Phalaris arundinacea L.

Reed canarygrass

Family: Poaceae
Range: Most of the United States except Hawaii and some southeastern states; Canada and worldwide.
Habitat: Wet sites along streams, in grassland, and woodlands throughout California and the West, except deserts and Great Basin.
Origin: Some biotypes are native to North America. Other invasive biotypes originated in Europe.
Impacts: Creeping rhizomes allow reed canarygrass to establish dense stands that outcompete native vegetation, particularly in wetland areas. It is sometimes planted for livestock forage, for streambank stabilization and erosion control, and for revegetation of mine spoils. In natural areas, reed canarygrass is an important component of the ecosystem and provides food for seed-eating birds. However, it may sometimes develop colonial patches in ditches, irrigation channels, and other controlled aquatic systems. Given time, it can overgrow small watercourses and alter soil hydrology.
Western states listed as Noxious Weed: Washington

Reed canarygrass is a cool-season, coarse, perennial grass to 5 ft tall, with creeping rhizomes. This species and other *Phalaris* species have pinkish juice when stems are broken at the base. The creeping rhizomes allow reed canarygrass to form dense monocultures that spread radially. The rhizomes can tolerate prolonged flooding. Because reed canarygrass is tolerant of freezing temperatures and begins to grow early in spring, it can outcompete other native species in wetland and riparian areas. Reed canarygrass establishment is promoted by disturbance, e.g., ditching, channelizing of streams, overgrazing, flooding, or sedimentation.

Panicles are green to purplish and often interrupted near the base. In addition to rhizomes, reed canarygrass also produces abundant seeds that are highly viable and can help the plant to disperse over greater distances. Seeds buried below the soil surface can survive up to about 20 years.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Hand-pulling is practical only for small stands and requires a large time commitment. It can be effective if done over the entire population 2 to 3 times per year for 5 years. Repeated mowing, e.g., five times per season, can effectively control reed canarygrass. Mowing can be used to remove excess biomass, thus enhancing the effectiveness of follow-up herbicide applications. Plants should be allowed to regrow before treating. Reed canarygrass is sensitive to disking or plowing. Pre-treating the plants with glyphosate early in the season kills many of the rhizomes, allowing them to deteriorate and enhancing the effect of disking. Following disking, later applications of herbicide may be necessary to control seedlings.
Cultural	Grazing can suppress reed canarygrass, but the palatability of this plant decreases in late season and following grazing. Grazing may be inappropriate in wetland settings. In wetlands, fire can suppress reed canarygrass and increase relative competitiveness of other wetland species. Fire is best suited for sites containing a healthy seedbank of fire-adapted native species that will colonize the area after a burn. Prescribed fire may be required for 5 or 6 years, or in 2 to 3 year rotations. Late spring or late fall burns are most effective, though late spring burns are most likely to damage desirable plant species. Burning has also been used to control resprouts and new germination 2 to 3 weeks after glyphosate application. Burning also can be combined with herbicides. Plants can be burned first, then the regrowth treated with herbicide. Early-season burning, in particular, stimulates shoot production. In denser stands, plants can be treated with herbicide first so that their dead foliage provides fuel for burning

	a few weeks later.
Biological	No biocontrol agents are known for reed canarygrass.

CHEMICAL CONTROL

The following specific use information is based on published papers and 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:** 16 oz product (*Select*)/acre (4 oz a.i./acre) for seedlings; 0.5% product v/v in spot treatment. **Timing:** Postemergence; best before 6 inches tall. Less effective if applied after a mowing. **Remarks:** Clethodim is grass-selective and safe on broadleaf species. To select in favor of other perennial grasses, apply before they emerge. It has no soil activity. Use a crop oil surfactant. The first treatment may provide only suppression of established plants. Retreatment may be necessary. Registered for fallow and non-crop areas, not generally for rangeland/natural areas, but has specific-use supplemental labels. Rates are based on high-end rates reported for annual canarygrass. Note that *Envoy* formulation is 1 lb a.i./gallon, *Select* is 2 lb a.i./gallon.
Fluazifop *Fusilade*	**Rate:** 1 to 1.5 pt product/acre (4 to 6 oz a.i./acre); 0.5% product v/v in water for spot treatment. **Timing:** Postemergence to rapidly growing plants; best before boot stage. **Remarks:** Fluazifop is grass-selective and safe on broadleaf species. It has no soil activity. To select in favor of other perennial grasses, apply before they emerge. Use a crop oil concentrate. The first treatment may provide only suppression of established plants, but retreat as needed. Registered for fallow and non-crop areas, not for rangeland/natural areas.
AROMATIC AMINO ACID INHIBITORS	
Glyphosate *Roundup*, *Rodeo*, *Aquamaster*, and others	**Rate:** 2 to 3 qt product (*Rodeo* or *Aquamaster*)/acre (2 to 3 lb a.e.); 2% to 5% product v/v solution in water for spot treatment; 33% to 50% product v/v solution in water for wiper applications. **Timing:** For selective use, apply in early spring when reed canarygrass is just sprouting and before other species germinate or emerge. More generally, apply to rapidly growing plants. **Remarks:** Glyphosate is a nonselective herbicide. It has no soil activity. Can be applied using a wiper (e.g., rope wick). Its effectiveness is increased by addition of ammonium sulfate. Also effective following removal of dead residue by burning, mowing, or grazing. Some formulations are registered for use in or near water (e.g., *Rodeo*, *Aquamaster*).
Glyphosate + imazapyr *Rodeo* + *Habitat*	**Rate:** 1 qt *Rodeo* + 1 pt *Habitat*/acre **Timing:** Postemergence in spring to young growth. **Remarks:** Use aquatic formulations near water. These herbicides are nonselective.
BRANCHED-CHAIN AMINO ACID INHIBITORS	
Imazapic *Plateau*	**Rate:** 8 to 12 oz product/acre (2 to 3 oz a.e./acre) **Timing:** Preemergence in fall. **Remarks:** Imazapic has mixed selectivity and tends to favor species in the Asteraceae and some grasses. It is safe for most native grasses, but higher rates may suppress seed of some cool-season grasses. Use with a methylated seed oil for maximum activity. It has long soil residual activity. Not registered for use in California.
Imazapyr *Arsenal*, *Habitat*, *Chopper*, *Stalker*, *Polaris*	**Rate:** 1 to 4 pt product/acre (4 to 16 oz a.e./acre) broadcast, or spot treatment with 1% v/v solution in water. **Timing:** Postemergence to rapidly growing plants. Use higher rates for larger plants or late-season applications. **Remarks:** Imazapyr has fairly long soil residual activity. It is a nonselective herbicide. *Habitat* is registered for aquatic use.
Sulfometuron *Oust* and others	**Rate:** 3 to 5 oz product/acre (2.25 to 3.75 oz a.i./acre) **Timing:** Preemergence to early postemergence. **Remarks:** Sulfometuron has mixed selectivity. Do not apply to frozen ground. Add non-ionic surfactant for postemergence applications. It has fairly long soil residual activity. *Oust* cannot be used adjacent to water where reed canarygrass usually grows.

ECOMMENDED 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.