

RYEGRASSES

the 17th in a series by
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Ryegrass originally developed as a pasture grass which would withstand close grazing and had a superior ability to produce meat and milk. Even today nitrogen-fertilized ryegrass is the preferred animal feed for cattle in the Netherlands. The early settlers in New Zealand fell and burnt the forests, then threw Ryegrass seed in the ashes to develop one of great introduced grazing environments in the world.

The Ryegrass Family

There are about ten species of ryegrass which have been botanically identified, but only two are commonly used in the turfgrass industry. Italian ryegrass (*Lolium multiflorum* Lam.), sometimes referred to as annual ryegrass due to the predominately annual growth habit, is a native of the Mediterranean regions of Europe. It is noted for its rapid germination rate and hence may be used where rapid cover is desired. The annual nature and low cold tolerance of the species limit its use for sports fields in Canada. Under more tropical environments it has found a place in overseeding dormant tropical grasses for winter play.

On the other hand, perennial ryegrass (*Lolium perenne* L.), sometimes referred to as English ryegrass, has a world wide reputation as a premier grass for sports field use. The reputation has been gained through the superior wear resistance of the grass. It originated in the temperate areas of Asia and North Africa. Although a bunch type grass without the colonizing ability of bluegrass with its rhizomes, ryegrass may provide a dense, high wear resistant turf when grown in temperate climates under high fertility and adequate water. Hence it is the preferred sports field grass in Europe.

Ryegrass Advantages

The major advantage of ryegrass is the wear resistant qualities of the ryegrass leaf. The wear resistance is derived from the extremely tough, fibrous vascular bundles in the leaves. While this advantage increases the wear ability of the leaf, ryegrass

is more difficult to mow than other turfgrass species. A whitish appearance, due to shredded, mutilated leaves, may be observed if the mower becomes dull.

A second advantage of ryegrass is the relatively rapid germination and emergence rate. Under favourable temperature conditions of 12 - 25°C, ryegrass will emerge in 5 to 8 days. Thus ryegrass is the preferred species for overseeding in the late spring or early fall. In overseeding operations rapid germination of the ryegrass increases its competition potential with weed species, such as annual bluegrass, which may also be germinating. On the other hand, because of the rapid establishment, ryegrass can be excessively competitive in mixtures with other species, resulting in poor establishment of the preferred species; usually Kentucky bluegrass.

Since ryegrass is a bunch grass thatch accumulation is seldom a problem. Thus topdressing programs for thatch control are seldom required on sports fields with a high ryegrass content.

Ryegrass will perform well under a wide variety of soil conditions, including the heavy textured soils. It has fair to good tolerance to poor drainage and compaction. The latter advantage makes the species a popular choice for reseeding goalmouth and centre field areas, but it does not correct the underlying problem and will not perform as well as if the soil was less dense. Best performance is obtained on neutral soils, however it will tolerate slightly acidic soils. Drought tolerance is medium. Its adaptation to shade is good.

Ryegrass Disadvantages

A major disadvantage ryegrass is the bunch-type growth habit. It lacks the rhizomes of Kentucky bluegrass or the stolons of bentgrass which enable them to colonize bare areas. Recovery from winter kill or other stress factors is poor and overseeding becomes essential. Ryegrass will also become stemmy during late spring when numerous reproductive tillers

are formed. The stems will resist mowing by reel mowers giving the sports field a ragged appearance.

A second disadvantage is the lack of cold tolerance. More recent cultivar introductions of turf type perennial ryegrass, however, have increased cold tolerance. Unless good snow cover can be assured in areas with severe winters winter kill can be a serious problem.

Ryegrass is susceptible to leaf rusts. In August and early September rust can reduce the vigour and quality of pure ryegrass stands growing at low levels of nitrogen fertilization and without irrigation. Under sports field conditions other diseases seldom become a problem with ryegrass.

Ryegrass is not tolerant of close mowing. A height of 2.0 to 2.5 inches is preferred, although the higher mowing height may create problems obtaining a clean cut. Because of the tough nature of the leaf and the stems which appear in late spring, a rotary mower may produce a superior quality turf in comparison to a reel mower.

Cultural Practices

Satisfactory quality of ryegrass turf may be maintained with medium fertility which involves .25 - .75 kg N/100 m² of nitrogen per growing month. The higher rate may be necessary for high use fields on which midfield and goalmouth wear can be more intensive. Phosphorus and potassium requirements are similar to those of other species.

Turf-type perennial ryegrass varieties are recommended for Southern Ontario, lower mainland B.C. and Vancouver Island, and the coastal areas of the maritime provinces. Relative to bluegrass, perennial ryegrass is a large seed. Therefore the recommended seeding rate is 2.0 - 4.0 kg/100 m².

*When your work speaks for itself,
don't interrupt.*

-Henry J. Kaiser