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Small Grain for Silage or Hay Variety Test

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Summary

Twenty-nine cultivars of small grain were tested during the 1983-84 growing season. Yields ranged from 4.2 to 1.1 tons dry matter per acre and protein content ranged from 7 to 12 percent. The 10 oat cultivars had the lowest yields due to winter kill, and there were differences in the amount of damage among them. Nora had the least damage while Cornado had the greatest.

Introduction

Most small grain forage tests that have been conducted recently have attempted to simulate grazing by clipping several times throughout the growing season. Yet there is a considerable amount of small grain that is preserved as hay and silage. Use of small grains for silage is on the increase in Texas, especially among dairymen. This test was conducted to determine the cultivars of small grains best suited for use as hay or silage.

Procedure

Twenty-nine small grain cultivars including 10 oats, seven triticales, two ryes, and 10 wheats were planted October 17, 1983 on Windthorst fine sandy loam at Stephenville at a rate of 100 lb/A in a randomized block design with four replications. Plots were 17-foot long

with four rows spaced 15 inches. Nine feet of the center two rows were harvested for yield on April 30, 1984. Samples were taken at harvest, oven-dried at 65°C, and used to determine nitrogen content. Nitrogen was determined using Kjeldahl procedure. Fertility consisted of 80-80-80 applied preplant and disked in and top-dressed February 22, 1984 at a rate of 80-0-0 for total of 100-80-80.

Results and Discussion

Dry matter production of the 10 wheats ranged from 4.1 to 3.0 tons/A (Table 1). The nine top cultivars were not significantly different. Only Vona had significantly lower yield among the wheats. Of the seven triticales tested, only the highest yield of 4.2 tons/A for ARCCO Mix 4 was significantly better than the lowest production of 3.5 tons for Grazer II (Table 1). There were no differences in the yield of the two ryes that were tested. No significant differences were recorded among the top 17 cultivars tested.

Dry matter production of the oats ranged from 2.3 to 1.1 tons/A (Table 1). This low yield was due to winter kill which ranged from 73 to 74 percent kill. In general, the higher the winter kill, the lower the yield.

TABLE 1. DRY MATTER PRODUCTION AND PROTEIN CONTENT OF SMALL GRAINS HARVESTED FOR SILAGE AND PERCENT WINTER KILL OF OATS

Species	Cultivar	Yield tons/A	Protein content percent	Winter kill percent
Triticale	ARCCO Mix 4	4.2 A*	8.3 B-H**	0
Wheat	Lanocta	4.1 AB	8.2 B-H	0
Wheat	McNair - 1003	4.0 AB	9.1 A-D	0
Wheat	TXO-73-93	4.0 AB	7.3 F-H	0
Wheat	Scout-66	3.9 AB	8.7 A-G	0
Wheat	Coker-68-15	3.9 AB	8.4 B-H	0
Triticale	ARCCO Mix 2	3.9 AB	7.6 C-H	0
Rye	Elbon	3.8 AB	6.9 H	0
Triticale	ARCCO Mix 3	3.7 ABC	7.4 E-H	0
Wheat	TAM-105	3.7 ABC	8.1 B-H	0
Wheat	Tex Red	3.7 ABC	8.3 B-H	0
Triticale	ARCCO Mix 1	3.7 ABC	8.1 B-H	0
Rye	Wintermore	3.7 ABC	7.1 GH	0
Wheat	Coker-916	3.7 ABC	7.3 GH	0
Triticale	Double Crop 1	3.5 ABC	7.8 B-H	0
Triticale	Nutriseed 1-18	3.5 ABC	8.5 A-H	0
Wheat	Coker-762	3.5 ABC	9.0 A-E	0
Triticale	Grazer II	3.5 BC	8.2 B-H	0
Wheat	Vona	3.0 C	8.6 A-G	0
Oat	Okay	2.3 D	9.3 AB	9
Oat	Nora	2.1 DE	9.2 A-C	4
Oat	Four-Twenty-Two	2.0 DE	7.5 D-H	40
Oat	Coker 227	2.0 DE	8.0 B-H	29
Oat	Harpool-883	1.9 DE	9.2 A-D	60
Oat	Coker-234	1.9 DE	8.9 A-F	40
Oat	Big Mac	1.7 DEF	8.5 A-H	49
Oat	Walken	1.6 EF	11.6 A	8
Oat	Mesquite	1.6 EF	10.0 A	41
Oat	Cornado	1.1 F	8.9 A-F	73

**Percentages followed by a common letter are not significantly different (0.05 level), Duncan's Multiple Range Test.

KEYWORDS: Wheat/oats/triticale/rye.

Crude protein ranged from 11.6 percent for Walken oat and 6.9 percent for Elbon rye (Table 1). Because there was only one harvest date, this range was probably due more to plant maturity than to species or cultivars.