<u>Wheat Variety Performance</u>
Tests in Tennessee

2016

Dennis West, Professor, Plant Science Department

David Kincer, Research Associate, Plant Science Department

Ryan Blair, Extension Area Grains & Cotton Specialist

Tyson Raper, Assistant Professor, UT Extension cotton and Wheat Specialist

Garret Montgomery, Graduate Research Assistant, Plant Science Department

Agronomic Crop Variety Testing and Demonstrations
Department of Plant Sciences
University of Tennessee
Knoxville

Telephone: (865)974-8821
FAX: (865)974-1947
email: dwest3@utk.edu

Variety test results are posted on UT's website at:

http://varietytrials.tennessee.edu

and

UTCrops.com

Acknowledgments

This research was funded by the Tennessee Agricultural Experiment Station and UT Extension with partial funding from participating companies.

We gratefully acknowledge the assistance of the following individuals in conducting these experiments:

Research and Education Centers:

East Tennessee Research and Education Center, Knoxville
Robert Simpson, Center Director
BJ DeLozier, Farm Manager, Plant Sciences Unit
Derick Hopkins, Agricultural Service Supervisor

Plateau Research & Education Center, Crossville
Walt Hitch, Center Director
Greg Blaylock, Light Farm Equipment Operator
Sam Simmons, Light Farm Equipment Operator

Highland Rim Research and Education Center, Springfield
Barry Sims, Center Director
Brad S. Fisher, Research Associate

Middle Tennessee Research and Education Center, Spring Hill
Kevin Thompson, Center Director
Joe David Plunk, Research Associate

Research and Education Center at Milan, Milan
Blake Brown, Center Director
Jason Williams, Research Associate
James McClure, Research Associate
Chris Bridges, Research Associate

West Tennessee Research and Education Center, Jackson
Robert Hayes, Center Director
Randi Dunagan, Research Associate

Agricenter International, Memphis
Bruce Kirksey, Director

County Standard Wheat Test:

Coordinator:
Ryan Blair, Extension Area Specialist, Grain Crops

Benton County
Justin Hargrove, Extension Agent
Jack Garland Farm

Dyer County
Tim Campbell, Extension Director
Alan/Keith Sims Farm

Fayette County
Jeff Via, Extension Agent
Ames Plantation

Franklin County
Ed Burns, Extension Agent
Myron/David Denton Farm

Gibson County
Philip Shelby, Extension Director
Andrew Steele Farm

Hardeman County
Lindsey Griffin, Extension Agent
Rob Pinner Farm

Henderson County
Ron Blair, Extension Director
Billy Hatchett Farm

Henry County
Ranson Goodman, Extension Agent
Edwin & Brenda Ables Farm

Lake County
Greg Allen, Extension Director
Jon Dickey Farm

Madison County
Jake Mallard, Extension Agent
Matt Griggs Farm

Moore County
Larry Moorehead, Extension Director
Jerry Ray Farm

Weakley County
Jeff Lannom, Extension Director
Gary Hall Farm

Table of Contents

page

General Information……... 5

Interpretation of Data…… 6

Wheat Tests Results..... 6

Location information from Research & Education Centers (REC) where the Wheat Variety Tests were Conducted in 2015-2016…… 7

Research and Education Center Wheat Performance Data 2016……..…… 8

County Standard (CST) Wheat Performance Data 2016..... 14

Combined REC & CST Wheat Performance Data 2016..... 15

Two year Research & Education Center Wheat Performance Data 2015 - 2016…….. 16

Three year Research & Education Center Wheat Performance Data 2014 - 2016……..….. 18

Seed Company Contact Information……...22

General Information

Research and Education Center Tests: The 2015-16 variety performance tests were conducted on 78 soft, red winter wheat varieties in each of the physiographic regions of the state. Tests were conducted at the East TN (Knoxville), Plateau (Crossville), Highland Rim (Springfield), Milan (Milan), and West TN (Jackson) Research and Education Centers (REC).

All varieties were seeded at rates of 35 seed per square foot (1.5 million seed per acre) (Table 1). Plots were seeded with drills using 7–7.5 inch row spacing. The plot size was six, seven, nine or ten rows, 20 to 25 feet in length depending on location equipment. Plots were replicated three times at each location. Seed of all varieties were treated with a fungicide.
County Standard Tests: The County Standard Wheat Test was conducted on 22 soft red winter wheat varieties across twelve counties in Middle and West Tennessee (Benton, Dyer, Fayette, Franklin, Gibson, Hardeman, Henderson, Henry, Lake, Madison, Moore, and Weakley). Each variety was evaluated in a large strip-plot at each location, thus each county test was considered as one replication of the test in calculating the overall average yield and in conducting the statistical analysis to determine significant differences. At each location, plots were planted, sprayed, fertilized, and harvested with the equipment used by the cooperating producer in their farming operation. The width and length of strip-plots were different in each county; however, within a location in a county, the strips were trimmed so that the lengths were the same for each variety, or if the lengths were different then the harvested length was measured for each variety and appropriate harvested area adjustments were made to determine the yield per acre.

Wheat Silage Tests: In order to evaluate the 2016 wheat varieties for silage yield, a duplicate test with a different randomization was planted at the Middle Tennessee Research and Education Center. These data will be presented in the UT Extension Silage Tests publication later this year.

Growing Season: Planting of the winter wheat crop proceeded in a timely manner in 2015. Warmer than normal temperatures in November and December led to excellent growth during the early winter period. In the spring, wheat developed a few days ahead of last year due to favorable climatic conditions.

According to the Tennessee Agricultural Statistics Service (TASS), the crop rated mostly good (50%) to excellent (30%) condition by early June. Estimated State yield average is 71 bu/a in 2016. Tennessee producers planted approximately 440,000 acres of wheat in the fall of 2015. Approximately 390,000 acres are estimated to be harvested for grain. According to TASS, the total wheat production in Tennessee for 2016 is projected to be 27.7 million bushels, a decrease of five percent from 2015 production.

Interpretation of Data

The tables on the following pages have been prepared with the entries listed in order of performance, the highest-yielding entry being listed first. All yields presented have been adjusted to 13.5% moisture. At the bottom of the tables, **LSD** values stand for **Least Significant Difference**. The mean yields of any two varieties being compared must differ by at least the LSD amount shown to be considered different in yielding ability at the 5% level of probability of significance. For example, given that the LSD for a test is 8.0 bu/a and the mean yield of Variety A was 50 bu/a and the mean yield of Variety B was 55 bu/a, then the two varieties are not statistically different in yield because the difference of 5 bu/a is less than the minimum of 8 bu/a required for them to be significant. Similarly, if the average yield of Variety C was 63 bu/a then it is significantly higher yielding than both Variety B (63 - 55 = 8 bu/a = LSD of 8) and Variety A (63 - 50 = 13 bu/a > LSD of 8).

The **coefficient of variation (C.V.)** values are shown at the bottom of each table. This value is a measure of the error variability found within each experiment. It is the percentage that the square root of error mean square is of the overall test mean yield at that location. For example, a C.V. of 10% indicates that the size of the error variation is about 10% of the size of the test mean. Similarly, a C.V. of 30% indicates that the size of the error variation is nearly one-third as large as the test mean. A goal in conducting each yield test is to keep the C.V. as low as possible, preferably below 20%.

----------Wheat----------

Results Summary

Yield and Agronomic Traits: During 2016, 78 wheat varieties were evaluated in five Research and Education Center (REC) tests, and 21 varieties were evaluated in 12 county standard tests (CST). Nineteen varieties in the CST were also present in the REC tests (Table 6). Fourteen companies and four universities entered varieties into the tests this year. The average yield of the 78 varieties in the 2016 REC tests was 78 bu/a (range from 50 to 98 bu/a, Table 2). The varieties ranged in heading date from 111 to 119 days after January 1 (Julian date) with most of the varieties clustering around 117 days (Table 3). The average yield of the 22 varieties in the county tests was 85 bu/a, with individual varieties ranging from 92.5 to 72 bu/a (Table 5). The test weight values ranged from 55.8 to 60.5 lbs/bu in the REC tests (Table 3) and 54.9 to 60.3 lbs/bu in the CST (Table 5).

Table 1. Location information from research and education centers where the wheat variety tests were conducted in 2016.

Research and Education Center	Location	Planting Date	Harvest Date	Seeding Rate		Soil Type
Knoxville	Knoxville	10/21/2015	6/15/2016	35/ft^2	1.5 mill./ac	Huntington Silt Loam
Highland Rim	Springfield	10/30/2015	6/17/2016	35/ft^2	1.5 mill./ac	Dickson Silt Loam
West Tennessee	Jackson	10/19/2015	6/8/2016	35/ft^2	1.5 mill./ac	Dexter Silt Loam
Milan	Milan	11/9/2015	6/9/2016	35/ft^2	1.5 mill./ac	Loring Silt Loam
Plateau	Crossville	10/21/2015	6/18/2016	35/ft^2	1.5 mill./ac	Lily Loam

Table 2. Mean yields† of 78 soft red winter wheat varieties evaluated at five locations in Tennessee during 2016							
		Avg. Yield	Knoxville	Crossville	Springfield	Jackson	Milan
Brand	Variety	(n=5)‡					
		----------bu/a----------					
Univ. of Ark.	AR01040-4-1	93	120	57	92	93	102
USG	3197	89	111	50	86	87	110
USG	3895	88	99	63	85	90	103
Pioneer	26R41	88	109	66	72	85	107
Croplan by Winfield	9101	87	114	53	76	90	101
USG	EXP 3536	85	112	51	87	76	99
Warren Seed	325	85	98	56	72	95	106
Armor	Rumble	85	103	51	76	95	102
Pioneer	XW13W	85	96	48	71	114	103
Warren Seed	120	84	98	60	72	86	106
Stratton	2059	84	117	47	77	78	103
USG	3201	84	102	54	76	92	98
Steyer	STex155	84	117	44	76	83	101
Dyna-gro	9772	84	100	61	71	84	105
Pioneer	26R10	84	96	59	74	94	97
TN Exp.	TN 1501	84	104	55	80	85	93
Univ. of Ark.	AGS 2055	83	96	56	87	81	96
USG	EXP 3959	83	107	47	69	88	104
Pioneer	26R59	82	83	56	75	92	109
Dyna-gro	9642	82	104	46	83	76	100
USG	3013	82	96	59	64	83	109
Progeny	PGX15-10	82	110	52	76	79	93
Va Tech	Hilliard	82	102	44	83	64	110
Stratton	2058	82	102	46	79	88	93
Croplan by Winfield	SRW 15-03=SR5206	81	90	52	75	82	107
Syngenta	SY Viper	81	84	59	75	88	101
Progeny	PGX15-14	81	104	45	73	80	104
Syngenta	SY Harrison	81	87	50	66	96	106
Armor	Inferno	81	111	39	65	88	102
TN Exp.	TN 1604	81	87	57	73	92	94

(continued)

Table 2. Mean yields† of 78 soft red winter wheat varieties evaluated at five locations in Tennessee during 2016.

Brand	Variety	Avg. Yield (n=5)‡	Knoxville	Crossville	Springfield	Jackson	Milan
		---bu/a---					
USG	3404	81	92	47	70	84	110
Dyna-gro	9591	80	91	53	73	85	98
Cache River Valley	DXEX 15-1	80	95	53	63	86	90
Pioneer	26R53	80	105	45	61	87	101
USG	3251	79	99	47	59	84	108
Croplan by Winfield	9203	79	96	45	68	81	106
Univ. of Ga	GA051102-13LE43	79	80	55	73	84	105
Cache River Valley	DXEX 16-1	79	106	48	73	66	101
Becks	123	79	102	48	61	82	100
Progeny	PGX15-12	79	108	51	70	69	94
Warren Seed	315	78	103	48	64	77	100
Cache River Valley	DXEX 16-2	78	88	47	69	84	103
USG	3438	78	86	52	70	89	93
Cache River Valley	DXEX 16-3	78	88	55	75	87	84
TN Exp.	TN 1502	78	94	51	71	79	93
Univ. of Ga	GA061349-13LE31	77	89	54	71	74	100
Univ. of Ga	GA061349-13LE29	77	91	45	83	55	103
Tennessee Farmers Coop	2407	77	94	45	56	86	102
USG	EXP 3037	77	96	48	68	75	102
Progeny	PGX15-16	77	110	50	63	73	94
Stratton	2056	77	89	42	58	89	105
DeltaGrow	3200	77	105	45	73	61	98
Cache River Valley	Xtreme	76	78	51	63	88	100
Va Tech	VA12W-72	76	91	49	74	73	92
Dyna-gro	9522	75	90	47	57	76	104
Cache River Valley	McCalister	75	102	42	61	73	96
Progeny	870	74	100	41	58	70	103
Croplan by Winfield	SRW 9415	74	92	46	58	78	96
DeltaGrow	2700	74	88	50	61	62	104
USG	EXP 3017	74	82	54	67	75	93

(continued)

Table 2. Mean yields† of 78 soft red winter wheat varieties evaluated at five locations in Tennessee during 2016.

Brand	Variety	Avg. Yield (n=5)‡	Knoxville	Crossville	Springfield	Jackson	Milan
		----------bu/a----------					
Warren Seed	130	74	86	46	59	84	95
Pioneer	25R32	74	87	50	55	77	100
Armor	ARW1513	74	68	54	56	93	97
Dyna-gro	9223	73	71	54	48	82	112
Progeny	243	73	101	42	59	63	101
TN Exp.	TN 1603	72	82	50	64	75	91
TN Exp.	TN 1102	72	79	55	72	74	82
Progeny	357	72	86	51	58	65	101
USG	EXP 3688	72	68	46	81	71	92
Armor	ARW1551	72	83	44	65	85	82
TN Exp.	TN 1503	71	90	50	62	77	79
Becks	114	71	91	42	72	77	74
Croplan by Winfield	SRW 9434	70	86	36	51	80	95
TN Exp.	TN 1602	69	73	51	62	74	86
Steyer	STex141	67	70	52	49	68	97
Becks	128	66	70	43	51	76	91
TN Exp.	TN 1601	66	89	44	51	65	78
Dyna-gro	9692	65	64	53	46	63	99
Average (bu/a)		**78**	**94**	**50**	**68**	**81**	**98**
L.S.D.$_{.05}$ (bu/a)		**7**	**16**	**11**	**17**	**20**	**13**
C.V. (%)		**14.0**	**10.0**	**14.0**	**15.0**	**15.0**	**8.0**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ Planting date

Table 3. Mean yields† and agronomic characteristics of 78 soft red winter wheat varieties evaluated at five locations in Tennessee during 2016.

Brand	Variety	Avg. Yield (n=5)‡	Test Weight# (n=3)	Heading Date (n=5)	Height (n=5)	Stripe Rust* (n=4)
		bu/a	lbs/bu	julian	in.	1 to 9
Univ. of Ark.	AR01040-4-1	93	58.5	116	37	1.3
USG	3197	89	55.9	114	36	1.1
USG	3895	88	58.8	116	32	1.1
Pioneer	26R41	88	59.1	117	31	1.2
Croplan by Winfield	9101	87	58.2	114	34	2.2
USG	EXP 3536	85	56.6	118	37	1.1
Warren Seed	McKenna 325	85	57.5	116	33	1.3
Armor	Rumble	85	57.5	116	36	1.1
Pioneer	XW13W	85	59.0	117	34	1.1
Warren Seed	McKay 120	84	58.2	118	34	1.2
Stratton	2059	84	57.7	114	33	1.0
USG	3201	84	58.5	116	33	1.4
Steyer	STex155	84	59.3	116	32	1.1
Dyna-gro	9772	84	55.8	114	37	1.8
Pioneer	26R10	84	57.8	118	32	1.0
TN Exp.	TN 1501	84	57.7	111	33	2.2
Univ. of Ark.	AGS 2055	83	58.4	112	38	1.7
USG	EXP 3959	83	59.1	116	33	1.1
Pioneer	26R59	82	59.2	116	30	1.1
Dyna-gro	9642	82	58.5	118	33	1.0
USG	3013	82	56.9	117	35	1.0
Progeny	PGX15-10	82	57.8	116	35	1.1
Va Tech	Hilliard	82	59.8	114	35	1.0
Stratton	2058	82	59.5	115	30	1.0
Croplan by Winfield	SRW 15-03=SR5206	81	57.5	116	32	1.1
Syngenta	SY Viper	81	58.6	112	37	1.0
Progeny	PGX15-14	81	56.6	116	32	1.0
Syngenta	SY Harrison	81	56.7	116	32	1.2
Armor	Inferno	81	57.5	118	33	1.0
TN Exp.	TN 1604	81	57.4	117	34	1.1

(continued)

Table 3. Mean yields† and agronomic characteristics of 78 soft red winter wheat varieties evaluated at five locations in Tennessee during 2016

Brand	Variety	Avg. Yield (n=5)‡	Test Weight# (n=3)	Heading date (n=5)	Height (n=5)	Stripe Rust* (n=4)
		bu/a	lbs/bu	julian	in.	1 to 9
USG	3404	81	56.8	118	34	1.0
Dyna-gro	9591	80	58.0	114	35	1.1
Cache River Valley	DXEX 15-1	80	58.2	119	33	1.4
Pioneer	26R53	80	59.8	117	31	1.0
USG	3251	79	58.1	118	35	1.1
Croplan by Winfield	9203	79	59.1	118	35	1.3
Univ. of Ga	GA051102-13LE43	79	59.9	113	35	1.3
Cache River Valley	DXEX 16-1	79	58.5	117	35	1.0
Becks	123	79	59.3	114	36	2.2
Progeny	PGX15-12	79	57.6	113	33	1.0
Warren Seed	315	78	57.2	115	31	1.1
Cache River Valley	DXEX 16-2	78	57.6	115	32	1.0
USG	3438	78	57.1	115	32	1.2
Cache River Valley	DXEX 16-3	78	60.5	113	37	1.4
TN Exp.	TN 1502	78	58.9	112	35	3.2
Univ. of Ga	GA061349-13LE31	77	59.8	114	33	1.7
Univ. of Ga	GA061349-13LE29	77	58.9	114	33	1.2
Tennessee Farmers Coop	2407	77	58.0	119	32	0.9
USG	EXP 3037	77	58.8	115	37	2.0
Progeny	PGX15-16	77	59.7	115	32	1.0
Stratton	2056	77	57.3	115	31	1.3
DeltaGrow	3200	77	55.7	115	31	1.7
Cache River Valley	Xtreme	76	57.9	117	35	1.1
Va Tech	VA12W-72	76	59.3	112	34	1.2
Dyna-gro	9522	75	56.9	118	34	1.3
Cache River Valley	McCalister	75	55.9	116	31	1.1
Progeny	870	74	57.4	116	32	1.6
Croplan by Winfield	SRW 9415	74	58.6	119	32	1.8
DeltaGrow	2700	74	56.8	118	33	1.0
USG	EXP 3017	74	59.9	115	34	1.1

(continued)

Table 3. Mean yields† and agronomic characteristics of 78 soft red winter wheat varieties evaluated at five locations in Tennessee during 2016

Brand	Variety	Avg. Yield (n=5)‡	Test Weight# (n=3)	Heading date (n=5)	Height (n=5)	Stripe Rust* (n=4)
		bu/a	lbs/bu	julian	in.	1 to 9
Warren Seed	McKay 130	74	59.1	116	36	2.7
Pioneer	25R32	74	59.7	118	34	1.0
Armor	ARW1513	74	57.5	118	32	2.8
Dyna-gro	9223	73	56.8	117	36	2.1
Progeny	243	73	59.9	115	36	2.1
TN Exp.	TN 1603	72	56.9	114	34	3.3
TN Exp.	TN 1102	72	56.7	112	36	4.4
Progeny	357	72	56.7	118	34	1.9
USG	EXP 3688	72	59.6	112	34	1.4
Armor	ARW1551	72	60.3	115	32	1.0
TN Exp.	TN 1503	71	58.0	114	32	4.7
Becks	114	71	58.9	117	35	2.4
Croplan by Winfield	SRW 9434	70	58.8	119	34	1.6
TN Exp.	TN 1602	69	58.3	112	34	4.3
Steyer	STex141	67	58.3	119	32	2.8
Becks	128	66	.	118	34	3.2
TN Exp.	TN 1601	66	58.4	115	36	4.8
Dyna-gro	9692	65	58.1	118	34	3.0
	Average	**78**	**58.0**	**117.0**	**34**	**2.0**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

Official test weight of No. 2 wheat = 58 lbs/bu.

Heading date = Days from Jan 1 to heading.

* Stripe rust rating: 1 = no disease, 9 = all leaves dead

Table 4. Yields† of 22 soft red winter wheat varieties evaluated in 12 County Standard Test in Tennessee during 2016.

MS	Brand/Variety	Avg. Yield‡	Moisture	Test Weight#	Benton	Dyer	Fayette	Franklin	Gibson	Hardeman	Henderso	Henry	Lake	Madison	Moore	Weakley
		bu/a	%	lbs/bu	**10/16/15**	*11/10/15*	*11/9/15*	*10/22/15*	*10/30/15*	*11/10/15*	*10/14/15*	*10/23/15*	*11/03/15*	*11/04/15*	**11/02/15**	**10/19/15**
A	Beck's 120	92.5	12.5	59.3	71.1	109.4	106.7	85.5	123.9	94.8	102.5	54.1	70.8	122.9	104	64.6
AB	USG 3895 (N)	89.7	12.7	59.5	62.7	99.6	89.0	78.2	104.1	89.3	111.6	66.4	79.4	128.3	102	65.9
ABC	Beck's 125	88.9	12.8	60.0	70.2	100.6	68.2	83.0	123.5	79.4	113.1	64.7	73.8	126.0	112	51.9
ABCD	**Warren Seed McKenna 315	88.6	12.4	59.0	80.0	97.6	87.5	83.7	115.7	92.2	103.8	61.3	68.3	109.8	93	70.1
ABCD	*Dyna-Gro 9522	88.3	12.7	59.4	64.1	112.3	91.9	76.4	117.9	89.1	89.0	66.3	66.0	125.6	102	59.1
ABCD	Progeny P243 (N)	88.1	12.8	60.0	76.7	91.4	90.0	84.8	115.0	87.7	102.6	61.6	61.6	121.2	83	80.9
ABCDE	*USG 3404	87.4	12.8	58.2	79.4	105.7	85.5	74.8	114.6	81.0	94.7	69.0	69.7	121.9	94	58.9
ABCDE	*Warren Seed Mckay 120	86.9	12.9	57.4	74.3	100.1	92.3	79.7	106.4	79.7	99.5	61.4	69.0	123.7	97	59.5
ABCDE	***Dyna-Gro 9223	86.5	12.8	57.4	68.8	100.3	72.4	71.1	117.9	91.4	103.8	64.3	60.0	131.0	102	54.6
ABCDE	Progeny P870	86.4	12.3	58.7	76.7	97.5	94.4	59.9	107.7	90.3	99.1	55.5	66.8	127.8	97	63.8
BCDE	Warren Seed McKenna 325	85.7	12.2	58.9	45.0	93.5	87.8	69.7	107.6	87.5	109.6	67.5	61.4	128.5	110	60.2
BCDE	Dyna-Gro 9591	85.0	12.8	61.4	83.3	98.0	70.0	79.1	110.5	90.8	83.6	59.2	76.8	123.6	93	52.3
BCDEF	Armor Havoc	85.0	12.9	60.0	63.0	92.9	86.6	79.2	114.8	93.7	99.4	58.6	61.7	115.6	97	57.7
BCDEF	USG 3013	85.0	13.1	57.6	65.2	101.0	72.2	72.6	114.1	79.6	101.9	64.3	64.3	129.2	97	58.6
BCDEF	Winfield 9415	84.8	12.7	60.0	67.9	95.9	100.2	59.5	116.5	72.2	92.8	64.1	66.0	122.7	101	59.3
CDEF	Armor Inferno	82.6	13.1	60.2	62.7	92.1	92.5	63.6	114.4	73.9	103.0	65.9	63.6	113.3	91	55.4
DEF	Winfield 9203	82.3	13.4	58.8	70.9	102.4	37.2	66.5	117.4	84.5	104.8	60.2	64.9	116.7	99	63.1
DEF	Progeny P357	82.1	12.7	57.5	53.4	101.7	87.1	66.2	110.6	68.8	99.2	60.9	55.5	122.1	105	55.2
EF	Winfield 9434	81.5	13.5	58.4	65.1	102.4	49.6	54.2	110.7	101.9	97.9	54.6	70.6	124.9	84	62.5
EF	Armor Rumble	81.5	12.8	60.3	61.3	98.6	69.1	72.9	105.1	86.2	85.4	61.5	67.3	118.4	95	57.5
F	Dyna-Gro 9692 (N)	78.5	12.7	54.9	61.7	102.0	66.9	60.2	103.4	82.9	94.7	51.4	59.9	99.7	99	60.5
G	Warren Seed Mckay 130 (N)	72.0	13.2	58.4	39.1	81.6	61.3	67.2	91.0	69.8	88.4	52.9	70.5	98.0	86	57.9
	Average	**85.0**	**12.8**	**58.9**	**66.5**	**98.9**	**79.9**	**72.2**	**111.9**	**84.8**	**99.1**	**61.2**	**66.7**	**120.5**	**97.4**	**60.4**

Yields have been adjusted to 13.5% moisture. Each variety was evaluated in a large strip-plot at each location, thus each county test was considered as one replication of the test in calculating the average yield and in conducting the statistical analysis to determine significant differences (MS)

MS=Varieties that have any MS letter in common are not statistically different in yield at the 5% level of probability.

Varieties denoted with an asterisk (*), (**), or (***) were in the top performing group in 2016 and 2015, 2016- 2014, or 2016-2013, respectively.

Official test weight of No. 2 wheat=58 lbs/bu. TWT = Avg. Test Wt. lbs./bu @ 9 locations.

(N) denotes this variety is new to the the UT CST test

County locations include: Benton, Dyer, Fayette, Franklin, Gibson, Hardeman, Henderson, Henry, Lake, Madison, Moore, and Weakley.

Table 5. Average yields† and test weights of 19 soft red winter wheat varieties that were in common to both the County Standard (CST) Tests (n=12) and the Research and Education Center (REC) Tests (n=5) in Tennessee during 2016.

		Average of CST & REC Tests		County Standard Tests		REC Tests	
Brand	**Variety**	**Avg. Yield**	**Test Weight‡**	**Avg. Yield**	**Test Weight**	**Avg. Yield**	**Test Weight**
		bu/a	lbs/bu	bu/a	lbs/bu	bu/a	lbs/bu
USG	3895 (N)	89	59.1	90	59.5	88	58.7
Warren Seed	McKenna 315	74	57.9	89	59.0	78	56.8
Dyna-Gro	9522	82	57.5	88	59.4	75	55.9
Progeny	P243 (N)	80	59.8	88	60.0	73	59.6
USG	3404	84	58.1	87	58.2	81	55.9
Warren Seed	McKay 120	86	57.6	87	57.4	84	57.8
Dyna-Gro	9223	80	56.5	86	57.4	73	55.7
Progeny	P870	80	57.7	86	58.7	74	56.7
Warren Seed	McKenna 325	86	58.0	86	58.9	85	57.0
Dyna-Gro	9591	83	59.4	85	61.4	80	57.2
USG	3013	84	56.7	85	57.6	82	55.8
Winfield	9415	80	59.2	85	60.0	74	58.3
Armor	Inferno	82	58.4	83	60.2	81	56.5
Winfield	9203	81	58.9	82	58.8	79	58.9
Progeny	P357	77	56.8	82	57.5	72	56.1
Winfield	9434	76	58.4	82	58.4	70	58.4
Armor	Rumble	84	58.5	82	60.3	85	56.6
Dyna-Gro	9692	72	56.6	79	54.9	65	58.2
Warren Seed	McKay 130 (N)	73	58.6	72	58.4	74	58.8
Average		**81**	**58.1**	**84**	**58.7**	**78**	**57.3**

† All yields are adjusted to 13.5% moisture.

‡ Official test weight of No. 2 wheat = 58 lbs/bu.

Table 6. Mean yields† of 39 soft red winter wheat varieties evaluated at five locations (n=10) in Tennessee for two years, 2015 and 2016.

Brand	Variety	Avg. Yield (n=10)‡	Knoxville	Springfield	Milan	Crossville	Jackson
			----------bu/a----------				
USG	3895	78	89	83	88	55	72
Univ of Arkansas	AR01040-4-1	78	94	80	86	53	75
Warren Seed	McKenna 325	78	75	74	100	67	72
Pioneer	XW13W	77	89	75	92	44	87
Croplan by Winfield	9101	76	97	71	90	47	75
USG	3013	75	90	69	92	55	68
Pioneer	26R59	74	86	79	91	43	73
Warren Seed	McKay 120	74	90	67	88	50	77
Pioneer	26R10	74	91	71	87	47	75
USG	3404	74	84	71	98	47	70
Pioneer	26R41	74	89	67	90	50	71
Virginia Tech Univ	Hilliard	74	86	77	92	48	62
Univ of Tennessee	TN 1501	73	89	76	84	52	64
Dyna-Gro	9642	73	88	77	87	46	65
Sygenta	Sy Harrison	73	81	73	88	49	71
USG	3251	72	90	68	88	48	68
Univ of Arkansas	AGS 2055	72	82	81	84	48	67
Stratton Seed	2058	72	90	74	81	42	73
Croplan by Winfield	9203	72	89	71	85	45	70
Cache River Valley	DXEX 15-1	72	89	67	81	48	75
Cache River Valley	Xtreme	72	80	71	88	47	75
USG	3438	72	85	72	81	50	71
Dyna-Gro	9591	72	85	71	87	44	71
Pioneer	26R53	71	90	62	91	41	70
Univ of Tennessee	TN 1502	71	82	73	82	50	66
Warren Seed	McKenna 315	70	90	63	85	47	65
DeltaGrow	2700	70	86	65	92	43	64
Croplan by Winfield	SRW 9415	70	83	64	88	43	71
Dyna-Gro	9522	70	85	69	88	37	70
Dyna-Gro	9223	70	74	60	92	46	76

(continued)

Table 6. Mean yields† of 39 soft red winter wheat varieties evaluated at five locations (n=10) in Tennessee for two years, 2015 and 2016.

Brand	Variety	Avg. Yield (n=10)‡	Knoxville	Springfield	Milan	Crossville	Jackson
			----------bu/a----------				
Tennessee Farmers Coop	**2407**	69	88	63	85	41	68
Progeny	**870**	69	85	64	88	44	64
Stratton Seed	**2056**	68	80	62	87	41	70
Cache River Valley	**McCalister**	68	90	62	83	41	64
Progeny	**357**	68	80	64	87	50	56
Univ of Tennessee	**TN 1102**	67	77	66	76	52	63
Univ of Tennessee	**TN 1503**	66	86	68	74	45	60
Croplan by Winfield	**SRW 9434**	66	80	60	83	36	71
Pioneer	**25R32**	64	75	54	86	43	64
Average (bu/a)		**72**	**86**	**69**	**87**	**47**	**70**
L.S.D.$_{.05}$ (bu/a)		**5**	**9**	**9**	**7**	**7**	**10**
C.V. (%)		**14.4**	**12.2**	**15.1**	**9.4**	**18.9**	**16.0**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

Table 7. Mean yields† and agronomic characteristics of 39 soft red winter wheat varieties evaluated at five locations (n=10) in Tennessee for two years, 2015 and 2016.

Brand	Variety	Avg. Yield (n=10)‡	Test Weight# (n=3)	Height (n=8)
		bu/a	lbs/bu	in.
USG	3895	78	59.0	32
Univ of Arkansas	AR01040-4-1	78	58.3	37
Warren Seed	McKenna 325	78	58.6	32
Pioneer	XW13W	77	60.2	34
Croplan by Winfield	9101	76	58.6	33
USG	3013	75	55.8	34
Pioneer	26R59	74	57.1	30
Warren Seed	McKay 120	74	59.0	33
Pioneer	26R10	74	58.6	31
USG	3404	74	58.4	33
Pioneer	26R41	74	58.9	31
Virginia Tech Univ	Hilliard	74	59.2	34
Univ of Tennessee	TN 1501	73	54.3	33
Dyna-Gro	9642	73	57.3	32
Sygenta	Sy Harrison	73	57.7	31
USG	3251	72	58.1	34
Univ of Arkansas	AGS 2055	72	58.0	35
Stratton Seed	2058	72	59.1	30
Croplan by Winfield	9203	72	58.7	34
Cache River Valley	DXEX 15-1	72	58.7	33
Cache River Valley	Xtreme	72	58.1	34
USG	3438	72	57.3	32
Dyna-Gro	9591	72	59.9	34
Pioneer	26R53	71	56.6	31
Univ of Tennessee	TN 1502	71	58.1	34
Warren Seed	McKenna 315	70	57.2	31
DeltaGrow	2700	70	59.2	32
Croplan by Winfield	SRW 9415	70	59.0	31
Dyna-Gro	9522	70	58.5	33
Dyna-Gro	9223	70	56.6	35

(continued)

Table 7. Mean yields† and agronomic characteristics of 39 soft red winter wheat varieties evaluated at five locations (n=10) in Tennessee for two years, 2015 and 2016.

Brand	Variety	Avg. Yield (n=10)‡	Test Weight# (n=3)	Height (n=10)
		bu/a	lbs/bu	in.
Tennessee Farmers Coop	**2407**	69	58.6	31
Progeny	**870**	69	57.5	31
Stratton Seed	**2056**	68	57.4	31
Cache River Valley	**McCalister**	68	57.2	31
Progeny	**357**	68	57.4	32
Univ of Tennessee	**TN 1102**	67	55.5	34
Univ of Tennessee	**TN 1503**	66	55.7	32
Croplan by Winfield	**SRW 9434**	66	56.8	34
Pioneer	**25R32**	64	59.5	32
	Average	**72**	**58**	**33.0**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

Table 8. Mean yields† of 21 soft red winter wheat varieties evaluated at five locations (n=15) in Tennessee for three years, 2014 - 2016.

Brand	Variety	Avg. Yield (n=15)‡	Knoxville	Spring Hill	Jackson	Milan	Crossville
		----------bu/a----------					
USG	**3404**	78	88	74	77	92	47
USG	**3013**	77	94	71	67	89	55
Croplan by Winfield	**9101**	77	95	72	75	84	47
Warren Seed	**McKenna 325**	76	75	76	67	93	67
Pioneer	**26R41**	75	87	69	76	83	50
Pioneer	**26R10**	74	88	72	74	82	47
USG	**3251**	74	91	67	72	84	48
Croplan by Winfield	**9203**	74	86	76	69	82	45
Syngenta	**SY Harrison**	74	80	75	72	84	49
USG	**3438**	74	86	72	73	79	50
Croplan by Winfield	**SRW9415**	73	85	69	72	83	43
Cache River Valley Seed	**Xtreme**	73	81	71	73	82	47
Tennessee Farmers Coop	**2407**	73	88	70	71	82	41
Pioneer	**26R53**	72	86	68	70	84	41
Cache River Valley Seed	**McCalister**	71	90	66	70	79	41
Dyna-Gro	**9223**	71	75	66	75	84	46
Progeny	**870**	71	83	67	70	81	44
Progeny	**357**	70	83	67	61	82	50
Pioneer	**25R32**	67	77	58	68	80	43
TN Exp.	**1102**	66	74	63	63	72	52
Croplan by Winfield	**SRW9434**	66	82	57	64	77	36
Average (bu/a)		**73**	**84**	**69**	**71**	**82**	**47**
L.S.D.$_{.05}$ (bu/a)		**5**	**9**	**10**	**12**	**8**	**9**
C.V. (%)		**14.0**	**11.3**	**14.1**	**16.9**	**9.4**	**19.5**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

Table 9. Mean yields† and agronomic characteristics of 21 soft red winter wheat varieties evaluated at five locations (n=15) for three years, 2014 - 2016.

Brand	Variety	Avg. Yield (n=15)‡	Test Weight (n=9)	Height (n=12)
		bu/a	lbs/bu	in.
USG	**3404**	78	57.4	33
USG	**3013**	77	55.3	34
Croplan by Winfield	**9101**	77	57.3	33
Warren Seed	**McKenna 325**	76	56.9	32
Pioneer	**26R41**	75	57.8	31
Pioneer	**26R10**	74	57.1	32
USG	**3251**	74	56.9	34
Croplan by Winfield	**9203**	74	57.7	34
Syngenta	**SY Harrison**	74	56.6	32
USG	**3438**	74	56.1	32
Croplan by Winfield	**SRW9415**	73	57.9	31
Cache River Valley Seed	**Xtreme**	73	56.6	34
Tennessee Farmers Coop	**2407**	73	57.3	32
Pioneer	**26R53**	72	56.1	31
Cache River Valley Seed	**McCalister**	71	55.8	31
Dyna-Gro	**9223**	71	55.8	34
Progeny	**870**	71	56.1	31
Progeny	**357**	70	55.9	32
Pioneer	**25R32**	67	58.0	33
TN Exp.	**1102**	66	54.8	34
Croplan by Winfield	**SRW9434**	66	55.9	33
	Average	**73**	**56.6**	**32**

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

Table 10. Contact information for wheat seed companies evaluated in yield tests in Tennessee during 2014-15.

Company	Contact	Phone	Email	Web site	Address
University of Arkansas	**Esten Mason**	479- 575-5725	esten@uark.edu		115 Plant Sciences Building, Fayetteville, AR 72701
Armor Seed	Lane Dill	901-233-0274	lanedill@armorseed.com	www.armorseed.com	P.O. Box 9, Waldenburg, AR 72475
Beck's Hybrids		800-937-2325		www.beckshybrids.com	6767 E. 276th St., Atlana, IN 46031
	Chris Forsythe	270-963-2596	chris.forsythe@beckshybrids.com		
	Michael Gooch	731-504-9575	michael.gooch@beckshybrids.com		
Cache River Valley Seed	Ted Holt	870-477-5427	tedh@crvseed.com	www.crvseed.com	P.O. Box 10, 12470 Hwy 226 E., Cash, AR 72421
Croplan by Winfield				www.winfield.com/Farmer/Croplan	10515 115th St. NW, Thief River Falls, MN 56701
	Keith Saum	731-610-7006	kdsaum@landolakes.com		
Delta Grow Seed	Lee Hughes	501-842-2572	leehughes19@hotmail.com	www.deltagrow.com	P O Box 219, England, AR 72046
Dyna-Gro	Todd Theobald	765-623-1382	todd.theobald@cpsagu.com		
	Jonathan Fant	731-819-6713			
University of Georgia	Jerry Johnson	770-228-7345	jjohnson@griffin.uga.edu		UGA, Griffin Campus 1109 Experiment St. Griffin, GA 30223
Pioneer Hi-Bred Int.	George Stabler	803-308-1003	george.stabler@pioneer.com	www.pioneer.com	59 Greif Parkway, Suite 200, Deleware, OH 43015
Progeny	Hillary Spain	870-208-6032		www.progenyag.com	1529 Hwy 193, Wynne, AR 72396
Steyer Seeds	Joe Steyer	800-231-4274	joesteyer@yahoo.com	www.steyerseeds.com	PO Box 209, Old Fort, OH 44861
Stratton Seed Company	Heath North	800-264-4433	hnorth@strattonseed.com	www.gostrattonseed.com	1530 Hwy 79, South Stuttgart AR 72160
Syngenta	Ryan Heiniger	252 814-5425	ryan.heiniger@syngenta.com	www4.syngenta.com/	3712 Columbia Ave NW, Wilson, NC 27896
	Mike Saxton	270-792-5885	mike.saxton@syngenta.com		
Tennessee Farmers Co-Op	Bryan Johnson	615-793-8506	bjohnson@ourcoop.com	www.ourcoop.com	180 Old Nashville Hwy, LaVergne, TN 37086
University of Tennessee	Dennis West	865-974-8826	dwest3@utk.edu		3421 Joe Johnson Dr, Knoxville, TN 37996-4561

(continued)

Table 10. Contact information for wheat seed companies evaluated in yield tests in Tennessee during 2014-15.

Company	Contact	Phone	Email	Web site	Address
Unisouth Genetics (USG)	David Fandrich	931-967-3377	fandrichsupply@aol.com	www.usgseed.com	Fandrich Supply Co, Belvidere, TN
	Mark Huffstetler	731-235-2167	huffy1@crunet.com		Huffstetler & Sons Seed Inc, Greenfield, TN
	Trey Hurt	731-836-7574	hurtco@bellsouth.net		Hurt Seed Co. Inc, Halls, TN
	Wes Miller	731-536-6251	wes@obiongrain.com		Obion Grain Co. Inc, Obion, TN
	Billy Sellers	731-538-2990			Sellers Seed, Obion, TN
	Stacy Burwick	615-504-1595	sburwick@usgseed.com		
Virginia Crop Improvement	Tom Hardiman	804-746-4884	rmarkham@vt.edu	www.virginiacrop.org	Virginia Crop Improvement Assoc. 9225 Atlee Branch Lane Mechanicsville, VA 23116
Warren Seed	Lanny Warren	731-234-2921	lanny.warren@charter.net		P.O. Box 10, Woodland Mills, TN 38721