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OSU Current Report

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Performance of Wheat Varieties, Oklahoma - 1981

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The wheat production season of 1980-81 was one of dramatic contrasts. For the second consecutive year, wheat farmers were faced with difficult planting decisions due to severe soil moisture shortages. As a result, many wheat fields had to be re-sown causing the state's average date of seeding to be somewhat later than normal. The dry conditions continued through April in most of the state, causing rapid plant development and early forecasts of a sub-par year. As the wheat progressed into the late boot to heading stages of growth, the weather changed. General rains were received and temperatures dropped which provided very good conditions for grain filling and effectively turned the production scene around.

This report contains the results of 18 farmer-cooperative yield trials and 7 station trials. In no way is this report an endorsement or recommendation of all or any of the varieties tested. The purpose of this farmer-cooperative program is to provide Oklahoma farmers with current and reliable performance data on the varieties which are presently grown or available for use in Oklahoma. When evaluating this data for varietv selection it is recommended that specific emphasis be given to the data representing that part of the state in which the variety(s) is to be grown and that multiple year averages be consulted when possible. It would also be wise to keep in mind that such things as planting and harvest date, soil fertility, soil type, tillage methods, weed and insect control, and amount and timing of rainfall vary by location and can strongly influence the results. Some of this information is given in the tables. Varietal description will also be helpful in interpreting these results and are available at all county extension offices in OSU Extension Facts No. 2064.

All Trials were sown at approximately 60 lbs per acre at a depth of 3/4 to 2 inches. The plot size of the off-station trials was 550 sq ft while that of the station trials was either 16 or 40 sq ft. In all cases, the off-station trials were sown in a continuous wheat situation, whereas a wheat-fallow-wheat rotation was followed on the stations.

Table 1.
NORTH CENTRAL REGION
Grain Yield (Bu/A) And Test Weight (Lbs/Bu) For Fourteen Winter Wheat Varieties Grown In North Central Oklahoma, 1981.

	Fairview		Lamont		Tonkawa		Lahoma St.		Regional
	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Average
TAM W101	27.1	58.3	43.4	58.8	52.1	57.5	59.8	57.9	45.6
TAM 105	24.8	58.5	44.6	58.2	44.6	57.5	55.4	57.1	42.4
Vona	25.1	59.0	41.3	59.6	46.2	60.0	52.1	58.7	41.2
Newton	23.4	59.2	46.5	60.0	43.9	59.0	46.5	58.4	40.1
Dekalb 573	25.1	59.5	42.1	59.0	39.6	59.0	52.5	57.8	39.8
Centurk 78	25.1	58.8	43.4	59.5	43.2	58.0	46.5	56.0	39.6
Osage	25.4	58.2	45.0	59.5	47.5	57.5	36.6	57.2	38.6
Wings	27.7	59.2	41.7	60.6	39.6	59.5	45.1	59.8	38.5
Scout 66	24.8	57.8	37.6	59.3	37.5	57.5	53.6	58.0	38.4
Payne	22.4	58.0	39.3	58.5	38.8	58.5	42.5	56.7	35.8
Texred	21.5	60.2	35.6	59.4	41.3	59.5	44.8	57.7	35.8
Rocky	23.8	59.8	35.8	58.7	43.9	55.0	37.3	56.0	35.2
Plainsman V	22.8	58.5	37.8	58.2	36.3	58.0	43.2	57.1	35.0
Triumph 64	22.4	59.6	28.7	60.1	35.6	59.5	49.2	58.5	34.0
Average	24.4	58.9	40.2	59.2	42.2	58.3	47.5	57.6	
L.S.D. (.05)	1.7 bushels		3.66 bushels		3.27 bushels		6.0 bushels		
C.V.	16.93		14.27		10.86		8.8		
Planted	10/20/80		10/01/80		10/21/80		10/07/80		
Harvested	6/18/81		6/19/81		6/22/81		7/10/81		
Conditions	Dry		Soil Crusting after planting, dry		Dry				
Fertilization	50 lbs 18-46-0 70 lbs N top dress		80 lb N preplant		77 lbs N preplant		Fallowed		
Grazing	None		None		None		None		

Table 2. NORTHWEST REGION

Grain Yield (Bu/A) And Test Weight (Lbs/Bu) For Fourteen Winter Wheat Varieties Grown In Northwestern Oklahoma, 1981.

	Shattuck		Buffalo		Woodward Sta.		Goodwell Sta.*		Goodwell Sta.		Regional
	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Average
TAM 105	20.0	58.6	21.8	58.6	67.4	62.4	103.3	59.6	29.9	54.0	48.5
TAM W101	20.5	60.9	24.6	60.9	63.0	62.6	94.1	61.0	36.3	54.2	47.7
Dekalb 573	19.0	61.0	17.3	61.0	64.8	65.5	94.0	58.4	32.4	54.1	45.5
Osage	18.8	54.2	20.8	54.2	62.1	62.2	78.9	59.1	32.2	53.5	42.6
Payne	18.0	59.4	17.5	59.4	57.3	62.6	71.3	57.1	34.9	52.0	39.8
Vona	17.3	57.7	15.8	57.7	66.3	64.1	67.7	61.4	25.8	55.4	38.6
Scout 66	25.1	60.0	18.0	60.0	56.8	62.6	59.4	61.3	32.4	55.5	38.3
Newton	19.0	58.1	15.9	58.1	70.4	62.9	56.6	60.0	29.5	52.9	38.3
Centurk 78	17.5	59.1	16.8	59.1	61.5	63.5	56.6	60.0	37.2	54.8	37.9
Wings	17.3	62.2	19.6	62.2	63.5	64.0	54.9	61.3	30.8	56.4	37.2
Rocky	20.0	59.9	18.6	59.9	59.5	63.5	54.4	56.9	32.6	54.3	37.0
Plainsman V	21.4	60.1	10.9	60.1	53.8	63.1	67.4	55.8	24.6	53.9	35.6
Triumph 64	16.2	60.9	14.7	60.9	53.1	63.2	53.6	60.0	32.7	56.1	34.1
Texred	18.3	62.0	17.7	62.0	50.2	63.2	58.4	57.2	17.7	54.8	32.5
Average	19.2	59.6	17.9	59.6	60.7	63.2	69.3	59.2	30.6	54.4	
L.S.D. (.05)	2.99		2.62		6.4		12.4		9.1		
C.V.	20.37		16.54		7.4		12.2		20.8		
Planted	11-24-80		12-19-80		10-20-80		11-07-80		10-10-80		
Harvested	6-17-81		6-17-81		6-19-81		6-30-81		6-29-81		
Conditions	Dry, weeds		Dry, 5% hail								
Fertilization			500 lbs 10-8-6-1(s)								
Grazing			none								

* Irrigated

Table 3. WEST CENTRAL REGION

Grain Yield (Bu/A) And Test Weight (Lbs/Bu) For Fourteen Winter Wheat Varieties Grown In West Central Oklahoma, 1981.

	Elk City		Custer City		Roosevelt		Hinton		Seiling		Regional
	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Average
TAM 105	32.5	58.5	42.0	60.5	29.9	55.0	44.1	59.0	35.8	57.5	36.9
Osage	33.0	60.0	37.2	59.5	31.7	55.0	38.9	58.0	33.5	59.2	34.9
TAM W101	32.3	60.5	30.7	59.0	31.3	53.0	42.1	58.5	33.2	58.4	33.9
Newton	34.5	59.5	35.6	60.0	26.7	52.0	38.3	59.0	30.0	60.0	33.0
Payne	31.4	59.0	31.8	58.5	34.0	56.0	35.8	58.0	32.0	57.5	33.0
Scout 66	31.8	60.0	35.0	60.5	27.2	55.0	37.3	59.0	33.0	60.2	32.9
Wings	30.7	60.0	34.1	62.0	30.1	57.5	34.3	60.0	34.3	59.5	32.7
Rocky	34.3	59.5	38.0	61.0	26.4	55.0	32.5	59.5	31.2	60.8	32.5
Vona	31.4	58.5	30.0	62.0	28.7	57.0	34.8	59.0	36.0	58.5	32.2
Centurk 78	33.8	59.5	34.8	60.5	24.1	54.5	34.7	59.5	33.3	60.0	32.1
Plainsman V	30.4	59.0	29.9	59.5	27.6	57.0	36.8	58.5	35.0	55.6	31.9
Triumph 64	33.5	60.0	25.4	61.0	30.7	57.5	37.3	60.0	31.5	58.0	31.7
Texred	24.9	59.5	30.5	61.0	28.5	56.5	42.9	60.5	30.0	59.9	31.4
Dekalb 573	32.3	59.5	29.9	60.5	27.2	57.0	34.2	59.0	27.9	57.5	30.3
Average	31.9	59.5	33.2	60.4	28.9	55.0	37.4	59.1	32.6	58.8	
L.S.D. (.05)	2.7		3.3		2.9		3.0		2.8		
C.V. (%)	9.6		13.8		12.5		10.3		10.4		
Planted	10/07/80		10/23/80		10/15/80		10/07/80		10/02/80		
Harvested	6/12/81		6/12/81		6/11/81		6/23/81		6/23/81		
Conditions	Dry		Dry		Dry, some crusting		Good		Dry, Some crusting		
Fertilization	125 lbs 0-30-15, 65.5 lbs N		100 lbs N 32 lbs P 12 lbs K		--------		None		100 lbs 18-46-0 preplant 80 lbs 46-0-0 top dress		
Grazing	Nov 20-Mar 12				taken off 3-15-81		None		none		

Table 4. SOUTHWEST REGION

Grain Yield (Bu/A) And Test Weight (Lbs/Bu) For Fourteen Winter Wheat Varieties Grown In Southwestern Oklahoma, 1981.

	Gould		Mangum		Duncan		Fredrick		Altus Station		Regional
	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Average
TAM W101	25.6	57.5	33.2	57.5	43.2	54.5	33.7	56.0	60.9	58.4	39.3
TAM 105	25.7	55.5	35.1	57.0	40.6	53.5	35.6	56.5	52.9	55.6	38.0
Newton	28.1	55.5	32.3	53.5	39.3	53.5	29.7	56.0	49.6	55.5	35.8
Triumph 64	24.3	59.0	33.2	59.0	48.5	57.5	27.7	55.5	43.1	60.1	35.4
Payne	27.8	57.0	37.8	55.0	46.9	57.5	11.2	54.5	50.9	57.6	34.9
Scout 66	24.8	57.0	32.8	57.5	35.6	56.0	31.0	56.0	50.3	58.8	34.9
Texred	17.0	56.5	28.8	56.5	50.5	56.5	31.0	55.0	46.2	59.2	34.7
Wings	25.9	59.0	34.3	58.5	45.9	57.5	21.1	54.5	46.4	60.1	34.7
Osage	25.2	56.5	32.8	56.5	39.6	54.5	23.8	56.0	51.5	57.4	34.6
Dekalb 573	27.3	55.0	29.2	57.5	44.2	56.0	15.8	55.0	56.2	59.6	34.5
Rocky	30.0	57.0	34.0	57.0	39.3	56.0	11.2	54.0	47.2	59.0	32.3
Vona	23.0	56.5	31.0	56.0	46.5	55.5	20.5	54.5	38.3	56.0	31.9
Centurk 78	23.3	57.5	34.8	56.0	37.6	54.5	10.6	56.0	50.1	56.8	31.3
Plainsman V	21.0	55.5	22.6	56.0	42.9	55.0	24.4	54.0	43.8	58.2	30.9
Average	24.9	56.8	32.3	56.7	42.9	55.6	23.4	55.3	49.1	58.0	
L.S.D. (.05)	3.2		2.9		2.9		2.9		5.8		
C.V. (%)	17.9		11.4		8.5		26.9		8.3		
Planted	10-14-80		10-23-80		10-24-80		10-14-80		11-11-80		
Harvested	6-10-81		6-10-81		6-24-81		6-11-81		6-24-81		
Conditions	Dry		Dry		Dry		Dry		Fallowed		
Fertilization			40 lb N , P 10 lb S, 21 Lb Zn 30 lb S, N topdress								
Grazing			None								

Table 5. CENTRAL REGION

Grain Yield (Bu/A) And Test Weight (Lbs/Bu) For Fourteen Winter Wheat Varieties Grown In Central Oklahoma, 1981.

	Guthrie		Kingfisher		El Reno		Stillwater Sta.		Regional
	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Average
TAM W101	31.0	59.0	46.2	58.5	26.4	52.0	46.1	59.2	37.4
TAM 105	30.0	59.0	38.9	58.0	28.4	53.0	42.1	60.4	34.9
Dekalb 573	21.1	58.0	38.9	58.0	23.8	53.0	46.4	59.4	32.6
Osage	24.8	58.0	36.6	57.5	25.4	52.5	42.6	60.8	32.4
Newton	21.3	60.0	35.6	58.5	28.9	55.0	42.4	60.3	32.1
Wings	23.1	59.5	38.0	59.5	25.9	53.5	40.0	60.6	31.8
Scout 66	22.4	58.0	35.6	58.5	28.9	54.5	40.0	60.7	31.7
Triumph 64	21.1	59.5	33.0	59.0	25.4	55.0	40.0	61.1	29.9
Centurk 78	22.1	60.0	34.0	58.5	20.5	53.5	43.1	60.5	29.9
Plainsman V	19.1	58.0	37.3	57.5	26.1	51.5	34.9	58.4	29.4
Rocky	24.1	60.0	31.0	59.5	15.8	54.0	46.6	60.9	29.4
Vona	20.1	59.0	38.6	58.0	19.8	53.0	38.3	59.6	29.2
Texred	22.4	59.5	36.3	59.0	22.6	53.5	30.0	59.0	27.8
Payne	18.4	58.0	35.6	57.5	18.5	52.5	38.3	58.0	27.7
Average	22.9	59.0	36.8	58.4	24.0	53.3	40.8	59.9	
L.S.D.(.05)	2.5		2.4		3.1		6.9		
C.V. (%)	11.8		6.5		16.9		11.8		
Planted	11-21-80		10-20-80		9-22-80		10-14-80		
Harvested	6-29-81		6-23-81		6-23-81		6-08-81		
Conditions	Dry, some shattering		Dry, some shattering		Dry, 10-15% hail damage		Dry		
Fertilization			30 lbs N topdress		40 lbs N topdress		Fallowed		
Grazing	None		12-30-80 to 3-09-81		None		None		

Table 6.

EASTERN REGION

Grain Yield (Bu/A) And Test Weight (Lbs/Bu) For Several Winter Wheat Varieties Grown In Eastern Oklahoma, 1981.

	Talala		Commerce		Haskell Sta.		Regional**
	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Yield (Bu/A)	TW (Lbs/Bu)	Average
Payne	44.1	56.0	49.0	57.0	67.0	57.0	55.6
Wings	44.8	59.0	61.4	60.0	64.7	59.5	54.8
Vona	45.5	57.5	61.8	60.0	61.5	61.0	53.5
Texred	47.9	58.0	----	----	58.1	57.0	53.0
TAM W101	42.3	57.0	44.9	58.0	63.5	58.0	52.9
TAM 105	49.7	58.5	66.7	59.0	55.3	56.0	52.5
Dekalb 573	41.1	57.0	----	----	60.8	57.5	51.0
Centurk 78	45.1	57.5	----	----	54.5	57.5	49.8
Triumph 64	39.5	58.5	44.3	58.0	56.2	56.0	47.9
Rocky	39.5	57.0	55.5	58.0	53.3	61.5	46.4
Osage	37.2	56.5	----	----	55.2	59.0	46.2
Newton	43.0	58.0	53.5	56.5	44.4	55.5	43.7
Scout 66	37.5	58.0	----	----	46.7	57.5	42.1
Plainsman V	33.7	54.5	59.8	58.0	----	----	----
McNair 1003	40.1	56.0	73.6	57.5			
Hart	39.1	53.5	57.3	57.0			
Rosen	35.4	55.5	54.7	57.0			
Pioneer S76	35.2	55.5	61.4	57.0			
Average	41.2	56.9	53.5	57.9	57.0	57.9	
L.S.D. (.05)	2.6		4.0				
C.V. (%)	7.5		10.9				
Planted	10-04-80		10-04-80		10-13-80		
Harvested	6-25-81		6-25-81		6-22-81		
Condition	Some shattering		Some shattering				
Fertilization	110 lbs 18-46-0		244 lbs 9-23-30				
			87 lbs 82-0-0				
Grazing	none		none				

** Does not include Commerce

Table 7. Performance Of Wheat Varieties In Oklahoma Yield Trials 1977 - 1981

Variety	Date Released	State Averages (Bu/A) and Ranks 1977 (28)*	1978 (26)	1979 (23)	1980 (26)	1981†† (18)	Two Year Average 1980-81
TAM 105	1979	--	--	--	44.8 (3)	33.5 (1)	40.2
Wings	1977	--	--	--	45.4 (2)	31.5 (4)	39.6
TAM W101	1971	38.6 (2)	36.0 (3)	53.9 (4)	44.0 (5)	33.0 (2)	39.5
Vona	1976	39.1 (1)	36.7 (1)	58.3 (1)	44.1 (4)	30.5 (6)	38.5
Payne	1977	--	36.1 (2)	52.5 (6)	42.9 (6)	30.2 (7)	37.7
Newton	1977	--	35.0 (5)	54.4 (3)	42.1 (7)	30.8 (5)	37.5
Rocky	1978	--	--	--	42.1 (7)	29.3 (11)	36.9
Centurk 78	1978	--	--	53.5 (5)	40.5 (10)	29.8 (9)	36.1
Osage	1974	36.2 (5)	33.9 (6)	50.1 (11)	37.3 (15)	31.5 (3)	34.9
Texred		--	--	--	38.2 (14)	29.4 (10)	34.6
Triumph 64	1964	34.0 (11)	33.1 (10)	49.4 (15)	38.3 (13)	28.5 (12)	34.5
Scout 66	1967	33.3 (16)	32.0 (15)	51.5 (7)	35.1 (16)	27.9 (14)	32.2
Sturdy	1967	31.9 (17)	33.4 (8)	47.8 (16)	38.6 (11)	--	--
Lindon	1975	36.3 (4)	35.4 (4)	55.2 (2)	--	--	--
Larned	1976	35.0 (9)	32.8 (12)	51.5 (7)	--	--	--
Total Varieties Tested	-	17	16	16	16	14	

* Number of locations

†† Does not include Research Station Trials

The statewide wheat variety trials are a cooperative effort between several individual wheat growers, the Oklahoma Agriclutural Experiment Station, the Cooperative Extension Service, the Oklahoma Wheat Research Foundation and the Oklahoma Crop Improvement Association.