Hordeum jubatum L.

Foxtail barley

Family: Poaceae
Range: Indigenous to the western U.S.; now throughout most of the country, except for southern Atlantic and Gulf Coast states.
Habitat: Disturbed areas, meadows, basins, ditchbanks and roadsides. Thrives in moist areas that are saline or alkaline but will also grow under non-saline conditions. Occasionally weedy on agricultural sites such as grain and hay fields, especially those with poor drainage. It is most abundant on the edge of sloughs and salt marshes and rapidly invades areas exposed by a receding water table.
Origin: Native to western North America.
Impact: In disturbed areas, foxtail barley forms monotypic stands that displace favorable vegetation. The barbed awns can injure the mouths, nose, eyes and digestive tract of grazing animals. It is also a host for several viruses.

Foxtail barley is a non-rhizomatous, short-lived, cool-season perennial grass. It has erect stems and grows in dense bunches or tufts usually 1 to 2 ft tall. The leaves are gray-green, sometimes pubescent, and up to 9 mm wide. The sheath margins have numerous soft hairs and the ligules are short, membranous and lack auricles.

Each culm terminates in a nodding spike about 2.5 to 4 inches long. The spikes are light green with reddish or purplish tints. They appear silky and glisten in the sunlight. When mature, the spikes fade to a light tan color and are very brittle. The awns are 1 to 2.25 inches long and sharp, with backward-pointing barbs. Foxtail barley reproduces sexually by seed and can reproduce vegetatively by tillering. Foxtail barley initiates growth in April or May, and flowers and sets seed from June to late July or August. The seeds appear to survive less than 7 years under field conditions.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Foxtail barley is fairly tolerant of cutting or mowing. Mowing can help interrupt seed production, but the plants recover, often grow more prostrate, and continue to flower. This species usually can be controlled by plowing in fall followed by cultivation such as harrowing in spring. However, spring tillage alone is significantly less effective.
Cultural	Foxtail barley is most sensitive to a late-spring burn that coincides with its active growing period. Moderate fires will likely top-kill the plant, and hot fires may kill the root system as well. Foxtail barley can be managed somewhat by controlling water levels and managing drainage. When water is allowed to stand in low, poorly drained areas, it may kill off competing vegetation, allowing foxtail barley to establish. Low spots should be managed to prevent standing water.
Biological	Because foxtail barley is native to the western United States, there is no biological control program for its management.

CHEMICAL CONTROL

The following specific use information is based on published papers or reports 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	
Clethodim *Select, Envoy*	**Rate:** 12 to 32 oz product (*Envoy*)/acre (1.5 to 4 oz a.i./acre) **Timing:** Postemergence when the target plants are growing rapidly and between 2 and 6 inches in height. **Remarks:** Clethodim is a grass-selective herbicide. Add a non-ionic surfactant containing at least 80% a.i. at the rate of 1 pt/50 gal (0.25% v/v). Note that *Envoy* formulation is 1 lb a.i./gallon, *Select* is 2 lb a.i./gallon.
BRANCHED-CHAIN AMINO ACID INHIBITORS	
Imazapic *Plateau*	**Rate:** 8 to 12 oz product /acre (2 to 3 oz a.e./acre) **Timing:** Postemergence when target plants are growing rapidly. **Remarks:** Splitting the 12 ounce application into two applications of 6 oz each in May and late June has improved control and seedhead suppression. Imazapic is not registered for use in California.
Propoxycarbazone-sodium *Canter R+P*	**Rate:** 0.9 to 1.2 oz product/acre (0.63 to 0.84 oz a.i./acre) **Timing:** Postemergence from the 2-leaf to 2-tiller stage when plants are growing rapidly. **Remarks:** Propoxycarbazone is a broad-spectrum herbicide that will control many species. It will provide only partial control of foxtail barley. Perennial grass species vary in tolerance. A non-ionic surfactant should be added at 0.25 to 0.5% v/v solution.
Sulfometuron *Oust*	**Rate:** 1.33 to 2 oz product/acre (1 to 1.5 oz ai/acre); or 3 to 5 oz product/acre (2.25 to 3.75 oz a.i./acre). Rate depends on environmental conditions. **Timing:** Preemergence or postemergence, just before or during the rainy season when the target plants are growing rapidly and germinating. Use the lower rate range for areas receiving less than 20 inches precipitation annually and the higher rate range for those receiving greater than 20 inches annual precipitation. **Remarks:** Sulfometuron is a broad-spectrum herbicide that will control many species. It also has long soil residual activity and is susceptible to off-site movement in light wind-blown soils. Add a surfactant to improve control.
PHOTOSYNTHETIC INHIBITORS	
Hexazinone *Velpar L*	**Rate:** 2.75 to 4.5 pt product/acre (0.7 to 1.1 lb a.i./acre) **Timing:** Early postemergence when the target plants are in the seedling stage. **Remarks:** Hexazinone has minimal selectivity and will kill most other vegetation. It is also mobile in the soil and should not be used in areas with a shallow water table. High rates of hexazinone can create bare ground, so only use high rates in spot treatments.

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.