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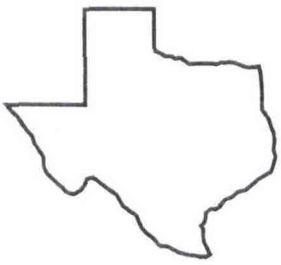
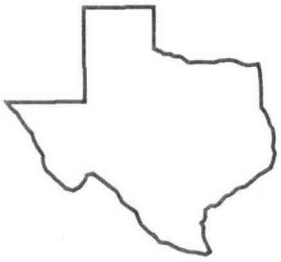
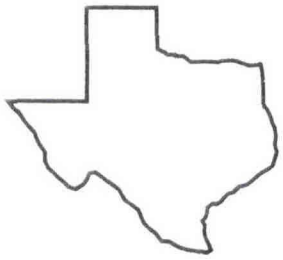
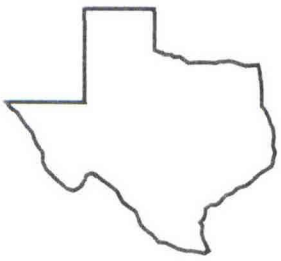




Overton Field Day Report - 1994





1994 Research Center Technical Report No. 94-1

Texas Agricultural Experiment Station • Edward A. Hiler, Director
The Texas A&M University System • College Station, Texas

WHEAT GRAIN VARIETY TESTS AT OVERTON FOR 1992-93 AND TWO-YEAR MEANS

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Background. Wheat grain variety trials are planted at Overton annually. These trials are planted to determine grain yield potential, adaptation, winterhardiness, and disease resistance of released varieties as well as advanced experimental soft red winter wheat lines. Climatic conditions in East Texas are favorable for several fungus diseases which often attack wheat. Therefore, Overton is an excellent location to evaluate wheat for resistance to leaf rust, powdery mildew, septoria glume blotch, etc. Wheat tests were planted on prepared seedbeds. The soil in 1992-93 was a well drained, sandy loam. The fertilizer applied, planting and harvest dates are on table 1. Due to the sandy soil, we top-dressed with a complete fertilizer on December 8, to insure that the plants were not lacking in N, P, or K.

Research Findings. The 1992-93 growing season was wet early in the growing season and favored disease buildup of several wet weather diseases. Grain yields were above average (Table 1). The higher yielding varieties were Coker 9134, Coker 9835, Coker 9023, Coker 9803, and Sawyer. Highest yielding experimentals were TX89D2148 and TX82-11. These one year yields were above average for East Texas, but wheat yields have been very good for the past two years, as indicated by the 2 year means for most of the entries. The reason for the high yields was that a dry, cool April and May reduced disease buildup of leaf rust and septoria diseases and allowed for a long grain filling period. Varieties with two-year mean yields over 80 bu/ac were Coker 9835, Coker 9024, Coker 9003, and experimental TX89D2148, closely followed by several other entries. Test weight of number 1 wheat is 60 lb/bu. Test weights were somewhat below average in 1993 due to climatic conditions. Leaf rust disease levels were quite high in this test and reduced grain yields on susceptible lines. Powdery mildew was observed on only Coker 68-19, which is a susceptible variety. Septoria glume blotch was quite severe in 1993 and reduced yields and test weight on some lines, however, most of the entries in this test have some resistance or tolerance to this disease. No winterkill occurred in this test. Lodging was not observed in this test. Plant height was below normal for all lines in this test. This was likely due to the sandy soil which is very low in native fertility.

Application. These data should be useful in determining which varieties have best potential for grain yield and disease resistance in northeast Texas. Wheat grain yields were very high in 1993 due to the favorable growing conditions in April and May. Lower wheat yields can be expected in normal years. Other wheat grain yield data from variety tests at DeKalb and Mt. Pleasant are presented elsewhere in this field day report.

Table 1. Uniform soft wheat grain yield test for 1992-93 and two-year means at Overton, Texas.

Variety	Yield bu/ac	Mean bu/ac	Test Wt. lbs/bu	Heading Date	Height (in)	Powdery Mildew (0-9)[1]	Leaf Rust (0-9)[1]	Septoria Nodorum (0-9)[1]
Coker 9134	80	--	54	4-12	35	0	1	5
Coker 9835	76	82	54	4-9	31	0	0	5
Coker 9024	75	85	53	4-19	38	0	0	4
Coker 9803	75	85	57	4-13	34	0	1	4
Sawyer	73	--	52	4-14	35	0	5	3
TX98D2148	72	81	52	4-12	36	0	3	4
Mallard	71	--	52	4-14	34	0	3	3
Gore	71	--	54	4-12	32	0	1	3
TX82-11	70	79	53	4-19	33	0	3	3
Coker 9543	69	79	55	4-13	31	0	3	5
Bradford	69	74	56	4-12	37	0	2	5
Coker 833	68	80	54	4-19	38	0	0	3
Caldwell	68	--	56	4-20	36	3	2	4
Coker 762	68	73	52	4-11	31	0	1	4
Coker 747	67	72	55	4-14	29	0	1	3
Pioneer 2548	65	78	54	4-13	35	0	7	5
Pioneer 2551	64	73	55	4-18	35	0	4	5
Abe	58	--	58	4-18	36	0	4	4
FLA 304	56	--	53	4-8	36	0	3	5
Saluda	51	74	53	4-14	35	0	8	5
Buckshot DS2368	49	--	55	4-12	31	0	2	6
FFR 350	49	--	54	4-15	32	0	6	5
Pioneer 2555	49	73	53	4-14	35	0	7	5
Magnum	48	57	55	4-14	32	0	4	4
FFR 525W	47	56	53	4-13	34	0	6	5
TX86-106H	44	70	50	4-11	38	0	7	5
TX85-264	41	--	49	4-9	36	0	6	5
FLA 302	40	67	51	4-10	35	0	6	5
Coker 68-15	38	62	54	4-12	31	7	7	4
AR26413B	36	--	50	4-2	32	0	4	4
TX89D6435	36	53	45	4-12	27	0	2	5
Andy	35	--	53	3-13	26	0	6	6
Mean	59		53	-	34	0	4	4
LSD (0.05)	11							
CV	11							

Planting date October 12, 1992. Harvest date May 30, 1993. Fertilizer application rate: Preplant 25 lb N, 100 lb P_2O_5 and 100 lb of K_2O/ac. Topdressed with 48 lb N, 18 lb P_2O_5 and 36 lb of K_2O/ac on December 8, 1992. This test was topdressed again with 75 lb/ac of N as ammonium nitrate on February 26, 1993. Herbicide applied postemergence at two leaf stage of wheat: 0.5 lb/ac Hoelon plus 0.3 oz/ac Glean. Second application on February 11, 1993 0.25 lb/ac Hoelon plus 0.25 oz/ac Glean.

Disease ratings were on a scale of 0-9, where 0 = no disease and 9 = dead plants.