

FIELD DAY REPORT - 1992

**Texas A&M University Agricultural Research and
Extension Center
at Overton**

**Texas Agricultural Experiment Station
Texas Agricultural Extension Service**

Overton, Texas

April 30, 1992

Research Center Technical Report 92-1

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OAT FORAGE YIELDS AT OVERTON FOR 1990-91 AND 3-YEAR MEANS

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Background. Oats are an important winter annual forage crop in East Texas. Oats can produce high forage yields and forage quality is very good. However oats are less cold tolerant than the other small grains and only the most winterhardy varieties should be planted in Northeast Texas. There are significant differences between varieties for forage yield, and winterhardiness. Some varieties produce most of their forage yield in the fall, while others produce a more balanced yield throughout the growing season. Growers should be aware of forage yield potential, forage distribution, and cold tolerance when selecting which variety they will purchase each fall.

Research Findings. An oat forage variety yield experiment is conducted annually at the TAMU Research and Extension Center at Overton. Many available commercial varieties and experimental lines of oats were evaluated during the past 3 years. Fertilizer application rates and dates are noted on Table 1. All tests were planted into a prepared seedbed usually in early September. In 1990 the planting date was September 14. Seeding rate was 110 lbs/ac and plot size was 4 x 12 ft, with seed drilled to a 1 inch depth. Entire plots were harvested with a Hege plot harvester at a 2 inch height at four harvest dates. Experimental design was a randomized complete block with four replications.

Oat forage was approximately 10-inches tall during the first harvest on November 2nd. Entries demonstrating the best fall growth were experimental line TX89B1590, FLA 501 and Ozark. The 2nd harvest date was November 29th indicating rapid fall regrowth. Florida 501 again was the highest yielding variety, followed closely by several other lines. A hard freeze (15°F) on December 29 caused severe winterkilling on FLA 501, FLA 502, and several other entries. Forage yields were only produced by varieties which had good winterhardiness at the third harvest. Noble Foundation 188 produced the highest yield, and was closely followed by Nora, Ozark, and H-833. The last harvest was on May 1, when NF 188 produced the top yield followed by Ozark. The highest total season forage yield was produced by Ozark, followed by NF 170. A three-year mean is presented for those varieties tested over this period. There were large differences between entries. Differences in yield between entries are mainly a result of their winterhardiness. Differences in forage yield of less than the LSD (note under each column) may be due to experimental error and should not be considered significant.

Application. The data presented in these experiments should be useful in selecting oat varieties for your farm. Depending of variety availability, compare forage yields, winterkilling damage ratings, and seed prices to determine which variety you want to plant.

Table 1. Oat forage variety test at Overton, Tx 1990-91 and three year means yields

Variety	Harvest Dates				Total Yield	3 Yr Mean	Winterkill Damage
	Nov 2	Nov 29	Apr 1	May 1			
	-----pounds dry matter/ac-----						%
Ozark	1992*	2388*	2018*	2263*	8661**	7113	60
NF 170	1431	1922*	2503**	2012	7868*	7181	50
NF 188	1315	1460	664	2850**	6289	--	98
AR 125-4A	1606	1949*	1035	1626	6216	6208	95
H-833	406	636	1919*	2053	5014	--	80
AR 02848	1478	1671	431	1433	5013	--	98
TX89B1590	2314**	2662**	25	0	5001	--	100
FLA 501	2295*	2616*	0	0	4911	4924	100
Bob	1702	2120*	235	459	4516	5267	98
Nora	300	516	2349*	1229	4394	5181	15
TX89B1755	2041*	2296*	0	0	4337	--	100
TX87M1521	1911	2241*	81	0	4233	--	100
87B748	369	713	984	1856	3922	--	97
TX89B1847	1609	1981*	0	0	3590	--	100
TAM-O-386	153	327	514	1846	2840	4202	97
FLA 502	1029	1205	0	0	2234	3886	100
Mean	1372	1669	797	1102	4940	--	
LSD (0.10)	384	765	632	424	1200	--	

Planted September 14, 1990

Fertilization: Preplant 91 lbs of N,P₂O₅ and K₂O/ac and 84 lbs of Sulfur/ac. Topdressed with 50 lbs/ac of actual N on Feb. 7 and April 4, applied as ammonium nitrate.

**Highest yielding entry for that harvest date.

*Not significantly different from ** based on LSD at 10% level of probability.