



BREEDER

NJAES/Rutgers University and Blue Moon Farms

DESCRIPTION

Quest II is new generation leafy, fine textured variety with rapid germination, excellent traffic tolerance and poly species compatibility. Quest II 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. Quest II 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) and rhizomes (below ground). Quest II is an endophyte enhanced perennial ryegrass with >96% *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. Quest II is also used extensively in winter overseeding programs on greens, tees and fairways either alone or in species mixtures.

PERFORMANCE

Quest II tied for 2nd in turf quality in the 1999 NTEP Perennial Ryegrass Progress Report 02-2 (2002) across twenty seven (27) U.S. and Canadian locations. Quest II also tied for 1st and 2nd in turf quality in the Schedule A (high maintenance fairways) and Schedule C (low maintenance home lawn) NTEP tests conducted during 2000-2002 respectively. It also tied for 1st in summer and fall turf density ratings across eight (8) locations tied for the 2nd best spring green up of 134 entries. Quest II is highly recommended for overseeding of greens, tees, fairways and roughs where transition can be a limiting factor to bermudagrass recovery in the spring. Quest II responds very favorably to management and cultural practices that enhance transition from cool-season to warm-season 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 all Quest II demonstrate that they can rapidly develop and maintain an attractive turf cover into late autumn early winter.

Rates: 6.0-8.0 lbs./1,000 ft.sq. Seed count of Quest II is approximately 270,000 seeds per pound and dependent on year of harvest, location of production and seed production practices.

Depth: Sow at ¼ to ½ inches.

TURF CHARACTERISTICS

Growth Habit	Estab. Rate days	LHC Tol. ½"	Mowing Freq.	Traffic Tol.	Thatch prod	Comp Mix	N. Req.	Shade Tol.	Cold Tol.	Drought Tol.	Et rate mm/day	Endophyte	Salinity Tol. mmhos
Bunch	Fast 7-10	Very good	2x week	Very Good	None	Fair Good	Med High 6-8 lbs*	Fair-Good	Fair-Good	Fair	High 9-10	Yes >96%	11 good

LHC=low height of cut, ET=evapotranspiration, N=nitrogen *per 1,000 ft²; rates may increase or decrease based on location, soil type, irrigation practices, desired turf quality, humidity & other abiotic and biotic factors.



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 Quest II 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 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: Quest II 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. Quest II will enter summer induced dormancy and premature senescence or die if not properly hydrated (irrigated) during persistent low moisture soil conditions.

Mowing height: Quest II recommended mowing height for permanent turf in blends and mixtures is 1.0-1.5 inch. On permanent turf or winter overseeded golf course fairways recommended mowing height is 3/4- 1/2 inch. On overseeded greens and tightly mowed tees Quest II 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+MCP+*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* (Progress).

