

Current Report

Cooperative Extension Service • Division of Agriculture • Oklahoma State University

Performance of Wheat Varieties in Oklahoma - 1988

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The 1987-88 wheat growing season will be remembered by most Oklahoma producers as one of the best ever. Excellent rains in late August and early September resulted in 35 percent of the wheat planted by September 20 compared to only 15 percent for the five year average. Additional rains in September resulted in extremely good forage production for early planted wheat. Much of far western Oklahoma received little rain in late October and November resulting in some difficulty in planting and stand establishment for wheat planted during this time. However, because of excellent subsoil moisture, early plantings continued to produce exceptional quantities of forage. Many fields produced 2,500 to 3,000 pounds of forage by December 1, 1987. Many locations had greenbug problems in October - November. Unusually wet December, January and February including excellent snow cover in many areas resulted in excellent early spring moisture, but difficulty in applying top dress nitrogen and herbicides. Snow cover and cold temperatures in December, January and early February resulted in no forage growth in these months. The early joint stage was reached one week to ten days later than normal and in most locations forage production in the spring prior to early joint stage was much less than normal. Good moisture was present in most locations until mid-grainfill, when drought stress reduced yields at some locations.

Weather during harvest was excellent so that even though harvest started one week to ten days late, it was completed early.

This report contains the results of 10 farmer-cooperator and three experiment station trials. The purpose of this testing program is to provide Oklahoma wheat producers with current and reliable performance data on the varieties which are presently grown or are available for use in Oklahoma. When selecting varieties, it is recommended that specific emphasis be given to data from the region in which the wheat is to be grown and that multiple-year averages be consulted whenever possible. See previous years current reports for earlier data. Note that the statewide summary table does contain two and three year data for entries which were included in those years.

Grain yields and test weights were both excellent with perhaps the highest grain yields statewide ever obtained. This was due to excellent moisture conditions mentioned previously, and lack of foliar diseases on the flag leaf until at least mid-grain filling at most locations. One yield limiting factor in a large percentage of Oklahoma wheat acreage in 1987-88 was a shortage of nitrogen. This was primarily due to unusually high amounts of forage removed by grazing and/or higher than expected yields. Nitrogen

was not a limiting factor at any of the trials reported here because adjustments were made in top dress nitrogen rates where needed.

Producer production practices were used at all sites except where a small amount of additional weed control may have been added or additional nitrogen was added as top dressing. Soil tests were conducted to ensure nutrients did not limit yields.

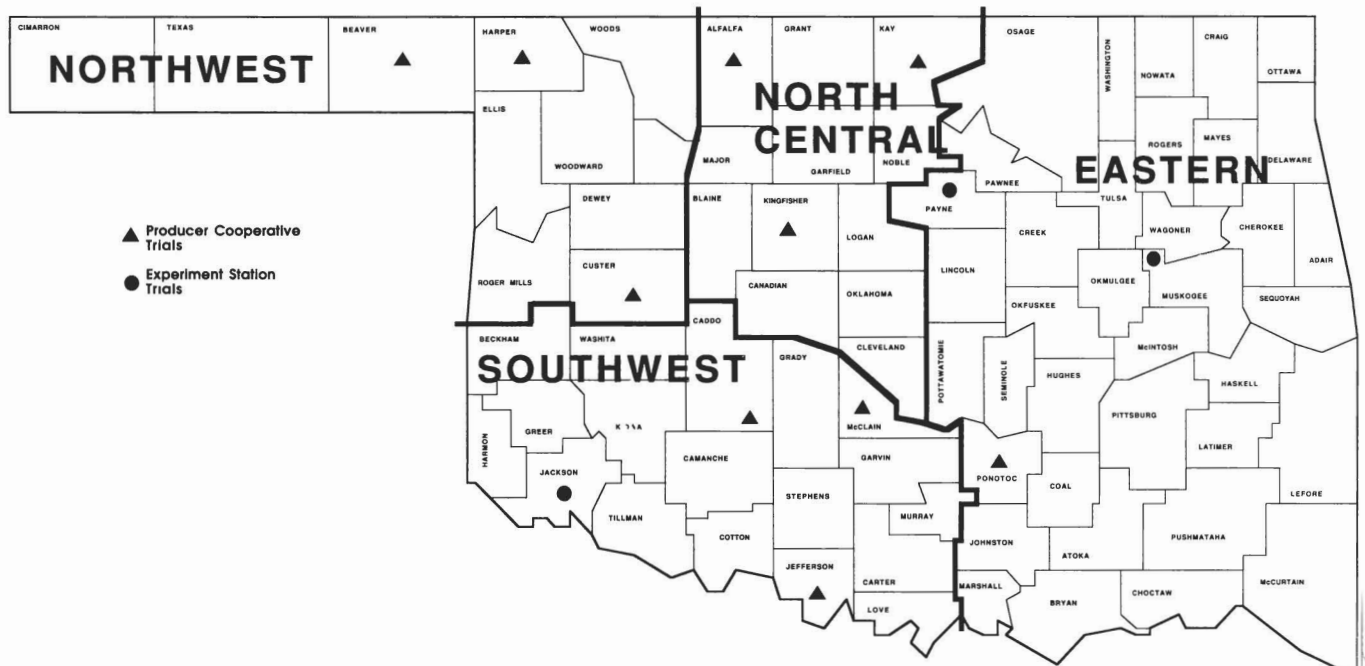
Mesa a new early maturing variety for Agripro (Nickerson American Plant Breeders) performed consistently well across the state placing first to third in all regions. No other variety consistently yielded this well. Pioneer 2157 and Victory were not top yielders in a region, but consistently ranked between third and the average for that region. This indicated stability and good performance across the state. Abilene, another new Agripro variety but later than Mesa, yielded very well in the East and Northwest but was slightly above average in the North Central and Southwest. Stallion, TAM 200, Pioneer

2172 and Thunderbird all performed very well in some regions but were below average in at least one region. Test weight is another very important factor in variety selection. Two of the new varieties which yielded well, Mesa and TAM 200 also had outstandingly high test weights. In contrast among the highest yielding varieties Pioneer 2172 and Victory had low test weights.

Over the two and three year averages, Pioneer 2157 and Stallion were the highest yielders with Chisholm close behind. All three of these have good test weights.

These data result from a cooperative effort between several individual wheat growers, the Oklahoma Agricultural Experiment Station, the Cooperative Extension Service and the Oklahoma Wheat Commission. A new Current Report, CR 2100, is being prepared presently which will contain an economic evaluation of varieties used for forage production until early joint stage followed by grain production.

Regional Divisions and Trial Locations for 1987-88 Wheat Variety Trials



VARIETY TEST SITE INFORMATION

SITE	SOIL SERIES AND TEXTURE ¹	PLANTING DATE	SEEDING RATE ²	HARVEST DATE	COMMENTS ³
ADA	Port SiCL	10-14-87	1,000,000	6-10-88	Double cropped following mungbeans. Exceptionally disease free, 8 replications.
ALTUS	Hollister Cl	10-07-87	1,000,000	6-09-88	Alternate fallow, leaf rust late.
APACHE	Hollister SiL	10-05-87	1,000,000	6-08-88	Leaf rust late.
BUFFALO	Woodward L	10-13-87	1,000,000	6-22-88	3 replications, drought stress in late grain filling.
CHEROKEE	Dale SiL	10-13-87	1,000,000	6-21-88	Leaf rust late.
CUSTER CITY	Carey SiL	09-25-87	1,000,000	6-14-88	Exceptionally disease free, flash grazed in January.
FORGAN	Richfield L	09-16-87	1,000,000	6-22-88	Heavily grazed until early joint stage, nitrogen added for 40 bu crop. Non-irrigated continuous wheat.
HASKELL	Taloka SiL	10-09-87	1,000,000	6-15-88	Water stress in late grain filling, 8 replications.
KINGFISHER	Kirkland SL	09-25-87	1,000,000	6-14-88	Exceptionally wet in spring.
PERKINS	Teller L	09-24-87	1,000,000	6-11-88	Some greenbug damage in fall.
PURCELL	Bethany SiL	10-06-87	1,000,000	6-13-88	Flash grazed in January.
RINGLING	Wing L	10-30-87	1,250,000	6-09-88	Hardpan present at 6-8" resulted in frequent drought stress.
TONKAWA	Bethany SiL	09-23-87	1,000,000	6-17-88	Wet in spring, tall, lodging in TAM 200, Century, Siouxland, & Cody. Heavy powdery mildew early.

¹C = Clay, L = Loam, Si = Silt, S = Sand. ²Seeding rate = seeds per acre planted with cone planter, 1,000,000 seeds per acre is equivalent to 60 lb/A.

³All locations are continuous wheat, 4 rep tests, and planted in 10" rows unless specified, enough nitrogen was applied to produce at least a 50 bushel yield.

E A S T E R N

VARIETY	ADA		HASKELL		PERKINS				REGIONAL AVERAGE	
	T.W. ¹	BU/A	T.W.	BU/A	HD ²	HT ³	T.W.	BU/A	T.W.	BU/A
ABILENE	62.7	57.3 (1) ⁴	62.8	57.6 (2)	34	33	60.4	38.3 (2)	62.0 (2)	51.1
TAM 200	62.6	52.7 (3)	63.5	57.5 (3)	27	33	60.4	39.5 (1)	62.2 (1)	49.9
MESA	62.0	45.5(11)	62.8	62.0 (1)	27	33	59.2	35.8 (7)	61.3 (5)	47.8
THUNDERBIRD	62.0	53.3 (2)	61.9	53.1(10)	29	39	59.8	35.9 (5)	61.2 (8)	47.4
VICTORY	60.5	47.9 (6)	60.1	54.6 (7)	30	33	57.1	35.9 (6)	59.2(17)	46.1
ROHM & HAAS 7846	62.2	48.1 (5)	62.1	51.6(12)	27	38	59.5	37.0 (3)	61.3 (5)	45.6
STALLION	62.4	45.0(13)	62.4	56.4 (5)	27	34	59.5	34.7 (8)	61.5 (4)	45.4
PIONEER 2157	62.7	45.2(12)	62.8	56.9 (4)	29	32	59.5	32.6 (9)	61.7 (3)	44.9
CHISHOLM	61.4	45.6(10)	62.0	55.4 (6)	27	35	59.3	31.7(12)	60.9 (9)	44.2
PIONEER 2172	61.6	46.0 (9)	61.3	53.7 (8)	26	34	57.6	32.5(10)	60.2(13)	44.0
CENTURY	61.9	47.0 (8)	59.5	46.2(17)	32	34	59.3	36.8 (4)	60.2(13)	43.3
CODY	60.9	44.2(14)	61.9	53.4 (9)	34	35	58.7	32.1(11)	60.5(11)	43.2
ROHM & HAAS 7837	61.1	50.7 (4)	59.1	45.9(18)	27	35	57.2	31.1(14)	59.2(17)	42.6
TAM W-101	62.7	47.2 (7)	62.0	50.9(13)	30	32	59.2	29.2(16)	61.3 (5)	42.4
PONY	60.5	43.4(15)	60.7	52.2(11)	27	34	58.1	31.4(13)	59.7(15)	42.3
WRANGLER	61.8	40.4(16)	61.1	49.6(15)	27	34	58.5	30.2(15)	60.4(12)	40.1
SIouxLAND	61.3	40.0(17)	61.8	49.1(16)	33	40	59.5	26.7(17)	60.9 (9)	38.6
ARKAN	60.3	38.0(18)	60.5	49.8(14)	26	34	57.6	24.3(18)	59.5(16)	37.3
LOCATION AVERAGE:	61.7	46.5	61.6	53.1	29	34	58.9	33.1	60.7	44.2
L.S.D. (.05):	0.4	4.7	0.7	4.5	1.3	2.6	1.1	5.1		
C.V.(%):	0.6	10.2	1.3	8.6	3.1	5.2	1.4	10.8		

¹T.W. = Test Weight in lb/bu. ²H.D. = Heading date in days after March 31, 1988. ³HT. = Plant height in inches.
⁴Rank at this location.

S O U T H W E S T

VARIETY	ALTUS			APACHE		PURCELL		RINGLING		REGIONAL AVERAGE	
	H D ¹	T.W. ²	BU/A	T.W.	BU/A	T.W.	BU/A	T.W.	BU/A	T.W.	BU/A
STALLION	22	59.6	39.9(12) ³	59.9	66.4 (4)	61.2	54.2 (1)	59.7	49.4 (1)	60.1 (4)	52.5
MESA	21	62.1	48.8 (4)	60.8	68.4 (2)	61.0	46.4 (8)	59.7	45.6 (6)	60.9 (1)	52.3
PIONEER 2172	20	58.1	51.7 (1)	56.2	64.8 (7)	58.7	49.2 (2)	57.2	42.5(11)	57.5(15)	52.0
THUNDERBIRD	28	60.5	43.4 (7)	59.7	67.5 (3)	61.0	48.8 (3)	59.7	47.7 (2)	60.2 (3)	51.8
TAM 200	22	59.6	42.7 (8)	59.6	69.4 (1)	60.6	48.8 (4)	59.2	46.0 (5)	59.8 (6)	51.7
PIONEER 2157	25	61.9	44.5 (6)	60.6	65.9 (5)	61.6	48.0 (6)	59.0	46.8 (3)	60.8 (2)	51.3
VICTORY	25	57.3	49.3 (2)	55.7	56.5(13)	57.7	48.5 (5)	58.8	44.7 (7)	57.4(16)	49.8
TAM W-101	24	60.7	49.0 (3)	59.9	64.7 (8)	60.8	44.7(11)	57.3	37.3(17)	59.7 (7)	48.9
WRANGLER	22	57.7	42.6 (9)	57.8	62.5 (9)	59.0	46.0 (9)	58.6	42.7(10)	58.3(11)	48.4
ABILENE	29	60.0	41.7(11)	59.0	61.3(10)	60.9	45.4(10)	59.6	43.1 (9)	59.9 (5)	47.9
ROHM & HAAS 7846	22	58.0	38.3(14)	57.8	64.9 (6)	59.5	47.3 (7)	57.8	40.4(12)	58.3(12)	47.7
CHISHOLM	21	58.9	39.9(13)	58.4	59.4(11)	59.8	43.1(15)	58.0	43.5 (8)	58.8 (9)	46.4
ARKAN	23	58.0	41.7(10)	56.9	58.4(12)	58.5	44.0(14)	57.3	39.9(13)	57.7(13)	46.0
ROHM & HAAS 7837	21	56.5	44.7 (5)	54.7	52.8(14)	57.4	44.2(13)	57.9	39.7(14)	56.6(18)	45.3
PONY	23	56.5	33.1(17)	55.1	47.6(17)	58.9	40.4(17)	56.4	46.3 (4)	56.7(17)	41.9
CODY	30	59.2	34.5(16)	56.9	49.3(16)	60.2	44.2(12)	57.9	39.0(15)	58.6(10)	41.8
CENTURY	25	58.9	34.6(15)	57.0	47.6(18)	59.1	42.1(16)	55.3	37.6(16)	57.6(14)	40.5
SIouxLAND	29	60.1	28.5(18)	59.1	50.8(15)	60.1	39.3(18)	56.8	33.4(18)	59.0 (8)	38.0
LOCATION AVERAGE:	23.9	59.1	41.6	58.1	59.9	59.8	45.8	58.1	42.5	58.8	47.5
L.S.D. (.05):	0.9	0.6	5.6	1.3	8.5	1.1	N.S.	1.9	9.2		
C.V.(%):	2.7	0.7	9.5	1.6	10.0	1.3	11.9	2.4	15.2		

¹H D = Heading Date in days after March 31, 1988 ²T.W. = Test Weight in lb/bu ³Rank at this location.

N O R T H C E N T R A L

VARIETY	CHEROKEE			KINGFISHER		TONKAWA		REGIONAL AVERAGE	
	HT. ¹	T.W. ²	BU/A	T.W.	BU/A	T.W.	BU/A	T.W.	BU/A
MESA	37.5	61.6	67.5 (1) ³	61.9	51.8 (1)	61.0	51.7 (1)	61.5 (1)	57.0
PIONEER 2172	37.9	59.2	67.0 (2)	58.2	42.8 (4)	57.2	40.8 (8)	58.2(12)	50.2
STALLION	39.8	59.3	58.9 (6)	61.5	40.9 (6)	59.0	48.6 (5)	59.9 (3)	49.5
ROHM & HAAS 7846	41.8	59.5	61.5 (3)	58.9	36.2(14)	58.8	48.6 (4)	59.1 (9)	48.8
VICTORY	43.2	57.5	53.7 (8)	57.9	41.8 (5)	56.1	48.9 (3)	57.2(17)	48.1
THUNDERBIRD	46.0	60.8	56.9 (7)	60.1	37.2(11)	60.3	49.3 (2)	60.4 (2)	47.8
PIONEER 2157	39.5	60.7	59.9 (4)	60.6	37.8(10)	57.5	40.5 (9)	59.6 (6)	46.1
ABILENE	37.8	58.8	51.9(11)	61.5	43.2 (3)	58.0	42.1 (7)	59.4 (8)	45.7
TAM W-101	38.4	59.7	52.2(10)	60.9	45.7 (2)	59.0	39.0(11)	59.9 (3)	45.6
CHISHOLM	40.6	59.5	59.6 (5)	60.5	39.3 (7)	58.7	35.1(13)	59.6 (6)	44.7
TAM 200	37.7	60.3	53.5 (9)	60.9	37.2(12)	58.5	39.6(10)	59.9 (3)	43.4
ARKAN	44.0	58.3	50.4(12)	59.1	35.3(15)	58.4	43.9 (6)	58.6(10)	43.2
WRANGLER	39.7	57.3	45.5(14)	58.6	34.9(16)	57.3	36.5(12)	57.7(14)	39.0
ROHM & HAAS 7837	40.4	56.8	48.2(13)	57.6	36.9(13)	54.7	31.5(16)	56.4(18)	38.9
CENTURY	41.6	56.7	43.2(15)	59.3	39.1 (8)	55.9	32.4(15)	57.3(16)	38.2
CODY	44.8	58.1	37.8(17)	60.0	38.6 (9)	57.6	31.0(17)	58.5(11)	35.8
SIUXLAND	46.1	58.1	37.0(18)	59.6	30.1(18)	57.0	33.4(14)	58.2(12)	33.5
PONY	41.3	56.9	40.6(16)	58.1	31.8(17)	57.3	27.5(18)	57.4(15)	33.3
LOCATION AVERAGE:	41.0	58.8	52.5	59.7	38.9	57.9	40.0	58.8	43.8
L.S.D. (.05):	2.6	1.1	6.2	1.0	7.5	1.6	9.1		
C.V.(%):	4.5	1.3	8.3	1.1	13.6	1.9	16.0		

¹HT. = Plant Height in inches. ²T.W. = Test Weight in lb/bu. ³Rank at this location.

N O R T H W E S T

VARIETY	BUFFALO		CUSTER CITY		FORGAN		REGIONAL AVERAGE	
	T.W. ¹	BU/A	T.W.	BU/A	T.W.	BU/A	T.W.	BU/A
TAM 200	58.8	57.5 (1) ²	61.9	47.7 (9)	61.9	37.2 (4)	60.9 (2)	47.5
MESA	60.1	53.5 (2)	63.1	55.5 (1)	60.6	32.7(11)	61.3 (1)	47.2
ABILENE	56.4	44.8 (6)	62.2	54.3 (2)	60.5	37.0 (5)	59.7 (6)	45.4
CENTURY	55.5	38.6(15)	60.8	49.0 (7)	60.8	43.7 (1)	59.0(10)	43.8
VICTORY	54.7	43.8 (8)	58.2	53.9 (3)	58.8	31.9(14)	57.2(16)	43.2
SIUXLAND	57.3	39.8(14)	61.2	50.2 (6)	59.3	37.9 (2)	59.3 (8)	42.6
WRANGLER	55.2	41.3(11)	60.9	52.8 (4)	60.5	32.6(12)	58.9(11)	42.3
PIONEER 2157	57.3	44.1 (7)	62.3	47.3(10)	61.5	34.9 (6)	60.4 (3)	42.1
PIONEER 2172	54.1	48.5 (3)	60.2	47.1(12)	58.2	28.6(17)	57.5(15)	41.
CHISH LM	57.1	45.8 (4)	60.6	40.7(16)	59.8	37.5 (3)	59.2 (9)	41.3
STALLION	57.2	45.2 (5)	61.9	46.3(13)	60.3	32.4(13)	59.8 (5)	41.3
CODY	56.9	40.6(13)	59.5	48.5 (8)	58.2	34.4 (8)	58.2(14)	41.1
TAM W-101	57.1	41.6(10)	61.7	42.5(15)	60.3	34.5 (7)	59.7 (6)	39.5
ROHM & HAAS 7846	56.1	38.1(16)	60.2	47.2(11)	59.5	33.2(10)	58.6(12)	39.5
THUNDERBIRD	59.4	40.9(12)	60.3	44.8(14)	60.1	31.0(15)	59.9 (4)	38.9
ARKAN	56.9	42.2 (9)	59.6	40.3(17)	58.3	33.3 (9)	58.3(13)	38.6
ROHM & HAAS 7837	52.6	35.8(17)	59.5	51.7 (5)	57.9	27.7(18)	56.7(18)	38.4
PONY	54.0	35.1(18)	58.1	35.1(18)	58.5	29.7(16)	56.9(17)	33.3
LOCATION AVERAGE:	56.5	43.2	60.7	47.5	59.7	33.9	59.0	41.5
L.S.D. (.05):	1.8	10.3	1.2	9.5	0.7	5.0		
C.V.(%):	2.0	14.4	1.4	14.2	0.9	10.4		

¹T.W. = Test Weight in lb/bu. ²Ranking within location.



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STATEWIDE YIELD SUMMARY FOR 1987-88 WHEAT PERFORMANCE TRIALS

VARIETY	EASTERN			NORTH CENTRAL		NORTHWEST		SOUTHWEST			STATE AVERAGE		2-YR AVE.	3-YR ⁴ AVE.
	H.D. ¹	T.W. ²	BU/A.	T.W.	BU/A	T.W.	BU/A	H.D. ³	T.W.	BU/A	T.W.	BU/A		
MESA	27	61.3	47.8 (3) ⁵	61.5	57.0 (1)	61.3	47.2 (2)	21	60.9	52.3 (2)	61.2 (1)	51.2		
TAM 200	27	62.2	49.9 (2)	59.9	43.4(11)	60.9	47.5 (1)	22	59.8	51.7 (5)	60.6 (2)	48.4		
STALLION	27	61.5	45.4 (7)	59.9	49.5 (3)	59.8	41.3(11)	22	60.1	52.5 (1)	60.3 (5)	47.6	39.4	39.1
ABILENE	34	62.0	51.1 (1)	59.4	45.7 (8)	59.7	45.4 (3)	29	59.9	47.9(10)	60.2 (6)	47.5		
PIONEER 2172	26	60.2	44.0(10)	58.2	50.2 (2)	57.5	41.4 (9)	20	57.5	52.0 (3)	58.3(15)	47.3	38.7	
VICTORY	30	59.2	46.1 (5)	57.2	48.1 (5)	57.2	43.2 (5)	25	57.4	49.8 (7)	57.7(16)	47.0	36.6	36.5
THUNDERBIRD	29	61.2	47.4 (4)	60.4	47.8 (6)	59.9	38.9(15)	28	60.2	51.8 (4)	60.4 (4)	46.9		
PIONEER 2157	29	61.7	44.9 (8)	59.6	46.1 (7)	60.4	42.1 (8)	25	60.8	51.3 (6)	60.6 (2)	46.5	39.4	39.4
ROHM & HAAS 7846	27	61.3	45.6 (6)	59.1	48.8 (4)	58.6	39.5(14)	22	58.3	47.7(11)	59.2(10)	45.6		
TAM W-101	30	61.3	42.4(14)	59.9	45.6 (9)	59.7	39.5(13)	24	59.7	48.9 (8)	60.1 (7)	44.5	36.1	35.8
CHISHOLM	27	60.9	44.2 (9)	59.6	44.7(10)	59.2	41.3(10)	21	58.8	46.4(12)	59.5 (8)	44.3	38.8	38.5
WRANGLER	27	60.4	40.1(16)	57.7	39.0(13)	58.9	42.3 (7)	22	58.3	48.4 (9)	58.8(12)	42.9	35.1	36.5
ARKAN	26	59.5	37.3(18)	58.6	43.2(12)	58.3	38.6(16)	23	57.7	46.0(13)	58.4(14)	41.6		
ROHM & HAAS 7837	27	59.2	42.6(13)	56.4	38.9(14)	56.7	38.4(17)	21	56.6	45.3(14)	57.2(18)	41.6	34.5	
CENTURY	32	60.2	43.3(11)	57.3	38.2(15)	59.0	43.8 (4)	25	57.6	40.5(17)	58.5(13)	41.4	36.1	
CODY	34	60.5	43.2(12)	58.5	35.8(16)	58.2	41.1(12)	30	58.6	41.8(16)	58.9(11)	40.6		
SIOUXLAND	33	60.9	38.6(17)	58.2	33.5(17)	59.3	42.6 (6)	29	59.0	38.0(18)	59.3 (9)	38.2	34.1	35.9
PONY	27	59.7	42.3(15)	57.4	33.3(18)	56.9	33.3(18)	23	56.7	41.9(15)	57.6(17)	38.0	34.1	35.4
REGIONAL AVERAGE		60.7	44.2	58.8	43.8	59.0	41.5		58.8	47.5	59.3	44.5		

¹H.D. = Heading Date at Perkins, OK in days after March 31, 1988. ²T.W. = Test Weight in lb/bu. ³H.D. = Heading Date at Altus in days after March 31, 1988. ⁴2-YR AVE is across 13 locations in 1987-88, 15 locations 1986-87. ⁵3-YR AVE includes 17 locations in 1985-86 as well as 1986-88. ⁵Rank within the Region.