



Fall Forage Yield From Wheat Variety Trials 1999



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The 1999-2000 wheat crop in Oklahoma started slowly. Even though soils remained dry in early September, producers who wanted to emphasize forage planted wheat. Rainfall started between September 13 and 20, depending on the area of the state. In many areas the first rain was heavy, poor stands were obtained, and replanting occurred. On September 12, 7% of the wheat was planted compared to a five-year average of 10%; by September 27, however, 34% of the wheat was planted, compared to 28% for the five-year average.

After September rains, many areas of the state turned dry again before the wheat was planted and hopes for forage to graze cattle dwindled. Temperatures remained above normal until mid-December. In the northern half of the state rainfall was above normal in November. The temperature and moisture combined to result in more wheat growth than expected by January 1, and as much as 46% of the wheat was being grazed in late January into February. The southern half of the state remained dry through out the fall. Wheat in many fields had not emerged by mid-December.

Pest Problems

The primary pest problems during the fall of 1999 were aphids and brown wheat mite. Both greenbugs and/or oat-bird cherry aphids were present in high enough numbers that fields were sprayed. In particular, greenbugs were a severe problem in two- to three-leaf wheat in November. A few fields were verified to have barley yellow dwarf virus as early as mid-December. Fields looking unusually purple were quite common in north central Oklahoma in January, but no common cause could be identified. Low pH, low phosphorus, and barley yellow dwarf virus were eliminated as causes in most of the fields. It was concluded that the purpling was probably caused by anthocyanin accumulation. However, we were not able to identify why this occurred in some fields and not others.

Location of Trials

Forage trials were planted at Balko, Chickasha, Eakly, and Perkins. Forage trials were planted in mid-September at 120 lb/a. One of the trials intended for grain only, Kingfisher, was planted on October 1, 1999 at 60 lb/a. It had so much forage by mid-December that it was harvested for forage. Data are presented here for Chickasha, Eakly, Kingfisher, and Perkins. Data for Balko were not included due to excessive variability.

New Varieties for 1999-2000

Varieties included in the trials for the first time were AgriPro Thunderbolt and Trego. Thunderbolt is expected to have medium maturity, height, and test weight. Thunderbolt is susceptible to low pH and to soilborne mosaic virus tolerance, but has good leaf rust resistance. Trego is a hard white wheat variety released by Kansas State in 1999. Trego appears to be the highest yielding white wheat available in Oklahoma and has good test weight, medium height, and medium late maturity. Trego is very susceptible to low pH, resistant to soilborne mosaic virus, and moderately resistant to leaf rust.

Gaicho Treatment

Gaicho is a seed treatment that controls aphids early in the season. By controlling aphids, it reduces or eliminates early infections of barley yellow dwarf virus that can strongly reduce wheat yield. Trials at a few locations in recent years indicate economic benefits to Gaicho. Therefore, we wanted to investigate the benefits over many locations and have included a 2174 + Gaicho treatment to compare with untreated 2174 at all locations.

Experimental Lines Included

For the second year, we have included in the trials several candidate cultivars that have potential for release in the next year or two. These include OK95G701 and OK95G703, hard white wheat lines, and three hard red winter wheat lines called OK94P549-2C, OK95571, and OK96717. These are included to evaluate forage capability and collect grain data from sites not normally used as test locations in the wheat breeding program.

Additional Information on Web

For information on disease resistance and other characteristics of all wheat varieties grown in Oklahoma, see the “Wheat Variety Characteristic Chart” under Variety Information on the web at <http://clay.agr.okstate.edu/wheat/wit.html>. The variety information is updated regularly to give the latest in disease ratings for these varieties and incorporate new varieties. From the above address you can also connect to the latest grain and full-season forage data.

How Data Were Collected

Wheat forage data was collected by hand clipping at the soil surface. Because differences between varieties in fall forage production are so small over the last three years, our focus in a forage-plus-grain system should be on which varieties to avoid due to significantly poor forage production potential.

Cooperation Acknowledged

This data results from a cooperative effort between the Oklahoma Agricultural Experiment Station, the Oklahoma Cooperative Extension Service, and the Oklahoma Wheat Commission.

Chickasha Wheat Variety Trial 1997-99
Fall Forage Yields

Cooperator: Chickasha Research Station
Soil Type: McClain silty clay loam, pH = 6.5

ORIGIN	ENTRY	1999		TOTAL	2-YEAR AVG.	3- YEAR AVG.
		OCT. 26	DEC. 7			
TAES	LOCKETT	1880(1)*	1280	3150(1)	3020(1)	3010
OAES	2174	1650(2)	1100	2740(3)	2900(3)	2980
AGRIPRO	ORO BLANCO(W)	1150(22)	1200	2350(16)	2940(2)	2980
OAES	CUSTER	1330(14)	1110	2430(11)	2870(6)	2900
AGRIPRO	TOMAHAWK	1230(18)	1150	2380(14)	2890(4)	2880
OAES	TONKAWA	1460(5)	1000	2460(9)	2840(7)	2840
AGRIPRO	CORONADO	1090(23)	1060	2150(23)	2650(15)	2810
AGSECO	7853	1370(9)	1310	2680(4)	2890(4)	2760
-	DOMINATOR	1440(6)	1110	2550(7)	2730(10)	2750
OAES	CHISHOLM	1340(12)	1100	2440(10)	2690(13)	2680
KAES	2137	1010(24)	980	2000(24)	2670(14)	2680
AGRIPRO	OGALLALA	1200(20)	1090	2290(17)	2800(9)	2660
KAES	JAGGER	1190(21)	980	2160(22)	2520(18)	2640
OAES	OK94P549-2C	1370(9)	1020	2390(13)	2840(7)	-
OAES	OK95G701(W)	1310(15)	1070	2380(14)	2730(10)	-
OAES	OK95571	1470(4)	1190	2660(5)	2700(12)	-
TAES	TAM 302	1380(8)	1160	2530(8)	2570(16)	-
KAES	HEYNE(W)	1310(15)	940	2250(20)	2550(17)	-
OAES	OK96717	1530(3)	1220	2750(2)	-	-
KAES	TREGO(W)	1420(7)	1140	2560(6)	-	-
AGRIPRO	LONGHORN	1360(11)	1050	2420(12)	-	-
OAES	2174+GAUCHO	1340(12)	960	2290(17)	-	-
AGRIPRO	THUNDERBOLT	1210(19)	1050	2260(19)	-	-
OAES	OK95G703(W)	1270(17)	980	2240(21)	-	-

MEAN	1350	1090	2440	2770	2810
LSD (0.05)	330	N.S.	550	N.S.	N.S.

* Number in () is rank within column. (W) Hard white wheat, all others are hard red varieties. Planted 9/09/99 at 120 lb/a KAES, OAES, TAES = Kansas, Oklahoma, Texas Agric. Expt. Sta., respectively.

Fall Forage From Wheat Variety Trials 1997-99

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ORIGIN	ENTRY	1999					2-Year	3-Year
		CHICKASHA	EAKLY	KINGFISHER	PERKINS	4-Loc Avg	Avg	Avg
OAES	2174	2740(3)*	1580(10)	2660(5)	2380(11)	2390(4)	2550(1)	2650
OAES	CUSTER	2430(11)	1680(7)	2650(6)	2530(5)	2370(6)	2540(2)	2600
TAES	LOCKETT	3150(1)	1790(4)	2820(2)	2100(20)	2510(2)	2510(3)	2580
OAES	CHISHOLM	2440(10)	1980(3)	2650(6)	2340(12)	2380(5)	2500(4)	2570
OAES	TONKAWA	2460(9)	1460(13)	2450(11)	2540(4)	2280(8)	2440(5)	2520
AGRIPRO	ORO BLANCO(W)	2350(16)	1200(15)	2350(16)	2150(19)	2070(12)	2360(7)	2480
-	DOMINATOR	2550(7)	1580(10)	2490(9)	2650(3)	2370(6)	2430(6)	2460
AGRIPRO	TOMAHAWK	2380(14)	1190(17)	2320(17)	2170(18)	2070(12)	2300(9)	2440
AGRIPRO	CORONADO	2150(23)	1660(8)	2310(18)	2000(22)	2050(14)	2280(11)	2430
KAES	JAGGER	2160(22)	1470(12)	2440(12)	1990(24)	2050(14)	2270(12)	2390
KAES	2137	2000(24)	1200(15)	2390(14)	2220(14)	2000(16)	2210(14)	2310
AGSECO	7853	2680(4)	1690(6)	2070(21)	2000(22)	2140(11)	2240(13)	2280
AGRIPRO	OGALLALA	2290(17)	1080(18)	2050(22)	2200(15)	1960(18)	2200(15)	2210
KAES	HEYNE(W)	2250(20)	1600(9)	2370(15)	2430(7)	2200(9)	2320(8)	-
TAES	TAM 302	2530(8)	1710(5)	2150(20)	2180(16)	2170(10)	2290(10)	-
OAES	2174+GAUCHO	2290(17)	2090(2)	2970(1)	2660(2)	2530(1)	-	-
KAES	TREGO(W)	2560(6)	2150(1)	2490(9)	2690(1)	2490(3)	-	-
AGRIPRO	THUNDERBOLT	2260(19)	1400(14)	1990(23)	2080(21)	1970(17)	-	-
AGRIPRO	LONGHORN	2420(12)	-	-	2430(7)	-	-	-
	MEAN	2440	1580	2450	2310	2220	2360	2450
	LSD (0.05)	550	520	420	N.S.	300	270	210

* Number in () is rank within column. (W) Hard white wheat, all others are hard red varieties.

KAES, OAES, TAES = Kansas, Oklahoma, Texas Agricultural Expt. Sta., respectively.
2-Year Average includes 1999 data and locations in Chickasha and Perkins in 1998.

Kingfisher Wheat Variety Trial 1999

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Cooperator: Vernon Mueggenborg

Soil Type: Renfro clay loam, pH = 5.6

ORIGIN	ENTRY	Fall Forage
OAES	2174 + GAUCHO	2970
TAES	LOCKETT	2820
OAES	OK95571	2750
OAES	OK94P549-2C	2710
OAES	2174	2660
OAES	CHISHOLM	2650
OAES	CUSTER	2650
OAES	OK95G703(W)	2500
-	DOMINATOR	2490
KAES	TREGO(W)	2490
OAES	TONKAWA	2450
KAES	JAGGER	2440
OAES	OK95G701(W)	2430
KAES	2137	2390
KAES	HEYNE(W)	2370
AGRIPRO	ORO BLANCO(W)	2350
AGRIPRO	TOMAHAWK	2320
AGRIPRO	CORONADO	2310
OAES	OK96717	2270
TAES	TAM 302	2150
AGSECO	7853	2070
AGRIPRO	OGALLALA	2050
AGRIPRO	THUNDERBOLT	1990
	MEAN	2450
	LSD (0.05)	420

(W) Hard white wheat, all others are hard red varieties.
are hard red varieties.

Planted 10/01/99 at 60 lb/a.

KAES, OAES, TAES = Kansas, Oklahoma,
Texas Agric. Expt. Sta., respectively.

**Perkins Wheat Variety Trial 1997-99
Fall Forage Yields**

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Cooperator: Perkins Research Station

Soil Type: Teller loam, pH = 6.4

ORIGIN	ENTRY	1999			2-YEAR	3-YEAR
		OCT. 21	DEC.14	TOTAL	AVG.	AVG.
OAES	2174	1300	1080	2380(11)	2510(1)	2590
OAES	CHISHOLM	1350	990	2340(12)	2420(3)	2570
OAES	CUSTER	1370	1170	2530(5)	2470(2)	2520
OAES	TONKAWA	1410	1120	2540(4)	2410(5)	2500
-	DOMINATOR	1480	1170	2650(3)	2420(3)	2380
AGRIPRO	TOMAHAWK	1170	1000	2170(18)	2120(14)	2340
KAES	JAGGER	1070	920	1990(24)	2230(11)	2340
AGRIPRO	ORO BLANCO(W)	1130	1020	2150(19)	2230(11)	2340
AGRIPRO	CORONADO	1020	980	2000(22)	2140(13)	2280
TAES	LOCKETT	1150	960	2100(20)	2110(15)	2250
KAES	2137	1350	870	2240(13)	2040(17)	2190
AGRIPRO	OGALLALA	1160	1040	2200(15)	2100(16)	2090
AGSECO	7853	1070	930	2000(22)	1880(18)	2010
OAES	OK94P549-2C	1250	1180	2420(9)	2390(6)	-
OAES	OK95G701(W)	1400	780	2180(17)	2380(7)	-
OAES	OK95571	1320	1070	2390(10)	2350(8)	-
KAES	HEYNE(W)	1490	940	2430(8)	2330(9)	-
TAES	TAM 302	1120	1060	2180(16)	2290(10)	-
OAES	2174+GAUCHO	1480	1180	2660(2)	-	-
OAES	OK96717	1450	1070	2520(6)	-	-
AGRIPRO	LONGHORN	1310	1120	2430(7)	-	-
KAES	TREGO(W)	1490	1200	2690(1)	-	-
OAES	OK95G703(W)	1280	960	2240(13)	-	-
AGRIPRO	THUNDERBOLT	1150	930	2080(21)	-	-

MEAN	1280	1030	2310	2270	2340
LSD (0.05)	320	N.S.	N.S.	N.S.	300

* Number in () is rank within column. (W) Hard white wheat, all others are hard red varieties. Planted 9/10/99 at 120 lb/a. KAES, OAES, TAES = Kansas, Oklahoma, Texas Agric. Expt. Sta., respectively.

Eakly Wheat Variety Trial 1997 & 1999
Fall Forage Yields

Cooperator: W.B. Bennett

Soil Type: Carey silt loam, pH = 5.4

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ORIGIN	ENTRY	1999	2-YEAR AVG.¹
OAES	TONKAWA	1460(13)*	2730
OAES	CHISHOLM	1980(3)	2660
OAES	2174	1580(10)	2580
-	DOMINATOR	1580(10)	2500
OAES	CUSTER	1680(7)	2410
AGRIPRO	CORONADO	1660(8)	2340
KAES	JAGGER	1470(12)	2320
AGRIPRO	ORO BLANCO(W)	1200(15)	2250
AGRIPRO	TOMAHAWK	1190(17)	2180
AGSECO	7853	1690(6)	2080
KAES	2137	1200(15)	2030
AGRIPRO	OGALLALA	1080(18)	1800
KAES	TREGO(W)	2150(1)	-
OAES	2174 + GAUCHO	2090(2)	-
TAES	LOCKETT	1790(4)	-
TAES	TAM 302	1710(5)	-
KAES	HEYNE(W)	1600(9)	-
AGRIPRO	THUNDERBOLT	1400(14)	-
	MEAN	1580	2330
	LSD (0.05)	520	N.S.

¹ 2-Year average is 1997 and 1999.

* Number in () is rank within column.

Planted 9/27/99 at 120 lb/a.

KAES, OAES, TAES = Kansas, Oklahoma, Texas

Agricultural Expt. Sta., respectively.