



Oklahoma Small Grains Variety Performance Tests 2012 - 2013



J.T. Edwards
R.D. Kochenower
R.E. Austin
M.W. Knori
R.P. Lollato
G. Cruppe
B.F. Carver
R.M. Hunger

Partial funding provided by



Authors

Jeff Edwards

Small Grains Extension Specialist

Rick Kochenower

Panhandle Area Agronomist

Richard Austin

Senior Agriculturalist

Matt Knori

Research Technician

Romulo Lollato

Graduate Assistant

Giovana Cruppe

Graduate Assistant

Brett Carver

Wheat Breeder

Bob Hunger

Extension Plant Pathologist

Funding provided by:

Oklahoma Wheat Commission

Oklahoma Wheat Research Foundation

OSU Cooperative Extension Service

OSU Agricultural Experiment Station

Entry fees from participating seed companies

Irrigation scheduling provided by:

AquaPlanner, Agricultural Irrigation Management

806 Mack Road, Amarillo, TX 79118

Phone: (806) 674-4120

www.aquaplanner.net

Area Extension Staff

Roger Gribble

OSU Area Agronomist – Northwest District

Mark Gregory

OSU Area Agronomist – Southwest District

Brian Pugh

OSU Area Agronomist – Northeast District

County Extension Staff

Thomas Puffinbarger, Alfalfa County Extension Educator

Loren Sizelove, Beaver County Extension Educator

David Nowlin, Caddo County Extension Educator

Brad Tipton, Canadian County Extension Educator

Pam Shelden, Cimarron County Extension Educator

Marty New, Commanche County Extension Educator

Ron Wright, Custer County Extension Educator

Justin Barr, Ellis County Extension Educator

Brook Bradbury, Grady County Extension Educator

Joshua Keele, Grant County Extension Educator

Darrell McBee, Harper County Extension Educator

Gary Strickland, Jackson County Extension Educator

Cori Woelk, Kay County Extension Educator

Keith Boevers, Kingfisher County Extension Educator

Jeff Bedwell, Major County Extension Educator

Jeff Parmley, Ottawa County Extension Educator

Aaron Henson, Tillman County Extension Educator

Station Superintendents

Erich Wehrenberg, Agronomy Research Station, Stillwater

Ray Sidwell, North Central Research Station, Lahoma

Lawrence Bohl, Oklahoma Panhandle Research and Extension Center, Goodwell

Michael Pettijohn, South Central Research Station, Chickasha

Rocky Thacker, Southwest Research and Extension Center, Altus

Student Workers

Mason Jones

PARTICIPATING SEED COMPANIES

AGSECO, Inc.

Steve Ahring, P.O. Box 7, Girard, KS 66743

Phone: (620) 724-6223

www.agseco.com

Varieties: TAM 113

Colorado Wheat Research Foundation (CWRP)

Darrell Hanovan, 4026 S. Timberline Rd. Ste. 100,

Fort Collins, CO 80525

Phone: (970) 449-6994

Varieties: Byrd, Brawl CL Plus

Kansas Wheat Alliance (KWA)

Daryl Strouts, 2005 Research Park Circle Ste. 107

Manhattan, KS 66502

Phone: (785) 477-3400

www.kswheatalliance.org

Varieties: Everest, Jagger

Limagrain Cereal Seeds (LCS)

Marla Hall, 6414 N Sheridan, Wichita, KS 67204

Phone: (316) 253-6839

www.limagraincerealseed.com

Varieties: LCH08-80, LCH08-109, LCS Mint, T153,

T154, T158, T173

Oklahoma Genetics Inc. (OGI)

Mark Hodges, P.O. Box 2113, Stillwater, OK 74076

Phone: (405) 744-7741

www.okgenetics.com

Varieties: Duster, Gallgher, Iba, Ruby Lee, Garrison, Billings, Centerfield, Pete, OK Bullet

Oklahoma Foundation Seed Services (OSU)

Jeff Wright, 2902 W. 6th Ave., Stillwater, OK 74074

Phone: (405) 744-7741

www.oklahomaseed.com

Varieties: Endurance, Deliver, Doublestop CL Plus

Syngenta Seeds

Rob Borchardt, P.O. Box 1739, Vernon, TX 76385

Phone: (940) 552-8881

www.agriprowheat.com

Varieties: Jackpot, Doans, CJ, Greer, Razor

WestBred

John Fenderson, P.O. Box 47, Kiowa, KS 67070

Phone: (620) 243-4263

www.westbred.com

Varieties: Armour, WB-Cedar, WB-Redhawk, WB-Deuce, WB-Grainfield, Winterhawk, WB4458

We sincerely thank our variety trial cooperators for donation of land, time, and resources. Several of our locations were lost this year due to drought. Variety trial cooperators not otherwise listed in this document include:

Wes Mallory, Alva, OK

Kenton Patzkowsky, Balko, OK

NRCS, Buffalo, OK

Kenneth Failes, Cherokee, OK

Curtis Torrance, Gage, OK

J.B. Stewart, Keyes, OK

Kirby Farms, Lamont, OK

Methods

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 and wheel tracks were included in the plot area for yield calculation. 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 Marshall dual-purpose (DP) trial and forage 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.

CONTENTS

Wheat crop overview.....	4
Summary of all locations.....	6
2013 results by location	
Afton.....	8
Altus Regional Trial	9
Apache.....	10
Apache Fungicide Treated.....	11
Apache Fungicide vs. No Fungicide Comparison.....	12
Chattanooga.....	13
Chickasha Regional Trial	14
Chickasha Barley Trial	15
Goodwell Irrigated Regional Trial	16
Homestead.....	17
Hooker.....	18
Kildare.....	19
Kingfisher.....	20
Lahoma Regional Trial	21
Lahoma Fungicide Treated.....	22
Lahoma Fungicide vs. No Fungicide Comparison.....	23
Marshall Dual Purpose.....	24
Marshall Grain Only.....	25
Marshall Dual Purpose vs. Grain Only Comparison.....	26
McLoud.....	27
Thomas.....	28
Plant height at harvest.....	29
Current Report 2141 <i>Fall forage production and date of first hollow stem in winter wheat varieties during the 2012-2013 crop year</i>	30

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, gender, age, religion, disability, or status as a veteran in any of its policies, practices or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services. Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural Resources and has been prepared and distributed at a cost of 000 cents per copy.

Protein data will be reported in a separate publication in September 2013 and posted at
www.wheat.okstate.edu

2013 WHEAT CROP OVERVIEW

At the time of writing this report, 2013 Oklahoma wheat production is estimated to be approximately 114 million bushels, which is roughly 26% less than 2012 production (Table 1). The production decrease was due to the combination of lower yields and fewer harvested acres. Given the challenges faced in the 2012-2013 wheat production year, however, most would consider the average yield and total production to be much better than expected.

	2012	2013
Harvested Acres	4.3 million	3.8 million
Yield (bu/ac)	36	30
Total bushels	154.8 million	114 million

We have had several dry starts for wheat planting in Oklahoma, but the fall of 2012 might go down as the driest of the dry. A few timely rains in late August and early September allowed early and mid-September sown wheat to emerge and get a rapid start on forage production. This was the last substantial rain that most of western Oklahoma received until early 2013. As a result, much of our October-sown crop remained partially emerged in dry soil until after the first of the year.

Wheat that had emerged in September had consumed available water by early November and turned brown by December. Many fields were assumed dead, as there was no green tissue remaining above the soil surface (e.g. Marshall Dual-Purpose trial). This left little to no grazing potential for many dual-purpose wheat producers. Our Stillwater forage trial, for example, had less than 500 lb/ac (estimated) of available forage in early December, which is our normal forage measurement timing.

Rain was not plentiful in early 2013, but there was enough to allow the wheat crop to rebound. Wheat seed that had been lying in the soil germinated and early-emerging fields that had turned brown from drought were resuscitated and brought back to life. Wheat in southwestern OK and the Panhandle remained on life support throughout the season, surviving but never really thriving. Given these extreme circumstances, the grain yield at our Chattanooga, Altus, and Hooker sites are nothing short of amazing. Although wheat finally emerged at our Alva, Balko, Buffalo, Cherokee, Gage, Keyes, and Lamont sites, the stands were far too variable for use in comparing the yield potential of wheat varieties.

Drought was not the only weather-related issue Oklahoma wheat producers dealt with in 2013. There were multiple rounds of freeze events in late March and early April. Wheat in southwest Oklahoma and the Panhandle was affected by different freeze events but both sustained 30 to 80% tiller loss and were largely written off in the weeks following the freezes. Outside of far southwestern OK, cooler than normal conditions and some replenishment of soil moisture allowed regeneration of tillers. This, along with extended grainfill duration, allowed many wheat fields to recover and produce greater than expected grain yields (e.g. Apache variety trial). The cooler than normal spring temperatures were beneficial for wheat grainfill, but also delayed harvest by about one month as compared to 2012 and about two weeks as compared to the long term average.

It was a fairly quiet year regarding foliar disease. Pockets of the state suffered from heavy powdery mildew infestation in March and April, and some wheat producers chose to split-apply fungicides to combat this disease. There were also areas affected by glume blotch, tan spot, and septoria, but there was not much leaf or stripe rust present.

Yellow and purple leaves were tell tale signs that a late spring flush of aphids had transmitted barley yellow dwarf virus to several Oklahoma wheat fields. Armyworms were present late in the season, but generally did not reach threshold levels prior to maturity and few fields were sprayed. Winter grain mites took advantage of slow-growing, drought-stressed wheat and were a frequently reported problem in southwest OK, but the wheat curl mite takes top billing among mite pests in 2013. The wheat curl mite transmits wheat streak mosaic and high plains viruses. These two diseases are fairly common in the Panhandle but do not typically affect wheat in central OK. In 2013 fields as far east as Kingfisher tested positive for wheat streak mosaic and several central OK fields were affected. Growers affected by wheat streak mosaic should take care to ensure that any volunteer wheat or corn is dead at least two weeks prior to planting to reduce the risk of this disease in 2013-2014.

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

**More information available on the
web:**

Website

www.wheat.okstate.edu

Blog

www.osuwheat.com

Twitter:

@OSU_smallgrains

Facebook:

facebook.com/OSUsmallgrains

2013 Oklahoma Wheat Variety Performance Test Summary

Variety	grain yield (bu/ac)								
	Afton	Altus	Apache	Apache Fungicide	Chattanooga	Chickasha	Goodwell Irrigated	Homestead	Hooker
Armour	50	10	36	39	18	74	35	59	25
Billings	39	9	40	42	23	65	39	52	27
Brawl CL Plus	-	16	-	-	-	77	48	-	28
Byrd	-	16	-	-	-	70	47	57	27
Centerfield	-	9	-	-	-	69	45	-	-
CJ	47	11	36	46	23	65	39	-	-
Deliver	-	14	-	-	-	75	43	-	-
Doans	45	15	37	44	24	76	39	53	26
Doublestop CL Plus	54	25	-	-	-	79	45	64	-
Duster	40	17	41	49	28	65	47	50	33
Endurance	48	21	43	54	22	74	46	51	32
Everest	55	8	36	41	17	81	43	58	24
Gallagher	49	7	42	44	25	72	46	66	22
Garrison	49	17	42	50	31	70	45	61	31
Greer	40	16	46	51	21	63	42	58	30
Iba	36	14	47	57	36	71	54	58	30
Jackpot	49	11	42	52	24	60	44	57	25
Jagger	31	10	37	41	16	64	37	53	31
LCH08-109	-	7	-	-	-	50	28	-	-
LCH08-80	-	17	-	-	-	81	56	-	-
LCS Mint	-	18	-	-	-	69	56	-	-
Mace	-	-	-	-	-	-	41	-	28
OK Bullet	-	16	-	-	-	67	39	-	-
Pete	-	8	-	-	-	67	33	-	-
Razor	-	12	-	-	-	58	39	-	-
Ruby Lee	56	10	40	46	25	72	46	57	24
T153	51	7	39	41	12	70	37	46	28
T154	57	8	36	43	18	70	39	50	30
T158	50	12	45	46	24	74	43	56	31
TAM 113	-	16	-	-	-	55	47	-	28
WB-Cedar	68	8	34	37	13	73	35	41	25
WB-Duece CL+	-	5	-	-	-	52	24	-	-
WB-Grainfield	-	22	-	-	-	83	55	-	-
WB-Redhawk	-	7	37	39	15	58	38	63	31
WB4458	-	13	-	-	-	67	46	-	-
Winterhawk	39	15	-	-	-	80	55	-	-
OK08328	-	23	-	-	-	-	-	-	-
OK09125	-	22	49	55	24	68	46	61	31
OK09528	-	-	-	-	-	80	40	-	-
OK09634	31	10	40	43	14	61	36	60	-
OK09729	-	-	-	-	-	74	41	-	-
OK09935C	-	15	-	-	-	64	37	-	-
Mean	47	13	40	46	22	69	42	56	28
LSD _(0.05)	10	4	6	8	5	8	8	6	5

2013 Oklahoma Wheat Variety Performance Test Summary

Variety	Marshall							
	Kildare	Kingfisher	Lahoma	Lahoma Fungicide	Dual Purpose	Marshall Grain Only	Thomas	McLoud
	-----grain yield (bu/ac)-----							
Armour	57	47	63	73	49	59	13	48
Billings	44	40	58	64	39	49	10	56
Brawl CL Plus	-	-	66	70	-	-	-	-
Byrd	51	40	66	81	-	-	-	-
Centerfield	-	-	60	67	-	-	-	-
CJ	-	-	63	65	47	52	12	49
Deliver	-	-	53	58	-	-	-	-
Doans	33	39	51	57	45	44	13	56
Doublestop CL Plus	56	37	63	67	50	49	-	59
Duster	34	44	55	67	46	45	13	58
Endurance	43	42	61	65	49	52	17	61
Everest	57	34	65	72	49	57	17	60
Gallagher	46	40	66	77	42	53	16	53
Garrison	55	39	56	70	43	52	14	59
Greer	65	44	65	75	48	55	11	48
Iba	45	46	63	68	51	55	12	60
Jackpot	60	42	64	75	49	48	15	61
Jagger	63	37	57	75	45	54	15	51
LCH08-109	-	-	58	70	-	-	-	-
LCH08-80	-	-	63	73	-	-	-	-
LCS Mint	-	-	65	73	-	-	-	-
Mace	-	-	62	69	-	-	-	-
OK Bullet	-	-	-	-	45	-	-	-
Pete	-	-	53	64	-	-	-	-
Razor	-	-	62	64	-	-	-	-
Ruby Lee	59	40	69	79	51	52	16	50
T153	57	36	57	70	44	55	20	55
T154	53	34	67	74	52	55	18	47
T158	53	43	66	71	50	52	16	55
TAM 113	-	-	59	70	-	-	-	-
WB-Cedar	56	36	65	76	48	54	18	54
WB-Duece CL+	-	-	56	62	-	-	-	-
WB-Grainfield	-	-	69	74	-	-	-	-
WB-Redhawk	64	32	60	66	45	51	-	48
WB4458	-	-	66	68	-	-	-	-
Winterhawk	-	-	62	69	-	-	18	-
OK08328	-	-	-	-	-	-	-	-
OK09125	64	49	71	74	44	54	14	-
OK09528	45	-	64	72	-	48	-	-
OK09634	55	40	63	68	40	47	18	47
OK09729	-	-	64	66	-	-	-	-
OK09935C	-	-	-	-	-	-	-	-
Mean	53	40	62	70	47	52	15	54
LSD_(0.05)	7	5	8	7	5	6	3	10

Afton Wheat Variety Trial

Cooperator: Greg Leonard

Tillage: Conventional till

Soil type: Parsons silt loam

Management: Grain only

Planting date: 10-11-12

Previous crop: Corn

Harvest date: 06-21-13

Soil test: pH = 6.5, P = 230, K = 441

Source	Variety	Grain Yield				Test Weight
		2012-13	Lodging	2-Year	3-Year	2012-13
		--bu/ac--	0 - 10 scale	-----bu/ac-----		--lb/bu--
WestBred	WB-Cedar	68	6	57	-	54.3
LCS	T154	57	6	-	-	55.1
OGI	Ruby Lee	56	7	48	-	55.4
KWA	Everest	55	6	56	52	52.4
OSU	Doublestop CL Plus	54	4	-	-	60.0
LCS	T153	51	8	-	-	53.1
WestBred	Armour	50	8	47	46	51.7
LCS	T158	50	8	-	-	52.2
OGI	Garrison	49	5	46	-	54.8
OGI	Gallagher	49	6	51	49	54.3
Syngenta	Jackpot	49	9	37	35	53.8
OSU	Endurance	48	4	36	36	54.5
Syngenta	CJ	47	9	43	-	54.0
Syngenta	Doans	45	5	44	38	59.3
Syngenta	Greer	40	9	32	32	49.0
OGI	Duster	40	8	33	35	54.3
OGI	Billings	39	7	41	40	55.0
WestBred	WB-Redhawk	39	7	-	-	53.6
OGI	Iba	36	8	34	37	52.2
KWA	Jagger	31	8	29	30	49.5
	OSU Experimentals					
	OK09634	31	8	-	-	53.9
	Mean	47	7	42	39	53.9
	LSD _(0.05)	10	2	9	7	3.4

Notes: Severe lodging occurred in all varieties shortly after head emergence. Plots were rated at time of harvest using a 0 - 10 scale with 0 representing no lodging and 10 representing complete lodging

Altus Regional Wheat Variety Trial

Cooperator: Southwest Research and Extension Center	Tillage: Conventional till
Soil type: Hollister silty clay loam	Management: Grain only
Planting date: 10-08-12	Previous crop: Failed cotton
Harvest date: 06-04-13	Soil test: pH = 6.7, P = 60, K = 1063

Source	Variety	Grain Yield	Test Weight*
		2012-13	2012-13
		--bu/ac---	--lb/bu--
OSU	Doublestop CL Plus	25	58.7
WestBred	WB-Grainfield	22	58.5
OSU	Endurance	21	59.2
LCS	LCS Mint	18	59.6
OGI	Garrison	17	57.9
OGI	Duster	17	60.2
LCS	LCH08-80	17	59.1
CWRF	Brawl CL Plus	16	59.6
AGSECO	TAM 113	16	57.6
CWRF	Byrd	16	57.8
Syngenta	Greer	16	57.1
OGI	OK Bullet	16	59.1
Syngenta	Doans	15	58.7
WestBred	Winterhawk	15	60.3
OSU	Deliver	14	59.9
OGI	Iba	14	60.2
WestBred	WB4458	13	57.2
Syngenta	Razor	12	58.9
LCS	T158	12	58.5
Syngenta	CJ	11	59.3
Syngenta	Jackpot	11	57.5
OGI	Ruby Lee	10	59.2
WestBred	Armour	10	57.0
KWA	Jagger	10	57.7
OGI	Centerfield	9	57.9
OGI	Billings	9	56.7
OGI	Pete	8	60.1
WestBred	WB-Cedar	8	57.8
LCS	T154	8	57.5
KWA	Everest	8	58.5
OGI	Gallagher	7	57.8
LCS	LCH08-109	7	54.4
LCS	T153	7	56.7
WestBred	WB-Redhawk	7	58.3
WestBred	WB-Duece CL+	5	57.3
OSU Experimentals			
	OK08328	23	57.7
	OK09125	22	59.1
	OK09935C	15	59.2
	OK09634	10	58.8
Mean		13	58
LSD _(0.05)		4	-

*Samples were not large enough for single-plot test weight measurements, so test weights are a composite of all four replications

Notes: Plots were sown into dry soil and received 7.9 inches of rain from planting to harvest. Severe freeze injury occurred just past jointing on March 24 (25F), 25 (18F), and 26 (18F); during boot on April 19 (26F) and April 24 (26 F); and at or just after anthesis on May 3 (28F).

Apache Wheat Variety Trial

Cooperator: Bryan Vail
Soil type: Hollister silt loam
Planting date: 10-09-12
Harvest date: 06-14-13

Tillage: No-till
Management: Grain only
Previous crop: Wheat
Soil test: pH = 6.7, P = 66, K = 729

Source	Variety	Grain Yield	Freeze inj.	Grain Yield		Test Weight
		2012-13		2-Year	3-Year	2012-13
		--bu/ac--	--%--	-----bu/ac-----		---lb/bu---
OGI	Iba	47	38	44	38	60.4
Syngenta	Greer	46	80	46	37	57.7
LCS	T158	45	48	-	-	58.7
OSU	Endurance	43	20	41	33	58.7
OGI	Garrison	42	65	43	35	58.5
Syngenta	Jackpot	42	70	46	38	59.4
OGI	Gallagher	42	73	49	40	60.0
OGI	Duster	41	48	39	33	57.6
OGI	Billings	40	68	50	40	58.3
OGI	Ruby Lee	40	80	48	-	61.2
LCS	T153	39	60	-	-	59.1
Syngenta	Doans	37	43	42	34	60.1
KWA	Jagger	37	68	44	36	58.5
WestBred	WB-Redhawk	37	85	-	-	59.7
LCS	T154	36	68	-	-	60.0
KWA	Everest	36	50	48	38	62.0
WestBred	Armour	36	68	43	35	57.5
Syngenta	CJ	36	68	-	-	57.8
WestBred	WB-Cedar	34	58	-	-	57.5
OSU Experimentals						
	OK09125	49	60	-	-	58.9
	OK09634	40	78	50	-	58.6
Mean		40	62	45	36	59.1
LSD _(0.05)		6	-	5	3	2.4

Notes: Freeze injury occurred the evenings of March 25 and 26 (approx. Feekes GS 6 -7). Reported freeze injury is percent dead tillers as calculated from a 20 tiller by two rep sample (40 total) of each variety on 8 April 2013.

Apache Fungicide Wheat Variety Trial

Cooperator: Bryan Vail

Tillage: No-till

Soil type: Hollister silt loam

Management: Grain only

Planting date: 10-09-12

Previous crop: Wheat

Harvest date: 06-14-13

Soil test: pH = 6.7, P = 66, K = 729

Fungicide: 10.5 oz/ac Quilt Xcel + 1% v/v COC on 19 April 2013

Source	Variety	Grain Yield		Freeze inj.		Grain Yield		Test Weight
		2012-13		2-Year	3-Year	2012-13		
		--bu/ac--	--%--	-----bu/ac-----		---lb/bu---		
OGI	Iba	57	38	54	45	61.6		
OSU	Endurance	54	20	52	41	60.8		
Syngenta	Jackpot	52	70	56	44	60.9		
Syngenta	Greer	51	80	52	41	60.3		
OGI	Garrison	50	65	53	42	60.5		
OGI	Duster	49	48	50	41	60.2		
Syngenta	CJ	46	68	-	-	60.4		
OGI	Ruby Lee	46	80	55	-	60.5		
LCS	T158	46	48	-	-	61.4		
OGI	Gallagher	44	73	54	44	62.7		
Syngenta	Doans	44	43	48	37	61.4		
LCS	T154	43	68	-	-	59.7		
OGI	Billings	42	68	55	44	58.5		
LCS	T153	41	60	-	-	58.0		
KWA	Everest	41	50	53	42	62.6		
KWA	Jagger	41	68	51	41	60.2		
WestBred	WB-Redhawk	39	85	-	-	58.7		
WestBred	Armour	39	68	50	39	58.6		
WestBred	WB-Cedar	37	58	-	-	59.8		
OSU Experimentals								
	OK09125	55	60	-	-	58.8		
	OK09634	43	78	53	-	59.7		
Mean		46	62	53	42	60.3		
LSD _(0.05)		8	-	6	4	2.5		

Notes: Freeze injury occurred the evenings of March 25 and 26 (approx. Feekes GS 6 -7). Reported freeze injury is percent dead tillers as calculated from a 20 tiller by two rep sample (40 total) of each variety on 8 April 2013.

Apache Wheat Variety Trial - Fungicide vs. No Fungicide Comparison

Cooperator: Bryan Vail	Management: No-till grain only	Planting date: 10-09-12
Soil type: Hollister silt loam	Soil test: pH = 6.7, P = 66, K = 729	Harvest date: 06-14-13
Previous crop: Wheat	Fungicide = 10.5 oz/ac Quilt Xcel + 1% v/v COC on 19 April 2013	

Grain Yield

Test Weight

Source	Variety	2012-13			2-Year			3-Year			2012-13		
		No Fungicide	Fungicide	Diff.	No Fungicide	Fungicide	Diff.	No Fungicide	Fungicide	Diff.	No Fungicide	Fungicide	Diff.
		-----bu/ac-----									-----lb/bu-----		
OGI	Iba	47	57	10	44	54	10	38	45	7	60.4	61.6	1.2
Syngenta	Greer	46	51	5	46	52	6	37	41	4	57.7	60.3	2.6
LCS	T158	45	46	1	-	-	-	-	-	-	58.7	61.4	2.7
OSU	Endurance	43	54	11	41	52	11	33	41	8	58.7	60.8	2.1
OGI	Garrison	42	50	8	43	53	10	35	42	7	58.5	60.5	2.0
Syngenta	Jackpot	42	52	10	46	56	10	38	44	6	59.4	60.9	1.5
OGI	Gallagher	42	44	2	49	54	5	40	44	4	60.0	62.7	2.7
OGI	Duster	41	49	8	39	50	11	33	41	8	57.6	60.2	2.6
OGI	Billings	40	42	2	50	55	5	40	44	4	58.3	58.5	0.2
OGI	Ruby Lee	40	46	6	48	55	7	-	-	-	61.2	60.5	-0.7
LCS	T153	39	41	2	-	-	-	-	-	-	59.1	58.0	-1.1
Syngenta	Doans	37	44	7	42	48	6	34	37	3	60.1	61.4	1.3
KWA	Jagger	37	41	4	44	51	7	36	41	5	58.5	60.2	1.7
WestBred	WB-Redhawk	37	39	2	-	-	-	-	-	-	59.7	58.7	-1.0
LCS	T154	36	43	7	-	-	-	-	-	-	60.0	59.7	-0.3
KWA	Everest	36	41	5	48	53	5	38	42	4	62.0	62.6	0.6
WestBred	Armour	36	39	3	43	50	7	35	39	4	57.5	58.6	1.1
Syngenta	CJ	36	46	10	-	-	-	-	-	-	57.8	60.4	2.6
WestBred	WB-Cedar	34	37	3	-	-	-	-	-	-	57.5	59.8	2.3
OSU Experimentals													
	OK09125	49	55	6	-	-	-	-	-	-	58.9	58.8	-0.1
	OK09634	40	43	3	50	53	3	-	-	-	58.6	59.7	1.1
Mean		40	46	5	45	53	7	36	42	5	59.1	60.3	1.2
LSD (0.05)		7			8			6			2.4		

Notes: Freeze injury occurred the evenings of March 25 and 26 (approx. Feekes GS 6 -7) resulting in 20 to 85% tiller loss

Chattanooga Wheat Variety Trial

Cooperator: Lynn Geis	Tillage: No-till
Soil type: Indiahoma silty clay loam	Management: Grain only
Planting date: 10-09-12	Previous crop: Wheat
Harvest date: 06-11-13	Soil test: pH = 6.9, P = 37, K = 544

Source	Variety	Grain Yield*	
		2012-13	2-Year
-----bu/ac-----			
OGI	Iba	36	38
OGI	Garrison	31	34
OGI	Duster	28	34
OGI	Gallagher	25	33
OGI	Ruby Lee	25	37
Syngenta	Doans	24	29
Syngenta	Jackpot	24	33
LCS	T158	24	-
OGI	Billings	23	32
Syngenta	CJ	23	-
OSU	Endurance	22	28
Syngenta	Greer	21	29
LCS	T154	18	-
WestBred	Armour	18	28
KWA	Everest	17	28
KWA	Jagger	16	28
WestBred	WB-Redhawk	15	-
WestBred	WB-Cedar	13	-
LCS	T153	12	-
OSU Experimentals			
	OK09125	24	-
	OK09634	14	-
	Mean	22	32
	LSD _(0.05)	5	5

*Samples were not large enough for test weight measurement

Notes: Plots were sown into dry soil and received approximately 12 inches of rain from planting until maturity. Severe freeze injury occurred just past jointing on March 26 (24F); during boot on April 19 (31F) and April 24 (31 F); and at or just after anthesis on May 3 (32F).

Chickasha Regional Wheat Variety Trial

Cooperator: OSU South Central Research Station	Tillage: Conventional till
Soil type: Dale silt loam	Management: Grain only
Planting date: 10-18-12	Previous crop: Alfalfa
Harvest date: 06-13-13	Soil test: pH = 6.7, P = 62, K = 424

Source	Variety	Grain Yield --bu/ac---	Test Weight --lb/bu--	Lodging 0 - 10 scale	Freeze inj. ----%----
WestBred	WB-Grainfield	83	55.9	4	13
KWA	Everest	81	59.6	3	43
LCS	LCH08-80	81	57.7	2	0
WestBred	Winterhawk	80	57.6	5	25
OSU	Doublestop CL Plus	79	61.4	5	10
CWRF	Brawl CL Plus	77	58.6	4	23
Syngenta	Doans	76	59.8	5	30
OSU	Deliver	75	59.9	7	5
OSU	Endurance	74	57.3	6	10
LCS	T158	74	57.6	7	10
WestBred	Armour	74	56.7	2	30
WestBred	WB-Cedar	73	58.5	2	30
OGI	Gallagher	72	56.6	7	30
OGI	Ruby Lee	72	58.1	6	38
OGI	Iba	71	58.9	6	8
OGI	Garrison	70	54.7	6	20
LCS	T154	70	56.4	5	30
LCS	T153	70	57.1	5	33
CWRF	Byrd	70	57.8	5	13
LCS	LCS Mint	69	56.7	6	8
OGI	Centerfield	69	56.9	4	8
OGI	Pete	67	56.2	5	20
WestBred	WB4458	67	55.7	3	15
OGI	OK Bullet	67	58.7	4	5
OGI	Duster	65	53.8	6	15
Syngenta	CJ	65	55.6	7	50
OGI	Billings	65	56.4	7	33
KWA	Jagger	64	54.6	7	15
Syngenta	Greer	63	53.3	7	30
Syngenta	Jackpot	60	55.5	7	23
WestBred	WB-Redhawk	58	58.9	5	5
Syngenta	Razor	58	52.4	8	58
AGSECO	TAM 113	55	55.7	6	10
WestBred	WB-Duece CL+	52	54.8	8	28
LCS	LCH08-109	50	48.9	4	53
OSU Experimentals					
	OK09528	80	57.9	6	0
	OK09729	74	57.6	4	5
	OK09125	68	51.9	6	0
	OK09935C	64	55.9	5	40
	OK09634	61	56.9	4	5
	Mean	69	56.6	5	21
	LSD _(0.05)	8	2.5	2	-

Notes: Grain yields adjusted to 13.5% moisture. Moderate to severe bacterial streak/black chaff was widespread across all varieties. Lodging recorded at harvest with 0 indicating no lodging and 10 indicating complete lodging. Freeze injury occurred the evenings of March 25 and 26 (approx. Feekes GS 6 -7). Reported freeze injury is percent dead tillers as calculated from a 20 tiller by two rep sample (40 total) of each variety on 8 April 2013.

Chickasha Barley Variety Trial

Cooperator: OSU South Central Research Station

Tillage: Conventional till

Soil type: Dale silt loam

Management: Grain only

Planting date: 10-18-12

Previous crop: Alfalfa

Harvest date: 06-13-13

Soil test: pH = 6.7, P = 62, K = 424

Type	Variety	Grain Yield --bu/ac--	Test Weight --lb/bu--
Wheat check	Gallagher	81	60.0
Hulled	Thoroughbred	108	40.4
Hulled	Post 90	99	42.1
Hulled	00BX 7-37	96	41.3
Hulled	Pennbarr 66	95	38.7
Hulled	00BX 13-9	94	40.3
Hulled	VA08B-109	93	44.2
Hulled	00BX 8-86	89	41.5
Hulless	VA07H-31WS	76	53.8
Hulled	Price	75	44.8
Hulled	VA08B-85	73	42.1
Hulled	Atlantic	69	42.2
Hulled	P-919	67	37.0
Hulled	Nomini	59	38.2
Hulless	Eve	55	50.3
Hulless	06BX153B-3	55	48.1
Hulless	05BX 56-13E-1	55	35.4
Hulless	06BX 169Q-10+11	53	46.9
	Mean	77	43.7
	LSD _(0.05)	9	2

Notes: Wheat grain yield adjusted to 13.5% moisture and calculated based on a 60 lb bushel weight. Barley grain yields adjusted to 14.5% moisture and calculated based on a 48 lb bushel weight. All plots treated with 12 oz/ac Palisade EC growth regulator on 06 March 2013.

Goodwell Irrigated Regional Wheat Variety Trial

Cooperator: OK Panhandle Research & Extension Center	Tillage: Conventional till
Soil type: Richfield clay loam	Management: Grain only
Planting date: 10-08-12	Total irrigation: 16.6 in
Harvest date: 07-02-13	Total rainfall: 5 in
	Previous crop: Wheat/Fallow
	Soil test: pH = 7.5, P = 24, K = 979

Source	Variety	Grain Yield			Test Weight
		2012-13	2-Year	3-Year	2012-13
		-----bu/ac-----			----lb/bu----
LCS	LCS Mint	56	-	-	58.6
LCS	LCH08-80	56	-	-	58.2
WestBred	Winterhawk	55	56	50	58.2
WestBred	WB-Grainfield	55	-	-	56.5
OGI	Iba	54	55	-	56.8
CWRF	Brawl CL Plus	48	-	-	56.7
CWRF	Byrd	47	-	-	55.4
OGI	Duster	47	47	45	57.0
AGSECO	TAM 113	47	42	-	55.3
OSU	Endurance	46	44	41	56.6
OGI	Ruby Lee	46	50	-	58.1
WestBred	WB4458	46	-	-	55.1
OGI	Gallagher	46	55	50	54.5
OGI	Centerfield	45	-	-	53.0
OGI	Garrison	45	43	-	55.5
OSU	Doublestop CL Plus	45	-	-	55.3
Syngenta	Jackpot	44	46	40	55.4
KWA	Everest	43	-	-	56.2
OSU	Deliver	43	-	-	51.3
LCS	T158	43	52	48	55.3
Syngenta	Greer	42	42	38	54.2
UNL	Mace	41	32	33	52.7
LCS	T154	39	-	-	56.3
OGI	OK Bullet	39	-	-	55.9
OGI	Billings	39	52	47	53.0
Syngenta	Razor	39	-	-	55.4
Syngenta	CJ	39	39	-	56.1
Syngenta	Doans	39	40	37	52.7
WestBred	WB-Redhawk	38	-	-	57.0
LCS	T153	37	49	-	55.6
KWA	Jagger	37	39	37	54.4
WestBred	WB-Cedar	35	55	-	55.5
WestBred	Armour	35	38	39	54.0
OGI	Pete	33	-	-	54.4
LCS	LCH08-109	28	-	-	49.6
WestBred	WB-Duece CL+	24	-	-	55.0
OSU Experimentals					
	OK09125	46	-	-	54.8
	OK09729	41	-	-	54.8
	OK09528	40	-	-	56.3
	OK09935C	37	-	-	49.7
	OK09634	36	-	-	56.5
	Mean	42	46	42	55.2
	LSD _(0.05)	8	5	5	1.1

Notes: Plots were severely injured by freeze the evenings of April 10 and 11 resulting in severe canopy desiccation and tiller loss.

Homestead Wheat Variety Trial

Cooperator: Brook Strader	Tillage: No-till
Soil type: Canadian fine sandy loam	Management: Grain only
Planting date: 10-22-12	Previous crop: Forage sorghum
Harvest date: 06-20-13	Soil test: pH = 6.0, P = 54, K = 338

Source	Variety	Grain Yield			Test Weight
		2012-13	2-Year	3-Year	2012-13
		-----bu/ac-----			-----lb/bu-----
OGI	Gallagher	66	63	-	57.7
OSU	Doublestop CL Plus	64	-	-	60.8
WestBred	Winterhawk	63	-	-	60.0
OGI	Garrison	61	52	49	58.1
WestBred	Armour	59	54	49	58.2
OGI	Iba	58	58	-	59.3
Syngenta	Greer	58	56	51	55.9
KWA	Everest	58	58	54	60.7
OGI	Ruby Lee	57	57	-	59.6
Syngenta	Jackpot	57	57	52	59.1
Syngenta	CJ	57	50	-	58.4
LCS	T158	56	-	-	59.5
Syngenta	Doans	53	50	47	60.3
KWA	Jagger	53	51	48	59.3
OGI	Billings	52	55	50	57.5
OSU	Endurance	51	49	47	55.9
LCS	T154	50	-	-	57.8
OGI	Duster	50	47	45	57.3
LCS	T153	46	-	-	59.4
WestBred	WB-Cedar	41	50	47	58.3
OSU Experimentals					
	OK09125	61	-	-	57.0
	OK09634	60	-	-	59.0
Mean		56	54	49	58.6
LSD _(0.05)		6	4	3	2.7

Hooker Wheat Variety Trial

Cooperator: Dan and Earnest Herald

Tillage: No-till

Soil type: Dalhart fine sandy loam

Management: Grain only

Planting date: 10-05-12

Previous crop: Wheat

Harvest date: 06-25-13

Source	Variety	Grain Yield			Test Weight
		2012-13	2-Year	3-Year	2012-13
		-----bu/ac-----			--lb/bu--
OGI	Duster	33	34	30	52.7
OSU	Endurance	32	34	30	54.8
LCS	T158	31	30	28	53.4
OGI	Garrison	31	31	-	52.4
WestBred	Winterhawk	31	33	-	55.8
KWA	Jagger	31	33	28	52.9
OGI	Iba	30	34	-	53.5
Syngenta	Greer	30	28	-	50.7
LCS	T154	30	-	-	54.6
LCS	T153	28	33	-	53.2
CWRF	Brawl CL Plus	28	-	-	55.1
UNL	Mace	28	29	28	52.1
AGSECO	TAM 113	28	29	-	54.3
OGI	Billings	27	30	26	49.2
CWRF	Byrd	27	-	-	53.4
Syngenta	Doans	26	31	28	50.2
Syngenta	Jackpot	25	30	27	52.7
WestBred	Armour	25	27	25	53.9
WestBred	WB-Cedar	25	-	-	52.6
OGI	Ruby Lee	24	31	-	56.3
KWA	Everest	24	-	-	53.9
OGI	Gallagher	22	28	-	55.3
OSU Experimentals					
	OK09125	31	-	-	51.9
Mean		28	31	28	53.3
LSD_(0.05)		5	3	2	1.5

Notes: Grain yield affected by season-long drought. Low test weights are the result of extreme drought and heat.

Kildare Wheat Variety Trial

Cooperator: Don Schieber

Tillage: No-till

Soil type: Tabler silt loam

Management: Grain only

Planting date: 10-23-12

Previous crop: Wheat

Harvest date: 06-26-13

Soil test: pH = 5.9, P = 122, K = 384

Source	Variety	Grain Yield				Test Weight
		2012-13 --bu/ac--	Lodging 0 - 10 scale	2-Year -----bu/ac-----	3-Year	2012-13 -----lb/bu-----
Syngenta	Greer	65	2	60	57	52.1
WestBred	WB-Redhawk	64	4	-	-	55.2
KWA	Jagger	63	7	52	47	51.2
Syngenta	Jackpot	60	5	56	50	53.7
OGI	Ruby Lee	59	7	61	55	53.8
LCS	T153	57	4	-	-	53.8
KWA	Everest	57	7	59	53	53.3
WestBred	Armour	57	6	50	47	51.3
WestBred	WB-Cedar	56	4	57	48	53.3
OSU	Doublestop CL Plus	56	3	-	-	54.8
OGI	Garrison	55	6	57	54	49.2
LCS	T154	53	3	-	-	50.7
LCS	T158	53	6	-	-	50.6
Syngenta	CJ	51	8	46	-	51.4
OGI	Gallagher	46	5	49	-	48.4
OGI	Iba	45	9	54	53	50.4
OGI	Billings	44	8	49	44	48.4
OSU	Endurance	43	3	44	43	46.2
OGI	Duster	34	9	40	43	45.2
Syngenta	Doans	33	5	37	35	46.0
	OSU Experimentals					
	OK09125	64	4	-	-	51.5
	OK09634	55	5	-	-	53.0
	OK09528	45	8	-	-	50.3
	Mean	53	5	51	48	51.0
	LSD _(0.05)	7	3	5	5	3

Notes: Lodging notes taken at time of harvest using a 0 - 10 scale with 0 representing no lodging and 10 representing complete lodging

Kingfisher Wheat Variety Trial

Cooperator: Rodney Mueggenborg

Tillage: Conventional till

Soil type: Tillman silt loam

Management: Grain only

Planting date: 10-04-12

Previous crop: Wheat

Harvest date: 06-12-13

Soil test: pH = 6.3, P = 44, K = 419

Source	Variety	Grain Yield			Test Weight
		2012-13	2-Year	3-Year	2012-13
		-----bu/ac-----			-----lb/bu-----
WestBred	Armour	47	50	40	59.6
OGI	Iba	46	52	43	61.1
Syngenta	Greer	44	52	40	59.0
OGI	Duster	44	51	43	60.5
LCS	T158	43	-	-	60.2
OSU	Endurance	42	49	38	61.4
Syngenta	Jackpot	42	52	40	58.8
OGI	Billings	40	52	42	61.9
OGI	Gallagher	40	53	-	61.4
OGI	Ruby Lee	40	52	-	61.9
Syngenta	CJ	40	52	-	61.4
OGI	Garrison	39	44	36	60.1
Syngenta	Doans	39	47	38	63.5
KWA	Jagger	37	49	40	59.9
OSU	Doublestop CL Plus	37	47	-	62.1
LCS	T153	36	-	-	61.7
WestBred	WB-Cedar	36	49	37	60.4
LCS	T154	34	-	-	60.3
KWA	Everest	34	44	35	62.6
WestBred	WB-Redhawk	32	-	-	58.7
OSU Experimentals					
	OK09125	49	-	-	58.8
	OK09634	40	56	-	59.7
Mean		40	50	39	60.7
LSD _(0.05)		5	3	3	2.7

Lahoma Regional Wheat Variety Trial

Cooperator: North Central Research Station	Tillage: Conventional till
Soil type: Pond Creek silt loam	Management: Grain only
Planting date: 10-05-12	Previous crop: Wheat
Harvest date: 06-25-13	Soil test: pH = 5.2, P = 56, K = 436

Source	Variety	Grain Yield			Test Weight
		2012-13	2-Year	3-Year	2012-13
		-----bu/ac-----			----lb/bu----
OGI	Ruby Lee	69	54	-	57.4
WestBred	WB-Grainfield	69	-	-	57.2
LCS	T154	67	-	-	56.2
OGI	Gallagher	66	61	57	54.6
LCS	T158	66	-	-	57.1
WestBred	WB4458	66	-	-	58.2
CWRF	Byrd	66	-	-	55.5
CWRF	Brawl CL Plus	66	-	-	56.2
LCS	LCS Mint	65	-	-	57.5
Syngenta	Greer	65	57	52	55.2
KWA	Everest	65	55	52	57.3
WestBred	WB-Cedar	65	62	55	55.5
Syngenta	Jackpot	64	58	52	58.1
Syngenta	CJ	63	56	-	57.5
Westbred	Armour	63	44	45	54.2
LCS	LCH08-80	63	-	-	53.8
OGI	Iba	63	58	56	56.9
OSU	Doublestop CL Plus	63	57	-	59.4
OGI	OK Bullet	62	53	50	60.1
WestBred	Winterhawk	62	-	-	57.7
Syngenta	Razor	62	-	-	58.7
OSU	Endurance	61	55	52	54.7
OGI	Centerfield	60	-	-	54.6
WestBred	WB-Redhawk	60	-	-	57.8
AGSECO	TAM 113	59	-	-	53.6
OGI	Billings	58	54	51	53.2
LCS	LCH08-109	58	-	-	48.2
KWA	Jagger	57	53	51	56.6
LCS	T153	57	-	-	56.6
OGI	Garrison	56	43	43	52.8
WestBred	WB-Duece CL+	56	-	-	56.9
OGI	Duster	55	50	51	51.0
OSU	Deliver	53	51	44	56.6
OGI	Pete	53	43	42	54.8
Syngenta	Doans	51	48	46	57.5
OSU Experimentals					
	OK09125	71	-	-	56.6
	OK09528	64	-	-	57.5
	OK09729	64	-	-	55.9
	OK09634	63	57	-	56.6
Mean		62	53	50	56.0
LSD _(0.05)		8	4	4	2.4

Lahoma Regional Wheat Variety Trial - Fungicide Treated

Cooperator: North Central Research Station	Tillage: Conventional till
Soil type: Pond Creek silt loam	Management: Grain only
Planting date: 10-05-12	Previous crop: Wheat
Harvest date: 06-25-13	Soil test: pH = 5.2, P = 56, K = 436
Fungicide = 10.5 oz/A Quilt Xcel + 1% v/v COC on 6 May 2013	

Source	Variety	Grain Yield			Test Weight
		20112-13	2-Year	3-Year	2012-13
		-----bu/ac-----			----lb/bu----
CWRF	Byrd	81	-	-	58.2
OGI	Ruby Lee	79	71	-	59.3
OGI	Gallagher	77	69	63	58.0
WestBred	WB-Cedar	76	73	64	59.3
Syngenta	Jackpot	75	69	57	58.9
Syngenta	Greer	75	67	58	57.8
KWA	Jagger	75	65	58	58.5
WestBred	WB-Grainfield	74	-	-	59.4
LCS	T154	74	-	-	57.5
LCS	LCS Mint	73	-	-	60.1
WestBred	Armour	73	62	57	56.8
LCS	LCH08-80	73	-	-	58.1
KWA	Everest	72	64	59	58.7
LCS	T158	71	-	-	58.5
CWRF	Brawl CL Plus	70	-	-	59.2
AGSECO	TAM 113	70	-	-	56.7
OGI	Garrison	70	67	60	55.6
LCS	T153	70	-	-	59.8
LCS	LCH08-109	70	-	-	53.2
WestBred	Winterhawk	69	-	-	58.9
OGI	OK Bullet	69	59	55	60.3
OGI	Iba	68	65	60	59.4
WestBred	WB4458	68	-	-	60.2
OGI	Centerfield	67	-	-	56.3
OGI	Duster	67	62	59	52.8
OSU	Doublestop CL Plus	67	64	-	60.1
WestBred	WB-Redhawk	66	-	-	58.3
Syngenta	CJ	65	59	-	57.6
OSU	Endurance	65	60	56	55.1
OGI	Billings	64	63	57	55.2
OGI	Pete	64	61	53	56.9
Syngenta	Razor	64	-	-	59.5
WestBred	WB-Duece CL+	62	-	-	58.3
OSU	Deliver	58	53	45	58.7
Syngenta	Doans	57	52	49	59.6
OSU Experimentals					
	OK09125	74	-	-	57.1
	OK09528	72	-	-	58.5
	OK09634	68	63	-	57.9
	OK09729	66	-	-	57.3
	Mean	70	63	57	58.0
	LSD _(0.05)	7	4	4	2.0

Lahoma Regional Wheat Variety Trial - Fungicide vs No Fungicide Comparison

Cooperator: North Central Research Station

Tillage: Conventional till

Planting date: 10-05-12

Soil type: Pond Creek silt loam

Management: Grain only

Harvest date: 06-25-13

Previous crop: Wheat

Soil test: pH = 5.2, P = 56, K = 436

Fungicide = 10.5 oz/A Quilt Xcel + 1% v/v COC on 6 May 2013

Source	Variety	Grain Yield						Test Weight		
		2012-13			2-Year			2012-13		
		No Fungicide	Fungicide	Diff.	No Fungicide	Fungicide	Diff.	No Fungicide	Fungicide	Diff.
		-----bu/ac-----						-----lb/bu-----		
OGI	Ruby Lee	69	79	10	54	71	17	57.4	59.3	2.0
WestBred	WB-Grainfield	69	74	5	-	-	-	57.2	59.4	2.2
LCS	T154	67	74	7	-	-	-	56.2	57.5	1.3
OGI	Gallagher	66	77	11	61	69	8	54.6	58.0	3.3
LCS	T158	66	71	5	-	-	-	57.1	58.5	1.4
WestBred	WB4458	66	68	2	-	-	-	58.2	60.2	2.0
CWRF	Byrd	66	81	15	-	-	-	55.5	58.2	2.7
CWRF	Brawl CL Plus	66	70	5	-	-	-	56.2	59.2	3.0
LCS	LCS Mint	65	73	8	-	-	-	57.5	60.1	2.6
Syngenta	Greer	65	75	10	57	67	9	55.2	57.8	2.5
KWA	Everest	65	72	7	55	64	9	57.3	58.7	1.4
WestBred	WB-Cedar	65	76	12	62	73	11	55.5	59.3	3.8
Syngenta	Jackpot	64	75	12	58	69	10	58.1	58.9	0.8
Syngenta	CJ	63	65	2	56	59	4	57.5	57.6	0.1
WestBred	Armour	63	73	10	44	62	17	54.2	56.8	2.6
LCS	LCH08-80	63	73	10	-	-	-	53.8	58.1	4.3
OGI	Iba	63	68	6	58	65	7	56.9	59.4	2.5
OSU	Doublestop CL Plus	63	67	4	57	64	7	59.4	60.1	0.7
OGI	OK Bullet	62	69	7	53	59	6	60.1	60.3	0.2
WestBred	Winterhawk	62	69	7	-	-	-	57.7	58.9	1.2
Syngenta	Razor	62	64	2	-	-	-	58.7	59.5	0.7
OSU	Endurance	61	65	4	55	60	4	54.7	55.1	0.4
OGI	Centerfield	60	67	7	-	-	-	54.6	56.3	1.7
WestBred	WB-Redhawk	60	66	6	-	-	-	57.8	58.3	0.6
AGSECO	TAM 113	59	70	11	-	-	-	53.6	56.7	3.2
OGI	Billings	58	64	6	54	63	9	53.2	55.2	2.0
LCS	LCH08-109	58	70	12	-	-	-	48.2	53.2	5.0
KWA	Jagger	57	75	17	53	65	12	56.6	58.5	1.9
LCS	T153	57	70	13	-	-	-	56.6	59.8	3.2
OGI	Garrison	56	70	14	43	67	25	52.8	55.6	2.8
WestBred	WB-Duece CL+	56	62	7	-	-	-	56.9	58.3	1.4
OGI	Duster	55	67	12	50	62	13	51.0	52.8	1.8
OSU	Deliver	53	58	5	51	53	3	56.6	58.7	2.2
OGI	Pete	53	64	11	43	61	18	54.8	56.9	2.1
Syngenta	Doans	51	57	6	48	52	4	57.5	59.6	2.1
	OSU Experimentals									
	OK09125	71	74	2	-	-	-	56.6	57.1	0.5
	OK09528	64	72	8	-	-	-	57.5	58.5	1.0
	OK09729	64	66	2	-	-	-	55.9	57.3	1.3
	OK09634	63	68	4	57	63	6	56.6	57.9	1.3
	Mean	62	70	8	53	63	10	56.0	58.0	2.0
	LSD _(0.05)	8			4			2.2		

Marshall Dual Purpose Wheat Variety Trial

Cooperator: Fuxa Farms	Tillage: Conventional till
Soil type: Kirkland silt loam	Management: Dual purpose
Planting date: 09-17-12	Previous crop: Wheat
Harvest date: 06-22-13	Soil test: pH = 5.4, P = 68, K = 374

Source	Variety	Grain Yield			Test Weight
		2012-13	2-Year	3-Year	2012-13
		-----bu/ac-----			----lb/bu----
LCS	T154	52	-	-	59.0
OGI	Iba	51	50	-	56.1
OGI	Ruby Lee	51	44	-	55.1
LCS	T158	50	-	-	62.1
OSU	Doublestop CL Plus	50	-	-	59.6
OSU	Endurance	49	47	41	55.2
WestBred	Armour	49	35	28	55.1
Syngenta	Jackpot	49	43	35	58.0
KWA	Everest	49	44	39	57.8
WestBred	WB-Cedar	48	47	40	58.5
Syngenta	Greer	48	39	34	54.7
Syngenta	CJ	47	46	-	54.3
OGI	Duster	46	48	39	54.6
Syngenta	Doans	45	46	39	57.9
KWA	Jagger	45	36	30	55.8
WestBred	WB-Redhawk	45	-	-	59.1
LCS	T153	44	-	-	57.1
OGI	Garrison	43	31	25	54.7
OGI	Gallagher	42	40	-	53.9
OGI	Billings	39	38	30	52.6
OSU Experimentals					
	OK08328	45	44	-	53.7
	OK09125	44	-	-	54.6
	OK09634	40	-	-	58.4
	Mean	47	42	35	56.4
	LSD _(0.05)	5	3	3	3.7

Notes: Cattle were removed when Duster (medium) reached first hollow stem

Marshall Grain-Only Wheat Variety Trial

Cooperator: Fuxa Farms

Tillage: Conventional till

Soil type: Kirkland silt loam

Management: Dual purpose

Planting date: 10-24-12

Previous crop: Wheat

Harvest date: 06-22-13

Soil test: pH = 5.4, P = 68, K = 374

Source	Variety	Grain Yield				Test Weight
		2012-13 --bu/ac--	Lodging 0 - 10 scale	2-Year -----bu/ac-----	3-Year	2012-13 ----lb/bu----
WestBred	Armour	59	0	37	36	55.7
KWA	Everest	57	1	48	42	58.6
LCS	T154	55	1	-	-	55.1
LCS	T153	55	2	-	-	56.7
OGI	Iba	55	4	53	-	55.8
Syngenta	Greer	55	2	49	42	53.5
WestBred	WB-Cedar	54	1	-	-	58.1
KWA	Jagger	54	3	46	41	55.1
OGI	Gallagher	53	2	54	-	55.0
OGI	Garrison	52	3	37	35	54.1
LCS	T158	52	2	-	-	53.4
OGI	Ruby Lee	52	1	45	-	56.9
Syngenta	CJ	52	3	51	-	56.8
OSU	Endurance	52	1	49	43	53.6
WestBred	WB-Redhawk	51	1	60	49	56.8
OGI	Billings	49	3	51	44	55.9
OSU	Doublestop CL Plus	49	1	48	-	56.9
Syngenta	Jackpot	48	3	45	41	56.7
OGI	Duster	45	3	45	41	53.2
Syngenta	Doans	44	2	44	38	57.7
	OSU Experimentals					
	OK09125	54	1	-	-	54.1
	OK09528	48	2	47	-	49.2
	OK09634	47	1	-	-	55.8
	Mean	52	2	48	41	55.4
	LSD _(0.05)	6	3	5	4	3.1

Notes: Plots were rated for lodging at time of harvest using a 0 - 10 scale with 0 representing no lodging and 10 representing complete lodging

Marshall Grain Only and Dual Purpose Wheat Variety Trials

Cooperator: Fuxa Farms Tillage: Conventional Till Previous crop: Wheat Soil type: Kirkland silt loam
 Planting date: 09-17-12 (Dual Purpose) & 10-24-12 (Grain Only) Harvest date: 06-22-13 Soil test: pH = 5.4, P = 68, K = 374

Source	Variety	Grain Yield									Test Weight		
		2012 - 2013			2-Year			3-Year			2012 - 2013		
		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-----		
WestBred	Armour	59	49	-10	37	35	-1	36	28	-8	55.7	55.1	-0.6
KWA	Everest	57	49	-8	48	44	-4	42	39	-3	58.6	57.8	-0.8
LCS	T154	55	52	-3	-	-	-	-	-	-	55.1	59.0	3.9
LCS	T153	55	44	-11	-	-	-	-	-	-	56.7	57.1	0.4
OGI	Iba	55	51	-4	53	50	-3	-	-	-	55.8	56.1	0.2
Syngenta	Greer	55	48	-7	49	39	-9	42	34	-8	53.5	54.7	1.2
WestBred	WB-Cedar	54	48	-6	-	47	-	-	40	-	58.1	58.5	0.4
KWA	Jagger	54	45	-9	46	36	-10	41	30	-11	55.1	55.8	0.7
OGI	Gallagher	53	42	-11	54	40	-15	-	-	-	55.0	53.9	-1.1
OGI	Garrison	52	43	-10	37	31	-6	35	25	-9	54.1	54.7	0.5
LCS	T158	52	50	-2	-	-	-	-	-	-	53.4	62.1	8.7
OGI	Ruby Lee	52	51	-2	45	44	-1	-	-	-	56.9	55.1	-1.8
Syngenta	CJ	52	47	-5	51	46	-5	-	-	-	56.8	54.3	-2.5
OSU	Endurance	52	49	-3	49	47	-2	43	41	-2	53.6	55.2	1.6
WestBred	WB-Redhawk	51	45	-6	60	-	-	49	-	-	56.8	59.1	2.3
OGI	Billings	49	39	-10	51	38	-13	44	30	-14	55.9	52.6	-3.3
OSU	Doublestop CL Plus	49	50	1	48	-	-	-	-	-	56.9	59.6	2.7
Syngenta	Jackpot	48	49	1	45	43	-2	41	35	-5	56.7	58.0	1.4
OGI	Duster	45	46	1	45	48	2	41	39	-1	53.2	54.6	1.4
Syngenta	Doans	44	45	1	44	46	2	38	39	1	57.7	57.9	0.3
OSU Experimentals													
	OK09125	54	44	-10	-	-	-	-	-	-	-	53.7	-
	OK09528	48	-	-	47	-	-	-	-	-	54.1	54.6	0.5
	OK09634	47	40	-7	-	-	-	-	-	-	49.2	-	-
	OK08328	-	45	-	-	44	-	-	-	-	55.8	58.4	2.6
Mean		52	47	-5	48	42	-5	41	35	-6	55.4	56.4	1.0
LSD (0.05)			6			4			4			3.4	

McCloud Wheat Variety Trial

Cooperator: Gerod McKinley	Tillage: Conventional till
Soil type: Keokuk silt loam	Management: Grain only
Planting date: 10-10-12	Previous crop: Wheat
Harvest date: 06-27-13	Soil test: pH = 5.7, P = 386, K = 610
Fungicide = 10.5 oz/A Quilt Xcel + 1% v/v COC applied at approx. 10% head emergence	

Source	Variety	Grain Yield			Test Weight
		2012-13	2-Year	3-Year	2012-13
		-----bu/ac-----			--lb/bu--
OSU	Endurance	61	61	57	55.2
Syngenta	Jackpot	61	65	58	54.8
KWA	Everest	60	67	60	56.6
OGI	Iba	60	63	60	55.6
OGI	Garrison	59	66	-	53.4
OSU	Doublestop CL Plus	59	-	-	57.7
OGI	Duster	58	56	55	54.4
Syngenta	Doans	56	56	51	55.0
OGI	Billings	56	64	58	54.8
LCS	T158	55	-	-	56.2
LCS	T153	55	-	-	53.3
WestBred	WB-Cedar	54	62	58	53.3
OGI	Gallagher	53	64	61	53.2
KWA	Jagger	51	58	53	52.8
OGI	Ruby Lee	50	62	58	54.7
Syngenta	CJ	49	56	-	54.3
Syngenta	Greer	48	60	57	52.3
WestBred	Armour	48	60	55	51.8
WestBred	WB-Redhawk	48	-	-	54.1
LCS	T154	47	-	-	54.5
OSU Experimentals					
	OK09634	47	-	-	51.3
	Mean	54	61	57	53.3
	LSD _(0.05)	10	8	6	1.9

Notes: Severe lodging occurred in all varieties between boot and head emergence. All plots were rated between 8 and 9 for lodging at time of harvest using a 0 - 10 scale with 0 representing no lodging and 10 representing complete lodging

Thomas Wheat Variety Trial

Cooperator: Brownie Brown	Tillage: Conventional till
Soil type: Pond Creek silt loam	Management: Grain only
Planting date: 10-16-12	Previous crop: Canola
Harvest date: 06-24-13	Soil test: pH = 5.2, P = 229, K = 840

Source	Variety	Grain Yield		
		2012-13 --bu/ac---	Lodging 0 - 10 scale	2 Yr --bu/ac---
LCS	T153	20	3	-
LCS	T154	18	5	-
WestBred	Winterhawk	18	6	25
WestBred	WB-Cedar	18	4	-
KWA	Everest	17	6	23
OSU	Endurance	17	7	16
LCS	T158	16	5	-
OGI	Ruby Lee	16	6	21
OGI	Gallagher	16	5	19
KWA	Jagger	15	6	14
Syngenta	Jackpot	15	7	20
OGI	Garrison	14	6	17
OGI	Duster	13	3	19
Syngenta	Doans	13	3	23
WestBred	Armour	13	6	15
Syngenta	CJ	12	7	-
OGI	Iba	12	5	26
Syngenta	Greer	11	5	15
OGI	Billings	10	7	22
OSU Experimentals				
	OK09634	18	4	-
	OK09125	14	7	-
	Mean	15	5	20
	LSD _(0.05)	3	3	8

Notes: Grain samples were too small to collect test weight measurements. Lodging notes taken at time of harvest using a 0 - 10 scale with 0 representing no lodging and 10 representing complete lodging

Plant height at harvest for selected 2013 Oklahoma Wheat Variety Performance Test locations

Variety	Altus	Apache	Apache Fungicide	Chattanooga	Chickasha	Homestead	Kildare	Kingfisher	Lahoma	Lahoma Fungicide	Marshall Dual Purpose	Marshall Grain Only	Thomas
	-----plant height (inches)-----												
Armour	17	20	21	24	31	28	30	29	31	30	28	29	23
Billings	20	24	26	25	33	29	34	29	31	34	26	26	31
Brawl CL Plus	19	-	-	-	36	-	-	-	35	36	-	-	-
Byrd	20	-	-	-	35	-	-	-	35	35	-	-	-
Centerfield	23	-	-	-	37	-	-	-	36	36	-	-	-
CJ	19	25	24	24	35	28	35	33	35	32	28	28	28
Deliver	22	-	-	-	39	-	-	-	33	35	-	-	-
Doans	23	28	26	28	36	32	31	32	35	33	28	28	30
Doublestop CL Plus	20	-	-	-	39	30	35	31	35	39	30	32	-
Duster	20	26	22	28	36	30	31	31	33	31	28	32	29
Endurance	23	27	24	27	38	33	35	32	35	35	27	27	32
Everest	22	24	22	26	33	29	31	28	32	34	28	29	29
Gallagher	21	27	24	26	35	28	33	29	33	33	23	29	27
Garrison	22	26	23	25	35	30	33	29	35	35	26	30	31
Greer	22	23	24	25	35	30	31	28	31	33	27	27	27
Iba	19	24	24	26	35	31	33	31	33	32	30	30	29
Jackpot	20	24	24	24	34	26	33	27	31	34	24	25	28
Jagger	21	26	23	24	36	30	33	37	34	32	22	26	30
LCH08-109	18	-	-	-	30	-	-	-	35	34	-	-	-
LCH08-80	20	-	-	-	36	-	-	-	34	35	-	-	-
LCS Mint	19	-	-	-	37	-	-	-	37	35	-	-	-
OK Bullet	25	-	-	-	37	-	-	-	36	35	-	-	-
Pete	26	-	-	-	35	-	-	-	32	32	-	-	-
Razor	19	-	-	-	37	-	-	-	39	39	-	-	-
Ruby Lee	22	28	25	31	37	33	35	31	36	35	27	29	33
T153	22	24	20	23	33	25	30	25	33	33	23	30	30
T154	17	24	22	23	36	24	28	26	38	36	26	30	29
T158	18	27	21	22	33	28	30	28	33	35	26	32	30
TAM 113	20	-	-	-	37	-	-	-	35	35	-	-	-
WB-Cedar	19	25	20	24	31	26	29	27	31	30	25	28	24
WB-Duece CL+	17	-	-	-	31	-	-	-	31	34	-	-	-
WB-Grainfield	19	-	-	-	37	-	-	-	35	34	-	-	-
WB-Redhawk	22	24	24	24	33	29	33	28	35	36	26	29	-
WB4458	21	-	-	-	35	-	-	-	35	33	-	-	-
Winterhawk	21	-	-	-	38	-	-	-	35	36	-	-	33
OK09935C	24	-	-	-	37	28	32	26	33	35	-	-	-
OK09634	19	24	22	21	35	32	31	29	33	39	23	31	30
OK09125	26	29	24	26	39	-	-	-	-	-	26	31	30
OK08328	22	-	-	-	-	-	-	-	-	-	27	32	-
OK09528	-	-	-	-	36	-	34	-	31	36	-	-	-
OK09729	-	-	-	-	35	-	-	-	35	35	-	-	-



Current Report

Oklahoma Cooperative Extension Fact Sheets are also available on our website at:
osufacts.okstate.edu

Fall forage production and date of first hollow stem in winter wheat varieties during the 2012-2013 crop year

Jeff Edwards
Small Grains Extension Specialist

Richard Austin
Senior Agriculturalist

Matt Knori
Research Technician

Romulo Lollato
Graduate Research Assistant

Giovana Cruppe
Graduate Research Assistant

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.

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 the state of Oklahoma. The forage trials are conducted under the umbrella of the Oklahoma State University Small Grains Variety Performance Tests at our Chickasha and Stillwater, OK test sites. Weather data for these two sites are provided in Figures 1 and 2.

A randomized complete block design with four replications was used at each site. Forage was measured by hand clipping two 1-m by 1-row samples approximately ½ inch above the soil surface 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

With the exceptions of a few localized areas with adequate rainfall, wheat forage was extremely short in 2012 – 2013. The season started with severe drought and inadequate soil moisture that made seedbed preparation and wheat stand establishment extremely difficult. Approximately one half to one inch of rain fell across much of the state in mid September and allowed wheat to emerge (Figures 1 and 2).

Chickasha received much needed rain around the first of October that allowed for ample forage growth and tiller survival through the winter. Conversely, most of Oklahoma remained extremely dry through the winter and early emerging fields turned brown, sloughed tillers, and appeared to be dying or dead by late winter. Late-February rainfall allowed for an astounding wheat recovery in central and northern Oklahoma. Conditions never really improved in southwestern and western Oklahoma.

Due to the extended drought, forage measurements were not collected at Stillwater until March 1, 2013 (Table 2). Forage yields ranged from 2,060 lbs/ac for Deliver to 3,080 lbs/ac for Endurance. As is usually the case, there was a large group of varieties that produced statistically equal forage yield. Forage growth at Chickasha was adequate for fall measurement and forage production was similar to that measured at Stillwater.

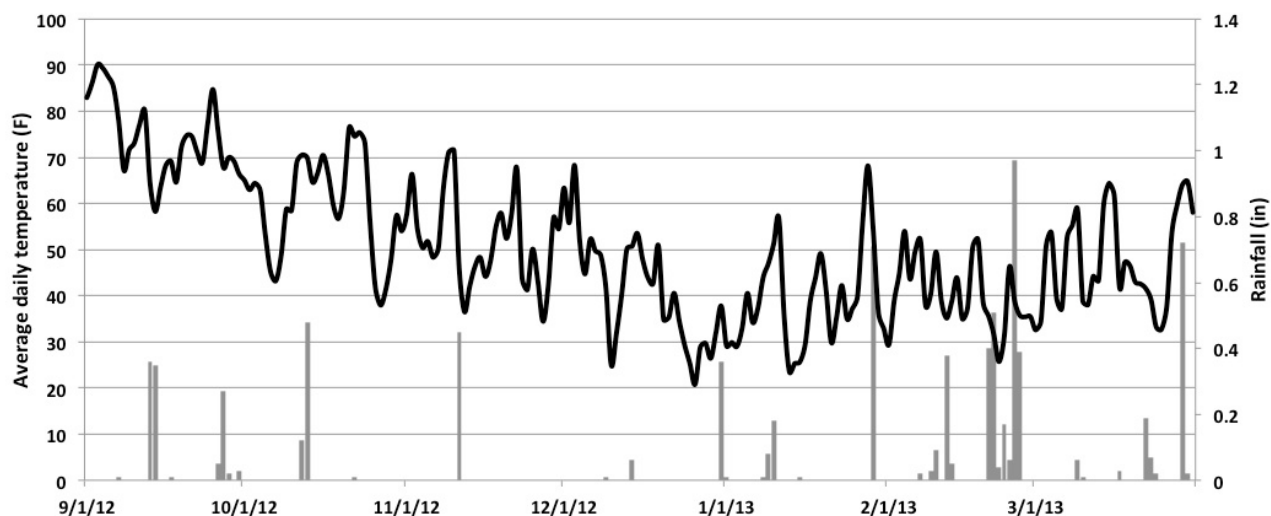


Figure 1. Average daily temperature (line graph) and rainfall (bar chart) from September 1, 2012 to March 31, 2013 at Stillwater, OK. Weather data courtesy Oklahoma Mesonet.

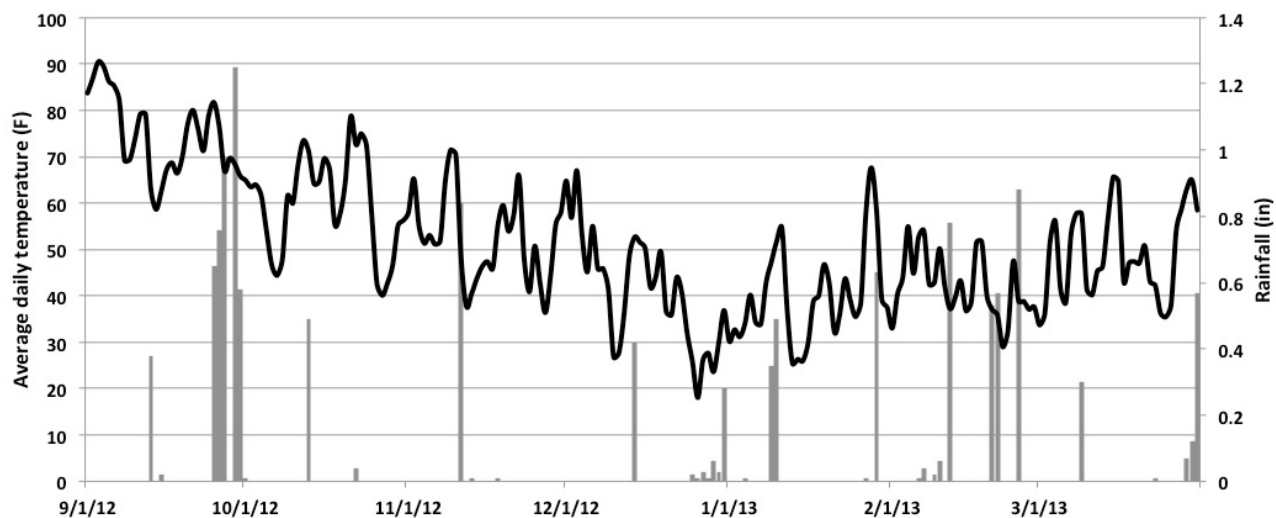


Figure 2. Average daily temperature (line graph) and rainfall (bar chart) from September 1, 2012 to March 31, 2013 at Chickasha, OK. Weather data courtesy Oklahoma Mesonet.

Table 1. Location information.

	<i>Planting date</i>	<i>Sampling date</i>	<i>pH</i>	<i>N</i>	<i>P</i>	<i>K</i>
Chickasha	09/20/12	12/06/12	6.7	172	62	424
Stillwater*	09/18/12	03/01/13	5.7	140	157	373

*Stillwater fertility information estimated based on previous-year soil test and pre-plant nitrogen fertilizer application.

three months later. Forage yields at Chickasha ranged from 1,990 lbs/ac for Deliver to 3,110 lbs/ac for Gallagher.

First hollow stem data are reported in 'day of year' (day) format (Table 4). To provide reference, keep in mind that March 1 is day 60. Average occurrence of first hollow stem at Stillwater and Chickasha in 2013 was day 72 and 65, respectively. This was approximately 20 days later than in 2012 and was probably the result of drought combined with cooler than normal temperatures. There was a 30-day range in occurrence of first hollow stem at Stillwater and Chickasha. Occurrence of first hollow stem at Chickasha was approximately one week earlier than Stillwater, but the relative rankings of varieties (i.e. early, medium, or late) were fairly consistent between locations.

Acknowledgments

The authors want to thank the Oklahoma Wheat Commission and the Oklahoma Wheat Research Foundation for providing partial funding for this research. We also acknowledge the hard work of Mason Jones, undergraduate student worker, in collecting the data presented in this report.

Seed Source Abbreviations

AGSECO = AGSECO Inc.
CWRF = Colorado Wheat Research Foundation
KWA = Kansas Wheat Alliance
LCS = Limagrain Cereal Seeds
OGI = Oklahoma Genetics Inc.
OSU = Oklahoma State University
Syngenta = Syngenta Seeds

Table 2. Forage production by winter wheat varieties prior to first hollow stem at Stillwater, OK during the 2012-2013 production year.

Source	Variety	2012-2013	2-Year	3-Year	4-Year
-----lbs dry forage/acre-----					
OSU	Endurance	3,080	3,420	3,230	3,030
WestBred	WB-Grainfield	2,930	-	-	-
WestBred	WB-Cedar	2,920	3,100	2,960	-
WestBred	Armour	2,880	3,090	3,070	2,920
OGI	Garrison	2,850	3,140	3,000	2,710
OSU	Doublestop CL Plus	2,840	-	-	-
OGI	Gallagher	2,820	3,420	-	-
LCS	LCH08-80	2,770	-	-	-
CWRF	Brawl CL Plus	2,750	-	-	-
LCS	T153	2,730	3,150	-	-
OGI	Duster	2,690	3,120	3,020	2,970
WestBred	WB-Duece CL+	2,690	-	-	-
Syngenta	Greer	2,630	2,920	2,910	2,720
KWA	Jagger	2,620	3,150	2,900	2,750
OGI	Iba	2,600	3,080	3,090	-
KWA	Everest	2,570	2,990	2,800	2,590
OGI	Billings	2,550	2,960	2,960	2,830
OGI	Centerfield	2,550	3,140	3,020	2,830
CWRF	Byrd	2,520	-	-	-
Syngenta	Jackpot	2,520	2,920	2,870	2,780
LCS	T158	2,490	2,990	2,930	-
Syngenta	CJ	2,480	2,910	-	-
OGI	Pete	2,450	2,950	2,920	2,770
LCS	T154	2,440	-	-	-
LCS	T173	2,390	-	-	-
LCS	LCH08-109	2,320	-	-	-
WestBred	WB-Redhawk	2,320	-	-	-
LCS	LCS Mint	2,290	-	-	-
Syngenta	Razor	2,260	-	-	-
OGI	Ruby Lee	2,250	2,860	2,890	2,800
WestBred	WB4458	2,230	-	-	-
AGSECO	TAM 113	2,220	2,780	-	-
OGI	OK Bullet	2,170	2,680	2,690	2,700
WestBred	Winterhawk	2,100	2,790	2,820	2,650
OSU	Deliver	2,060	2,790	2,740	2,650
Experimentals					
	OK09935C	2,960	-	-	-
	OK09528	2,920	-	-	-
	OK09634	2,490	-	-	-
	OK09729	2,420	-	-	-
	OK09125	2,290	-	-	-
	OK08328	2,190	-	-	-
Average		2,540	3,020	2,930	2,780
LSD		610	420	350	270

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

Table 3. Fall forage production by winter wheat varieties at Chickasha, OK in 2012.

Source	Variety	2012 -----lbs dry forage/acre-----
OGI	Gallagher	3,110
LCS	T154	2,920
OGI	Duster	2,910
KWA	Everest	2,740
Syngenta	CJ	2,710
WestBred	WB-Cedar	2,670
OSU	Endurance	2,620
Syngenta	Greer	2,570
OGI	Iba	2,470
OGI	Ruby Lee	2,450
Syngenta	Razor	2,420
Syngenta	Jackpot	2,380
OGI	Pete	2,350
WestBred	WB-Redhawk	2,290
OGI	Garrison	2,270
LCS	T158	2,260
WestBred	Armour	2,190
LCS	T153	2,180
KWA	Jagger	2,080
OSU	Deliver	1,990
Experimentals		
	OK08328	2,360
<hr/>		
	Average	2,470
	LSD	440

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

Table 4. Occurrence of first hollow stem (day of year) for winter wheat varieties sown in 2012 and measured in 2013 at Stillwater and Chickasha, OK.

Source	Variety	Stillwater	Chickasha
		----day of year----	
WestBred	WB-Duece CL+	54	-
KWA	Everest	56	47
WestBred	WB4458	58	-
Syngenta	Razor	62	52
OGI	Ruby Lee	62	67
OGI	Garrison	64	70
Syngenta	Jackpot	64	65
LCS	T153	64	62
LCS	T154	64	62
WestBred	WB-Redhawk	64	62
WestBred	Armour	68	65
KWA	Jagger	68	55
OGI	Billings	70	-
OGI	OK Rising	70	-
WestBred	WB-Cedar	70	67
WestBred	Winterhawk	70	-
CWRF	Byrd	72	-
OSU	Deliver	72	72
OGI	Duster	72	72
OGI	Gallgher	72	49
OGI	OK Bullet	72	-
Syngenta	Greer	75	59
LCS	LCH08 - 109	75	-
OGI	Pete	75	77
LCS	T158	75	77
WestBred	WB-Grainfield	75	-
OGI	Centerfield	77	-
OSU	Doublestop CL Plus	77	-
LCS	T173	77	-
AGSECO	TAM 113	77	-
CWRF	Brawl CL+	80	-
Syngenta	CJ	80	70
OSU	Endurance	80	77
OGI	Iba	80	70
LCS	LCS Mint	80	-
LCS	LCH08-80	84	-
Experimentals			
	OK09634	72	-
	OK09935C	75	-
	OK09528	77	-
	OK09729	77	-
	OK08328	80	77
	OK09125	80	-
<hr/>			
	Average	72	65