

Turfgrass Maintenance

Overseeding Bermudagrass with Perennial Ryegrass

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Perennial ryegrass is widely used throughout Tennessee for winter cover in dormant bermudagrass. Many golf course superintendents and sports turf managers rely on this cool-season species for color while bermudagrass is dormant in late fall, winter and early spring.



Perennial ryegrass tolerates wear when bermudagrass is dormant. In the spring, as soil temperatures warm and bermudagrass resumes growth, ryegrass plants are removed by herbicide or by cultural practices such as low mowing, nitrogen fertilization, core aeration, dethatching, topdressing and dragging, which favor the growth and competitiveness of bermudagrass. Overseeding success most often depends on the steps taken to prepare bermudagrass for overseeding and the management provided as ryegrass seeds germinate and plants develop.

Selecting Varieties of Perennial Ryegrass.

Perennial ryegrass varieties often vary in texture, color, stand density, frost resistance, mowing quality, high- and low-temperature hardiness, drought tolerance and disease resistance. By choosing varieties very carefully, seed company personnel and turfgrass professionals can customize ryegrass seed blends to do what they want them to do. For example, a 33.3:33.3:33.3 seed blend containing one dark green variety with very limited high-temperature hardiness and wear resistance, one medium-green variety with excellent high-temperature hardiness and good *Pythium* resistance and a third variety with good leaf spot resistance and spring color will

compete with bermudagrass differently than a 50:50 seed blend of two light-green varieties with excellent high-temperature hardiness and *Pythium* resistance.

The Recommended Overseeding Rate.

Ryegrass seeds are fairly large. One pound of mature perennial ryegrass seeds usually contains from 210,000 to more than 270,000 seeds. Although the recommended planting rate to establish a perennial ryegrass turf from seed is 5 to 8 pounds per 1,000 square feet, many more seeds are usually needed when overseeding healthy bermudagrass. The rate of the initial



overseeding may range from 10 to 15 or more pounds per 1,000 square feet. High-use sports turfs may be overseeded weekly during the playing season such that the total rate of overseeding may

exceed 20 pounds per 1,000 square feet.

Planting Procedures.

A major goal when preparing to overseed bermudagrass is to ensure ryegrass seed contact with soil. There is usually a high correlation between the aggressiveness of pre-planting preparation and the resultant stand density, performance and persistence of perennial ryegrass.



Bermudagrass plants injured by the overseeding process in August or early September recover quickly compared to a late-September and early-October overseeding. Bermudagrass may be mowed closely, dethatched, swept and dragged before planting. Dense, intensely managed hybrid bermudagrass may need to be heavily dethatched and may require more dragging to expose soil before overseeding than relatively thin 'common' bermudagrass or a coarse-textured, hybrid bermudagrass with very little thatch. If necessary, a growth regulator such as Primo® can be applied to slow bermudagrass growth before planting ryegrass. If bermudagrass is growing in heavily compacted soil high in clay, core aeration, slicing or spiking before overseeding may also be very beneficial. Slit-seeding, aero-seeding or broadcasting seed after dethatching or cultivation may result in the emergence of ryegrass seedlings in undesirable patterns. In order to achieve uniform seed distribution and seedling emergence, additional seed may be uniformly broadcast over the turf surface.

Care After Planting. After planting, the newly overseeded turf may be topdressed, dragged, rolled and fertilized. Topdressing with 1/8 to 1/4 inch of topdressing material (e.g., sand or mature compost), dragging and rolling the turf after overseeding usually enhance ryegrass seed germination and smoothes the soil surface. Seeds may move along with the topdressing material through thatch into direct contact with the soil

below. Applying a starter fertilizer may help speed bermudagrass recovery while promoting ryegrass growth.

It is nearly impossible to routinely establish quality perennial ryegrass in mid-fall by overseeding non-irrigated bermudagrass in late summer.



Pythium Disease of Perennial Ryegrass

Many, if not most, overseeding failures are due to too little or too much water. Immature ryegrass plants competing with bermudagrass plants for light, nutrients and space require water. However, the combination of high temperature and excessive moisture may cause disease. *Pythium*, a fungal pathogen most active during hot, wet weather, can quickly kill ryegrass seedlings. A fungicide application may be needed to control this troublesome water mold if ryegrass is seeded in early to mid-August and seedlings are exposed to high temperatures and excessive soil moisture. Ryegrass seedlings emerging from coated seeds treated with the fungicide Apron® are usually protected. However, treating newly harvested ryegrass seeds with a fungicide to control *Pythium* may delay the early-season delivery of perennial ryegrass seeds from the Pacific Northwest.

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