

## Performance of Oat Varieties from Fall and Spring Seeding, 1982-83

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Even though oats do not occupy a large acreage in Oklahoma, they are an important crop to those who grow them. In general, about half the acreage sown to oats is harvested for hay or grazed out. Most of the oats harvested for grain are fed to livestock.

To assist growers in finding desirable oat varieties, we have established some fall and spring sown oat variety trials at Haskell, Perkins, Chickasha and Altus. The results from the 1982-83 growing season are presented in this report. Specific cultural practices are provided in the tables as well as temperature and rainfall data. Forage was harvested one time during the late boot to early heading stage of growth. Grain harvest was done when all the varieties were ripe.

In general, the 1982-83 season was excellent for producing oats for both

hay and grain. The primary factors limiting fall sown oat production were dry seedbeds and a wet harvest. Where good stands were obtained and harvest was on time, oat yields were very good. Rains during June also presented harvest problems for spring sown oats but late planting due to wet soils also reduced yields in some areas.

Keep in mind when examining this data, that last years' winter was relatively mild and moisture was abundant. The lowest temperature received was 14° F at Altus and the average daily minimums were all in the low 30's at all locations. Winterkilling was completely absent from all trials (even among the spring types) but there was some floret sterility due to a late frost in all varieties. The only severe disease problems occurred on Cimarron which has *Helminthosporium* Leaf Blotch at Haskell, Perkins, and Chickasha.

Table 1. Oat Variety and Type Grown in the 1982-83 Trials

Variety	Type	Variety	Type
Chilocco	Winter	Coker 81-21	Winter
Okay	"	Mesquite	"
Cimarron	"	Big Mac	"
Nora	"	TAM 0-312	"
Bob	"		
Coker 820	"	Lang	Spring
Coker 422	"	Larry	"
Coker 234	"	Bates	"
Coker 227	"		

Table 2. Monthly Temperature Records for the 1982-83 Growing Season at Altus, Chickasha, Perkins and Haskell\*.

Month	Year	Altus				Chickasha				Perkins				Haskell			
		Min	Lo	Max	Hi	Min	Lo	Max	Hi	Min	Lo	Max	Hi	Min	Lo	Max	Hi
August	1982	70	66	100	106	76	68	93	101	71	66	95	103	72	67	92	100
Sept.		64	50	90	100	65	47	84	97	60	40	87	102	63	43	81	95
Oct.		51	37	80	94	52	33	74	89	45	32	76	92	49	32	72	84
Nov.		40	18	64	84	44	46	56	76	38	18	59	82	42	24	57	81
Dec.		31	14	53	74	35	20	48	69	32	15	53	78	37	21	51	72
Jan.	1983	29	20	49	71	32	23	44	61	27	20	46	74	33	25	47	64
Feb.		32	22	53	72	36	16	48	65	33	15	49	67	37	24	49	64
March		39	22	63	85	39	22	59	84	38	23	55	78	42	27	55	73
April		45	93	69	27	44	28	66	85	42	28	64	83	46	32	61	78
May		53	39	83	97	57	45	75	88	53	42	76	90	57	46	72	83
June		63	48	89	99	67	52	83	92	62	47	84	93	65	50	80	88
July		70	59	100	110	70	59	95	105	69	59	96	104	72	60	89	100

\* Min and Max are the average of the daily minimum and maximum temperatures recorded for the month. Lo and Hi are the lowest and highest temperatures recorded for the month.

Table 3. Grain Yield and Test Weight of Oat Varieties Sown in the Fall.

Variety	Haskell		Perkins		Altus		Average	
	Bu/A	T.W.	Bu/A	T.W.	Bu/A	T.W.	Bu/A	T.W.
Lang	95.8 (1)*	32.3	119.3 (5)	38.1	66.5 (1)	35.8	93.9 (1)	35.4
Coker 234	79.8 (5)	33.7	135.6 (1)	38.3	48.4 (11)	36.4	87.9 (2)	36.1
Bob	71.4 (10)	35.4	132.1 (2)	41.6	53.6 (6)	38.5	85.7 (3)	38.5
Okay	88.1 (3)	33.5	114.6 (7)	38.2	45.7 (12)	34.2	82.8 (4)	35.3
Mesquite	92.2 (2)	34.5	103.7 (12)	36.2	50.4 (8)	37.9	82.1 (5)	36.2
Big Mac	78.1 (7)	34.4	106.8 (10)	40.1	56.9 (3)	38.6	80.6 (6)	37.7
Coker 227	72.7 (9)	32.6	122.6 (3)	38.5	44.1 (13)	35.3	79.8 (7)	35.5
Coker 422	61.6 (13)	32.8	122.1 (4)	39.9	55.1 (4)	37.5	79.6 (8)	36.7
Nora	69.8 (11)	32.8	108.9 (9)	38.9	54.5 (5)	37.8	77.7 (9)	36.5
Chilocco	79.6 (6)	33.9	101.1 (13)	38.9	48.9 (10)	36.3	76.5 (10)	36.4
Coker 81-21	82.3 (4)	35.0	106.4 (11)	39.9	36.3 (15)	36.5	75.0 (11)	37.1
Coker 820	53.4 (14)	29.6	118.5 (6)	39.7	49.5 (9)	34.7	73.8 (12)	34.7
Larry	73.7 (8)	32.7	32.1 (15)	35.2	62.5 (2)	36.7	72.8 (13)	34.9
Cimarron	47.3 (15)	30.0	89.7 (14)	35.9	42.8 (14)	35.6	59.9 (14)	33.8
TAM 0-312	62.1 (12)	31.0	63.5 (16)	34.6	51.3 (7)	34.6	59.0 (15)	33.4
Coker 81-29	-----	----	109.0 (8)	38.8	-----	----	-----	----
Average:	73.9	32.9	108.5	38.3	51.1	36.4	77.8	35.9
LSD (0.05%):	11.3	1.6	13.6	1.3	7.3	1.9		
CV (%):	10.7	3.5	8.8	2.5	9.9	3.6		
Planted:	10-6-83		11-9-82		11-9-82			
Harvested:	7-12-83		6-20-83		6-24-83			
Seeding Rate:	90 lbs/A		80 lbs/A		64 lbs/A			
Soil Test:	10-0-125		22-36-366		42-57-1000			
Fertilization:	40-80-40 40-0-0		58-0-0		80-46-0			

\* Rank

2082.3

Table 4. Grain Yield and Test Weight of Oat Varieties Sown in the Spring.

Variety	Haskell		Perkins*		Altus		Chickasha		Average	
	Bu/A	T.W.	Bu/A	T.W.	Bu/A	T.W.	Bu/A	T.W.	Bu/A	T.W.
Lang	55.0 (2)**	21.5	50.7 (1)	29.6	51.9 (9)	33.1	81.5 (2)	27.0	59.8 (1)	27.8
Coker 227	51.3 (4)	23.9	41.7 (4)	28.1	45.1 (14)	34.1	79.4 (3)	29.1	54.4 (2)	28.8
Coker 422	50.0 (5)	22.5	39.2 (8)	27.2	53.9 (5)	34.0	72.5 (4)	27.8	53.9 (3)	27.9
Coker 81-21	56.6 (1)	23.3	38.0 (9)	28.2	51.7 (10)	35.0	66.3 (6)	26.3	53.2 (4)	28.2
Coker 234	45.5 (7)	23.5	42.5 (3)	30.1	50.3 (11)	35.3	71.1 (5)	30.1	52.4 (5)	29.8
Bob	42.8 (8)	25.0	39.6 (5)	31.4	56.1 (3)	37.7	59.6 (8)	31.0	49.5 (6)	31.3
Nora	46.4 (6)	21.0	39.5 (6)	27.3	57.5 (2)	36.2	51.5 (12)	25.7	48.7 (7)	27.6
Big Mac	36.2 (12)	19.7	37.5 (10)	29.4	55.0 (4)	35.6	60.8 (7)	28.0	47.4 (8)	28.2
Coker 820	38.2 (10)	22.2	46.2 (2)	29.2	52.4 (7)	36.1	50.3 (14)	30.1	46.8 (9)	29.4
Okay	37.9 (11)	19.3	34.6 (11)	25.1	48.3 (13)	33.0	55.6 (10)	23.3	44.1 (10)	25.2
Chilocco	34.4 (13)	20.3	28.0 (12)	26.7	60.8 (1)	35.5	51.1 (13)	25.4	43.6 (11)	27.0
Mesquite	40.2 (9)	19.8	26.4 (13)	24.8	49.1 (12)	33.4	58.1 (9)	24.6	43.5 (12)	25.7
Larry	30.4 (15)	16.8	37.5 (10)	23.8	52.1 (8)	33.6	51.6 (11)	24.2	42.9 (13)	24.6
Cimarron	34.2 (14)	19.5	39.4 (7)	28.4	52.9 (6)	33.4	38.1 (15)	22.0	41.2 (14)	25.8
Bates	52.4 (3)	24.5	-----	----	-----	----	89.0 (1)	31.3	-----	----
Average	43.4	21.5	36.6	27.4	51.3	34.4	62.5	28.0	48.7	27.7
LSD (0.05%):	5.8	2.0	12.0	3.5	5.5	1.8	15.1	2.4		
CV (%):	9.4	6.4	23.0	8.8	7.6	3.6	16.9	6.1		
Planted:	3-24-83		3-2-83		2-17-83		2-18-83			
Harvested:	7-12-83		6-30-83		6-27-83		7-6-83			
Seeding Rate:	90 lbs/A		80 lbs/A		64 lbs/A		80 lbs/A			
Soil Test:	0-0-125		22-36-366		42-57-1000		-----			
Fertilization:	80-80-40		58-0-0		80-46-0		80-0-0			

\* Severe lodging

\*\* Rank

2082.4

Table 5. Forage Yield of Oat Varieties Sown in the Fall.

Variety	Haskell Lbs/A	Altus Lbs/A	Perkins Lbs/A	Average Lbs/A
Mesquite	22760.5 (1)*	14942.9 (6)	5512.5 (5)	14405.3 (1)
Chilocco	16697.1 (4)	15899.3 (3)	6188.0 (1)	12928.1 (2)
Coker 820	18147.5 (2)	15580.5 (4)	4597.4 (10)	12775.1 (3)
Coker 234	18006.9 (3)	13986.6 (10)	5163.9 (7)	12385.8 (4)
Okay	15428.4 (6)	15221.9 (5)	5577.9 (4)	12076.1 (5)
Lang	13515.7 (11)	16855.6 (1)	5055.0 (8)	11808.8 (6)
Coker 81-21	14881.0 (8)	14185.8 (7)	5163.9 (7)	11410.2 (7)
Coker 227	16626.7 (5)	12870.8 (12)	4466.7 (12)	11321.4 (8)
Coker 422	14088.9 (10)	12950.5 (11)	5948.3 (2)	10995.9 (9)
Big Mac	14716.6 (9)	12233.3 (13)	5883.0 (3)	10944.3 (10)
Larry	12500.0 (12)	15439.1 (2)	4357.7 (13)	10932.3 (11)
Bob	15332.9 (7)	11914.5 (14)	5185.7 (6)	10811.0 (12)
Cimarron	9207.0 (14)	14146.0 (8)	4575.6 (11)	9309.5 (13)
TAM 0-312	7500.7 (15)	15939.1 (2)	4357.7 (13)	9265.8 (14)
Nora	9462.0 (13)	14106.1 (9)	3987.3 (14)	9185.1 (15)
Coker 81-29	-----	-----	4989.6	-----
Average	14591.5	14451.5	5063.2	11370.3
LSD (0.05%):	3288.8	1813.2	1056.7	
CV (%):	15.8	8.8	14.7	

\* Rank

Table 6. Forage Yield of Oat Varieties Sown in the Spring.

Variety	Perkins Lbs/A	Altus Lbs/A	Average Lbs/A
Okay	3257.4 (12)*	9005.6 (3)	7760.2 (1)
Coker 820	3670.6 (6)	9643.2 (1)	6656.9 (2)
Lang	4689.1 (1)	8527.4 (5)	6608.3 (3)
Coker 234	3718.6 (4)	9204.8 (2)	6461.7 (4)
Big Mac	3468.8 (9)	8647.0 (4)	6057.9 (5)
Mesquite	3891.6 (3)	8208.6 (7)	6050.1 (6)
Coker 422	3411.1 (10)	4647.0 (4)	6029.1 (7)
Cimarron	3343.9 (11)	8248.5 (6)	5796.2 (8)
Chilocco	3651.4 (7)	7889.9 (8)	5770.7 (9)
Coker 227	3709.0 (5)	7770.3 (9)	5739.7 (10)
Bob	3632.1 (8)	7411.7 (11)	5521.9 (11)
Coker 81-21	3920.4 (2)	6774.1 (12)	5347.3 (12)
Larry	3007.6 (13)	7451.5 (10)	5229.6 (13)
Nora	2911.5 (14)	6455.3 (13)	4683.4 (14)
TAM 0-312	2094.7 (15)	-----	-----
Average:	3491.8	8654.9	5979.5
LSD (0.05%):	526.4	2496.1	
CV (%):	10.6	20.2	

\* Rank

Table 7. Monthly Rainfall for the 1982-83 Growing Season at Altus, Chickasha, Perkins, and Haskell.

Month	Year	Location			
		Altus	Chickasha	Perkins	Haskell
		----- inches -----			
Aug.	1982	.25	1.16	.33	2.41
Sept.	1982	1.46	2.41	.88	2.35
Oct.	1982	.20	.62	.91	1.23
Nov.	1982	1.98	2.69	3.02	5.51
Dec.	1982	1.38	1.79	3.65	3.61
Jan.	1983	.72	2.12	.07	2.95
Feb.	1983	1.60	3.80	3.89	1.56
Mar.	1983	2.09	2.16	3.39	3.64
April	1983	1.16	1.74	2.14	2.62
May	1983	3.93	4.95	6.11	6.51
June	1983	3.35	5.02	5.42	2.59
July	1983	.00	.00	.02	.00
Season Totals		18.12	28.46	34.98	29.83