 to 3 pt product/acre (8 to 12 oz a.e./acre) **Timing:** Preemergence or early postemergence when plants are growing rapidly. **Remarks:** Imazapyr has soil residual activity. It is a broad-spectrum to nonselective herbicide.
Sulfometuron *Oust* and others	**Rate:** 3 to 5 oz product/acre (2.25 to 3.75 oz a.i./acre) **Timing:** Preemergence or early postemergence when plants are growing rapidly. **Remarks:** Sulfometuron has long soil residual activity and may move off-site in wind-blown soils. Typically considered a nonselective herbicide combination that often gives bare ground.
Sulfometuron + chlorsulfuron *Landmark XP*	**Rate:** 1.5 oz product/acre (0.75 oz a.i./acre sulfometuron + 0.375 oz a.i./acre chlorsulfuron) **Timing:** Postemergence before stem elongation. **Remarks:** The combination gives excellent control of smooth brome, particularly on younger plants. Both herbicides have soil residual activity and may move off-site in wind-blown soils. The sulfometuron component makes *Landmark* less selective than other herbicides, and higher labeled rates may cause bare ground.
Sulfosulfuron *Outrider*	**Rate:** 1 oz product/acre (0.75 oz a.i./acre) **Timing:** Postemergence before stem elongation. **Remarks:** Sulfosulfuron provides only fair control of smooth brome and is not as effective as *Landmark XP*.

RECOMMENDED CITATION: DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center, University of California. 544 pp.