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WHEAT GRAIN VARIETY TESTS AT OVERTON FOR 1993-94 AND TWO-YEAR MEANS

L. R. Nelson, Jim Crowder, and Steve Ward

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 1993-94 was a well drained, sandy loam. The fertilizer applied, planting and harvest dates are on table 1. Amonium nitrate at 75 lb N/ac was top-dressed on February 15, 1994. Weeds were controlled by applying 0.4 oz/ac Finesse shortly after planting.

Research Findings. The 1993-94 growing season was near normal in the fall and winter, however a dry April caused moisture stress during the grain filling period. Grain yields were above average (Table 1). The higher yielding varieties were Coker 9134, Coker 9803, Gore, Coker 9543, Poneer 2571, and Saluda. Highest yielding experimentals were TX84-132-2 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 April reduced disease buildup of leaf rust and septoria diseases and allowed for a long grain filling period. Varieties with two-year mean yields over 75 bu/ac were Coker 9134, and Coker 9003, closely followed by several other entries. Test weight of number 1 wheat is 60 lb/bu, and entries which met that standard were Coker 9134, Coker 9803, and experimental TX85-119. Leaf rust disease levels were quite high in this test and reduced grain yields on susceptible lines. Powdery mildew was not severe in 1994, but was observed on Coker 68-19, which is a susceptible variety. Septoria glume blotch was quite severe in 1994 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 observed in this test, and was probably related to fairly high nitrogen rates, which caused tall plant height, and a storm in early May.

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 1994 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 Mt. Pleasant are presented elsewhere in this field day report.

Table 1. Uniform soft wheat elite test Overton, Texas 1993-94.

Variety	Yield bu/ac	2 Yr Mean bu/ac	Test Weight lbs/bu	Heading Date	Height (in)	Lodging %	Powdery Mildew (0-9)[1]	Leaf Rust (0-9)[1]	Septoria Nodorum (0-9)[1]
Coker 9134	82.5	82	60	4-3	41	20	0	0	3
Coker 9803	77.6	76	61	4-3	35	0	0	0	2
Gore	75.3	73	56	3-29	38	0	0	0	3
Coker 9543	73.3	71	59	4-4	39	5	0	0	2
Pioneer 2571	72.6	--	57	4-4	40	0	0	0	3
Saluda	72.1	62	58	4-4	39	10	0	5	4
TX84-132-2	72.0	--	57	4-10	43	20	0	0	3
TX82-11	72.0	71	57	4-7	39	20	2	0	3
FFR 525	71.4	60	58	4-2	40	30	0	2	4
Mallard	71.3	72	57	4-7	41	10	0	0	2
Hickory	70.0	--	56	3-26	38	10	0	1	4
Cardinal	69.6	--	57	3-29	42	0	0	2	3
Pioneer 2548	68.0	67	56	4-3	34	0	0	3	3
Coker 9024	67.8	72	57	4-3	44	0	0	0	3
TX89D2142	66.1	--	57	3-25	43	5	0	1	5
Stoneville 350	66.0	--	55	4-1	37	0	0	4	4
Coker 68-15	65.6	52	59	3-29	40	5	5	5	4
Magnum	64.8	57	58	4-5	42	0	0	1	3
Sawyer	63.4	69	55	4-9	40	10	0	2	4
TX82-50-1	63.0	--	55	4-7	40	20	0	1	4
TX85-119	62.1	--	61	4-9	44	5	0	0	3
Coker 747	61.0	64	59	4-2	40	25	0	0	3
TX89D2148	55.9	64	59	4-6	37	0	0	1	3
FLA 304	55.1	56	57	3-24	40	10	0	1	4
Coker 9835	52.0	64	57	3-24	30	0	0	0	3
Coker 762	51.0	60	55	3-24	33	10	0	0	2
Abe	50.2	54	58	4-5	40	0	0	1	4
TX82-46(5131-8)	49.3	--	59	4-3	42	10	0	0	5
FLA 302	47.3	44	54	3-23	39	10	0	5	3
Bayless	45.2	--	52	3-25	34	0	0	1	5
GA 100	40.0	--	53	3-26	33	0	0	1	6
Andy	38.5	37	60	3-24	33	0	0	3	7
TX89D6435	25.6	31	55	3-26	26	0	0	0	6
Mean	61.4		57	-	39	7	0	1	4
LSD (0.05)	13.5								
CV	13.4								

Planting date: October 12, 1993. Harvest date: May 24, 1994. Fertilizer application rate: Preplant 25 lb N, 100 lb P_2O_5 and 100 lb of K_2O/ac. Topdressed wtih 75 lb N/ac on February 15, 1994. Herbicide applied postemergence at two leaf stage of wheat: 0.4 oz/ac Finesse.

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