

## STOP 7

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### Winter Survival and Performance of 16 Perennial Ryegrass Varieties.

The perennial ryegrass variety evaluation plots were established September 17, 1968. The plot size is 5 x 7 feet with three replications. The area is maintained at a cutting height of 1.2 inches and is mowed twice per week with clippings returned. Irrigation is applied as needed to prevent wilt. Sub-plot nitrogen levels of 3 and 6 lbs. of nitrogen per 1000 square feet per year are maintained over the plots. No pesticides have been applied to the area during the 1970 growing season.

The 1970 turfgrass quality evaluations for the 16 perennial ryegrasses may be seen in Table 8. Of the commercially available perennial ryegrass varieties, Manhattan has ranked superior followed by Pelo and Norlea. The main characteristics contributing to the superior ranking of Manhattan is its more diminutive, uniform growth habit, and improved mowing quality. Additional desirable factors are (a) a darker green color and (b) a slower vertical shoot growth rate, which reduces the severity of competition with other desirable turfgrass species within the turfgrass community such as Kentucky bluegrass.

The traditional problem with most perennial ryegrasses for turfgrass use has been the excessive vertical shoot growth rate which results in the species being too aggressive to remain compatible in a turfgrass stand with Kentucky bluegrass. In addition, perennial ryegrass has lacked low temperature hardiness for winter survival under Michigan conditions. The former characteristics has been minimized with the development of the more diminutive, low growing variety, Manhattan, which has a slower vertical shoot growth rate and improved compatibility with Kentucky bluegrass. The combination of a diminutive perennial ryegrass variety with Kentucky bluegrass does offer a new alternative for seed mixtures to be utilized on sports turfs.

Norlea ranks superior to all other commercially available perennial ryegrass varieties in terms of low temperature hardiness. Manhattan is intermediate in rank but is more hardy than most other available varieties. Ultimately, it would be desirable under Michigan conditions to have a variety possessing the characteristics of Manhattan plus even better low temperature survival so that ryegrass could persist on a long term basis within the turfgrass community.

Among the experimental or European varieties included in this test Syn 0, Combi, and the MSU Diploid also possess improved low temperature hardiness. Syn 0 is one of the two selections which were combined to form the variety Manhattan.

TABLE 8. 1970 PERENNIAL RYEGRASS VARIETY EVALUATIONS  
East Lansing, Michigan.

Variety	Winter Low Temperature Survival	Visual Quality Rating** (1-Best; 9-Poorest)
	(1-Best; 9-Poorest) 4/22/71	
Manhattan	5.3	2.2
Syn 0*	3.0	2.9
Pelo	5.0	3.3
Norlea	3.0	3.5
Brabantia*	7.0	3.5
S-23*	8.3	3.5
Combi*	4.3	3.6
Bocage*	7.3	3.9
MSU (Diploid)*	4.3	4.0
Viris*	6.7	4.1
Nr. 42-34*	6.0	4.1
NK-100	8.0	4.3
Sceempter*	6.0	4.3
Linn	8.7	4.4
Ruanui*	9.0	4.9
Ariki*	9.0	5.2

\*Not commercially available in Michigan.

\*\*Average of five seasonal ratings.