



Current Report

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Performance of Wheat Varieties, Oklahoma - 1980

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Oklahoma wheat producers, in general, fared pretty well with the 1980 crop despite the extremely variable weather. Drought during the fall of 1979 delayed planting in many parts of the state. Seed was sown into dry soil at many locations and in some cases re-seeding was required. Fortunately, the mild winter allowed the late seeded wheat to escape winter kill and proceed with normal spring growth patterns. Excessive amounts of precipitation in May and early June caused extensive lodging in fields sown to tall varieties as well as delaying maturity and harvest. In most cases the short stature wheat escaped the lodging problem and generally benefited from the late moisture. The delayed harvest and hot weather following the rains resulted in rank weed growth in many fields adding to harvest problems and loss. Continuation of the high temperatures resulted in shriveled kernels and lower test weights.

The Agronomy Department at Oklahoma State University, in cooperation with wheat producers

and Extension personnel, conducted 17 off-station wheat variety trials, primarily in the western half of Oklahoma, during the 1979-80 season. In addition, nine trials were conducted on research stations. Entries in all the trials were replicated four times to provide statistically reliable data with the plot size harvested for each entry being 600 square feet for the off-station tests and 16 to 40 square feet for the on-station tests.

The 16 varieties tested are presented in Table 1 along with their statewide yield averages and maturity, height and straw strength classifications. Tables 2 through 7 present the average performance of each variety at each location and by region. Caution should be used when comparing locations due to the variation that exists between them in fertility levels, soil type, tillage methods, weed control and amount and timing of rainfall. It should also be noted that for two varieties to be statistically different from one another, their difference must exceed that of the L.S.D.

Table 1

VARIETAL DESCRIPTIONS AND OVERALL YIELDS (BUSHEL PER ACRE) FOR
26 LOCATIONS IN OKLAHOMA, 1980

Variety	Maturity	Height	Straw Strength	Yield (Bu/A)
Dekalb H107*	Medium	Medium	Medium	45.7
Wings	Medium	Semidwarf	Strong	45.4
TAM 105	Medium	Semidwarf	Strong	44.8
Vona	Early	Semidwarf	Strong	44.1
TAM W101	Early	Semidwarf	Strong	44.0
Payne	Med. Early	Semidwarf	Med. Strong	42.9
Newton	Medium	Semidwarf	Medium	42.1
Rocky	Medium	Semidwarf	Medium	42.1
Pioneer 915A*	Medium	Medium	Medium	41.1
Centurk 78	Late	Medium	Weak	40.5
Sturdy	Med. Early	Semidwarf	Strong	38.6
Sage	Late	Tall	Med. Weak	38.4
Triumph 64	Early	Tall	Weak	38.3
Texred	Med. Early	Semidwarf	Very Strong	38.2
Osage	Late	Tall	Med. Weak	37.3
Scout 66	Medium	Tall	Weak	35.1

*Hybrids

Table 2: Southwest

GRAIN YIELD (BUSHEL PER ACRE) AND PERCENT OF TRIUMPH 64 FOR
ENTRIES IN WHEAT VARIETY TRIALS GROWN IN SOUTHWESTERN OKLAHOMA, 1980

	Altus-1		Altus-2		Mangum-1		Mangum-2		Chattanooga		Regional Average
	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	
Centurk 78	57.4	119	54.0	112	40.7	167	----	---	32.4	105	46.1
Rocky	54.9	114	48.8	101	41.2	169	29.6	97	37.8	123	42.5
Wings	50.3	104	49.5	103	39.6	162	34.8	114	36.8	120	42.2
Sage	54.2	112	55.4	115	28.4	116	----	---	30.4	99	42.1
TAM 105	60.2	125	47.1	98	37.2	152	31.7	104	33.0	107	41.9
Vona	54.5	113	44.6	93	40.1	164	33.9	112	31.4	102	40.9
Newton	56.3	117	45.4	95	40.1	164	33.0	108	28.6	93	40.7
Payne	57.2	118	43.3	90	36.7	154	32.5	106	33.7	110	40.7
TAM W101	48.0	99	54.0	112	36.0	148	29.5	97	33.6	109	40.2
Dekalb H107	55.0	114	42.0	88	33.0	135	31.0	102	35.9	117	39.4
Pioneer 915A	55.9	116	53.3	111	25.2	122	32.5	107	28.9	94	39.1
Osage	54.5	113	48.9	102	29.8	122	29.8	98	27.8	91	38.2
Scout 66	52.5	109	55.5	116	31.1	127	30.1	99	30.6	100	38.0
Texred	40.7	84	59.7	124	27.9	114	23.4	77	30.9	101	36.5
Triumph 64	48.3	100	48.0	100	24.4	100	30.4	100	30.7	100	36.4
Sturdy	48.1	100	37.0	77	24.7	101	28.3	93	31.9	104	34.0
Average	53.0 Bu.		48.6 Bu.		33.5 Bu.		30.8 Bu.		32.1 Bu.		
L.S.D. (.05)	8.5 Bu.		12.4 Bu.		11.0 Bu.		2.9 Bu.		4.5 Bu.		
C.V.	11.3 %		12.0 %		23.4 %		6.6 %		9.7 %		
Planted	10-23-79				11-05-79		11-08-79		11-29-79		
Harvested	6-18-80		6-19-80		6-27-80		6-18-80		6-19-80		

Table 3: West Central

GRAIN YIELD (BUSHEL PER ACRE) AND PERCENT OF TRIUMPH 64 FOR
ENTRIES IN WHEAT VARIETY TRIALS GROWN IN WEST CENTRAL OKLAHOMA, 1980

	Chickasha		Custer City		Hobart		Cordell		Elk City		Regional Average
	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	
TAM 105	24.4	148	40.4	116	43.3	99	39.3	151	63.2	117	42.1
TAM W101	22.0	133	40.4	116	42.0	96	36.0	138	66.4	123	41.4
Dekalb H107	19.2	116	41.3	117	48.1	110	30.4	117	67.5	125	41.3
Wings	20.0	121	42.7	123	47.9	110	34.0	131	60.5	112	41.0
Vona	23.4	142	38.4	110	48.2	111	30.3	117	63.2	117	40.7
Rocky	25.0	152	35.3	101	47.0	108	32.5	125	61.9	115	40.3
Payne	21.2	128	35.6	102	45.2	104	33.7	130	64.9	120	40.1
Newton	18.4	112	36.4	105	50.2	115	28.7	110	66.1	122	40.0
Centurk 78	31.5	191	32.0	92	44.9	103	27.4	105	57.6	107	38.7
Pioneer 915A	15.8	96	35.2	101	44.3	102	25.6	98	66.4	123	37.5
Sturdy	20.6	125	35.2	101	41.6	95	25.1	97	54.0	100	35.3
Triumph 64	16.5	100	34.8	100	43.6	100	26.0	100	54.0	100	35.0
Texred	22.8	138	35.6	102	40.4	92	29.5	113	46.4	86	34.9
Osage	19.4	118	26.5	76	44.3	102	32.4	125	50.5	94	34.6
Sage	15.8	96	26.9	77	39.6	91	28.7	110	53.8	100	33.0
Scout 66	14.1	85	28.9	83	39.6	91	23.9	92	49.2	91	31.1
Average	20.6 Bu.		35.3 Bu.		44.4 Bu.		30.2 Bu.		59.1 Bu.		
L.S.D. (.05)	4.4 Bu.		4.2 Bu.		4.8 Bu.		9.7 Bu.		5.1 Bu.		
C.V.	12.7 %		8.3 %		7.6 %		22.5 %		6.0 %		
Planted	10-24-79		11-07-79		10-23-79		11-07-79		11-06-79		
Harvested	6-20-80		7-06-80		6-17-80		6-25-80		6-20-80		

Table 4: Northwest

GRAIN YIELD (BUSHEL PER ACRE) AND PERCENT OF TRIUMPH 64 FOR
ENTRIES IN WHEAT VARIETY TRIALS GROWN IN NORTHWESTERN OKLAHOMA, 1980

	Woodward		Goodwell*		Goodwell		Shattuck		Buffalo		Regional Average
	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	
Dekalb H107	85.7	206	64.2	95	78.2	135	21.8	144	32.4	132	56.5
TAM 105	76.5	184	67.6	100	65.4	113	31.5	209	32.7	133	54.8
Wings	82.9	199	64.3	95	66.7	115	20.0	132	32.4	132	53.3
TAM W101	75.1	181	68.8	102	65.6	113	25.4	168	32.1	131	52.0
Newton	79.8	192	56.1	83	59.2	102	25.4	168	35.2	144	51.1
Vona	81.7	196	63.3	94	62.0	107	18.2	121	22.9	93	49.6
Sage	51.6	124	61.8	92	64.4	111	----	---	19.9	81	49.4
Rocky	55.1	132	54.4	81	66.9	116	26.6	174	29.9	122	46.6
Pioneer 915A	65.6	158	52.7	78	57.7	100	21.8	144	26.9	109	44.9
Payne	68.2	164	51.6	76	53.1	92	22.4	148	29.0	118	44.9
Sturdy	69.9	168	52.5	78	55.3	96	18.2	121	22.4	91	43.7
Osage	51.6	124	58.5	87	64.8	112	18.2	121	24.8	101	43.1
Centurk 78	57.1	137	56.2	83	64.2	111	15.1	100	22.1	90	42.9
Scout 66	48.6	117	51.9	77	59.5	103	24.8	164	23.3	95	41.6
Triumph 64	41.6	100	67.5	100	57.8	100	15.1	100	24.5	100	41.3
Texred	59.0	142	55.1	82	54.6	92	14.5	96	19.7	80	40.6
Average	65.4 Bu.		59.1 Bu.		62.2 Bu.		21.3 Bu.		26.9 Bu.		
L.S.D. (.05)	6.9 Bu.		7.4 Bu.		8.6 Bu.		4.6 Bu.		5.4 Bu.		
C.V.	7.4 %		8.8 %				10.0 %		14.0 %		
Planted	11-13-79		10-04-79		9-26-79		11-27-79		11-27-79		
Harvested	6-25-80		7-08-80		7-08-80		7-06-80		7-05-80		

*Irrigated

Table 5: Central

GRAIN YIELD (BUSHEL PER ACRE) AND PERCENT OF TRIUMPH 64 FOR
ENTRIES IN WHEAT VARIETY TESTS IN CENTRAL OKLAHOMA, 1980

	Stillwater		Guthrie		Kingfisher		Regional Average
	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	
Dekalb H107	62.6	103	57.5	139	57.4	131	59.2
Vona	60.1	99	57.2	139	58.1	133	58.5
Payne	59.4	98	52.9	129	59.8	137	57.4
Wings	63.3	104	53.5	130	54.7	125	57.2
TAM 105	54.5	90	53.6	130	56.8	130	55.0
Sturdy	58.5	97	52.2	127	52.5	120	54.4
TAM W101	60.9	100	47.9	117	53.9	123	54.2
Texred	55.6	92	52.5	128	51.8	119	53.3
Rocky	57.8	95	46.9	114	52.9	121	52.5
Pioneer 915A	54.9	91	44.9	109	53.0	121	50.9
Triumph 64	60.6	100	41.1	100	43.7	100	48.5
Newton	58.4	96	43.1	104	42.5	97	48.0
Osage	60.5	100	41.7	101	41.3	95	47.8
Centurk 78	50.1	83	44.9	109	42.1	96	45.7
Sage	53.6	88	43.7	106	38.8	88	45.4
Scout 66	51.9	86	40.5	98	30.0	69	40.8
Average	57.7 Bu.		48.4 Bu.		49.3 Bu.		
L.S.D. (.05)	6.4 Bu.		8.9 Bu.		4.4 Bu.		
C.V.	7.8 %		13.0 %		6.2 %		
Planted	10-17-79		10-16-79		10-19-79		
Harvested	6-16-80		6-30-80		6-27-80		

Table 6: North Central

GRAIN YIELDS (BUSHEL PER ACRE) AND PERCENT OF TRIUMPH 64 FOR
ENTRIES IN WHEAT VARIETY TRIALS GROWN IN NORTH CENTRAL OKLAHOMA, 1980

	Alva		Aline		Fairview		Lahoma		Ponca City		Waukomis		Regional Average
	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	
Wings	35.9	97	37.8	98	36.3	89	39.8	135	38.4	153	46.4	126	39.0
Payne	33.6	91	37.0	96	42.4	104	28.3	96	37.0	147	51.7	140	38.4
TAM W101	37.0	100	37.1	97	38.4	94	30.0	102	39.0	155	47.0	127	38.1
Dekalb H107	34.2	93	38.1	99	46.4	114	27.3	93	32.4	129	50.8	138	38.0
Vona	36.0	98	28.3	74	43.0	105	28.0	95	42.0	167	50.2	136	37.9
TAM 105	36.0	98	34.9	91	28.1	69	28.0	95	46.3	184	52.3	142	37.6
Pioneer 915A	30.5	83	37.7	98	37.8	93	28.3	96	32.6	129	49.0	133	35.8
Newton	31.5	85	34.9	91	30.9	76	23.5	80	43.7	174	49.3	134	35.6
Triumph 64	36.9	100	38.4	100	40.8	100	29.5	100	25.1	100	36.9	100	34.6
Rocky	25.8	70	33.4	87	33.6	82	27.5	93	42.7	170	43.9	119	34.5
Sturdy	27.1	73	38.9	101	37.2	91	23.5	80	28.4	113	44.5	121	33.2
Texred	33.3	90	35.2	92	33.3	82	15.8	53	29.9	119	48.8	132	32.7
Centurk 78	30.9	84	30.6	80	28.4	70	27.3	93	40.2	160	36.8	100	32.4
Osage	28.3	77	34.1	89	25.6	63	22.8	77	28.0	112	39.2	106	29.7
Sage	29.3	79	33.1	86	26.0	64	21.5	73	30.0	120	37.5	102	29.6
Scout 66	24.2	66	36.8	96	28.4	70	27.5	93	25.7	102	28.7	78	28.5
Average	31.9 Bu.		35.4 Bu.		34.8 Bu.		26.8 Bu.		35.1 Bu.		44.7 Bu.		
L.S.D. (.05)	7.9 Bu.		3.3 Bu.		3.9 Bu.		5.9 Bu.		9.2 Bu.		6.2 Bu.		
C.V.	17.4%		6.4 %		7.8 %		15.6 %		18.3 %		9.8 %		
Planted	10-17-79		10-22-79		10-18-79		11-15-79		9-18-79		10-19-79		
Harvested	7-04-80		7-03-80		7-03-80		7-01-80		7-02-80		7-01-80		

Table 7: East

GRAIN YIELD (BUSHEL PER ACRE) AND PERCENT OF TRIUMPH 64 FOR
WHEAT VARIETIES GROWN IN EASTERN OKLAHOMA, 1980

	Jay		Haskell		Regional Average
	Yield Bu/A	% TRI 64	Yield Bu/A	% TRI 64	
Dekalb H107	46.0	107	49.6	135	47.8
Pioneer 915A	46.4	108	47.6	129	47.0
Wings	49.3	115	41.6	113	45.5
Centurk 78	44.5	104	45.0	122	44.8
Vona	47.2	110	41.1	112	44.2
TAM W101	41.4	97	43.4	118	42.4
Payne	39.6	92	43.9	119	41.8
Rocky	42.4	99	39.6	108	41.0
TAM 105	44.9	105	35.6	97	40.3
Triumph 64	42.9	100	36.8	100	39.9
Newton	40.2	94	39.0	106	39.6
Texred	37.8	88	40.1	109	39.0
Sturdy	37.6	88	38.3	104	38.0
Sage	39.5	92	35.5	96	37.5
Osage	35.1	82	33.0	90	34.1
Scout 66	37.5	87	28.5	77	33.0
Average	42.0 Bu.		39.9 Bu.		
L.S.D. (.05)	4.4 Bu.		11.9 Bu.		
C.V.	7.3 %		21.0 %		
Planted			10-25-79		
Harvested	7-07-80		7-07-80		

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