

Reed canarygrass *(Phalaris arundinacea)*

Description:

Reed canary grass is a large, coarse, perennial grass that reaches 2 to 9 feet in height. It has an erect, hairless stem with gradually tapering leaf blades 3 1/2 to 10 inches long and 1/4 to 3/4 inch in width. Blades are flat and have a rough texture on both surfaces. The leaf color is variable, but most often is a light, bluish green. The compact flower clusters are erect or slightly spreading (opening up as they mature), and range from 3 to 16 inches long with branches 2 to 12 inches in length. Single flowers occur in dense clusters in May to mid-June. They are green to purple at first and change to beige over time. This grass is one of the first to sprout in spring, and forms a thick rhizome system in the subsurface soil. Reed canarygrass spreads by both seed and rhizomes.

Reed canarygrass is a cool-season, sod-forming, wetland grass native to the northern temperate regions of Europe, Asia and North America. No other forage plant is as well adapted to wet, marshy areas as is reed canarygrass. It can withstand flooding, and can tolerate continuous inundation for as long as 60-70 days without permanent injury. Although wet areas in full sun are preferred, reed canary grass is also very drought tolerant and able to withstand high degrees of variability in soil type, pH levels, fertility, temperature and exposure.

Reed canarygrass has unjustly gained a reputation as a low quality forage grass. Animals grazing reed canarygrass during spring and summer perform similarly to those grazing orchardgrass, timothy or brome, and better than those grazing fescue. The poor reputation is largely due to its reduces palatability when the plants get full grown and coarse. Improved palatability is accomplished through earlier harvesting, frequent mowing or grazing (to keep plants young).

Reed canarygrass has the ability to utilize nitrogen from wastewater at very high levels without causing damage to the plants. Zeiders (1976) reported, "reed canarygrass is the most popular species for irrigation with wastewater from municipal and industrial sources as a pollution control measure".

Impacts:

Detrimental

- Reed canarygrass can out-compete most native species and impair wetlands by forming large, dense stands.
- Limited grazing and habitat value to wildlife.
- Very difficult to eliminate and presents a serious challenge in wetland restoration.
- Reduces flow in irrigation ditches due to its dense growth and trapping of sediment.
- Produces large amounts of pollen that is easily airborne and moderately allergenic.

Beneficial

- Reed canarygrass can be used for pasture, hay and silage. It thrives in saturated soils where no other forage can be grown.
- Used for erosion control in ditches and especially adapted to use as sod in areas where establishing stands by seeding is difficult.
- Reduces pollutants when used as part of the filtration system for municipal waste water treatment.
- Used in northern Europe as an alternative energy source.



John Cardina, The Ohio State University, Bugwood.org

Control Options:

Thurston County's Integrated Pest Management emphasizes cultural, biological, and manual control methods to keep pests and vegetation problems low enough to prevent damage. The goal of Thurston County's IPM is to minimize the use of pesticides by utilizing and providing information about the most effective control options that are available and practical.

► Biological

There are currently no biological control methods available for reed canarygrass.

► Cultural / Habitat

Clipping back plants at ground level and covering them with black plastic tarps can reduce but not eliminate populations. However, this method is rarely effective because reed canarygrass can grow up through most material, and seasonal flooding may displace covering materials.

Densely planting with native broadleaf trees such and willows and alders has shown some degree of control, as reed canarygrass is not especially shade tolerant. The reed canarygrass should be controlled before planting, and must be maintained by mowing, mulching, or herbicides until trees are tall enough to fully shade the area.

Desirable vegetation should always be planted directly after any control option is performed because reed canarygrass will rapidly move back into areas from root fragments and seeds that remain in the soil.

► Manual / Mechanical

Removal of reed canarygrass by hand-pulling is practical only for small stands and requires a large investment of time and energy. Mowing can be effective for prevention of seed production if done at least twice a year and can help re-establish native species by increasing the amount of light that reaches the soil. However, mowing will not reduce populations, but can be part of a containment program.

Heavy equipment has been used unsuccessfully in reed canarygrass control. Rapid regrowth occurs from rhizome fragments and seeds that remain in the soil and it is nearly impossible to remove all seeds and fragments. Cultivation will not significantly reduce reed canarygrass infestations either. There are too few days that are hot and dry enough for cultivation to effectively kill plants that have been tilled. Cultivation will actually rejuvenate stands of reed canarygrass and may cause inadvertent spread into previously uninfested areas. Be careful to clean equipment and tools after working in a reed canarygrass infested area in order to prevent spreading seed or root fragments to new areas.



John M. Randall, The Nature Conservancy, Bugwood.org

► Chemical

Reed canarygrass is a perennial that produces new plants from underground rhizomes, so it is important to use a systemic herbicide such as *glyphosate* that will move into the root system and kill the entire plant. Applications using a hand-held or backpack sprayer with a 2% glyphosate concentration provides effective control. Spray the grass until it is wet but not dripping and follow label directions to mix herbicide to a 2% concentration. Thurston County rates glyphosate products high in hazard for carcinogenic potential. The risk from spot spraying reed canarygrass is considered low provided the applicator wears a long sleeved shirt, pants and chemically resistant gloves. Glyphosate is non-selective and will injure any plant that it contacts.

Many glyphosate products have an initial concentration of 41% (example: Roundup Pro®, Glyphos®, etc.), they are recommended to be diluted to a 2% solution for spraying reed canary grass. Pre-mixed, ready-to-use glyphosate products do not contain enough active ingredient to effectively control reed canarygrass.

Herbicides containing the active ingredient *imazapyr*, (Habitat® or Arsenal®) are also effective. Imazapyr is considered “moderate in hazard” by Thurston County due to its persistence and mobility and is the County’s second choice for herbicide control. Imazapyr products are non-selective and can also damage or kill most plants.

Herbicide spraying within 50 feet of a water body requires the use of an herbicide formulated for aquatic settings. Reed canarygrass is often found growing near water bodies, and aquatic formulations of glyphosate (Aquamaster®, Rodeo®) and imazapyr (Habitat®) are recommended. **However, Aquatic herbicides are restricted for use in Washington State to licensed applicators only.**

Timing

Both glyphosate and imazapyr products can be used any time the plants are actively growing. Young, tender plants are treated most effectively, and mowing with a re-growth period before application can increase effectiveness. Applications should allow enough time for newly planted vegetation to become established prior to season end.

Pollinator Protection

To minimize negative impacts to bees and other pollinators, treatment prior to blooming is recommended. Removal of flowers before treating can be an option. If treatment must occur during blooming period, try to spray early or late in the day or on cloudy cool days.

READ AND FOLLOW ALL LABEL DIRECTIONS AND RESTRICTIONS. Obey all label precautions, safety measures, and wear all recommended personal protective equipment. Use of brand names does not connote endorsement and is for reference only; other products with the same active ingredients may be available under other names. Pesticide product registration is renewed annually and product names and formulations may vary from year to year.

REFERENCES:

Timothy W. Miller, Laura Potash Martin, and Craig B. MacConnell. Weed Technology 22:507–513, Managing Reed Canarygrass (*Phalaris arundinacea*) to Aid in Revegetation of Riparian Buffers. 2008.

Pacific Northwest Weed Management Handbook, pg. 464. ISBN 978-1-931979-19-1. 2009.

Oregon State University. Coastal Pastures in Oregon and Washington, Pasture Management Guide, EM 8645. August 1996.

USDA Natural Resources Conservation Service Plant Guide, Reed Canarygrass (*Phalaris arundinacea*) Pullman Plant Material Center, Pullman, Washington



Agricultural Research and Cooperative Extension, Pennsylvania State University. Agronomy Facts 26, Reed Canarygrass. 2008

Wheaton, H.N. University of Missouri Extension, Reed Canarygrass, Ryegrass and Garrison Creeping Foxtail. 1993

Thurston County Public Health & Social Services
412 Lilly Road NE
Olympia WA 98506
Phone: 360-867- 2664
T.D.D. 360-867-2603
www.co.thurston.wa.us/health/ehipm/index.html