



OKLAHOMA SMALL GRAINS VARIETY PERFORMANCE TESTS 2009-2010



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Protein data will be reported in a separate publication in August of 2010

This and other wheat-related publications can be found at:

www.wheat.okstate.edu

2010 WHEAT CROP OVERVIEW

From an agronomic perspective, the 2009-2010 Oklahoma wheat crop was a huge improvement over the previous year. While final production numbers are not available at the time of this report, it is likely that Oklahoma wheat production will exceed 140 million bushels in 2010, which is roughly double the amount produced in 2009. Unfortunately, excess world ending stocks, a depressed world economy, and lower-than-optimal protein resulted in at-harvest cash prices under \$3.00 in many areas of the state.

Planting was in full swing in southwest Oklahoma shortly after Labor Day, and most fields in this region had adequate moisture for emergence and fall forage growth. Timely planting was much more of a challenge in northcentral Oklahoma, however, due to wet soil conditions throughout much of October. Challenges presented by wet soil conditions in the region were compounded by rotational crops planted after failed wheat in the spring of 2009. Yields and prices for these rotational and double-crops were generally good, but the later maturity of these crops prevented wheat sowing in many cases. Similarly, very little wheat was sown in northeastern Oklahoma because of wet conditions and rotational crops that were not harvested in time to sow wheat. Conditions in northwestern Oklahoma and the Panhandle were mostly favorable for wheat sowing in 2009, but dry conditions in the region restricted fall forage growth. Hardest hit by dry conditions were parts of Beaver, Harper, and Woods counties which experienced moderate to severe drought conditions throughout the growing season.

With the exception of northwestern Oklahoma and the Panhandle, the wet conditions last fall persisted through the winter with significant amounts of ice and/or snow. Bitter cold temperatures resulted in winter kill of early-sown wheat that had outpaced cattle stocking density and late-sown wheat that had not established an adequate root system. Cool temperatures prevailed during the spring of 2010, which slowed crop development somewhat but also increased grain yield potential. A brief cold snap during April resulted in some slight freeze injury, but there were no reports of widespread losses from freeze in Oklahoma. May was marked by severe hail storms that were devastating in localized areas. By the first of June, heat had returned and harvest was in full swing. Most of southwest Oklahoma was harvested by June 8, but lingering rain showers and high humidity brought harvest to a crawl during mid

June. Heat and dry air returned by June 18 and harvest quickly resumed at full pace. Most of the state was harvested by June 30.

A large portion of the Oklahoma wheat crop was nitrogen deficient in 2009-2010. There are several reasons for this. First, many producers were coming off of several years of poor production and/or crop failures and were simply not in a sound enough cash flow situation to purchase nitrogen in the quantities the crop needed. Second, the wet soil conditions during fall and winter resulted in nitrogen leaching in some areas and inadequate root growth to access nitrogen that had been moved lower in the profile. The wet soil conditions also prevented topdress application of nitrogen fertilizer, especially in southwestern Oklahoma. Some producers attempted to address the issue by aerially applying 25 – 30 lbs./A nitrogen, which probably helped. Still others applied N in quantities under 10 lbs./A, which probably did not help grain yield much. Finally, the cold winter and cool spring did not provide much opportunity for nitrogen mineralization from previous crop residue. Research has shown that this can be a significant source of nitrogen for wheat, but favorable soil conditions for microbial activity are required for that to happen.

Weeds were a major wheat production factor in 2010, just as they have been for over twenty years; however, a few changes occurred during the 2009-2010 crop year. The presence of ALS-resistant ryegrass and cheat were confirmed in the state of Oklahoma, with some ryegrass samples showing signs of resistance to ACCase inhibitors as well. The other big change in the wheat industry is the strict enforcement of stringent dockage discount schedules at the elevator. Once word of the dockage schedules was released, some producers with extremely weedy fields chose to cut them for hay even though the wheat was past the optimal growth for doing so. One promising development during the crop year, however, was an increase in acreage sown to winter canola and other rotational crops. Crop rotation is the best long-term, weed-control strategy available to producers and it is reassuring to see more acres being rotated.

The fall of 2009 was relatively quiet in terms of insect activity. There were isolated reports of winter grain mite and brown wheat mite activity and a few fields were sprayed for aphids. There were several reports of spraying for greenbugs and bird cherry oat aphids in February, March and April of 2010. The

amount of Barley Yellow Dwarf Virus (BYDV) that became evident in April and May of 2010, indicated that most of these applications were well-justified. BYDV symptoms such as yellowing and purpling of leaves were not hard to find. There was not much stunting of plants, however, indicating that most of the infections occurred after the first of the year. Hessian fly was a factor in 2009-2010, but there were not as many reports of crops being completely devastated by Hessian fly as was the case in 2008-2009. Some of this can likely be attributed to farmers being more aware of Hessian fly and using seed treatments and/or resistant varieties in fields likely to be affected by Hessian fly.

The cold winter prevented fall leaf-rust infestations from overwintering, and for a while, it seemed that foliar disease pressure in Oklahoma could be fairly light. Reports from Texas early in the season, however, clearly indicated that something was different this year. Varieties such as Jagger and Jagalene that had been very resistant to stripe rust in the past were being hammered by stripe rust. By late March, it was clear that the predominant stripe rust race had shifted and the resistance gene(s) in Jagger that had held out so long could no longer be relied upon for protection. By mid April, Jagger and Jagalene plots were completely devastated by stripe rust and could be picked out from a distance at Frederick and Olustee variety trials. Warmer temperatures and drier plant canopies prevailed by late April and much of the concern shifted to leaf rust. Powdery mildew was present as well in susceptible varieties. Consequently, significant application of foliar fungicides occurred in Oklahoma to help limit losses from foliar disease in 2010.

Wheat quality was a concern in 2010. Dockage schedules were strictly enforced by elevators and made clear to producers that weed-infested wheat fields were costing them more than just grain yield. A surplus of wheat on the world market meant that buyers could pick and choose, and many buyers chose not to purchase wheat that was less than 12% protein. Much of the Oklahoma crop fell below this benchmark and left elevator managers and producers scrambling to market the 2010 crop.

Methods

Cultural Practices. Conventional plots were eight rows wide with six-inch row spacing. No-till plots were seven rows wide with 7.5-inch row spacing. Plots were 20 feet long. Conventional till plots received 50 lb/ac of 18-46-0 in-furrow at planting.

No-till plots received 5 gal/ac of 10-34-0 at planting. The El Reno and Marshall dual-purpose (DP) trials were sown at 120 lb/ac. All other locations were sown at 60 lb /ac. Grazing pressure, nitrogen fertilization, and insect and weed control decisions were made on a location-by-location basis and reflect standard management practices for the area.

Additional information on the Web

A copy of this publication as well as additional variety information and more information on wheat management can be found at

www.wheat.okstate.edu

Marketing rights

Breeding programs responsible for varietal release are indicated as the “source” in results tables. In many cases, however, a separate entity has the marketing rights for these varieties. For this reason, a list of wheat seed companies and the varieties they market is provided below.

AgriPro

Art
Doans
Greer
Fannin
Jackpot
Jagalene
TAM 111
TAM 203
TAM 401
OK Rising (W)

Husker Genetics

Mace

Kansas Wheat Alliance

Everest
Fuller
Jagger
Overley

OK Foundation Seed

Deliver
Endurance

Oklahoma Genetics, Inc.

Billings
Centerfield
Duster
Guymon (W)
OK Bullet
Pete

WestBred

Armour
Aspen (W)
Keota
Santa Fe
Shocker
Winterhawk

Whatley Seed

TAM 112

2010 Oklahoma Wheat Variety Trial Summary

Variety	Afton	Alva	Apache	Apache Fung.	Balko	Buffalo	Cherokee	El Reno	Frederick	Gage	Goodwell Irr.	Goodwell Nonirr.
Armour	56	-	-	-	-	-	-	-	-	-	-	-
Art	46	32	-	-	-	-	19	-	-	-	-	-
Aspen (W)	-	-	-	-	-	-	-	-	-	-	67	58
Billings	54	34	-	-	75	22	24	61	-	22	67	62
Centerfield	44	33	47	54	68	27	22	49	44	23	58	56
Deliver	43	32	51	49	70	26	23	49	30	21	54	52
Doans	-	30	60	54	71	27	19	54	47	22	58	55
Duster	47	45	68	68	74	30	33	61	53	24	68	69
Endurance	57	37	57	59	65	31	29	60	35	19	57	60
Everest	59	-	-	-	-	-	31	-	-	-	-	-
Fannin	-	-	55	55	-	-	-	57	40	-	-	-
Fuller	45	32	52	49	73	24	21	56	41	21	60	57
Greer	52	40	56	57	-	22	30	49	46	21	64	61
Guymon (W)	-	-	-	-	-	-	-	-	-	-	57	58
Jackpot	57	31	57	63	75	26	22	65	47	19	60	61
Jagalene	32	35	44	58	59	28	25	44	26	24	56	60
Jagger	50	32	48	52	65	24	24	48	30	22	55	65
Keota	-	38	-	-	67	31	25	-	-	25	62	61
Mace	-	-	-	-	64	-	-	-	-	-	61	54
OK Bullet	45	33	46	53	68	25	22	50	43	24	58	56
OK Rising (W)	-	-	-	-	-	-	-	-	-	-	60	59
Overley	49	39	50	59	67	25	28	55	35	21	50	64
Pete	46	31	52	52	68	26	20	58	39	17	57	64
Santa Fe	48	34	62	52	66	25	23	53	39	21	55	60
Shocker	50	32	52	54	65	25	20	51	38	17	55	55
TAM 111	-	46	-	-	79	22	19	-	-	23	73	61
TAM 112	-	39	-	-	74	32	22	-	-	27	66	71
TAM 203	42	32	52	54	62	24	21	49	36	21	56	51
TAM 401	52	34	63	56	-	29	22	59	42	20	64	60
Winterhawk	-	43	-	-	74	38	32	-	-	24	66	71
OK05212	-	46	-	-	70	-	30	50	-	-	61	58
OK05312	-	37	-	-	73	23	-	-	-	-	65	55
OK05511	-	-	52	56	70	-	-	53	47	-	-	58
OK05526	61	42	57	56	72	-	25	56	-	-	63	-
OK06618	-	-	-	-	-	-	-	-	-	-	-	-
OK07231	-	35	-	-	-	-	-	51	-	-	67	-
STARS 0601W	-	-	-	-	65	26	-	-	-	-	57	51
Mean	49	36	54	56	69	27	24	54	40	22	61	59
LSD_(0.05)	7	5	7	7	5	9	5	11	6	4	7	9

2010 Oklahoma Wheat Variety Trial Summary

	Haskell	Homestead	Hooker	Keyes	Kingfisher	Lahoma	Lahoma Fung.	Lamont	Marshall DP	Marshall GO	Olustee
Variety											
Armour	19	-	-	-	-	26	32	51	-	-	-
Art	16	-	-	-	-	18	23	39	-	-	-
Aspen (W)	-	-	-	-	-	-	-	-	-	-	-
Billings	20	43	85	42	54	32	34	50	45	40	-
Centerfield	15	42	-	-	48	27	27	41	50	36	41
Deliver	14	41	-	-	48	21	23	41	38	33	36
Doans	-	37	72	41	56	20	20	47	49	35	48
Duster	21	49	73	43	61	30	39	45	58	45	49
Endurance	21	44	66	43	56	30	39	48	49	40	42
Everest	22	-	-	-	-	37	38	56	-	-	-
Fannin	-	-	-	-	-	-	-	-	-	-	40
Fuller	18	42	77	42	53	23	26	43	48	38	49
Greer	16	44	-	-	51	26	34	43	37	35	45
Guymon (W)	-	-	-	-	-	-	-	-	-	-	-
Jackpot	24	44	84	46	56	27	29	51	44	40	42
Jagalene	16	28	72	45	42	16	29	27	30	23	33
Jagger	17	31	80	49	45	20	27	38	39	26	39
Keota	-	-	75	38	-	-	-	-	-	-	-
Mace	-	-	69	37	-	-	-	-	-	-	-
OK Bullet	17	36	69	41	51	22	29	37	42	32	43
OK Rising (W)	-	-	-	-	-	-	-	-	-	-	-
Overley	15	42	-	-	50	22	26	41	37	32	46
Pete	13	41	72	41	55	18	21	34	49	36	45
Santa Fe	18	37	-	-	52	25	30	36	42	35	43
Shocker	23	36	-	-	51	20	25	38	49	38	43
TAM 111	-	-	80	41	-	-	-	-	-	-	-
TAM 112	-	-	82	42	-	-	-	-	-	-	-
TAM 203	18	39	74	44	46	18	22	38	41	30	37
TAM 401	23	41	-	-	51	18	23	44	38	40	43
Winterhawk	-	-	81	40	-	-	-	-	-	-	-
OK05212	17	-	77	-	54	33	38	49	34	41	-
OK05312	-	-	58	50	-	-	-	-	-	-	-
OK05511	-	48	70	42	55	31	39	-	-	-	41
OK05526	24	-	-	42	59	29	35	49	58	43	-
OK06618	-	-	-	-	-	-	-	45	54	-	-
OK07231	-	-	-	-	-	31	35	-	55	-	-
STARS 0601W	-	-	80	38	-	-	-	-	-	-	-
Mean	19	40	75	42	52	25	30	43	45	36	42
LSD (0.05)	6	5	5	7	4	4	4	6	6	5	4

Afton Wheat Variety Trial

Cooperator: Greg Leonard	Tillage: Conventional till
Soil type: Parsons silt loam	Management: Grain only
Planting date: 11-12-09	Previous crop: Corn
Harvest date: 6-24-10	Soil test: pH = 7.1, P = 164, K = 266

Source	Variety	Grain Yield		Test Weight
		2009-10	2-Year	2009-10
		-----bu/ac-----		----lb/bu----
KSU	Everest	59	-	57.8
OSU	Endurance	57	44	54.9
AgriPro	Jackpot	57	37	55.4
WestBred	Armour	56	46	55.3
OSU	Billings	54	37	55.1
AgriPro	Greer	52	-	53.7
TAMU	TAM 401	52	-	55.2
KSU	Jagger	50	37	56.5
WestBred	Shocker	50	37	54.7
KSU	Overley	49	32	53.3
WestBred	Santa Fe	48	37	54.4
OSU	Duster	47	35	53.3
AgriPro	Art	46	-	53.9
OSU	Pete	46	29	54.9
KSU	Fuller	45	37	52.8
OSU	OK Bullet	45	32	55.8
OSU	Centerfield	44	33	53.7
OSU	Deliver	43	34	53.8
TAMU	TAM 203	42	35	54.5
AgriPro	Jagalene	32	26	54.0
Experimentals				
	OK05526	61	43	56.8
	Mean	49	36	54.8
	LSD _(0.05)	7	4	2.6

Alva Wheat Variety Trial

Cooperator: Wes Mallory	Tillage: Conventional till
Soil type: Grant silt loam	Management: Grain only
Planting date: 10-26-09	Previous crop: Wheat
Harvest date: 6-21-10	Soil test: pH = 6.2, P = 109, K = 586

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			---lb/bu---
TAMU	TAM 111	46	43	49	58.5
OSU	Duster	45	46	52	58.3
WestBred	Winterhawk	43	44	-	58.8
AgriPro	Greer	40	-	-	53.4
KSU	Overley	39	42	46	55.7
TAMU	TAM 112	39	42	-	56.2
WestBred	Keota	38	40	-	57.5
OSU	Endurance	37	44	50	54.7
AgriPro	Jagalene	35	41	47	57.2
OSU	Billings	34	40	47	56.5
WestBred	Santa Fe	34	41	47	55.5
TAMU	TAM 401	34	-	-	54.2
OSU	Centerfield	33	39	46	56.4
OSU	OK Bullet	33	37	45	56.8
AgriPro	Art	32	-	-	54.7
OSU	Deliver	32	39	46	56.1
KSU	Fuller	32	37	47	56.2
KSU	Jagger	32	39	46	55.2
WestBred	Shocker	32	37	44	54.7
TAMU	TAM 203	32	40	-	54.9
AgriPro	Jackpot	31	39	48	55.1
OSU	Pete	31	38	45	57.4
AgriPro	Doans	30	36	45	57.5
Experimentals					
	OK05212	46	-	-	57.1
	OK05526	42	46	-	57.7
	OK05312	37	-	-	57.5
	OK07231	35	-	-	56.7
	Mean	36	40	47	56.3
	LSD _(0.05)	5	4	3	0.9

Apache Wheat Variety Trial

Cooperator: Bryan Vail
Soil type: Hollister silt loam
Planting date: 10-26-09
Harvest date: 6-09-10

Management: No-till grain only
Soil test: pH = 5.9, P = 73, K = 571
Previous crop: Soybean
Fungicide = 10 oz/A Stratego on 20 April 2010

Source	Variety	Grain Yield						Test Weight		
		2009-10			2-Year			2009-10		
		No Fungicide	Fungicide	<i>Diff.</i>	No Fungicide	Fungicide	<i>Diff.</i>	No Fungicide	Fungicide	<i>Diff.</i>
		-----bu/ac-----						-----lb/bu-----		
OSU	Duster	68	68	0	69	67	-2	62.3	62.7	0.4
TAMU	TAM 401	63	56	-7	-	-	-	58.9	59.3	0.4
WestBred	Santa Fe	62	52	-10	60	56	-4	60.9	61.4	0.5
AgriPro	Doans	60	54	-6	60	54	-6	62.8	62.8	0.0
OSU	Endurance	57	59	2	56	56	0	59.9	60.3	0.4
AgriPro	Jackpot	57	63	6	59	58	-1	61.0	61.5	0.5
AgriPro	Greer	56	57	1	-	-	-	58.0	58.9	0.9
AgriPro	Fannin	55	55	0	52	52	0	62.5	62.5	0.0
KSU	Fuller	52	49	-3	60	58	-2	60.0	60.2	0.2
OSU	Pete	52	52	0	59	56	-3	61.2	61.5	0.3
WestBred	Shocker	52	54	2	57	61	4	60.1	60.1	0.0
TAMU	TAM 203	52	54	2	55	58	3	60.2	61.0	0.8
OSU	Deliver	51	49	-2	49	51	2	61.0	60.5	-0.5
KSU	Overley	50	59	9	54	58	4	60.1	61.9	1.8
KSU	Jagger	48	52	4	54	58	4	59.4	61.0	1.6
OSU	Centerfield	47	54	7	50	54	4	60.2	61.0	0.8
OSU	OK Bullet	46	53	7	55	53	-2	60.5	61.6	1.1
AgriPro	Jagalene	44	58	14	54	59	5	60.1	62.0	1.9
	Experimentals									
	OK05526	57	56	-1	-	-	-	61.4	61.7	0.3
	OK05511	52	56	4	-	-	-	60.7	61.5	0.8
	Mean	54	56	2	56	57	1	60.6	61.2	0.6
	LSD (0.05)		7			6			0.7	

Balko Wheat Variety Trial

Cooperator: Johnny Lane

Tillage: Conventional till

Soil type: Ulysses-Richfield complex

Management: Grain only

Planting date: 9-25-09

Previous crop: Wheat/fallow

Harvest date: 6-25-10

Soil test: pH = 7.6, P = 28, K = 926

Source	Variety	Grain Yield			Test Weight	
		2009-10	Shatter rating*	2-Year	3-Year	2009-10
		-----bu/ac-----				---lb/bu---
TAMU	TAM 111	79	1	67	77	60.4
OSU	Billings	75	1	-	-	61.8
AgriPro	Jackpot	75	3	61	-	61.1
OSU	Duster	74	1	62	72	61.1
TAMU	TAM 112	74	1	66	-	61.3
WestBred	Winterhawk	74	1	62	-	61.7
KSU	Fuller	73	1	60	69	60.0
AgriPro	Doans	71	2	61	69	62.1
OSU	Deliver	70	1	58	67	60.4
OSU	Centerfield	68	1	57	67	60.4
OSU	OK Bullet	68	1	58	69	60.9
OSU	Pete	68	1	59	-	60.6
WestBred	Keota	67	1	58	-	60.6
KSU	Overley	67	4	60	71	60.9
WestBred	Santa Fe	66	2	59	70	58.7
OSU	Endurance	65	2	62	73	59.9
KSU	Jagger	65	1	60	68	57.6
WestBred	Shocker	65	3	57	65	60.0
UNL	Mace	64	1	59	-	59.0
TAMU	TAM 203	62	5	58	-	59.0
AgriPro	Jagalene	59	2	59	68	59.3
Experimentals						
	OK05312	73	4	67	-	61.8
	OK05526	72	1	61	-	60.9
	OK05212	70	1	-	-	60.5
	OK05511	70	0	-	-	60.6
	STARS 0601W	65	0	58	-	61.5
Mean		69		60	70	60.5
LSD (0.05)		5		4	4	1.3

* Shatter ratings recorded at harvest using a 0 - 10 scale, with 0 indicating no shattering and 10 indicating severe shattering

Buffalo Wheat Variety Trial

Cooperator: NRCS

Soil type: St. Paul silt loam

Planting date: 10-16-09

Harvest date: 6-21-10

Tillage: Conventional till

Management: Grain only

Previous crop: Wheat

Soil test: pH = 7.2, P = 60, K = 664

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			---lb/bu---
WestBred	Winterhawk	38	52	-	60.7
TAMU	TAM 112	32	48	-	58.1
OSU	Endurance	31	52	56	57.3
WestBred	Keota	31	50	-	59.5
OSU	Duster	30	50	55	60.0
TAMU	TAM 401	29	-	-	56.4
AgriPro	Jagalene	28	48	49	59.8
OSU	Centerfield	27	44	48	58.3
AgriPro	Doans	27	44	50	58.3
OSU	Deliver	26	45	52	58.8
AgriPro	Jackpot	26	42	-	56.4
OSU	Pete	26	-	-	58.9
OSU	OK Bullet	25	42	49	58.1
KSU	Overley	25	43	49	56.7
WestBred	Santa Fe	25	40	48	57.6
WestBred	Shocker	25	37	44	56.4
KSU	Fuller	24	39	48	57.2
KSU	Jagger	24	39	43	56.0
TAMU	TAM 203	24	43	-	57.7
OSU	Billings	22	-	-	55.5
AgriPro	Greer	22	-	-	54.4
TAMU	TAM 111	22	40	47	58.3
Experimentals					
	STARS 0601W	26	-	-	59.0
	OK05312	23	-	-	59.5
Mean		27	44	49	57.9
LSD _(0.05)		9	5	4	1.0

Cherokee Wheat Variety Trial

Cooperator: Kenneth Failes

Tillage: Conventional till

Soil type: Dale silt loam

Management: Grain Only

Planting date: 10-26-09

Previous crop: Wheat

Harvest date: 6-18-10

Soil test: pH = 6.1, P = 109, K = 715

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			-----lb/bu-----
OSU	Duster	33	38	44	57.3
WestBred	Winterhawk	32	39	-	57.6
KSU	Everest	31	-	-	55.7
AgriPro	Greer	30	-	-	52.1
OSU	Endurance	29	38	44	53.6
KSU	Overley	28	32	35	54.9
AgriPro	Jagalene	25	37	41	56.6
WestBred	Keota	25	33	-	56.2
OSU	Billings	24	-	-	55.8
KSU	Jagger	24	30	37	54.7
OSU	Deliver	23	30	36	55.1
WestBred	Santa Fe	23	32	38	54.9
OSU	Centerfield	22	30	36	55.0
AgriPro	Jackpot	22	28	35	54.0
OSU	OK Bullet	22	31	37	55.5
TAMU	TAM 112	22	31	-	53.9
TAMU	TAM 401	22	-	-	53.7
KSU	Fuller	21	30	36	53.8
TAMU	TAM 203	21	32	-	54.2
OSU	Pete	20	29	-	56.3
WestBred	Shocker	20	26	33	52.3
AgriPro	Art	19	-	-	54.2
AgriPro	Doans	19	30	37	55.3
TAMU	TAM 111	19	29	-	54.5
Experimentals					
	OK05212	30	-	-	55.1
	OK05526	25	35	-	55.8
Mean		24	32	38	54.9
LSD _(0.05)		5	3	4	1.2

El Reno Wheat Variety Trial

Cooperator: Bornemann Farms

Tillage: Conventional till

Soil type: Pond Creek silt loam

Management: Dual Purpose

Planting date: 9-29-09

Previous crop: Wheat

Harvest date: 6-10-10

Soil test: pH = 6.5, P = 59, K = 354

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			----lb/bu----
AgriPro	Jackpot	65	46	52	60.8
OSU	Billings	61	-	-	60.5
OSU	Duster	61	49	62	60.0
OSU	Endurance	60	51	59	58.3
TAMU	TAM 401	59	-	-	59.0
OSU	Pete	58	36	-	60.7
AgriPro	Fannin	57	40	41	61.4
KSU	Fuller	56	41	50	60.0
KSU	Overley	55	38	42	59.5
AgriPro	Doans	54	46	52	61.4
WestBred	Santa Fe	53	44	51	58.5
WestBred	Shocker	51	39	45	59.5
OSU	OK Bullet	50	36	45	60.9
OSU	Centerfield	49	38	45	59.5
OSU	Deliver	49	42	50	59.7
AgriPro	Greer	49	-	-	57.1
TAMU	TAM 203	49	40	-	58.9
KSU	Jagger	48	33	42	58.7
AgriPro	Jagalene	44	33	41	59.3
Experimentals					
	OK05526	56	46	-	59.9
	OK05511	53	-	-	59.3
	OK07231	51	-	-	59.7
	OK05212	50	-	-	56.8
Mean		54	41	48	59.5
LSD _(0.05)		11	7	6	2.1

Frederick Wheat Variety Trial

Cooperator: Great Plains Technology Center	Tillage: Conventional till
Soil type: Tillman and Foard silt loam	Management: Grain only
Planting date: 10-20-09	Previous crop: Fallow
Harvest date: 6-04-10	Soil test: pH = 8.0, P = 31, K = 806

Source	Variety	Grain Yield	Test Weight
		2009-10	2009-10
		-----bu/ac-----	-----lb/bu-----
OSU	Duster	53	60.3
AgriPro	Doans	47	61.8
AgriPro	Jackpot	47	59.5
AgriPro	Greer	46	57.1
OSU	Centerfield	44	60.4
OSU	OK Bullet	43	60.7
TAMU	TAM 401	42	57.9
KSU	Fuller	41	58.9
AgriPro	Fannin	40	62.0
OSU	Pete	39	61.2
WestBred	Santa Fe	39	58.9
WestBred	Shocker	38	59.0
TAMU	TAM 203	36	57.8
OSU	Endurance	35	58.0
KSU	Overley	35	58.8
OSU	Deliver	30	60.5
KSU	Jagger	30	57.3
AgriPro	Jagalene	26	57.1
Experimentals			
	OK05511	47	60.8
	Mean	40	59.4
	LSD _(0.05)	6	0.8

Gage Wheat Variety Trial

Cooperator: Curtis Torrance	Tillage: Conventional till
Soil type: St. Paul silt loam	Management: Dual Purpose
Planting date: 9-23-09	Previous crop: Wheat
Harvest date: 6-22-10	Soil test: pH = 7.6, P = 52, K = 798

Source	Variety	Grain Yield		
		2009-10	2-Year	3-Year
		-----bu/ac-----		
TAMU	TAM 112	27	29	-
WestBred	Keota	25	27	-
OSU	Duster	24	25	31
AgriPro	Jagalene	24	26	31
OSU	OK Bullet	24	24	28
WestBred	Winterhawk	24	24	-
OSU	Centerfield	23	25	28
TAMU	TAM 111	23	25	30
OSU	Billings	22	-	-
AgriPro	Doans	22	24	28
KSU	Jagger	22	25	28
OSU	Deliver	21	22	26
KSU	Fuller	21	22	28
AgriPro	Greer	21	-	-
KSU	Overley	21	23	27
WestBred	Santa Fe	21	23	27
TAMU	TAM 203	21	24	-
TAMU	TAM 401	20	-	-
OSU	Endurance	19	24	30
AgriPro	Jackpot	19	22	29
OSU	Pete	17	20	-
WestBred	Shocker	17	19	24
	Mean	22	24	28
	LSD _(0.05)	4	3	2

* Sample size was too small in 2010 to obtain a test weight measurement

Goodwell Irrigated Wheat Variety Trial

Cooperator: OK Panhandle Research and Extension Center

Soil type: Richfield clay loam

Tillage: No-till

Planting date: 10-06-09

Management: Grain only

Harvest date: 6-29-10

Previous crop: Soybean

Source	Variety	Grain Yield	Test Weight
		2009-10	2009-10
		-----bu/ac-----	-----lb/bu-----
TAMU	TAM 111	73	59.9
OSU	Duster	68	59.5
WestBred	Aspen (W)	67	57.6
OSU	Billings	67	59.3
TAMU	TAM 112	66	59.4
WestBred	Winterhawk	66	60.6
AgriPro	Greer	64	58.2
TAMU	TAM 401	64	57.1
WestBred	Keota	62	59.7
UNL	Mace	61	58.2
KSU	Fuller	60	57.8
AgriPro	Jackpot	60	57.7
OSU	OK Rising (W)	60	58.6
OSU	Centerfield	58	58.3
AgriPro	Doans	58	58.9
OSU	OK Bullet	58	59.7
OSU	Endurance	57	58.4
OSU	Guymon (W)	57	59.9
OSU	Pete	57	59.1
AgriPro	Jagalene	56	60.2
TAMU	TAM 203	56	58.6
KSU	Jagger	55	58.9
WestBred	Santa Fe	55	57.2
WestBred	Shocker	55	57.2
OSU	Deliver	54	58.6
KSU	Overley	50	58.6
Experimentals			
	OK07231	67	58.9
	OK05312	65	60.4
	OK05526	63	59.2
	OK05212	61	59.2
	STARS 0601W	57	58.5
Mean		61	58.8
LSD _(0.05)		7	1.2

(W) = Hard white wheat variety

Goodwell Nonirrigated Wheat Variety Trial

Cooperator: OK Panhandle Research and Extension Center

Tillage: No-till

Soil type: Richfield clay loam

Management: Grain only

Planting date: 9-23-09

Previous crop: Sunflower/Fallow

Harvest date: 6-25-10

Soil test: pH = 7.8, P = 46, K = 105

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			----lb/bu----
TAMU	TAM 112	71	57	62	56.5
WestBred	Winterhawk	71	53	-	57.4
OSU	Duster	69	55	65	57.6
KSU	Jagger	65	47	54	56.8
KSU	Overley	64	52	60	57.4
OSU	Pete	64	49	-	58.8
OSU	Billings	62	-	-	57.1
AgriPro	Greer	61	-	-	54.6
AgriPro	Jackpot	61	43	-	56.5
WestBred	Keota	61	51	-	57.1
TAMU	TAM 111	61	50	58	57.5
OSU	Endurance	60	52	60	57.0
AgriPro	Jagalene	60	50	59	58.3
WestBred	Santa Fe	60	46	54	56.0
TAMU	TAM 401	60	-	-	55.4
OSU	OK Rising (W)	59	41	53	56.4
WestBred	Aspen (W)	58	47	-	55.2
OSU	Guymon (W)	58	47	54	57.5
KSU	Fuller	57	43	55	56.9
OSU	Centerfield	56	45	49	56.8
OSU	OK Bullet	56	39	53	57.9
AgriPro	Doans	55	43	50	57.7
WestBred	Shocker	55	40	49	55.4
UNL	Mace	54	42	-	57.0
OSU	Deliver	52	43	53	57.0
TAMU	TAM 203	51	43	-	56.4
Experimentals					
	OK05212	58	-	-	56.8
	OK05511	58	-	-	57.4
	OK05312	55	47	-	58.8
	STARS 0601W	51	42	-	57.6
Mean		59	47	56	57.0
LSD _(0.05)		9	6	6	0.9

(W) = Hard white wheat variety

Haskell Wheat Variety Trial

Cooperator: Eastern Research Station
Soil type: Taloka silt loam
Planting date: 11-13-09
Harvest date: 6-25-10

Tillage: Conventional till
Management: Grain only
Previous crop: Wheat
Soil test: pH = 5.4, P = 33, K = 123

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			-----lb/bu-----
AgriPro	Jackpot	24	18	-	54.7
WestBred	Shocker	23	17	27	54.8
TAMU	TAM 401	23	-	-	54.6
KSU	Everest	22	-	-	58.5
OSU	Duster	21	20	34	53.9
OSU	Endurance	21	21	36	52.9
OSU	Billings	20	-	-	54.8
WestBred	Armour	19	21	-	51.8
KSU	Fuller	18	18	32	56.1
WestBred	Santa Fe	18	18	30	55.2
TAMU	TAM 203	18	19	-	53.5
KSU	Jagger	17	16	26	54.4
OSU	OK Bullet	17	17	28	53.8
AgriPro	Art	16	-	-	54.2
AgriPro	Greer	16	-	-	53.4
AgriPro	Jagalene	16	17	25	54.9
OSU	Centerfield	15	17	28	52.0
KSU	Overley	15	11	23	55.8
OSU	Deliver	14	14	28	53.8
OSU	Pete	13	13	-	54.6
Experimentals					
	OK05526	24	-	-	55.9
	OK05212	17	-	-	54.2
Mean		19	17	29	54.4
LSD _(0.05)		6	4	3	1.6

Homestead Wheat Variety Trial

Cooperator: Brook Strader	Tillage: Conventional till
Soil type: Canadian fine sandy loam	Management: Grain only
Planting date: 10-27-09	Previous crop: Wheat
Harvest date: 6-10-10	Soil test: pH = 5.8, P = 69, K = 632

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			-----lb/bu-----
OSU	Duster	49	44	40	59.2
OSU	Endurance	44	42	39	55.2
AgriPro	Greer	44	-	-	56.1
AgriPro	Jackpot	44	39	40	58.6
OSU	Billings	43	-	-	59.3
OSU	Centerfield	42	39	37	57.9
KSU	Fuller	42	39	38	57.0
KSU	Overley	42	38	34	57.8
OSU	Deliver	41	37	35	58.4
OSU	Pete	41	-	-	58.9
TAMU	TAM 401	41	-	-	55.6
TAMU	TAM 203	39	38	-	56.3
AgriPro	Doans	37	36	35	60.2
WestBred	Santa Fe	37	38	38	56.4
OSU	OK Bullet	36	36	35	58.3
WestBred	Shocker	36	36	35	56.8
KSU	Jagger	31	30	32	54.7
AgriPro	Jagalene	28	30	29	55.6
Experimental					
	OK05511	48	-	-	59.6
	Mean	40	37	36	57.5
	LSD _(0.05)	5	4	4	1.2

Hooker Wheat Variety Trial

Cooperator: Dan Herald
Soil type: Dalhart fine sandy loam
Planting date: 9-29-09
Harvest date: 6-25-10

Tillage: No-till
Management: Grain only
Previous crop: Wheat
Soil test: pH = 7.3, P = 53, K = 789

Source	Variety	Grain Yield			Test Weight	
		2009-10	Shatter rating*	2-Year	3-Year	2009-10
		-----bu/ac-----			-----lb/bu-----	
OSU	Billings	85	1	-	-	59.3
AgriPro	Jackpot	84	1	53	-	58.8
TAMU	TAM 112	82	1	56	45	58.0
WestBred	Winterhawk	81	1	54	-	58.5
KSU	Jagger	80	2	51	42	56.5
TAMU	TAM 111	80	0	52	43	57.5
KSU	Fuller	77	0	49	41	56.8
WestBred	Keota	75	1	48	-	58.0
TAMU	TAM 203	74	1	48	-	55.8
OSU	Duster	73	0	47	40	56.3
AgriPro	Doans	72	1	47	-	59.7
AgriPro	Jagalene	72	2	46	39	57.9
OSU	Pete	72	0	-	-	58.2
UNL	Mace	69	3	51	41	56.9
OSU	OK Bullet	69	3	45	38	58.0
OSU	Endurance	66	3	45	38	57.5
Experimentals						
	STARS 0601W	80	1	-	-	59.3
	OK05212	77	1	-	-	56.7
	OK05511	70	4	-	-	57.5
	OK05312	58	8	-	-	57.3
Mean		75		49	41	57.7
LSD _(0.05)		5		3	2	1.3

* Shatter ratings recorded at harvest using a 0 - 10 scale, with 0 indicating no shattering and 10 indicating severe shattering

Keyes Wheat Variety Trial

Cooperator: J.B. Stewart
Soil type: Richfield clay loam
Planting date: 9-25-09
Harvest date: 6-29-10

Tillage: Minimum-till
Management: Grain only
Previous crop: Wheat/Fallow

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			-----lb/bu-----
KSU	Jagger	49	41	31	60.8
AgriPro	Jackpot	46	38	37	61.0
AgriPro	Jagalene	45	44	-	60.5
TAMU	TAM 203	44	41	-	61.0
OSU	Duster	43	43	37	59.9
OSU	Endurance	43	47	39	60.8
TAMU	TAM 112	42	44	39	60.4
KSU	Fuller	42	38	31	60.7
OSU	Billings	42	-	-	60.4
OSU	OK Bullet	41	37	32	61.3
OSU	Pete	41	-	-	60.3
TAMU	TAM 111	41	45	40	60.2
AgriPro	Doans	41	37	-	60.9
WestBred	Winterhawk	40	39	-	61.4
WestBred	Keota	38	38	-	59.3
UNL	Mace	37	43	36	58.3
	Experimentals				
	OK05312	50	46	-	61.5
	OK05511	42	-	-	59.8
	OK05526	42	-	-	60.0
	STARS 0601W	38	-	-	59.1
	Mean	42	41	36	60.4
	LSD _(0.05)	7	6	4	1.3

* Note: all plots were treated with Headline fungicide in April

Kingfisher Wheat Variety Trial

Cooperator: Rodney Mueggenborg
Soil type: Tillman silt loam
Planting date: 10-27-09
Harvest date: 6-08-10

Tillage: Conventional till
Management: Grain only
Previous crop: Wheat
Soil test: pH = 6.5, P = 47, K = 501

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			-----lb/bu-----
OSU	Duster	61	55	59	63.2
AgriPro	Doans	56	48	51	63.1
OSU	Endurance	56	50	54	61.3
AgriPro	Jackpot	56	45	50	62.4
OSU	Pete	55	41	47	63.0
OSU	Billings	54	41	46	63.5
KSU	Fuller	53	44	50	62.0
WestBred	Santa Fe	52	46	49	62.7
AgriPro	Greer	51	-	-	60.1
OSU	OK Bullet	51	46	50	62.2
WestBred	Shocker	51	39	43	61.6
TAMU	TAM 401	51	-	-	60.0
KSU	Overley	50	40	45	61.9
OSU	Centerfield	48	43	48	62.0
OSU	Deliver	48	43	45	62.3
TAMU	TAM 203	46	44	-	60.5
KSU	Jagger	45	37	44	59.8
AgriPro	Jagalene	42	41	46	60.9
Experimentals					
	OK05526	59	43	-	62.6
	OK05511	55	-	-	62.2
	OK05212	54	-	-	62.5
Mean		52	44	48	61.9
LSD _(0.05)		4	3	3	0.6

Lahoma Wheat Variety Trial

Cooperator: North Central Research Station

Soil type: Pond Creek Silt Loam

Planting date: 10-28-09

Harvest date: 6-23-10

Management: Grain only

Soil test: pH = 5.9, P = 51, K = 443

Previous crop: Wheat

Fungicide = 14 oz/A Quilt on 27 April 2010

		Grain Yield								
Source	Variety	2009-10			2-Year			3-Year		
		No Fungicide	Fungicide	<i>Diff.</i>	No Fungicide	Fungicide	<i>Diff.</i>	No Fungicide	Fungicide	<i>Diff.</i>
		-----bu/ac-----								
KSU	Everest	37	38	1	-	-	-	-	-	-
OSU	Billings	32	34	2	41	43	2	53	55	2
OSU	Duster	30	39	9	44	54	10	51	62	11
OSU	Endurance	30	39	9	46	53	7	53	60	7
OSU	Centerfield	27	27	0	43	42	-1	49	51	2
AgriPro	Jackpot	27	29	2	39	40	1	52	59	7
AgriPro	Greer	26	34	8	-	-	-	-	-	-
WestBred	Armour	26	32	6	-	-	-	-	-	-
WestBred	Santa Fe	25	30	5	46	45	-1	55	56	1
KSU	Fuller	23	26	3	37	41	4	49	54	5
KSU	Overley	22	26	4	34	39	5	45	51	6
OSU	OK Bullet	22	29	7	35	43	8	41	53	12
OSU	Deliver	21	23	2	36	40	4	46	52	6
WestBred	Shocker	20	25	5	34	39	5	50	54	4
AgriPro	Doans	20	20	0	34	39	5	47	51	4
KSU	Jagger	20	27	7	35	41	6	39	52	13
AgriPro	Art	18	23	5	-	-	-	-	-	-
TAMU	TAM 401	18	23	5	-	-	-	-	-	-
TAMU	TAM 203	18	22	4	37	42	5	-	-	-
OSU	Pete	18	21	3	30	35	5	-	-	-
AgriPro	Jagalene	16	29	13	34	47	13	37	55	18
Experimentals										
	OK05212	33	38	5	-	-	-	-	-	-
	OK05511	31	39	8	-	-	-	-	-	-
	OK07231	31	35	4	-	-	-	-	-	-
	OK05526	29	35	6	43	48	5	-	-	-
Mean		25	30	5	38	43	5	48	55	7
LSD _(0.05)		4	4		3	3		3	3	

* Sample size was too small in 2010 to obtain a test weight measurement

Lamont Wheat Variety Trial

Cooperator: Kirby Farms
Soil type: Pond Creek silt loam
Planting date: 10-28-09
Harvest date: 6-23-10

Tillage: Conventional till
Management: Grain only
Previous crop: Wheat
Soil test: pH = 5.8, P = 48, K = 481

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			-----lb/bu-----
KSU	Everest	56	-	-	58.4
WestBred	Armour	51	-	-	55.4
AgriPro	Jackpot	51	43	53	56.9
OSU	Billings	50	42	50	57.2
OSU	Endurance	48	46	48	54.4
AgriPro	Doans	47	45	52	58.2
OSU	Duster	45	41	50	55.1
TAMU	TAM 401	44	-	-	53.7
KSU	Fuller	43	40	51	55.7
AgriPro	Greer	43	-	-	51.9
KSU	Overley	41	41	47	55.4
OSU	Deliver	41	42	44	56.1
OSU	Centerfield	41	44	45	55.2
AgriPro	Art	39	-	-	53.9
TAMU	TAM 203	38	43	-	54.0
WestBred	Shocker	38	44	48	54.1
KSU	Jagger	38	41	43	53.9
OSU	OK Bullet	37	37	41	55.0
WestBred	Santa Fe	36	43	50	53.2
OSU	Pete	34	-	-	56.4
AgriPro	Jagalene	27	36	39	52.8
Experimentals					
	OK05526	49	43	-	56.3
	OK05212	49	-	-	55.8
	OK06618	45	-	-	57.7
Mean		43	42	47	55.3
LSD _(0.05)		6	5	4	1.1

Marshall Wheat Variety Trial

Cooperator: Henry Fuxa

Tillage: Conventional till

Previous crop: Wheat

Soil type: Kirkland silt loam

Planting date: 9-17-09 (Dual purpose) & 10-26-09 (Grain only)

Harvest date: 6-10-10

Soil test: pH = 5.3, P = 60, K = 329

Grain Yield

Test Weight

Source	Variety	2009-10			2-Year			3-Year			2009-10		
		Grain only	Dual purpose	<i>Diff.</i>	Grain only	Dual purpose	<i>Diff.</i>	Grain only	Dual purpose	<i>Diff.</i>	Grain only	Dual purpose	<i>Diff.</i>
		-----bu/ac-----									-----lb/bu-----		
OSU	Duster	45	58	13	38	35	-3	47	43	-4	56.4	61.1	5
OSU	Centerfield	36	50	14	30	29	-1	39	36	-3	55.3	59.4	4
AgriPro	Doans	35	49	14	31	31	0	40	38	-2	57.9	60.3	2
OSU	Endurance	40	49	9	35	29	-6	44	39	-5	54.7	58.8	4
OSU	Pete	36	49	13	24	26	2	-	-	-	56.8	59.9	3
WestBred	Shocker	38	49	11	29	31	2	39	39	0	55.0	59.5	5
KSU	Fuller	38	48	10	30	29	-1	42	39	-3	56.1	59.1	3
OSU	Billings	40	45	5	28	24	-4	39	35	-4	57.6	60.4	3
AgriPro	Jackpot	40	44	4	28	26	-2	41	38	-3	57.4	59.3	2
OSU	OK Bullet	32	42	10	24	26	2	34	36	2	55.9	60.1	4
WestBred	Santa Fe	35	42	7	30	26	-4	39	36	-3	56.1	59.0	3
TAMU	TAM 203	30	41	11	29	27	-2	-	-	-	53.8	56.9	3
KSU	Jagger	26	39	13	19	22	3	27	34	7	52.2	57.9	6
OSU	Deliver	33	38	5	27	22	-5	36	31	-5	55.6	58.3	3
TAMU	TAM 401	40	38	-2	-	-	-	-	-	-	53.4	56.1	3
AgriPro	Greer	35	37	2	-	-	-	-	-	-	51.4	56.6	5
KSU	Overley	32	37	5	22	21	-1	35	34	-1	54.5	58.6	4
AgriPro	Jagalene	23	30	7	18	18	0	24	27	3	53.3	57.2	4
	Experimentals												
	OK05526	43	58	15	33	35	2	-	-	-	57.9	60.4	3
	OK07231	-	55	-	-	-	-	-	-	-	-	60.5	-
	OK06618	-	54	-	-	-	-	-	-	-	-	61.0	-
	OK05212	41	34	-7	-	-	-	-	-	-	55.0	58.7	4
	Mean	36	45	9	28	27	-1	38	36	-2	55.3	59.1	4
	LSD _(0.05)	5	6		4	4		3	4		1.6	0.9	

Olustee Wheat Variety Trial

Cooperator: David Bush
Soil type: Tillman silt loam
Planting date: 10-20-09
Harvest date: 6-04-10

Tillage: Conventional till
Management: Grain only
Previous crop: Wheat
Soil test: pH = 7.8, P = 23, K = 1026

Source	Variety	Grain Yield			Test Weight
		2009-10	2-Year	3-Year	2009-10
		-----bu/ac-----			----lb/bu----
OSU	Duster	49	38	42	62.0
KSU	Fuller	49	37	44	62.0
AgriPro	Doans	48	35	41	63.0
KSU	Overley	46	36	42	62.0
AgriPro	Greer	45	-	-	58.0
OSU	Pete	45	34	40	62.0
OSU	OK Bullet	43	36	43	61.0
WestBred	Santa Fe	43	35	42	61.0
WestBred	Shocker	43	34	40	60.0
TAMU	TAM 401	43	-	-	59.0
OSU	Endurance	42	33	40	60.0
AgriPro	Jackpot	42	33	40	62.0
OSU	Centerfield	41	32	39	60.0
AgriPro	Fannin	40	28	35	63.0
KSU	Jagger	39	32	40	59.0
TAMU	TAM 203	37	32	-	58.0
OSU	Deliver	36	29	38	62.0
AgriPro	Jagalene	33	30	39	60.0
Experimentals					
	OK05511	41	-	-	62.0
Mean		42	33	40	60.8
LSD _(0.05)		4	2	2	0.5

Plant height, lodging score, and heading date for selected variety trials in Oklahoma in 2010

Variety	Plant Height									Lodging			Shattering		Heading date		
	Afton	Apache	Homestead	Kingfisher	Lahoma	Lamont	Marshall DP	Marshall GO	Olustee	Alva	Cherokee	Marshall GO	Balko	Hooker	Lahoma	Stillwater early	Stillwater late
	inches									-0 - 10 scale [†]							
Armour	28	-	-	-	25	31	-	-	-	-	-	-	-	-	4/30	4/21	4/22
Art	30	-	-	-	26	33	-	-	-	5	4	-	-	-	4/30	4/22	4/24
Aspen (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4/20	4/22
Billings	31	-	30	31	29	33	27	28	-	6	5	4	1	1	4/28	4/20	4/22
Centerfield	30	32	29	30	28	31	30	30	28	4	3	4	1	-	5/1	4/24	4/25
Deliver	30	33	32	30	31	33	28	26	31	5	4	7	1	-	5/1	4/22	4/24
Doans	-	35	31	33	28	35	30	28	32	8	6	6	2	1	4/30	4/20	4/23
Duster	30	34	31	31	30	32	29	28	32	5	4	5	1	0	5/1	4/24	4/24
Endurance	32	34	32	32	29	33	30	30	32	4	4	3	2	3	4/30	4/24	4/24
Everest	30	-	-	-	27	31	-	-	-	-	5	-	-	-	4/27	4/19	4/22
Fannin	-	32	-	-	-	-	-	-	31	-	-	-	-	-	-	4/19	4/21
Fuller	32	32	31	33	30	34	30	27	31	4	4	5	1	0	4/28	4/19	4/22
Greer	31	33	32	28	28	32	28	28	31	2	5	2	-	-	5/2	4/21	4/24
Guymon (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4/24	4/25
Jackpot	31	35	31	32	30	34	29	29	29	4	4	4	3	1	4/28	4/20	4/23
Jagalene	29	33	29	31	31	33	27	28	30	3	5	3	2	2	4/30	4/22	4/24
Jagger	31	33	30	31	29	33	26	29	31	4	5	3	1	2	4/29	4/18	4/23
Keota	-	-	-	-	-	-	-	-	-	4	5	-	1	1	-	4/24	4/24
Mace	-	-	-	-	-	-	-	-	-	-	-	-	1	3	-	4/30	5/1
OK Bullet	32	34	31	34	32	34	33	28	30	3	4	2	1	3	4/30	4/23	4/24
OK Rising (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4/22	4/23
Overley	31	36	33	32	31	33	28	29	34	4	6	5	4	-	4/27	4/16	4/20
Pete	29	31	30	30	30	29	28	28	29	3	4	5	1	0	4/26	4/20	4/19
Santa Fe	28	34	30	31	29	31	28	26	30	7	7	2	2	-	4/29	4/19	4/21
Shocker	29	33	31	31	28	30	28	27	31	5	5	6	3	-	4/30	4/16	4/20
TAM 111	-	-	-	-	-	-	-	-	-	4	4	-	1	0	-	4/26	4/30
TAM 112	-	-	-	-	-	-	-	-	-	6	7	-	1	1	-	4/23	4/30
TAM 203	31	34	31	31	29	35	30	27	31	4	4	5	5	1	4/30	4/23	4/25
TAM 401	31	31	31	32	30	35	24	29	27	5	5	5	-	-	4/28	4/17	4/20
Winterhawk	-	-	-	-	-	-	-	-	-	4	5	-	1	1	-	4/22	4/23
OK05212	-	-	-	30	28	32	30	29	-	3	4	2	1	1	5/1	4/23	4/23
OK05312	-	-	-	-	-	-	-	-	-	4	-	-	4	8	-	4/24	4/24
OK05511	-	34	31	31	29	-	-	-	31	-	-	-	0	4	5/1	4/23	4/24
OK05526	33	36	-	35	32	33	30	31	-	5	4	5	1	-	4/28	4/20	4/22
OK06618	-	-	-	-	-	33	31	-	-	-	-	-	-	-	-	4/23	4/24
OK07231	-	-	-	-	28	-	30	-	-	4	-	-	-	-	4/30	4/24	4/24
STARS 0601W	-	-	-	-	-	-	-	-	-	-	-	-	0	1	-	4/21	4/23

[†] Scale of 0 - 10 with 0 representing no lodging or shattering and 10 representing severe lodging or shattering



Current Report

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Fall forage production and date of first hollow stem in winter wheat varieties during the 2009-2010 crop year

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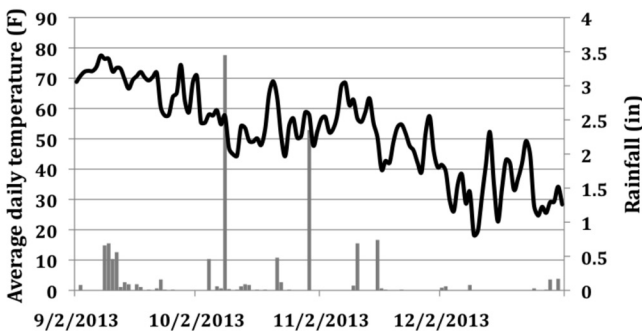
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Introduction

Fall forage production potential is just one consideration in deciding which wheat variety to plant. Dual-purpose wheat producers, for example, may find varietal characteristics such as grain yield after grazing and disease resistance to be more important selection criteria than slight advantages in forage production potential. Forage-only producers might place more importance on planting an awnless wheat variety or one that germinates readily in hot soil conditions. Ultimately, fall forage production is generally not the most important selection criteria used by Oklahoma wheat growers, but it is one that should be considered.

Fall forage production by winter wheat is determined by genetic potential, management and environmental factors. The purpose of this publication is to quantify some of the genetic differences in forage production potential and grazing duration among the most popular wheat varieties grown in Oklahoma. Management factors such as planting date, seeding rate and soil fertility are very influential and are frequently more important than variety in determining forage production. Environmental factors such as rainfall and temperature also play a heavy role in dictating how much fall forage is produced. All of these factors, along with yield potential after grazing and the individual producer's preferences, will determine which wheat variety is best suited for a particular field.

Figure 1. Average daily temperature (line graph) and rainfall (bar chart) from Sept. 1, 2009 to Dec 31, 2009, Stillwater, Okla.



Site Descriptions and Methods

The objective of the fall forage variety trials is to give producers an indication of the fall forage production ability of wheat varieties commonly grown throughout Oklahoma. The forage trials are conducted under the umbrella of the Oklahoma State University winter wheat variety trials at the El Reno and Stillwater, OK test sites. Due to extremely wet conditions this year, however, no data were collected from the El Reno site. Weather data for the Stillwater site is provided in Figure 1.

A randomized complete block design with four replications was used at each site. Forage was measured by hand clipping two 1-meter by 1-row samples at random sites within each plot. Samples were then placed in a forced-air dryer for approximately seven days and weighed. All plots were sown at 120 lb/A in a conventionally-tilled seedbed and received 50 lb/ac of 18-46-0 in furrow at planting. Fertility, planting date and harvest date information are provided in Table 1.

Results

Varieties that have been consistent top-performers during the years were in the top yield grouping once again in 2009 (Table 2). The fact that nine out of the 26 commercially-available wheat cultivars tested were statistically equivalent in terms of forage yield indicates that farmers have a wide variety of choices when it comes to dual-purpose wheat cultivars.

Average occurrence of hollow stem was 71 days after January 1, which was approximately ten days later than typical (Table 3). This delay in onset of first hollow stem was primarily due to wet and cold conditions during most of the winter months. In addition to overall later occurrence of first hollow stem, some varieties moved places in the relative rankings. Endurance, for example, is almost always one of the last varieties to reach first hollow stem, but was medium-late this year. TAM 203 is generally an early-medium first hollow stem variety, but was late this year. The presence of wheat soil borne mosaic virus in the plot area probably explains some of the abnormalities in susceptible varieties, and there are likely several physiological and morphological plant controls impacted by the cold, wet winter. It is likely the relative occurrence of first hollow stem will be closer to normal next year.

Table 1. Location Information.

	<i>Planting date</i>	<i>Sampling date</i>	<i>pH</i>	<i>N</i>	<i>P</i>	<i>K</i>
Stillwater	9/21/2009	11/30/2009	5.1	126	104	318

Table 2. Fall forage production by winter wheat varieties at Stillwater, OK in 2009.

<i>Source</i>	<i>Variety</i>	<i>2009</i>	<i>2-Year</i>	<i>3-Year</i>	<i>4-Year</i>
-----lbs dry forage/acre-----					
TAMU	TAM 203	2,830	2,910	2,520	-
OSU	Duster	2,810	3,220	2,920	2,790
AgriPro	Fannin	2,770	3,150	2,790	2,700
OSU	OK Bullet	2,700	3,020	2,740	2,620
WestBred	Santa Fe	2,600	2,880	2,450	2,340
TAMU	TAM 401	2,570	-	-	-
KSU	Overley	2,560	2,980	2,630	2,530
WestBred	Shocker	2,530	3,080	2,690	2,570
AgriPro	Jackpot	2,520	2,940	2,620	-
AgriPro	Doans	2,480	2,850	2,520	2,490
OSU	Billings	2,460	-	-	-
OSU	Endurance	2,450	2,700	2,410	2,370
WestBred	Armour	2,440	-	-	-
AgriPro	Art	2,430	-	-	-
KSU	Fuller	2,430	2,860	2,520	2,510
WestBred	Keota	2,380	2,900	-	-
OSU	Deliver	2,350	2,680	2,460	2,480
TAMU	TAM 112	2,340	2,810	-	-
KSU	Jagger	2,320	2,790	2,290	2,260
OSU	Pete	2,320	-	-	-
TAMU	TAM 111	2,280	2,810	2,560	2,500
OSU	Centerfield	2,270	2,810	2,680	2,610
AgriPro	Jagalene	2,270	2,730	2,330	2,330
AgriPro	Greer	2,150	-	-	-
WestBred	Winterhawk	2,130	2,540	-	-
KSU	Everest	1,980	-	-	-
Experimentals					
	OK05526	2,520	-	-	-
	OK07231	2,470	-	-	-
	OK05511	2,400	-	-	-
	STARS 0601W	2,200	-	-	-
	OK06618	2,190	-	-	-
	OK05312	1,990	-	-	-
	OK05212	1,840	-	-	-
Average		2,390	2,880	2,570	2,510
LSD		340	290	230	190

Shaded numbers are not statistically different from the highest-yielding variety within a column.

Table 3. Occurrence of first hollow stem (day of year) for winter wheat varieties sown in 2009 and measured in 2010 at Stillwater, Okla.

<i>Variety</i>	<i>Stillwater</i>
	---day of year---
TAM 401	40
Fannin	49
Jagger	62
Overley	62
Santa Fe	62
Shocker	62
Greer	62
Jagalene	66
Fuller	66
Billings	66
Guymon	68
OK Bullet	70
Jackpot	70
Armour	70
Everest	71
TAM 112	71
OK Rising	73
Duster	76
Endurance	76
Winterhawk	76
Aspen	78
Doans	80
TAM 203	82
Deliver	82
Pete	82
Art	82
Centerfield	83
Keota	83
TAM 111	83
Mace	88
Average	71

As mentioned in the introduction, fall forage production is only one parameter to be considered when choosing a dual-purpose wheat variety. Date of first hollow stem, for example, will determine how long fall forage production can be utilized into the spring and should be considered in conjunction with fall forage production. Varieties such as TAM 401 and Fannin are outstanding forage producers, but also have very early dates of first hollow stem. Varieties such as Doans and Endurance are not consistently as good of forage producers as TAM 401 and Fannin, but are above-average forage producers and much later to first hollow stem. Dual-purpose producers should consider these two parameters in conjunction with grain yield after grazing before making a variety choice.

Acknowledgments

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