

FIELD DAY REPORT - 1996

TEXAS A&M UNIVERSITY AGRICULTURAL RESEARCH and EXTENSION CENTER at OVERTON

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

Overton, Texas

April 18, 1996

Research Center Technical Report 96-1

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OAT GRAIN VARIETY TESTS AT OVERTON FOR 1994-95 AND THREE-YEAR MEANS

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Background. Oat grain variety trials are planted at the TAMU Agricultural Research and Extension Center at Overton on an annual basis. These trials were planted to determine grain yield potential, adaptability, winter hardiness, and disease resistance of released varieties and experimental winter oat lines.

Research Findings. Oat variety tests were planted on prepared seedbeds. The soil at the Overton site was a well drained sandy loam. Seeding rate was 90 lbs/ac. A plot was 7 rows wide, with 6 inch row spacing, 10 ft in length. The test was planted on 12 October and harvested on 4 June 1995. Fertility application was 50 lbs N, 100 lbs P_2O_5 , and 100 lbs K_2O /ac applied preplant. The oat test was top-dressed with 30 lb N/ac on 10 November, 60 N lb/ac on 9 March, and 40 lb N/ac on 4 April actual N as ammonium nitrate. The test was inadvertently grazed off by cattle on 10 March. This resulted in significantly reduced grain yields for the 1995 harvest. The 1994-95 growing season had above normal temperatures but was near normal in moisture in the fall and winter and dry in April. The diseases noted were crown rust and *Helminthosporium*. Grain yields were above average at Overton in 1995 (Table 1). The highest yielding varieties were 833 and TAMO 386. Several high yielding experimentals were TX92M1067, TAMO386R, and TX92M1060. Three-year mean yields for many of the entries are presented and provide a more reliable yield estimate than one year yield data. Test weights were very low in 1995 due to the cattle graze-off of the grain in March. Plant height was below average for all of the varieties which would be expected after a late graze-off. No lodging occurred in 1995. Winterkilling can be a serious problem in north Texas; however, no winterkilling occurred in 1994-95. Crown rust present at Overton in 1995 developed late in the growing season and probably did not reduce grain yields. Many oats varieties are very susceptible to crown rust and only resistant varieties should be planted.

Application. These data should be useful in determining which varieties have best potential for grain yield in northeast Texas. Oats are subject to winterkill and only the most winter hardy varieties should be planted. TAMO-386 should not be planted north of Waco, Texas as winterkilling will result most years. Oat grain and forage yields from other variety trials at Overton are presented elsewhere in this publication.

Table 1. Texas Uniform Oat Grain Yield Variety Test, Overton, TX 1994-1995.

Variety	Yield bu/ac	3 Year Mean bu/ac	Test Weight lbs/bu	Heading Date	Height in	Helmenthosporum (0-9)	Crown Rust (0-9)
TX92M1067	56.2 ^a	--	25	5-2	38	3	0
TAMO 386R	50.0	97	23	4-27	35	2	1
TX92M1060	48.0	--	22	5-3	32	2	1
833	47.9	82	24	5-1	26	2	6
TAMO 386	46.2	91	26	4-20	36	2	6
TX92M1015	45.5	--	24	5-1	38	1	1
TX92M1105	41.1	--	24	5-3	37	3	1
TX93D5691	41.0	--	25	5-2	26	2	2
TX92M1009	40.2	--	24	5-6	33	2	0
TX92M1048	40.1	--	25	4-28	34	1	1
TX92M1044	39.3	--	26	4-26	34	1	1
TX93D5800	37.4	--	24	5-5	30	2	2
TX93D5852	36.3	--	27	4-18	31	1	1
TX92M1090	36.0	--	24	5-1	32	2	1
TX89D7213	35.1	--	24	5-3	26	2	6
Blizzard	34.4	83	26	4-20	31	3	5
TX90D2457	33.8	--	23	4-18	21	2	7
Ozark	32.9	81	24	4-17	31	2	7
TX93D5764	32.3	--	24	5-1	34	1	3
Harrison	31.8	--	26	4-21	32	2	1
TX92M1596	30.8	--	21	4-20	35	1	2
TX93D5686	30.2	--	22	5-1	21	2	5
Big Mac	29.4	81	24	4-21	32	1	6
TX92M1540	29.0	--	20	5-6	31	3	1
Coronado	28.4	71	21	4-23	32	1	6
TX92M1022	28.3	--	22	5-2	29	3	1
TX89D7073	28.0	--	23	4-17	33	2	6
H 422	27.1	78	26	4-21	34	2	4
FLA 501	24.3	75	20	4-19	26	1	2
TX92M1505	24.1	--	23	4-21	27	1	1
TX89B1980	23.6	--	22	4-21	27	1	1
811	23.0	--	24	4-20	27	3	3
Bob	22.6	70	22	4-18	22	1	1
Nora	21.6	69	21	4-17	27	2	7
TX92M1096	20.9	--	22	4-20	30	3	0
TAMO 386ERB	20.8	--	19	5-2	26	1	0
TX82M4964	19.5	--	22	5-2	25	1	0
Mitchell	17.5	66	22	5-2	24	2	3
TX92M1231	16.8	--	18	4-21	23	2	1
TX92M1028	13.4	--	21	5-3	24	3	1
Mean	32.1	--	23	-	30	2	3
LSD	14.7	--	-	-	-	-	-
CV	28.1	--	-	-	-	-	-

Planting date October 12, 1994. Harvest date June 4, 1995. Fertilizer application rate: Preplant 50 lb N, 100 lb P₂O₅ and 100 lb of K₂O/ac. Topdressed with 30 lb N/ac on November 10; 60 lb N/ac on March 9; and 40 lb N/ac on April 4, 1995. Herbicide applied postemergence at two leaf stage of oats; Glean was applied at a rate of 0.3 oz/ac. Disease ratings for helmenthosporum and crown rust and are on a scale of 0-9, where 0 = no disease and 9 = dead plants.

^aYields were significantly reduced by inadvertent cattle graze-off on March 10.