

VEGETATION MANAGEMENT GUIDELINE

Reed canary grass (*Phalaris arundinacea*)



SPECIES CHARACTER

Description

This large, coarse grass has erect, hairless stems, usually from 2 to 6 feet (0.6- 1.8 meters) tall. The ligule is prominent and membranous, 1/4 inch (0.6 cm) long and rounded at the apex. The gradually tapering leaf blades are 3 1/2-10 inches (8.9-25.4 cm) long, 1/4-3/4 inch (0.6-1.9 cm) wide, flat, and often harsh on both surfaces. The compact panicles are erect or sometimes slightly spreading and range from 3-16 inches (7.6-40.6 cm) long with branches 1/2-1 1/2 inches (1.2-3.8 cm) long. Single flowers occur in dense clusters in May to mid-June or August. Inflorescences are green or slightly purple at first, then become tan. Seeds are shiny brown.

The species growth form is highly variable. Reed canary grass is considered native to Illinois, but a Eurasian ecotype has been introduced widely. Plant size, panicle shape, and panicle size are not correlated to geographic distribution.

Similar Species

It is extremely difficult, if not impossible, to distinguish the native and non-native ecotypes. Reed canary grass closely resembles orchard grass (*Dactylis glomerata*). It differs from orchard grass in that reed canary grass's leaves are much wider, the inflorescence is more narrow and pointed, and the individual flowers have a different shape. The glumes and lemmas (scales that are part of the spikelet) of orchard grass are hairy, while those of reed canary grass are glabrous. Reed canary grass should be accurately identified before attempting any control measures. If identification of the species is in doubt, the plant's identity should be confirmed by a knowledgeable individual and/or by consulting appropriate books.

Distribution

This grass is found throughout the world except Antarctica and Greenland. The Mediterranean region is the center of diversity of the genus. It is locally common in Illinois wetlands, particularly in the northern part of the state where it frequently occurs in wet meadows and marshes.

Habitat

This species occurs in wetlands, including marshes, wet prairies, wet meadows, fens, stream banks, and swales. It has been planted widely for forage and for erosion control.

Life History

Reed canary grass is a coarse, sod-forming, cool-season, perennial grass, native to temperate regions of Europe, Asia, and N. America, and adapted to much of the northern half of U.S. It occurs from wet to dry habitats with best growth on fertile and moist or wet soils (shores, swales, meadows). Reproduction is from seed and vegetatively by stout, creeping rhizomes. It begins growth in early spring, growing vertically 5-7 weeks after germination, and then expands laterally. Growth peaks in mid-June and declines in mid-August. Vegetative vigor is related to maximum root and shoot production. Seeds ripen in late June and shatter when ripe. The native reed canary grass is not thought to be aggressive as is the Eurasian ecotype.

Effects Upon Natural Areas

It is a major threat to marshes and natural wetlands because of its hardiness, aggressive nature, and rapid growth. Native wetland and wet prairie species are replaced after several years of reed canary grass presence. It is of particular concern because of the difficulty of selective control.

CONTROL RECOMMENDATIONS

RECOMMENDED PRACTICES IN NATURAL COMMUNITIES OF HIGH QUALITY

Fire can help control the spread of reed canary grass and keep it out of high quality wetlands. Repeated late autumn or late spring burning for several years can control this species. Annual burning may be needed for 5-6 years before good control is apparent. Burning is most effective where other species are present or in the seed bank, since fire allows native, fire-adapted species to compete successfully. Fire is not very effective in dense monocultures of this grass where seeds or plants of native species are absent. The native reed canary grass should not be totally eliminated, but no reliable method for telling the difference between the forms is known. Control measures should be implemented when reed canary grass degrades the natural quality or diversity of a community.

RECOMMENDED PRACTICES IN BUFFER AND SEVERELY DISTURBED SITES

Prescribed fire as described above should be used in areas that will burn. Hand removal for control may be feasible in small stands. There is evidence that hand chopping the culms at flowering time may kill small clones. Certain herbicides are effective where there is no real concern for damage to surrounding native species. Rodeo, a formulation of glyphosate designed for use in wetlands, will kill reed canary grass, especially young plants, when applied to foliage according to label recommendations. Rodeo should be applied in early spring when reed canary grass is green and most native wetland species are still dormant. The area should be checked after spraying, and any surviving reed canary grass should be sprayed the following spring. Dalapon and Amitrol also reportedly kill canary grass, although no Illinois natural area managers were found that have experience with these herbicides. All 3 herbicides are licensed for use in aquatic areas. **Rodeo and Amitrol are nonselective herbicides that will kill all vegetation contacted.** Dalapon selectively kills grasses and monocots, but not broadleaf plants. Spraying foliage with Roundup (a formulation of glyphosate) mixed according to label instructions and

subsequent burning of dead residue has been moderately effective in northern Illinois. However, Roundup is not licensed for use in aquatic areas and should only be used in areas without standing water.

When using any herbicide, precautions should be taken to avoid contacting nontarget species. **Do not spray so heavily that herbicide drips off the target species.** The herbicide should be applied while backing away from the treated area to avoid contacting wet herbicide. By law, herbicides only may be applied as per label instructions and by licensed herbicide applicators or operators when working on public properties.

Where practical, it can be useful to sow in seed of nearby native grasses and forbs after reed canary grass has died (due to control efforts) or gone dormant. Seed of nearby native grasses and forbs should be collected when ripe and then raked into the sod as soon as the reed canary grass has died.

FAILED OR INEFFECTIVE PRACTICES

- hand control: very slow and too labor-intensive for large stands.
 - mowing: probably not effective as a control measure.
 - herbicides: probably none that are selective enough to be useful in high quality areas.
 - grazing: probably not a practical method of control in wetland areas where canary grass usually is a problem.
 - tillage: not usually practical in wetlands and not appropriate for high quality sites.
 - restoring water levels: many Illinois wetlands are drier now than historically, and restoring water levels needs more research.
 - biological controls: none known that are feasible in natural areas.
 - introduction of competitive species: probably few native species can compete with reed canary grass in wetlands if burning is not used also. It reportedly will even crowd out cattails. Prescribed burning allows native species that are present or seeded-in to compete successfully.
 - heavy equipment: removal with construction equipment is ineffective, as reed canary grass responds quickly by growing back from rhizomes and seeds remaining in the soil. Use of heavy equipment is not appropriate in good quality natural communities.
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