



Line Drive is a new dense shorter growing variety selected for its high endophyte content and improved darker green color.

Line Drive was rated among the top performing varieties in the NTEP turf trials. This variety has a fine leaf texture with improved mowing quality. The turf exhibits excellent density from the spring through the fall.

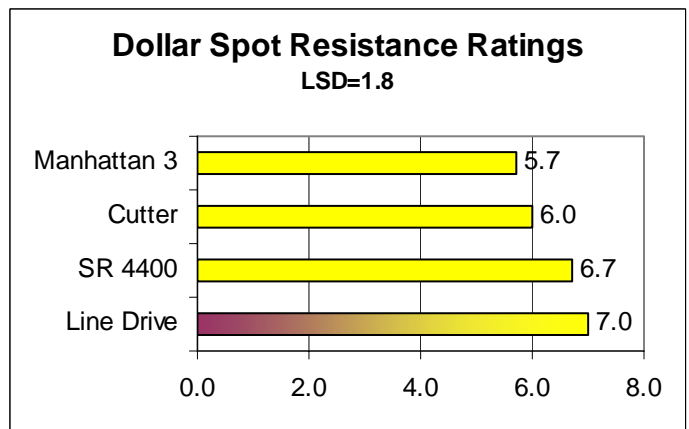
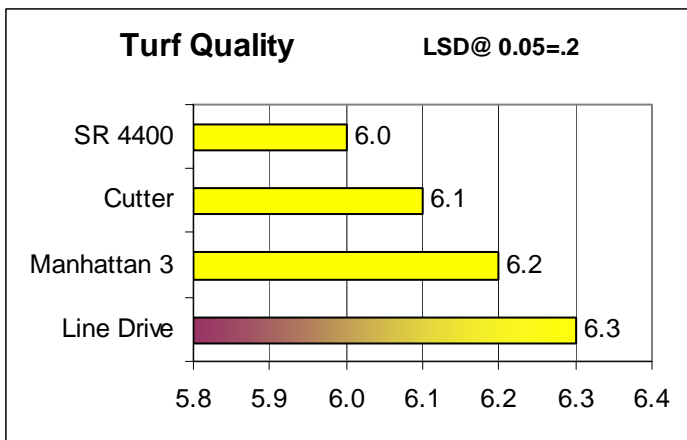
Line Drive has strong emergent plant vigor more characteristic of older upright varieties. It also has improved disease resistance from dollar and leaf spot.

Line Drive's endophyte enhancement provides protection from surface feeding insects. Line Drive generates less clippings, saving maintenance time throughout the season.

- High endophyte content
- Improved darker green color
- Rated among top performing varieties in NTEP tests
- Strong emergent plant vigor
- Improved resistance to dollar and leaf spot
- Generates less clippings
- Provides resistance to a number of leaf and crown feeding pests

Variety Comparison (NTEP)

Progress Report No.96-3 Perennial Ryegrass National Turfgrass Evaluation



SEEDING RATE:
 (new) 6-8 lbs./1000 sq. ft.
 (established) 3-4 lbs./1000 sq. ft.



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DESCRIPTION

Line Drive has strong emergent plant vigor more characteristic of older upright varieties. It also has improved disease resistance from dollar and leaf spot. Line Drive generates less clippings, saving maintenance time throughout the season. Line Drive is an endophyte enhanced perennial ryegrass 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. Line Drive is also used extensively in winter overseeding programs on greens, tees and fairways either alone or in species mixtures.

Turf Maintenance Characteristics

Growth Habit	Estab. Rate days	LHC Tol. 1/2"	Mowing Freq.	Traffic Tol.	Thatch Prod.	Comp. Mix	N. Reg.	Shade Tol.	Cold Tol.	Drought Tol.	ET rate mm/day	Endo-phyte	Salinity Tol. mmhos
Bunch 	Fast 7-10 	Very Good	2x Week 	Very Good 	None	Fair-Good	Med-High 6-8 lbs* 	Fair 	Fair-Good 	Fair 	High 9-10 	Yes >90%	11 Good 

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

PERFORMANCE

Line Drive is a new dense shorter growing variety selected for its high endophyte content and improved darker green color. Line Drive was rated among the top performing varieties in the NTEP turf trials. This variety has a fine leaf texture with improved mowing quality. The turf exhibits excellent density from the spring through the fall.

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 Line Drive demonstrate that they can rapidly develop and maintain an attractive turf cover into late autumn early winter.

Rates: 6.0-8.0 lbs/1000 sq. ft

CULTURAL PRACTICES

Soil Preparation: Prepare a firm seed bed free of clods, sticks, and vegetative debris. Seed should be in contact with soil. Improved elite perennial ryegrass such as Line Drive prefers well-drained loamy soils but perform better in high bulk density soils than Kentucky bluegrass and fine fescue.

pH: Soil 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 region 5-7 lbs. N/year; transitional climates 7-9 lbs; N/year; overseeding 2-4 lbs. N/growing month.

Water Use: Line Drive 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 requirements. Line Drive will enter summer induced dormancy and premature senescence or die if not properly hydrated (irrigated) during persistent low moisture soil conditions.

Mowing height: Line Drive’s recommended mowing height for permanent turf in blends and mixtures is 1-1 1/2 inches. On permanent turf or winter overseeded golf course fairways recommended mowing height is 3/4—1/2”. On overseeded greens and tightly mowed tees Line Drive can be mowed at 125,000’ to 180,000’.

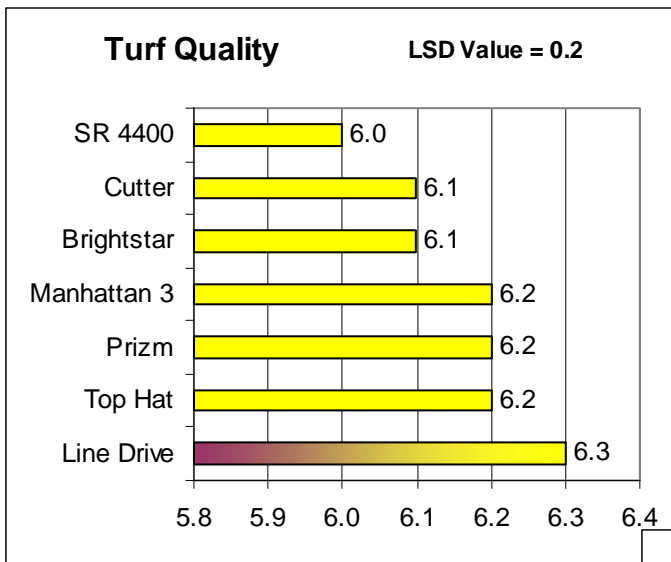
Growth regulators: New growth regulators such as Primo® (*Trinexapac-ethyl*) can be used to inhibit growth of warm season grass such as bermudagrass and zoysia during early season overseeding. This provides an excellent option for superintendents, landscapers and turfgrass managers that must overseed 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: 2,2-4+dicamba, 2,4-D+MCPP, 2,4-D+MCPP+dicamba, 2,4-D+2,4-DP and others.

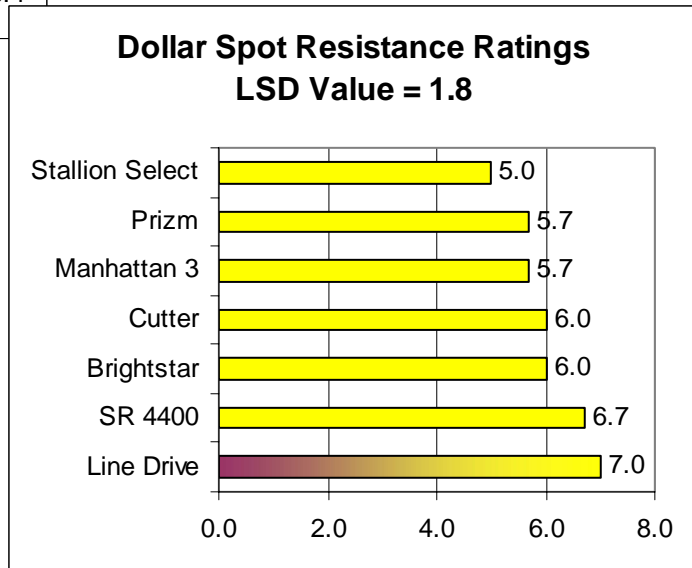
Pre emergent herbicides to control annual grassy weeds in established turf: *benefin* (Balan), *bensulide* (Pre-Far), *dithiopyr+trifluralin*, *pendimethalin* (Pre-M), *proflam* (Barricade).

Annual bluegrass *Poa annua* can be controlled pre and post-emergent on golf course fairways, tees and roughs with *ethofumesate* (Progress)

**All reference to pesticides, herbicides and fungicides whether a generic or named product is for general informational purposes only. Text reference is not intended as an endorsement nor does omission imply criticism. Always read and follow labeled instructions.*



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