**BREEDER**
McCarthy/Burlinghams

**DESCRIPTION**
Wizard is a third generation, leafy, fine textured variety with rapid germination, excellent traffic tolerance and poly species compatibility. Wizard sets a new standard with darker green color and endophyte enhancement in ryegrasses available to the turf professional. The plant’s dark green color means less fertilizer input to achieve and maintain beautiful turf color and fine dense leaf texture. Wizard has a shorter growth habit, has improved mowing quality, and produces more tillers per plant to fill in rapidly. Plant growth of perennial ryegrass is dominated by aggressive basal tillering in contrast to vegetative stolons (above ground stems) and rhizomes (below ground stems). Wizard is an endophyte enhanced perennial ryegrass with >90% Neotyphodium lolii endophyte which provides resistance to a number of leaf and crown feeding pests and improved tolerance to abiotic (non-living) and biotic (living) stress.

**APPLICATION**
Developed for permanent poly species turfgrass blends and mixtures containing improved perennial ryegrass, Kentucky bluegrass, chewing, slender creeping and strong creeping red fescue, colonial bentgrass and turf type tall fescue. Wizard is also used extensively in winter overseeding programs on greens, tees, fairways and roughs where transition can be a limiting factor to bermudagrass recovery in the spring. Wizard responds very favorably to management and cultural practices that enhance transition from cool season to warm season turf such as verticutting, light renovation, and tight mowing.

**PERFORMANCE**
Wizard tied for 4th in turf quality in the Final Report 1994 NTEP Perennial Ryegrass Progress Report 99-11 across thirty (30) U.S. and Canadian locations. Wizard has also been evaluated around the world in both permanent and overseeded turfgrass evaluation trials. Wizard has been used extensively in overseeding programs on greens, tees, fairways and roughs where transition can be a limiting factor to bermudagrass recovery in the spring. Wizard responds very favorably to management and cultural practices that enhance transition from cool season to warm season turf such as verticutting, light renovation, and tight mowing.

**SEEDING**
Date: Spring and fall when soil temperatures are 60°F or higher. Perennial ryegrass is the fastest establishing cool-season turfgrass species available to the lawn care professional and homeowner. Late autumn and winter turf quality ratings of newer varieties like Wizard demonstrate that they can rapidly develop and maintain an attractive turf cover into late autumn and early winter.

Rates: 6.0-8.0 lbs./1,000 ft.sq. Seed count of Wizard is approximately 265,000 seeds per pound and dependent on year of harvest, location of production and seed production practices.

Depth: Sow at ¼ to ½ inch.

**CULTURAL PRACTICES**
Soil preparation: Prepare firm seedbed free of clods, sticks and vegetative debris. Seed should be in contact with soil. Improved elite perennial ryegrass such as Wizard prefers well-drained loamy soils but perform better in high bulk density soils than Kentucky bluegrass and fine fescue.

pH: Should be slightly acidic (5.5-6.5) for favorable growth. High

**TURF CHARACTERISTICS**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bunch</td>
<td>Fast 7-10</td>
<td>Very good</td>
<td>2x week</td>
<td>Very Good</td>
<td>None</td>
<td>Fair Good</td>
<td>Med High 6-8 lbs*</td>
<td>Fair-Good</td>
<td>Fair-Good</td>
<td>Fair</td>
<td>High 9.10</td>
<td>Yes &gt;90%</td>
<td>&gt;90%</td>
</tr>
</tbody>
</table>

*LHC* = low height of cut, *ET* = evapotranspiration, *N* = nitrogen per 1,000 ft.sq.; rates may increase or decrease based on location, soil type, irrigation practices, desired turf quality, humidity & other abiotic and biotic factors.
pH soils (alkaline) often contribute to yellow chlorotic leaf color and are a direct result of iron chlorosis. Foliar applications of iron, chelated iron or soil amelioration to decrease soil pH are used to reduce or eliminate iron chlorosis in perennial ryegrass turf.

**NPK requirement:** Of the cool-season grasses used for turf improved perennial ryegrass requires moderately high to high levels of available soil nitrogen to maintain proper basal tillering and growth. When soil nitrogen levels are low or absent, perennial ryegrass turf will gradually thin and be replaced by low nitrogen adapted grasses, and unsightly weed species. In northern regions 5-7 lbs. N/year; transitional climates 7-9 lbs. N/year; overseeding 2-4 lbs. N/growing month.

**Water use:** Wizard and other improved perennial ryegrasses are recognized as high water users with ET rate of 9-10 mm per day. Lower mowing heights, regulated soil nitrogen levels and infrequent but deep soil profile irrigation practices will help reduce perennial ryegrass water requirements. Wizard will enter summer induced dormancy and premature senescence or die if not properly hydrated (irrigated) during persistent low moisture soil conditions.

**Mowing height:** Wizard’s recommended mowing height for permanent turf in blends and mixtures is 1-1 ½ inches. On permanent turf or winter overseeded golf course fairways recommended mowing height is ¾- ½ “. On overseeded greens and tightly mowed tees Wizard can be mowed at 125,000ths of an inch to 180,000ths of an inch.

**Growth regulators:** New growth regulators such as Primo®(Trinexapac-ethyl) can be used to inhibit growth of warm season grass such as bermudagrass and zoysia during early season overseeding. This provides an excellent option for superintendents, landscapers and turfgrass managers that must overseed early when soil temperatures and day lengths are still beneficial to bermudagrass growth and tillering.

**Weed Control:** From NCSU Pest Control Recommendations for Turfgrass Managers 2003. In established turf for general broadleaf control: 2, 4-D+dicamba, 2, 4-D+MCP, 2, 4-D+MCPP+dicamba, 2, 4-D+2, 4-DP and others. Pre-emergent herbicides to control annual grassy weeds in established turf: benefin (Balan), bensulide (Pre-Far), dithiopyr+trifluralin, pendimethalin (Pre-M), prodiamine (Barricade). Annual bluegrass Poa annua can be controlled pre and post-emergent on golf course fairways, tees and roughs with ethofumesate (Prograss).