

**Forage Research
In Texas,
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Annual Ryegrass Variety Tests at Overton in 1985-86

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Summary

This report presents forage yield data for the 1985-1986 winter growing season on annual or Italian ryegrass grown in Northeast Texas at Overton. Crown rust data was recorded in Southeast Texas near the Gulf Coast at Angleton. Highly favorable environmental conditions resulted in above average forage yields with a mean yield of 14,780 lbs/A dry matter for the test for the entire growing season.

Introduction

Annual ryegrass or Italian ryegrass is a small seeded grass planted in the fall (September through November) which normally produces high quality forage into May. Each year new varieties are marketed in East Texas. In an attempt to obtain as much information as possible, new as well as older varieties are yield tested annually. Data on yield, winter injury, and crown rust are

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obtained. The forage yields are usually obtained at Overton, and crown rust ratings are taken at Angleton since environmental conditions favor disease buildup near the Gulf Coast. This report will present forage yields obtained in a ryegrass variety test at the Texas A&M University Agricultural Research and Extension Center at Overton, (Table 1) and crown rust ratings recorded at the Texas A&M University Agricultural Research Station at Angleton.

Procedure

Twenty ryegrass genotypes, one *Bromus* specie and one *Festulolium* (ryegrass x fescue specie) specie were planted into a prepared seedbed on September 20, 1985. A seeding rate of 35 lbs/A was used for all entries. A preplant fertilizer application of 60-60-80 lbs/A of N, P₂O₅, K₂O, respectively, had been applied. The experiment was top-dressed with urea at a rate of 100 lbs N/A on October 16, and 50 lbs N/A on January 22. Forage plots were harvested with a Hege 211 B forage harvester which has a sickle bar. All entries were cut at a 2-inch height and the test was harvested five times. Percent dry matter (oven-dried forage) was determined in order to obtain total dry matter.

Results and Discussion

The growing season was very unusual in that we had a very dry period from December through February and wet conditions from March through mid-June. These conditions were ideal for ryegrass and resulted in a late (June 11) harvest, and the highest ryegrass forage yield we have recorded at Overton in the past 11 years. Furthermore, no winterfreeze damage resulted in the 1985 to 1986 growing season. Therefore, these growing conditions favored those genotypes with high yield potential during warmer than normal winter-spring weather conditions. During growing seasons with normal or below normal temperatures some of these varieties will winterkill and their yields will be limited or greatly reduced. Therefore, data from several years of testing has an advantage in making variety selections. Several of the entries in this test are experimental lines and they are not commercially available in the United States.

In the November 21 harvest, high yields were obtained for all varieties. Because of dry conditions and cool weather the second harvest was not made until March 3 when significant differences were obtained between varieties. A very high yield was obtained in the fourth and fifth harvests. Wet growing conditions in April and

TABLE 1. RYEGRASS FORAGE CLIPPING VARIETY TEST AT OVERTON, TEXAS, 1985-1986

Variety	Harvest Dates					Total Forage Yield	Crown Rust Rating %
	Nov.21	Mar. 3	Mar. 21	Apr. 28	June 11		
	pounds oven-dried forage per acre						
Cervus	2,392	3,068	1,789	5,114	4,922	17,280	15
Dama	2,120	2,414	1,522	5,228	5,359	16,640	10
Gulf	1,599	3,423	1,589	5,612	4,392	16,610	10
Fla. 80-1K	2,289	3,764	1,538	5,576	3,271	16,430	1
Marshall	2,367	2,969	1,488	5,522	3,775	16,120	33
Tx-R-85-1	2,041	3,324	1,321	5,030	4,035	15,750	13
Fla X 1985LR	2,055	3,352	1,087	5,054	4,019	15,560	4
Cebeco Elm 10	2,081	2,443	1,655	4,934	4,351	15,460	70
Tetragold	1,573	3,367	1,957	5,023	3,279	15,190	9
Urbana	2,002	3,239	1,137	4,561	4,009	14,940	35
Tosca	2,002	2,926	1,288	4,910	3,689	14,810	50
Ellire	2,002	2,372	1,472	4,778	4,131	14,750	20
Kemal (Festulolium)	1,964	2,628	1,371	4,694	4,069	14,720	2
Exalta	1,664	2,386	1,337	3,553	5,720	14,660	15
Bromus catharticus	1,612	2,600	1,421	4,339	4,557	14,520	—
Tx-R-84-1	2,081	2,940	1,538	4,231	3,551	14,340	4
Cebeco Lm 8	2,145	2,755	1,271	4,327	3,793	14,290	20
Minaret	2,601	2,713	1,639	4,429	2,670	14,050	5
Cebeco Lm W2	1,768	2,628	1,120	4,417	3,220	13,150	90
Cebeco Elm 9	1,781	2,244	1,438	3,931	3,511	12,900	75
Cebeco E1R4	2,093	2,273	1,354	3,457	3,278	12,450	35
Ursus	1,573	1,974	920	3,019	2,970	10,450	5
Mean	1,991	2,809	1,421	4,624	3,935	14,780	
LSD (10%)	NS ²	827 ¹	NS ²	1,187 ¹	1,190 ¹	2,542 ¹	
CV	29	25	33	21	25	15	

¹Differences in yield between varieties within a harvest date, of less than the LSD value are due to chance.

²No significant differences.

Planted on September 20, 1985.

May caused the ryegrass to remain vegetative and continue to produce forage rather than produce seed heads.

Crown rust was very severe during spring 1986 at Angleton. Data are the average of two replications. The following rust rating system was used:

<u>Visual Score</u>	<u>Variety Reaction</u>
0-5	Resistant
6-15	Moderately Resistant
16-35	Moderately Susceptible
36-100	Susceptible

Gulf was released as a resistant variety and it remains as a moderately resistant variety. Marshall is a moderately susceptible variety.