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OAT GRAIN VARIETY TESTS AT DEKALB AND MOUNT PLEASANT FOR 1990-91

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Background. Oat variety trials were planted in northeast Texas at Dekalb and Mount Pleasant. These trials were planted to determine grain yield potential, adaptability, winterhardiness, and disease resistance of released winter oat varieties.

Research Findings. Oat variety tests were planted on prepared seedbeds. The site near Mount Pleasant was on a poorly drained clay soil, on the Carl Snyder farm. The site near Dekalb was a well drained sandy loam soil on the Chris Moser farm. The planting and harvest dates, and the fertilizer applied are on table 1. At Dekalb, the test followed corn with no preplant fertilizer. The test was topdressed with 70 lbs N/ac on Mar. 5. The 1990-91 growing season was extremely wet and favored disease buildup on wheat, however oats were not affected. Grain yields were good at Dekalb, but below average at Mount Pleasant (Table 1). The highest yielding varieties at Mount Pleasant were H-833 and Blizzard. The higher yielding varieties at Dekalb were H-833, Blizzard, and Citation. The two location means indicated that H-833 and Blizzard were superior oat varieties in 1991. Test wt., plant height, lodging, and winterkill data were from the Mount Pleasant test. Test weights were near normal, however 28 lbs/bu for H-833 was less than desired. Plant height was above average for some of these lines, however the high N application rate at Mount Pleasant may have contributed to the tall plant ht. Lodging was not significant with the exception of Nora, where lodging was 15%. Winterkilling on oats is a serious problem most years in north Texas. Winterkilling at Mount Pleasant was severe and significantly reduced grain yields. Many of the varieties did recover to some extent and produced grain. Winterkilling at Dekalb was less severe, however TAM-O-386 had 59% winterkill and its grain certainly was reduced due to winterkill.

Application. These data are useful in determining which varieties have best potential for grain yield, and winterkill resistance in northeast Texas. Oats are subject to winterkill and only the most winterhardy varieties should be planted. TAM-O-386 should not be planted north of Waco, Texas as winterkilling will result most years.

Table 1. North Texas Oat Grain Test at Mount Pleasant and Dekalb, Texas for 1990-91

Variety	Yield bu/ac		2 Location Mean	Test Weight	Plant Height	Lodging	Winterkill	
	Mt. Pleasant	Dekalb					Mt. Pleasant	Dekalb
	-----bu/ac-----			lbs/bu	inches		-----%-----	
H-833	87.9	102.1	95.0	28*	42*	3*	73	24
Blizzard	85.6	102.8	94.2	33	36	3	78	13
Nora	58.0	77.1	67.5	29	43	15	85	34
Citation	46.3	99.1	72.7	26	42	3	96	21
Bob	41.6	91.4	66.5	32	39	0	91	15
TAM-O-386	40.5	72.0	56.2	28	34	3	99	59
Mean	60.0	91.0	--	29	39	5	87	28
LSD	27.1	26.2	--	--	--	--	28	22
CV	30.0	19.1	--	--	--	--	21	54

Planted on October 29, 1990. Harvested on May 31, 1991. Fertilizer application rate: Preplant 9 lbs of N, 23 lbs of P₂O₅ and 30 lbs of K₂O/ac. Topdressed with 35 lbs N/ac on Feb. 1 and 45 lbs N/ac on March 1, 1991 as ammonium nitrate.

*These data are from Mount Pleasant.