ANNUAL RYEGRASS

Also known as Italian ryegrass

Lolium multiflorum

Grass Family (Poaceae)

Description

Fast-growing but short-lived, annual ryegrass is a cool-season grass found particularly in wetlands, grasslands, and disturbed sites.

Annual ryegrass is an erect grass that grows to 3 feet tall. The flat leaf blades are bright green and glossy, taper gradually to a sharp point, and feel slightly rough at the edges. They measure up to 8 inches long and a quarter-inch wide, and display prominent ridges along the upper surface. Stems often have a reddish tint at the base. A collar is formed where the leaf blade joins the stem. Two sets of roots develop: the first set, deriving from the seed, are short-lived; the second set, which grows closer to the soil surface, comes from tillers. The roots are usually shallow and fibrous, but can grow deep in drier soils. The grass dies back by midsummer, turning dry and yellow.

Reproduction

The inflorescence appears at the top of the stem as a single spike up to 16 inches long made up of alternate, pale yellow spikelets. The seeds are small and have a high rate of germination. Seeds germinate within 10 days—usually with the onset of the rainy season. Seed dormancy develops only in cooler, moist areas. Annual ryegrass also spreads by seed and vegetative shoots or tillers.

Impact

Annual ryegrass reportedly contains allelopathic compounds that inhibit the germination of some species of neighboring plants, while its rapid growth deprives them of water. At the Edgewood Natural Preserve, a serpentine grassland in San Mateo county, annual ryegrass has displaced much of the native dwarf plantain (*Plantago erecta*), the main food source for the native bay checkerspot butterfly. During summer dormancy it accumulates thatch that presents an added fire hazard. It is also a weed in cereal crops, particularly wheat.

Key Factors

- Root system can reach 3 feet or deeper on dry sites.
- Seeds germinate quickly, so there is usually no seedbank build-up.
- Tillers profusely.
- Seedlings are shade-intolerant.
- May be developing resistance to certain herbicides, including glyphosate.

Treatment Options

- **Mow** to about 6 inches using a weed-whacker prior to bolting in the spring. This prevents reinfestation of annual ryegrass by depleting the seedbank, and promotes the survival of native perennial grasses and other species. Timing of mowing varies. At the Tina Baumgartner restoration site in Tilden Park, Berkeley, Shelterbelt mows *repeatedly* (2–3 times) at monthly intervals to remove biomass and developing seeds just as they are beginning to ripen. At the Edgewood Preserve in San Mateo, a *single* mowing is performed in early May before the annual ryegrass seeds ripen but after the annual forbs set seed. Both sites have had considerable success with mowing annual ryegrass (unlike other invasive grasses), with reduction rates at 50–80 percent.
- **Graze** goats on the seed heads. Cattle will also graze on annual ryegrass.

Disposal

Cut grasses can be left on-site to decompose, as long as they have been mowed before they go to seed. Some practitioners rake mowed grasses from an area if they contain viable seed.

Follow-Up

Projects need to be maintained over several years. Research suggests that planting coastal scrub species and native trees may help to control annual ryegrass in chaparral and oak woodland habitat, as the seedlings do not grow well in shade.

Interesting Facts

Native to southern Europe, annual ryegrass was introduced to the States for its ability to provide high-quality forage. It is still sown to prolong the grazing season and reduce soil erosion. Research in the South Bay suggests nitrogen deposition from freeway pollution enables annual ryegrass to invade otherwise resistant, naturally nutrient-poor, serpentine soils.

Notes