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WHEAT GRAIN VARIETY TESTS AT OVERTON FOR 1991-92 AND 2-YEAR MEANS

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

Background. Wheat grain variety trials are planted at Overton annually. These trials were planted to determine grain yield potential, adaptation, winterhardiness, and disease resistance of released varieties as well as 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 1991-92 was a poorly drained, sandy loam. The fertilizer applied, planting and harvest dates are on table 1.

Research Findings. The 1991-92 growing season was extremely 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 87-13WH, Pioneer brand 2555, Saluda, Exp. TX86-106-H, Coker 9803, Coker 9024, and Florida 302, followed closely by several other lines. These one year yields were about twice the expected wheat yield in East Texas. 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. A 2-year mean yield is presented for those varieties tested the past 2 years. The highest yielding varieties over the two years were Saluda and Florida 302, followed closely by several other experimental and released lines. Test weight of number 1 is be 60 lb/bu. Test weights were somewhat below average in 1992 due to climatic conditions. Leaf rust disease levels were very low in this test, and did not significantly reduce grain yields. No winterkill occurred in this test. Lodging was quite high in many lines in this test site. The reason for the lodging was two-fold. Generally, plant height was above normal, partly because the previous crop had been a clover crop and residual N was likely present. Most of the varieties in this test were about 10 inches above average in plant height. Secondly, with the high grain yields, the extra weight in the head in conjunction with several wind and rain storms near harvest caused lodging.

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 1992, due to the cool dry growing conditions in April and May. Lower wheat yields can be expected in normal years, as indicated by the 2-year means. Other wheat grain yield data from variety tests at Dekalb and Mount Pleasant are presented elsewhere in this field day report.

Table 1. Uniform soft wheat grain yield test for 1991-92 and 2 year means at Overton, Texas

Variety	Yield bu/ac	2 Yr Mean bu/ac	Test Wt. lbs/bu	Heading Date	Height (in)	Lodging % 0-9 <u>1</u>	Leaf Rust 0-9 <u>1</u>	Septoria Nodorum <u>1</u>
Coker 87-13WH	101	--	56	4-10	46	3	0	2
Pioneer 2555	96	--	57	4-10	45	7	0	2
Saluda	96	63	58	4-10	47	8	1	2
TX86-106-H	95	--	57	3-27	47	0	0	4
Coker 9803	95	--	58	3-30	43	0	0	2
Coker 9024	94	--	52	4-10	52	7	0	2
Florida 302	94	63	55	3-27	46	0	1	4
TX89D2152	91	63	54	4-12	48	6	0	2
Coker 833	91	--	52	4-10	46	1	0	1
TX89D2148	90	59	58	4-10	43	8	0	3
Pioneer 2548	90	58	58	4-10	40	2	0	3
Coker 9835	88	--	55	3-16	34	0	0	3
TX82-11	88	--	55	4-10	40	27	0	2
Coker 9543	88	--	58	4-10	41	0	0	4
TX89D2153	86	--	57	4-10	43	0	0	3
TX83-4-2	86	54	57	4-11	38	8	0	2
Coker 68-15	85	55	58	3-31	45	0	1	3
Pioneer 2551	82	49	55	4-10	42	0	0	3
TX82-58	81	--	57	4-10	45	17	0	3
McNair 10-03	77	53	54	3-21	43	0	0	4
TX84-146-2	79	--	57	4-10	43	7	0	2
Bradford	78	52	57	4-10	52	3	0	2
Coker 762	77	--	54	3-22	36	3	0	3
Coker 747	76	--	53	4-10	43	22	0	2
TX82-118	71	49	58	3-30	40	7	0	3
TX83-50	71	51	56	3-30	37	3	0	3
TX83-70	71	49	54	3-31	40	0	0	3
TX82-50-1	70	45	55	4-11	46	0	0	3
TX89D6436	69	--	47	4-17	42	0	0	2
TX85-264	69	47	54	3-22	42	0	0	5
Magnum	66	46	58	4-10	45	0	0	3
FFR-525W	65	--	57	3-27	46	0	0	3
TX89D9636	65	--	58	4-12	44	2	1	3
TX88D3193	64	41	52	4-17	57	40	1	3
Coker 9733	63	--	58	3-22	45	0	0	3
TX89D9112	63	--	56	3-31	48	0	0	5
TX89D9615	62	--	58	3-31	48	8	0	4
TX89D9623	59	--	59	3-31	46	2	0	4
FFR EX 801	50	--	57	3-12	35	0	0	2
TX89D9616	49	--	58	3-31	46	2	1	5
Mean	78		56	-	44	5	0	3
LSD(0.05)	14				12.5			
CV	11				161.9			

Planting date October 8, 1991. Harvest date May 27, 1992. Fertilizer application rate: Preplant 50 lb N, 100 lb P₂O₅ and 100 K₂O/ac. Topdressed with 67 lb/ac actual N as ammonium nitrate on February 21, 1992. Herbicide applied postemergence at two leaf stage of wheat: 1/2 lb/ac Hoelon plus 0.3 oz/ac Glean.

Second application on February 27 0.75 lb/ac Hoelon plus 0.25 oz/ac Glean.

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