

# Performance of Wheat and Barley Varieties in Tennessee

2007

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<http://varietytrials.tennessee.edu>

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## **General Information**

**Research and Education Center Tests:** The 2007 variety performance tests were conducted on 70 soft, red winter wheat varieties in each of the physiographic regions of the state. Tests were conducted at East TN (Knoxville), Plateau (Crossville), Highland Rim (Springfield), Middle TN (Spring Hill), Milan (Milan), and West TN (Jackson) Research and Education Centers.

All varieties were seeded at rates from 26 - 32 seed per square foot (Table 1). Plots were seeded with drills using 7–7.5 inch row spacings. The plot size was six, seven or ten rows, 28 to 30 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 20 soft red winter wheat varieties in nine locations across seven counties in West Tennessee (Dyer, Gibson, Lake, Madison, Moore, Obion and Weakley) and one county in western Kentucky (Ballard). 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 his 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 on the ends 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.

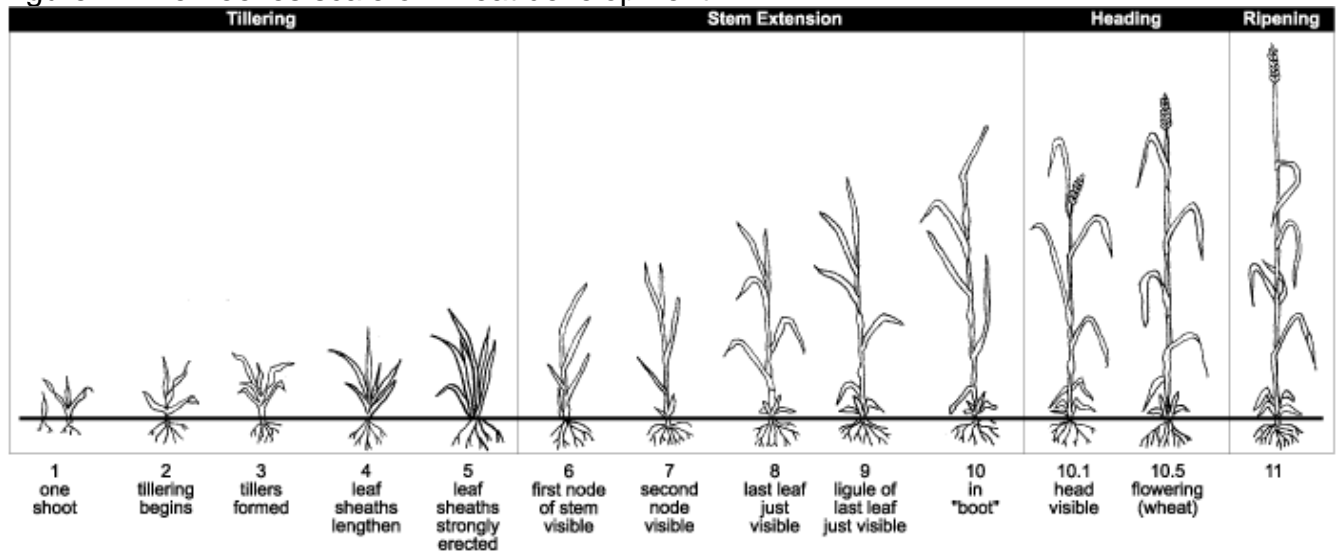
**Insecticide Seed Treatments:** In order to evaluate the effects of seed that had been treated with a systemic insecticide such as Gaucho or Cruiser versus seed that had not been treated, four varieties were evaluated in the Research and Education Center tests in 2007 (Delta King DK9577, FFR 8302, USG 3350, and USG 3342) with and without the systemic insecticide seed treatment.

**Growing Season:** The growing season began with fairly normal conditions during the fall planting season across much of the state. The winter temperatures were reasonably moderate with some freezing damage to the plants at some locations but overall the crop tolerated the winter in good shape and was rated good to excellent by late March. The temperatures were unseasonably warm during most of March. However, a very cold and uncharacteristic front passed through the State and region during April 6 – 9. The low temperature at all locations where tests were conducted ranged from 19 to 23 degrees F during that time period and remained at those lows for several hours. This cold front resulted in major freeze damage to the wheat crop and the variety tests all across Tennessee. For about two weeks post-freeze, the weather remained cold and wet which added additional stress to the crop. The earliest maturing varieties in the variety tests suffered the greatest amount of damage and loss of yield. There was considerable variation among varieties in how well they recovered and produced grain. Hot and very dry conditions prevailed during May and June. In spite of the uncharacteristic climatic conditions throughout the late growing season, some varieties made amazing recoveries and produced respectable yields. According to the Tennessee Agricultural Statistics Service (TASS), TN producers planted approximately 450,000 acres of wheat in the fall of 2006. As a result of the severe freeze in April, 150,000 acres were used as a cover crop

or was harvested as hay or silage. The remaining 300,000 acres harvested for grain are predicted to average 39 bu/a. This compares to 190,000 acres harvested for grain in 2006 at a State record yield of 64 bu/a. Thus the state average wheat yield per acre in 2007 is about 40% of what it was in 2006.

**Growth Stage Classification According to the Feekes Scale:** The Feekes Scale is a widely accepted system for classifying the stages of growth for small grains (Figure 1). The stages of growth of all varieties were scored according to the Feekes scale at three of the six REC locations and five of the county standard tests just prior to the freeze (April 5). There was a strong, significant negative correlation between the stage of growth just prior to the freeze and the final yield at the REC locations and the county locations. This illustrates that the varieties that were further along in development, such as the late boot stage or early- to mid-heading, were damaged the most by the freeze. Furthermore there was a large amount of variation among the locations in the amount of damage due to the freeze. The date of planting also had a major influence on the stage of growth of the varieties at the time of the freeze. However the location had more effect than the planting date. Locations that had very similar planting dates resulted in very different yield levels and the amount of yield loss due to the freeze.

Figure 1. The Feekes scale of wheat development.



source: <http://www.ca.uky.edu/agc/pubs/id/id125/02.htm>

### **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. The exceptions to this are tables 6, 7, 8, and 9 where the entries are listed in order of growth stage at the time of the April freeze. 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).

Also, 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

**CAUTION: DUE TO THE APRIL FREEZE DAMAGE, THE 2007 DATA ARE NOT RELIABLE FOR VARIETY COMPARISONS OR VARIETY SELECTION FOR PRODUCTION DURING A NORMAL GROWING SEASON.** The 2007 data are biased in favor of the later maturing varieties included in the tests. The 2007 data are valuable for documenting how the varieties included in the REC and CST tests recover and yield following a severe freeze during the beginning of the early reproductive stages of growth (~ 8.0 – 10.2 on Feekes Scale). There were considerable differences among varieties in how well they recovered and their resulting yields (Tables 6-9, 13).

For the above reasons, **this publication includes the more reliable 2006 yield and agronomic data.** In 2006, 84 varieties were evaluated across the State at four REC locations. Forty-eight of those 84 varieties were evaluated for two years (2005-2006). **Where possible, variety comparisons and variety selections for the 2007-2008 growing season for a producers operation should be based on the 2006 and 2005 data.**

**Yield and Agronomic Traits:** During 2007, 70 wheat varieties were evaluated in six research and education center (REC) tests, and 20 varieties were evaluated in nine county standard tests (CST). Nineteen of the varieties were common to both the REC and the county tests. Eleven companies and six universities entered varieties into the tests this year. The average yield of the 66 non-insecticide treated varieties in the 2007 REC tests was 32 bu/a (range from 22 to 46 bu/a, Table 2). The average yield of the four insecticide treated varieties in the REC tests was 30 bu/a with individual varieties ranging from 25 to 36 bu/a. The varieties ranged in maturity from 223 to 227 days after planting (DAP) with most of the varieties clustering around 225. The test weight values were lower than normal and ranged from 52.1 to 57.0 lbs/bu (Table 3).

**Cruiser or Gaucho Seed Treatments:** The effects of the insecticide seed treatments were inconsistent among varieties and REC locations. One of the four varieties that received the seed treatment (FFR 8302 Cruiser) averaged +4 bu/a across all locations, compared to untreated seed of the same variety. This response was statistically greater than the untreated check. The response of the other three variety comparisons, one of which showed a slightly negative yield response, was not statistically different from the untreated checks (Table 4). The range in response was from –8 to +14 bu/a at the different locations for these four varieties. The inconsistent responses are similar to results obtained in past years with systemic insecticide treated seed.

**Growth Stage at Freeze, Damage and Yield Data:** Data regarding the growth stage at the time of the April freeze and resulting damage and yield losses are presented in Tables 6, 7, 8, and 9. **Strong and significant negative correlations were found between the stage of development (Feekes scale) at the time of the freeze and the resulting yield across and within locations.** This means that the varieties that were furthest along in development (early boot to early- mid-heading) prior to the freeze were damaged the most by the freeze and resulted in lower yields than the later maturing varieties. In other words, the earlier maturing varieties suffered the greatest amount of damage and the more reduction in yield than the later maturing varieties in the test. **Thus the 2007 data are not reliable for making valid comparisons among varieties or choosing the best varieties to grow under normal growing conditions. The 2007 data are biased in favor of the late maturing varieties.**

The average yield of the 20 varieties in the county tests was 48.7 bu/a with individual varieties ranging from 39.9 to 56.2 bu/a. The test weight values ranged from 56.4 to 58.4 lbs/bu (Table 12). The growth stage at the time of the April freeze and resulting yields for five of the county test locations are presented in Table 13. **Strong and significant negative correlations were found between the stage of development (Feekes scale) at the time of the freeze and the resulting yield across locations.** However, at two individual locations (Weakley and Obion), the correlation was not statistically significant.

**Table 1. Location information from research and education centers where the wheat variety tests were conducted in 2007.**

<b>Research and Education Center</b>	<b>Location</b>	<b>Planting Date</b>	<b>Harvest Date</b>	<b>Seeding Rate</b>	<b>Soil Type</b>	<b>Low Temperatures 4/5/07 - 4/12/07</b>
Highland Rim	Springfield	11/14/2006	6/14/2007	28/ft <sup>2</sup>	Mountview Silt Loam	19° F
Knoxville	Knoxville	10/25/2006	6/22/2007	28/ft <sup>2</sup>	Sequoia Silty Clay Loam	23° F
Plateau	Crossville	10/31/2006	6/28/2007	28/ft <sup>2</sup>	Lilly Silt Loam	20° F
Milan	Milan	11/10/2006	6/12/2007	32/ft <sup>2</sup>	Grenada Silt Loam	19° F
Middle Tennessee	Spring Hill	11/10/2006	6/21/2007	26/ft <sup>2</sup>	Maury Silt Loam	19° F
West Tennessee	Jackson	10/24/2006	6/13/2007	28/ft <sup>2</sup>	Lexington Silt Loam	23° F



Table 2. Mean yields† of 70 soft red winter wheat varieties evaluated at six locations in Tennessee during 2007.

CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS

Brand	Variety	Avg. Yield	Knoxville	Crossville	Springfield	Spring	Jackson	Milan
		± Std Err. (n=6)‡	10/25/06 §	10/31/06	11/14/06	Hill 11/10/06	10/24/06	11/10/06
AgriPro Coker	M01-4377	46 ± 1	36	47	44	42	65	39
Excel	381	46 ± 1	37	49	41	37	71	39
TN Exp	TN 501	43 ± 1	21	52	41	38	63	42
Excel	423	43 ± 1	22	61	49	30	65	31
MO	Truman	42 ± 1	29	54	43	27	72	28
AgriPro Coker	Branson	41 ± 1	35	46	40	39	58	29
Excel	442	41 ± 1	37	34	37	27	73	37
Delta King	DK XTJ 724	41 ± 1	26	45	37	34	66	34
Excel	367	39 ± 1	23	54	36	31	62	30
VA	Roane	38 ± 1	38	45	37	20	62	28
MI	MSU 1007R	38 ± 1	24	41	41	39	56	28
Pioneer	26R15	38 ± 1	27	40	42	35	57	27
Delta King	DK XTJ 732	37 ± 1	21	40	36	34	58	34
Armor	5110	37 ± 1	32	43	38	30	56	25
Excel	343	37 ± 1	23	44	29	33	59	34
Progeny	166	36 ± 1	28	43	31	29	59	28
Vigoro	V9712 (WX6602)	36 ± 1	26	44	31	32	51	31
USG	3x633	36 ± 1	24	41	30	37	52	30
Progeny	185	35 ± 1	17	48	38	37	38	33
Delta Grow	5200	35 ± 1	32	41	30	22	57	28
Delta Grow	4100	35 ± 1	27	41	33	22	60	29
Cache River Valley Seed	Dixie 900	35 ± 1	27	46	32	25	55	25
Excel	173	35 ± 1	18	43	40	26	56	24
Delta King	DK XTJ 734	34 ± 1	19	44	33	30	48	32
Pioneer	26R22	34 ± 1	18	41	31	38	45	31
USG	3477	34 ± 1	23	39	33	31	52	27
VA Exp.	VA03W-235	34 ± 1	27	38	27	35	51	25
USG	3350	34 ± 1	24	41	30	28	54	26
Excel	357	34 ± 1	25	32	33	31	51	31
Armor	ARX 9901	34 ± 1	14	50	30	38	39	30
TN Exp	TN 601	32 ± 1	17	40	37	30	37	31
Vigoro	WX 9601	32 ± 1	9	47	34	39	38	25

(continued)

Table 2. (continued) Mean yields† of 70 soft red winter wheat varieties evaluated at six locations in Tennessee during 2007.

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Brand	Variety	Avg. Yield	Knoxville	Crossville	Springfield	Spring	Jackson	Milan
		± Std Err. (n=6)‡	10/25/06 §	10/31/06	11/14/06	Hill 11/10/06	10/24/06	11/10/06
Delta King	DK GR 9108	32 ± 1	20	43	32	27	39	30
TN Exp	TN 701	32 ± 1	9	42	44	32	32	31
USG	3910	31 ± 1	13	43	36	23	45	27
Vigoro	V9710	31 ± 1	20	38	24	27	46	33
MD	Chesapeake	31 ± 1	15	43	39	25	34	32
Vigoro	V9412	31 ± 1	14	38	34	33	38	31
Delta King	DK 7710	31 ± 1	27	36	24	27	45	27
Delta Grow	4500	31 ± 1	19	36	28	25	50	26
MO	Bess	31 ± 1	16	42	28	32	46	19
AgriPro Coker	Cooper	30 ± 1	13	36	36	20	49	27
FFR	8302	30 ± 1	12	47	28	33	42	19
VA Exp.	VA02W-555	30 ± 1	5	47	38	38	29	22
Delta King	DK XTJ 730	29 ± 1	6	36	36	32	41	27
Cache River Valley Seed	Dixie 989	29 ± 1	10	46	29	26	41	25
AgriPro Coker	Coker 9553	29 ± 1	15	45	32	33	27	23
Delta Grow	1600	29 ± 1	14	39	29	24	41	27
AgriPro Coker	Coker 9511	29 ± 1	5	42	41	31	24	29
Progeny	145	29 ± 1	15	35	26	29	41	25
FFR	556	29 ± 1	19	37	30	27	35	23
USG	3342	27 ± 1	4	52	26	27	27	27
GA Exp.	96693-4E16	27 ± 1	8	47	33	31	22	21
USG	3665	27 ± 1	8	39	29	24	39	23
Armor	260Z	27 ± 1	7	40	31	30	31	21
Armor	3015	26 ± 1	8	36	29	25	32	25
Vigoro	V9611	26 ± 1	2	39	27	38	25	23
USG	3295	25 ± 1	1	40	39	34	25	12
GA Exp.	951231-4E26	25 ± 1	9	48	29	26	22	15
VA	McCormick	25 ± 1	19	36	26	19	30	20
GA Exp.	951231-4E25	25 ± 1	11	40	33	32	17	13
USG	3209	24 ± 1	4	39	33	31	18	21
Pioneer	26R87 (XW04C)	24 ± 1	16	30	22	29	28	19

(continued)

Table 2. (continued) Mean yields† of 70 soft red winter wheat varieties evaluated at six locations in Tennessee during 2007.

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Brand	Variety	Avg. Yield ± Std Err. (n=6)‡	Knoxville 10/25/06 §	Crossville 10/31/06	Springfield 11/14/06	Spring	Jackson	Milan
						Hill 11/10/06	10/24/06	11/10/06
VA	Jamestown	23 ± 1	4	38	30	29	27	12
Delta King	DK 9577	22 ± 1	7	36	22	24	23	22
FFR	510	22 ± 1	6	40	21	25	22	21
<b>Average (bu/a)</b>		<b>32</b>	<b>18</b>	<b>42</b>	<b>33</b>	<b>30</b>	<b>44</b>	<b>27</b>
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>								
USG	3350 (Gaucho)	36 ± 1	26	44	29	31	61	27
FFR	8302 (Cruiser)	34 ± 1	26	51	32	32	40	21
USG	3342 (Gaucho)	26 ± 1	5	49	21	33	19	28
Delta King	DK 9577 (Cruiser)	25 ± 1	8	38	31	25	28	22
<b>Average (bu/a)</b>		<b>30</b>	<b>16</b>	<b>45</b>	<b>28</b>	<b>30</b>	<b>37</b>	<b>24</b>
<b>L.S.D.<sub>.05</sub> (bu/a)</b>		<b>3</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>11</b>	<b>9</b>	<b>5</b>
<b>C.V. (%)</b>		<b>16.2</b>	<b>24.5</b>	<b>11.7</b>	<b>17.4</b>	<b>22.7</b>	<b>12.3</b>	<b>12.6</b>

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

\* Tested in the same trial with untreated varieties

§ Planting date

**Table 3. Mean yields† and agronomic characteristics of 70 soft red winter wheat varieties evaluated at six locations in Tennessee during 2007.**

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Brand	Variety	Avg. Yield	Test				
		± Std Err. (n=6)‡	Moisture (n=6)	Weight# (n=3)	Maturity (n=5)	Height (n=6)	Lodging (n=2)
		bu/a	%	lbs/bu	DAP	in.	Score
AgriPro Coker	M01-4377	46 ± 1	13.7	56.7	223	28	1.7
Excel	381	46 ± 1	13.8	56.9	225	30	1.9
TN Exp	TN 501	43 ± 1	13.3	55.5	225	29	1.7
Excel	423	43 ± 1	13.2	54.3	224	29	2.1
MO	Truman	42 ± 1	13.8	55.3	225	31	2.1
AgriPro Coker	Branson	41 ± 1	13.3	53.3	224	26	2.3
Excel	442	41 ± 1	13.1	55.7	225	31	1.5
Delta King	DK XTJ 724	41 ± 1	13.6	56.1	224	28	1.6
Excel	367	39 ± 1	13.4	55.7	224	28	1.9
VA	Roane	38 ± 1	13.2	55.8	224	25	2.8
MI	MSU 1007R	38 ± 1	13.5	55.3	225	27	1.3
Pioneer	26R15	38 ± 1	12.8	52.1	225	27	1.0
Delta King	DK XTJ 732	37 ± 1	13.1	55.1	225	27	2.3
Armor	5110	37 ± 1	12.9	54.6	224	29	2.3
Excel	343	37 ± 1	12.9	54.7	224	28	1.0
Progeny	166	36 ± 1	13.1	55.1	224	30	2.3
Vigoro	V9712 (WX6602)	36 ± 1	13.1	55.1	224	25	1.6
USG	3x633	36 ± 1	12.7	55.1	224	27	1.0
Progeny	185	35 ± 1	13.1	54.6	226	25	1.0
Delta Grow	5200	35 ± 1	12.8	55.4	223	28	2.0
Delta Grow	4100	35 ± 1	13.1	54.9	224	29	2.3
Cache River Valley Seed	Dixie 900	35 ± 1	13.0	55.1	224	29	2.0
Excel	173	35 ± 1	13.2	55.0	226	30	2.1
Delta King	DK XTJ 734	34 ± 1	13.1	53.9	225	28	1.8
Pioneer	26R22	34 ± 1	13.2	54.3	224	26	1.0
USG	3477	34 ± 1	13.2	54.8	223	29	1.9
VA Exp.	VA03W-235	34 ± 1	13.9	55.3	225	26	1.0
USG	3350	34 ± 1	13.1	55.2	224	29	2.2
Excel	357	34 ± 1	13.6	56.8	225	27	1.3
Armor	ARX 9901	34 ± 1	13.3	56.0	224	24	1.2
TN Exp	TN 601	32 ± 1	13.4	55.4	224	26	1.8
Vigoro	WX 9601	32 ± 1	13.2	55.0	226	26	1.0
Delta King	DK GR 9108	32 ± 1	12.9	54.2	225	28	2.0
TN Exp	TN 701	32 ± 1	12.9	55.2	225	27	1.0
USG	3910	31 ± 1	12.8	55.4	225	25	1.9
Vigoro	V9710	31 ± 1	13.0	54.2	223	23	1.2
MD	Chesapeake	31 ± 1	13.0	55.8	224	23	1.0
Vigoro	V9412	31 ± 1	12.9	55.8	225	26	1.4
Delta King	DK 7710	31 ± 1	13.3	53.8	225	29	1.3
Delta Grow	4500	31 ± 1	12.7	54.4	224	29	2.3
MO	Bess	31 ± 1	13.3	55.1	224	28	2.5
AgriPro Coker	Cooper	30 ± 1	12.4	52.8	225	25	1.0
FFR	8302	30 ± 1	12.9	53.7	226	26	1.0
VA Exp.	VA02W-555	30 ± 1	12.9	53.4	225	23	1.2
Delta King	DK XTJ 730	29 ± 1	12.6	53.8	224	25	1.3
Cache River Valley Seed	Dixie 989	29 ± 1	12.5	53.8	225	25	1.0
AgriPro Coker	Coker 9553	29 ± 1	12.9	53.7	224	25	1.0

(continued)

**Table 3. (continued) Mean yields† and agronomic characteristics of 70 soft red winter wheat varieties evaluated at six locations in Tennessee during 2007.**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield	Test				
		± Std Err. (n=6)‡	Moisture (n=6)	Weight# (n=3)	Maturity (n=5)	Height (n=6)	Lodging (n=2)
		bu/a	%	lbs/bu	DAP	in.	Score
Delta Grow	1600	29 ± 1	12.7	53.4	225	26	1.0
AgriPro Coker	Coker 9511	29 ± 1	13.6	56.9	225	27	1.0
Progeny	145	29 ± 1	13.0	54.7	224	28	1.8
FFR	556	29 ± 1	12.4	54.0	226	24	1.5
USG	3342	27 ± 1	12.3	53.9	225	21	1.0
GA Exp.	96693-4E16	27 ± 1	13.2	55.6	225	27	1.2
USG	3665	27 ± 1	12.7	54.2	225	26	1.2
Armor	260Z	27 ± 1	12.7	53.7	224	26	1.2
Armor	3015	26 ± 1	12.3	54.1	224	25	1.1
Vigoro	V9611	26 ± 1	13.0	54.4	225	26	1.0
USG	3295	25 ± 1	13.2	56.8	227	23	1.0
GA Exp.	951231-4E26	25 ± 1	12.6	54.3	225	24	1.3
VA	McCormick	25 ± 1	12.8	55.3	225	23	2.3
GA Exp.	951231-4E25	25 ± 1	12.9	54.6	225	24	1.0
USG	3209	24 ± 1	13.6	55.5	225	23	1.0
Pioneer	26R87 (XW04C)	24 ± 1	13.5	57.0	226	25	1.0
VA	Jamestown	23 ± 1	12.9	54.9	225	22	2.0
Delta King	DK 9577	22 ± 1	12.4	54.4	224	26	1.0
FFR	510	22 ± 1	12.5	53.5	224	26	1.2
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>							
USG	3350 (Gaucho)	36 ± 1	13.2	55.1	224	30	2.4
FFR	8302 (Cruiser)	34 ± 1	12.8	53.3	226	27	1.0
USG	3342 (Gaucho)	26 ± 1	12.7	54.0	224	21	1.0
Delta King	DK 9577 (Cruiser)	25 ± 1	12.8	54.6	225	25	1.7

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

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

\* Tested in the same trial with untreated varieties

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

**Table 4. Yield† comparisons of four soft red winter wheat varieties between seed treated versus untreated with a systemic insecticide evaluated at six locations in Tennessee during 2007. ‡**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield	Knoxville 10/25/06 §	Crossville 10/31/06	Springfield 11/14/06	Spring Hill 11/10/06	Jackson 10/24/06	Milan 11/10/06	Avg. Yield Difference
		± Std Err. (n=6)							
USG	3350 (Gaucho)	36 ± 1	26	44	29	31	61	27	+2
USG	3350	34 ± 1	24	41	30	28	54	26	
FFR	8302 (Cruiser)	34 ± 1	26	51	32	32	40	21	+4
FFR	8302	30 ± 1	12	47	28	33	42	19	
USG	3342 (Gaucho)	26 ± 1	5	49	21	33	19	28	-1
USG	3342	27 ± 1	4	52	26	27	27	27	
Delta King	DK 9577 (Cruiser)	25 ± 1	8	38	31	25	28	22	+3
Delta King	DK 9577	22 ± 1	7	36	22	24	23	22	
<b>Average -- Treated Seed (bu/a)</b>		<b>30</b>	16	45	28	30	37	24	<b>+2</b>
<b>Average -- Untreated Seed (bu/a)</b>		<b>28</b>	12	44	27	28	36	23	
<b>L.S.D.<sub>.05</sub> (bu/a)</b>		<b>3</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>11</b>	<b>9</b>	<b>5</b>	
<b>C.V. (%)</b>		<b>16.2</b>	<b>24.5</b>	<b>11.7</b>	<b>17.4</b>	<b>22.7</b>	<b>12.3</b>	<b>12.6</b>	

† All yields are adjusted to 13.5% moisture.

‡ All varieties were treated with fungicide.

§ Planting date

**Table 5. Comparisons of overall mean yield† and agronomic characteristics of four soft red winter wheat varieties between seed treated versus untreated with a systemic insecticide evaluated at six locations in Tennessee during 2007. ‡**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield	Moisture (n=6)	Test	Maturity (n=5)	Height (n=6)	Lodging (n=2)
		± Std Err. (n=6)		Weight§ (n=3)			
		bu/a	%	lbs/bu	DAP	in.	Score
USG	3350 (Gaucho)	36 ± 1	13.2	55.1	224	30	2.4
USG	3350	34 ± 1	13.1	55.2	224	29	2.2
FFR	8302 (Cruiser)	34 ± 1	12.8	53.3	226	27	1.0
FFR	8302	30 ± 1	12.9	53.7	226	26	1.0
USG	3342 (Gaucho)	26 ± 1	12.7	54.0	224	21	1.0
USG	3342	27 ± 1	12.3	53.9	225	21	1.0
Delta King	DK 9577 (Cruiser)	25 ± 1	12.8	54.6	225	25	1.7
Delta King	DK 9577	22 ± 1	12.4	54.4	224	26	1.0

† All yields are adjusted to 13.5% moisture.

‡ All varieties were treated with fungicide.

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

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

**Table 6. Growth stage (Feekes Scale) prior to the April freeze and mean yields† of 70 soft red winter wheat varieties evaluated at three locations in Tennessee during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.82, p<0.0001).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Knoxville		Springfield		Jackson		Avg. Growth Stage (n=3)	Avg. Yield ± Std Err. (n=3)
		planted 10/25/06	Avg Yield	planted 11/14/06	Avg Yield	planted 10/24/06	Avg Yield		
		Stage 4/5/07	bu/a	Stage 4/5/07	bu/a	Stage 4/5/07	bu/a	(Feekes)	bu/a
		(Feekes)		(Feekes)		(Feekes)			
MO	Truman	8.3	29	5.0	43	8.0	72	7.1	48 ± 2
Excel	381	8.5	37	5.3	41	8.0	71	7.3	49 ± 2
TN Exp	TN 501	8.2	21	5.7	41	8.0	63	7.3	42 ± 2
Excel	442	8.3	37	5.7	37	8.0	73	7.3	49 ± 2
Excel	423	8.5	22	5.7	49	8.0	65	7.4	45 ± 2
VA	Roane	8.3	38	5.3	37	9.0	62	7.6	46 ± 2
Vigoro	V9712 (WX6602)	8.5	26	5.3	31	9.0	51	7.6	36 ± 2
Armor	5110	8.7	32	5.3	38	9.0	56	7.7	42 ± 2
Delta Grow	5200	8.7	32	5.3	30	9.0	57	7.7	40 ± 2
AgriPro Coker	M01-4377	9.0	36	5.3	44	9.0	65	7.8	48 ± 2
Delta King	DK XTJ 732	8.7	21	5.7	36	9.0	58	7.8	38 ± 2
Vigoro	V9710	8.7	20	5.7	24	9.0	46	7.8	30 ± 2
Delta Grow	1600	9.1	14	5.3	29	9.0	41	7.8	28 ± 2
AgriPro Coker	Branson	8.8	35	5.7	40	9.0	58	7.8	44 ± 2
Excel	343	8.5	23	6.0	29	9.0	59	7.8	37 ± 2
VA Exp.	VA03W-235	8.5	27	6.0	27	9.0	51	7.8	35 ± 2
VA	McCormick	8.6	19	6.0	26	9.0	30	7.9	25 ± 2
MI	MSU 1007R	9.0	24	5.7	41	9.0	56	7.9	40 ± 2
Delta King	DK XTJ 724	8.7	26	6.0	37	9.0	66	7.9	43 ± 2
Pioneer	26R15	8.7	27	6.0	42	9.0	57	7.9	42 ± 2
Progeny	166	8.7	28	6.0	31	9.0	59	7.9	39 ± 2
Cache River Valley Seed	Dixie 900	8.7	27	6.0	32	9.0	55	7.9	38 ± 2
AgriPro Coker	Cooper	9.0	13	5.7	36	9.0	49	7.9	33 ± 2
Excel	367	8.7	23	6.0	36	9.0	62	7.9	40 ± 2
USG	3477	8.7	23	6.0	33	9.0	52	7.9	36 ± 2
USG	3x633	8.7	24	6.0	30	9.0	52	7.9	35 ± 2
Delta Grow	4100	8.8	27	6.0	33	9.0	60	7.9	40 ± 2
Delta King	DK 7710	8.8	27	6.0	24	9.0	45	7.9	32 ± 2
USG	3350	8.9	24	6.0	30	9.0	54	8.0	36 ± 2
Delta Grow	4500	8.9	19	6.0	28	9.0	50	8.0	32 ± 2

(continued)



**Table 6. (continued) Growth stage (Feekes Scale) prior to the April freeze and mean yields† of 70 soft red winter wheat varieties evaluated at three locations in Tennessee during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.82, p<0.0001).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Knoxville		Springfield		Jackson		Avg. Growth Stage (n=3)	Avg. Yield ± Std Err. (n=3)
		planted 10/25/06	Avg Yield	planted 11/14/06	Avg Yield	planted 10/24/06	Avg Yield		
		Stage 4/5/07	bu/a	Stage 4/5/07	bu/a	Stage 4/5/07	bu/a	(Feekes)	bu/a
		(Feekes)		(Feekes)		(Feekes)			
Delta King	DK XTJ 730	8.9	6	6.0	36	9.0	41	8.0	27 ± 2
MO	Bess	9.0	16	6.0	28	9.0	46	8.0	30 ± 2
FFR	8302	9.0	12	6.0	28	9.0	42	8.0	27 ± 2
Armor	ARX 9901	9.0	14	6.0	30	9.0	39	8.0	28 ± 2
Pioneer	26R22	9.2	18	6.0	31	9.0	45	8.1	31 ± 2
USG	3665	8.8	8	5.7	29	10.1	39	8.2	25 ± 2
MD	Chesapeake	9.1	15	5.7	39	10.1	34	8.3	29 ± 2
Cache River Valley Seed	Dixie 989	8.8	10	6.0	29	10.0	41	8.3	27 ± 2
Vigoro	V9412	9.0	14	5.7	34	10.2	38	8.3	29 ± 2
Armor	260Z	9.1	7	5.7	31	10.1	31	8.3	23 ± 2
Delta King	DK XTJ 734	9.0	19	6.0	33	10.0	48	8.3	33 ± 2
USG	3910	9.0	13	6.0	36	10.1	45	8.4	31 ± 2
Progeny	145	9.1	15	6.0	26	10.0	41	8.4	27 ± 2
Excel	357	9.0	25	6.0	33	10.1	51	8.4	36 ± 2
Progeny	185	9.1	17	6.0	38	10.2	38	8.4	31 ± 2
Delta King	DK GR 9108	9.2	20	6.0	32	10.1	39	8.4	30 ± 2
TN Exp	TN 601	9.3	17	6.0	37	10.1	37	8.5	30 ± 2
TN Exp	TN 701	9.3	9	6.0	44	10.1	32	8.5	28 ± 2
Delta King	DK 9577	9.3	7	6.0	22	10.2	23	8.5	18 ± 2
Vigoro	WX 9601	9.3	9	6.0	34	10.3	38	8.5	27 ± 2
Excel	173	9.5	18	6.0	40	10.2	56	8.6	38 ± 2
USG	3295	9.9	1	5.7	39	10.2	25	8.6	22 ± 2
USG	3342	9.4	4	6.3	26	10.0	27	8.6	19 ± 2
FFR	556	9.3	19	6.3	30	10.1	35	8.6	28 ± 2
Vigoro	V9611	9.7	2	6.0	27	10.1	25	8.6	18 ± 2
Armor	3015	9.7	8	6.0	29	10.2	32	8.6	23 ± 2
USG	3209	9.7	4	6.0	33	10.3	18	8.7	18 ± 2
AgriPro Coker	Coker 9511	9.7	5	6.3	41	10.2	24	8.7	23 ± 2
AgriPro Coker	Coker 9553	10.1	15	6.0	32	10.2	27	8.8	25 ± 2

(continued)

**Table 6. (continued) Growth stage (Feekes Scale) prior to the April freeze and mean yields† of 70 soft red winter wheat varieties evaluated at three locations in Tennessee during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.82, p<0.0001).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Knoxville planted 10/25/06		Springfield planted 11/14/06		Jackson planted 10/24/06		Avg. Growth Stage (n=3)	Avg. Yield ± Std Err. (n=3)
		Growth Stage 4/5/07 (Feekes)	Avg Yield bu/a	Growth Stage 4/5/07 (Feekes)	Avg Yield bu/a	Growth Stage 4/5/07 (Feekes)	Avg Yield bu/a		
VA Exp.	VA02W-555	10.0	5	6.0	38	10.3	29	8.8	24 ± 2
GA Exp.	96693-4E16	10.1	8	6.0	33	10.5	22	8.9	21 ± 2
GA Exp.	951231-4E26	10.1	9	6.3	29	10.3	22	8.9	20 ± 2
GA Exp.	951231-4E25	10.2	11	6.3	33	10.3	17	9.0	21 ± 2
FFR	510	10.2	6	6.3	21	10.4	22	9.0	16 ± 2
VA	Jamestown	10.1	4	6.3	30	10.5	27	9.0	20 ± 2
Pioneer	26R87 (XW04C)	10.1	16	6.7	22	10.4	28	9.1	22 ± 2
<b>Average (bu/a)</b>		<b>9.1</b>	<b>18</b>	<b>5.9</b>	<b>33</b>	<b>9.5</b>	<b>44</b>	<b>8.2</b>	<b>32</b>
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>									
USG	3350 (Gaucho)	8.7	26	6.0	29	9.0	61	7.9	39 ± 2
FFR	8302 (Cruiser)	8.7	26	6.0	32	10.4	40	8.4	33 ± 2
Delta King	DK 9577 (Cruiser)	9.3	8	5.7	31	10.2	28	8.4	22 ± 2
USG	3342 (Gaucho)	9.3	5	6.0	21	10.0	19	8.4	15 ± 2
<b>Average (bu/a)</b>		<b>8.9</b>	<b>20</b>	<b>5.9</b>	<b>31</b>	<b>9.9</b>	<b>43</b>	<b>8.2</b>	<b>27</b>
<b>L.S.D.<sub>.05</sub> (bu/a)</b>			<b>7</b>	<b>9</b>	<b>9</b>	<b>5</b>			
<b>C.V. (%)</b>			<b>24.6</b>	<b>17.3</b>	<b>12.3</b>	<b>16.4</b>			

† All yields are adjusted to 13.5% moisture.

n = number of environments

\* Tested in the same trial with untreated varieties

Feekes growth stages:

5 = leaf sheaths strongly erected

6 = first node of stem visible at base of shoot

7 = second node of stem formed, next to last leaf just visible

8 = last leaf visible, but still rolled up, ear beginning to swell

9 = ligule of last leaf just visible

10 = sheath of last leaf completely grown out, ear swollen but not yet visible

10.1 = first ears just visible

10.2 = quarter of heading process completed

10.3 = half of heading process completed

10.4 = three-quarters of heading process completed

10.5 = all ears out of sheath

**Table 7. Growth stage (Feekes Scale) prior to the April freeze, damage ratings, mean yields†, and agronomic characteristics of 70 soft red winter wheat varieties evaluated at the East Tennessee Research and Education Center (Knoxville, TN) during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.72, p<0.0001).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

		KNOXVILLE							
Brand	Variety	Growth Stage 4/5/07	Frost Damage§ 4/26/07	Harvest Phenotype¶ 6/19/07	Avg. Yield bu/a	Moisture %	Test Weight# lbs/bu	Maturity DAP	Height in.
(Planted 10/25/06)		(Feekes)	Score	Score					
TN Exp	TN 501	8.2	3.3	3.3	21	13.2	54.5	234	31
VA	Roane	8.3	2.0	2.2	38	12.7	57.4	232	32
Excel	442	8.3	2.0	1.8	37	11.9	56.4	234	37
MO	Truman	8.3	2.3	2.7	29	12.5	55.5	234	33
Excel	381	8.5	2.5	2.3	37	11.8	56.7	234	34
VA Exp.	VA03W-235	8.5	3.0	3.2	27	12.4	55.6	234	30
Vigoro	V9712 (WX6602)	8.5	2.2	2.8	26	11.5	57.1	232	30
Excel	343	8.5	3.2	3.3	23	11.6	55.6	234	32
Excel	423	8.5	2.8	3.0	22	12.3	56.2	234	34
VA	McCormick	8.6	3.3	4.2	19	11.8	54.2	234	26
Delta Grow	5200	8.7	2.7	2.8	32	12.1	57.1	232	33
Armor	5110	8.7	2.5	2.8	32	12.8	56.8	232	33
Progeny	166	8.7	2.8	2.8	28	12.6	56.5	234	33
Pioneer	26R15	8.7	2.5	2.3	27	11.6	54.0	234	30
Cache River Valley Seed	Dixie 900	8.7	2.5	2.7	27	12.1	56.1	232	33
Delta King	DK XTJ 724	8.7	2.8	3.0	26	12.5	56.8	232	30
Delta King	DK XTJ 732	8.7	3.2	2.8	21	12.1	55.1	234	29
USG	3x633	8.7	2.8	3.3	24	11.6	55.9	234	31
Excel	367	8.7	2.8	2.8	23	12.5	56.5	234	32
USG	3477	8.7	3.0	3.3	23	12.5	56.1	234	32
Vigoro	V9710	8.7	3.0	3.5	20	12.6	54.7	234	27
AgriPro Coker	Branson	8.8	2.0	2.0	35	12.9	54.3	230	31
Delta King	DK 7710	8.8	3.5	3.2	27	12.5	55.5	234	29
Delta Grow	4100	8.8	2.7	3.0	27	13.3	56	234	32
Cache River Valley Seed	Dixie 989	8.8	3.3	4.0	10	12.0	57.0	234	27
USG	3665	8.8	3.8	4.3	8	12.3	57.0	234	29
USG	3350	8.9	2.7	2.5	24	12.1	56.8	234	33
Delta Grow	4500	8.9	3.2	3.3	19	12.4	55.4	234	31
Delta King	DK XTJ 730	8.9	3.7	4.2	6	11.4	56.5	234	29
MI	MSU 1007R	9.0	2.7	2.3	24	12.1	55.9	234	31

(continued)

**Table 7. (continued) Growth stage (Feekes Scale) prior to the April freeze, damage ratings, mean yields†, and agronomic characteristics of 70 soft red winter wheat varieties evaluated at the East Tennessee Research and Education Center (Knoxville, TN) during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.72, p<0.0001).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

		KNOXVILLE							
Brand	Variety	Growth Stage 4/5/07	Frost Damage§ 4/26/07	Harvest Phenotype¶ 6/19/07	Avg. Yield bu/a	Moisture %	Test Weight# lbs/bu	Maturity DAP	Height in.
(Planted 10/25/06)		(Feekes)	Score	Score					
Delta King	DK XTJ 734	9.0	3.2	3.5	19	12.1	55.4	234	31
MO	Bess	9.0	3.2	3.7	16	11.8	56.3	234	29
USG	3910	9.0	4.3	4.3	13	12.3	56.5	234	30
FFR	8302	9.0	3.5	3.7	12	12.6	54.7	234	28
AgriPro Coker	M01-4377	9.0	2.3	2.5	36	13.1	55.4	232	31
Excel	357	9.0	3.0	3.0	25	11.5	57.6	234	32
Armor	ARX 9901	9.0	3.8	3.7	14	11.7	57.5	234	29
Vigoro	V9412	9.0	4.3	4.7	14	11.3	57.0	234	30
AgriPro Coker	Cooper	9.0	3.0	3.7	13	12.7	53.3	234	27
Progeny	185	9.1	3.0	3.7	17	12.9	55.6	234	29
Progeny	145	9.1	3.5	3.5	15	13.1	55.4	234	30
MD	Chesapeake	9.1	3.5	4.2	15	12.3	55.0	234	25
Delta Grow	1600	9.1	3.5	3.5	14	12.5	54.7	232	29
Armor	260Z	9.1	4.0	4.0	7	12.2	57.2	234	29
Pioneer	26R22	9.2	3.3	3.2	18	12.3	55.9	234	30
Delta King	DK GR 9108	9.2	3.0	3.5	20	11.7	54.9	234	31
TN Exp	TN 601	9.3	3.7	3.8	17	13.3	55.2	234	29
TN Exp	TN 701	9.3	3.8	3.7	9	12.0	55.0	234	30
FFR	556	9.3	3.3	3.7	19	11.8	54.1	234	27
Vigoro	WX 9601	9.3	4.0	3.8	9	12.5	55.2	234	27
Delta King	DK 9577	9.3	4.3	4.5	7	12.1	58.2	232	28
USG	3342	9.4	4.0	4.3	4	11.9	53.7	234	23
Excel	173	9.5	3.0	3.3	18	12.9	55.6	234	33
Armor	3015	9.7	3.5	3.5	8	11.7	56.0	234	28
AgriPro Coker	Coker 9511	9.7	3.8	4.2	5	12.2	56.7	234	30
Vigoro	V9611	9.7	4.2	4.2	2	12.4	55.7	234	28
USG	3209	9.7	4.2	4.7	4	12.5	55.9	234	25
USG	3295	9.9	3.8	4.5	1	12.5	56.4	234	25
VA Exp.	VA02W-555	10.0	3.7	4.2	5	11.2	53.5	234	25
AgriPro Coker	Coker 9553	10.1	3.3	3.5	15	13.4	53.2	232	27

(continued)

**Table 7. (continued) Growth stage (Feekes Scale) prior to the April freeze, damage ratings, mean yields†, and agronomic characteristics of 70 soft red winter wheat varieties evaluated at the East Tennessee Research and Education Center (Knoxville, TN) during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.72, p<0.0001).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

		KNOXVILLE							
Brand	Variety	Growth Stage 4/5/07	Frost Damage§ 4/26/07	Harvest Phenotype¶ 6/19/07	Avg. Yield bu/a	Moisture %	Test Weight# lbs/bu	Maturity DAP	Height in.
(Planted 10/25/06)		(Feekes)	Score	Score					
Pioneer	26R87 (XW04C)	10.1	3.8	4.0	16	12.5	58.1	234	26
GA Exp.	96693-4E16	10.1	3.5	4.0	8	11.7	54.8	234	27
VA	Jamestown	10.1	3.8	4.2	4	12.2	55.7	234	24
GA Exp.	951231-4E26	10.1	4.2	4.8	9	11.6	56.8	234	26
FFR	510	10.2	4.3	4.8	6	12.3	55.4	234	27
GA Exp.	951231-4E25	10.2	4.2	4.3	11	11.6	56.9	234	26
<b>Average</b>		<b>9.1</b>	<b>3.3</b>	<b>3.5</b>	<b>18</b>	<b>12.2</b>	<b>55.8</b>	<b>234</b>	<b>29</b>
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>									
USG	3350 (Gaucho)	8.7	2.5	3.0	26	12.5	55.9	234	33
FFR	8302 (Cruiser)	8.7	3.0	2.8	26	11.6	54.6	234	30
Delta King	DK 9577 (Cruiser)	9.3	3.7	3.8	8	12.5	56.3	232	29
USG	3342 (Gaucho)	9.3	3.8	4.3	5	12.3	54.2	234	25
<b>Average</b>		<b>9.0</b>	<b>3.3</b>	<b>3.5</b>	<b>16</b>	<b>12.2</b>	<b>55.3</b>	<b>234</b>	<b>29</b>

† All yields are adjusted to 13.5% moisture.

Maturity (DAP) = Days after planting

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

\* Tested in the same trial with untreated varieties

§ - Frost damage score 1 through 5: 1 = not damaged; 5 = severely damaged

¶ - Phenotypic score 1 through 5: 1 = normal, very attractive; 5 = very abnormal and trashy

Feekes growth stages:

8 = last leaf visible, but still rolled up, ear beginning to swell

9 = ligule of last leaf just visible

10 = sheath of last leaf completely grown out, ear swollen but not yet visible

10.1 = first ears just visible

10.2 = quarter of heading process completed

**Table 8. Growth stage (Feekes Scale) prior to the April freeze, mean yields†, and agronomic characteristics of 70 soft red winter wheat varieties evaluated at the Highland Rim Research and Education Center (Springfield, TN) during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.42, p<0.0003).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

		SPRINGFIELD					
Brand	Variety	Growth Stage 4/5/07 (Feekes)	Avg. Yield bu/a	Moisture %	Test Weight# lbs/bu	Maturity DAP	Height in.
(Planted 11/14/06)							
MO	Truman	5.0	43	15.8	57.1	229	29
AgriPro Coker	M01-4377	5.3	44	15.5	58.2	228	26
Excel	381	5.3	41	15.5	58.3	228	27
Armor	5110	5.3	38	14.0	54.8	225	28
VA	Roane	5.3	37	15.3	57.5	229	23
Vigoro	V9712 (WX6602)	5.3	31	14.6	56.1	229	23
Delta Grow	5200	5.3	30	14.0	55.3	227	26
Delta Grow	1600	5.3	29	13.7	54.7	228	25
Excel	423	5.7	49	14.8	56.2	229	27
MI	MSU 1007R	5.7	41	14.9	57.1	229	24
TN Exp	TN 501	5.7	41	14.5	57.1	229	26
AgriPro Coker	Branson	5.7	40	14.7	55.7	228	22
USG	3295	5.7	39	15.5	57.9	229	23
MD	Chesapeake	5.7	39	15.1	57.7	229	22
Excel	442	5.7	37	14.6	56.7	229	29
Delta King	DK XTJ 732	5.7	36	14.9	57.0	229	25
AgriPro Coker	Cooper	5.7	36	14.4	54.5	228	23
Vigoro	V9412	5.7	34	14.3	56.4	229	22
Armor	260Z	5.7	31	13.8	54.9	227	24
USG	3665	5.7	29	13.4	54.4	228	24
Vigoro	V9710	5.7	24	13.7	54.4	229	21
TN Exp	TN 701	6.0	44	14.6	56.5	227	26
Pioneer	26R15	6.0	42	14.2	54.7	230	24
Excel	173	6.0	40	15.2	57.3	232	30
Progeny	185	6.0	38	14.2	55.9	232	20
VA Exp.	VA02W-555	6.0	38	14.7	55.6	231	21
Delta King	DK XTJ 724	6.0	37	15.0	57.3	228	26
TN Exp	TN 601	6.0	37	14.8	56.9	227	24
USG	3910	6.0	36	14.6	55.6	229	20
Excel	367	6.0	36	15.1	57.3	228	28

(continued)

**Table 8. (continued) Growth stage (Feekes Scale) prior to the April freeze, mean yields†, and agronomic characteristics of 70 soft red winter wheat varieties evaluated at the Highland Rim Research and Education Center (Springfield, TN) during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.42, p<0.0003).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

		SPRINGFIELD					
Brand	Variety	Growth Stage 4/5/07 (Feekes)	Avg. Yield bu/a	Moisture %	Test Weight# lbs/bu	Maturity DAP	Height in.
(Planted 11/14/06)							
Delta King	DK XTJ 730	6.0	36	13.7	55.0	226	23
Vigoro	WX 9601	6.0	34	14.8	56.7	232	24
USG	3209	6.0	33	13.6	55.7	228	22
USG	3477	6.0	33	14.1	55.4	226	26
GA Exp.	96693-4E16	6.0	33	14.3	56.4	227	25
Excel	357	6.0	33	15.0	57.0	230	24
Delta King	DK XTJ 734	6.0	33	13.8	54.5	230	25
Delta Grow	4100	6.0	33	14.5	55.3	229	27
Delta King	DK GR 9108	6.0	32	13.7	55.5	231	28
AgriPro Coker	Coker 9553	6.0	32	14.5	56.6	229	24
Cache River Valley Seed	Dixie 900	6.0	32	14.3	56.2	229	27
Progeny	166	6.0	31	14.6	55.8	227	27
Pioneer	26R22	6.0	31	14.2	55.0	227	23
USG	3x633	6.0	30	13.9	55.8	229	24
Armor	ARX 9901	6.0	30	14.3	56.3	228	20
USG	3350	6.0	30	14.0	56.0	226	25
Armor	3015	6.0	29	14.0	54.5	227	24
Excel	343	6.0	29	13.7	55.3	227	25
Cache River Valley Seed	Dixie 989	6.0	29	13.8	55.1	228	24
FFR	8302	6.0	28	14.4	56.4	231	25
MO	Bess	6.0	28	14.4	57.5	227	25
Delta Grow	4500	6.0	28	13.5	54.7	228	27
VA Exp.	VA03W-235	6.0	27	14.9	56.6	230	23
Vigoro	V9611	6.0	27	13.9	56.0	230	22
Progeny	145	6.0	26	13.7	55.9	228	25
VA	McCormick	6.0	26	15.1	58.6	229	20
Delta King	DK 7710	6.0	24	14.5	54.5	230	26
Delta King	DK 9577	6.0	22	12.6	54.9	225	23
AgriPro Coker	Coker 9511	6.3	41	15.4	57.8	228	23
GA Exp.	951231-4E25	6.3	33	14.5	56.5	229	23

(continued)

**Table 8. (continued) Growth stage (Feekes Scale) prior to the April freeze, mean yields†, and agronomic characteristics of 70 soft red winter wheat varieties evaluated at the Highland Rim Research and Education Center (Springfield, TN) during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.42, p<0.0003).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

		SPRINGFIELD					
Brand	Variety	Growth Stage 4/5/07 (Feekes)	Avg. Yield bu/a	Moisture %	Test Weight# lbs/bu	Maturity DAP	Height in.
(Planted 11/14/06)							
FFR	556	6.3	30	13.8	55.9	229	21
VA	Jamestown	6.3	30	15.3	58.8	232	21
GA Exp.	951231-4E26	6.3	29	14.0	55.7	230	22
USG	3342	6.3	26	13.3	54.6	228	19
FFR	510	6.3	21	13.6	54.0	228	24
Pioneer	26R87 (XW04C)	6.7	22	15.2	58.6	231	23
<b>Average</b>		<b>5.9</b>	<b>33</b>	<b>14.4</b>	<b>56.1</b>	<b>229</b>	<b>24</b>
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>							
Delta King	DK 9577 (Cruiser)	5.7	31	13.9	55.5	230	23
FFR	8302 (Cruiser)	6.0	32	14.5	55.4	230	23
USG	3350 (Gaucho)	6.0	29	14.2	56.1	227	27
USG	3342 (Gaucho)	6.0	21	12.8	53.9	226	19
<b>Average</b>		<b>5.9</b>	<b>28</b>	<b>13.9</b>	<b>55.2</b>	<b>228</b>	<b>23</b>

† All yields are adjusted to 13.5% moisture.

Maturity (DAP) = Days after planting

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

\* Tested in the same trial with untreated varieties

Feekes growth stages:

5 = leaf sheaths strongly erected

6 = first node of stem visible at base of shoot

7 = second node of stem formed, next to last leaf just visible



**Table 9. Growth stage (Feekes Scale) prior to the April freeze, mean yields†, and agronomic characteristics of 70 soft red winter wheat varieties evaluated at the West TN Research and Education Center (Jackson, TN) during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.82, p<0.0001).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

JACKSON						
Brand	Variety	Growth Stage 4/5/07	Avg. Yield	Moisture	Maturity	Height
(Planted 11/24/06)		(Feekes)	bu/a	%	DAP	in.
Excel	442	8.0	73	9.4	223	31
MO	Truman	8.0	72	9.8	225	31
Excel	381	8.0	71	10.1	224	31
Excel	423	8.0	65	9.9	224	29
TN Exp	TN 501	8.0	63	9.4	224	30
Delta King	DK XTJ 724	9.0	66	9.7	225	29
AgriPro Coker	M01-4377	9.0	65	10.3	223	28
VA	Roane	9.0	62	10.4	224	26
Excel	367	9.0	62	9.6	224	30
Delta Grow	4100	9.0	60	9.8	223	31
Progeny	166	9.0	59	9.7	223	31
Excel	343	9.0	59	9.2	223	27
Delta King	DK XTJ 732	9.0	58	9.6	224	28
AgriPro Coker	Branson	9.0	58	9.2	223	27
Pioneer	26R15	9.0	57	9.3	224	27
Delta Grow	5200	9.0	57	9.4	223	31
Armor	5110	9.0	56	9.7	224	31
MI	MSU 1007R	9.0	56	9.7	224	28
Cache River Valley Seed	Dixie 900	9.0	55	9.4	223	30
USG	3350	9.0	54	9.7	225	30
USG	3x633	9.0	52	9.4	224	28
USG	3477	9.0	52	9.3	223	30
VA Exp.	VA03W-235	9.0	51	9.6	224	25
Vigoro	V9712 (WX6602)	9.0	51	9.2	224	25
Delta Grow	4500	9.0	50	9.4	224	30
AgriPro Coker	Cooper	9.0	49	9.4	225	25
MO	Bess	9.0	46	9.6	224	28
Vigoro	V9710	9.0	46	9.0	223	23
Pioneer	26R22	9.0	45	9.4	224	27
Delta King	DK 7710	9.0	45	9.1	225	30

(continued)

**Table 9. (continued) Growth stage (Feekes Scale) prior to the April freeze, mean yields†, and agronomic characteristics of 70 soft red winter wheat varieties evaluated at the West TN Research and Education Center (Jackson, TN) during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.82, p<0.0001).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

<b>JACKSON</b>						
<b>Brand</b>	<b>Variety</b>	<b>Growth Stage 4/5/07</b>	<b>Avg. Yield</b>	<b>Moisture</b>	<b>Maturity</b>	<b>Height</b>
(Planted 11/24/06)		(Feekes)	bu/a	%	DAP	in.
FFR	8302	9.0	42	9.3	225	26
Delta Grow	1600	9.0	41	9.0	225	27
Delta King	DK XTJ 730	9.0	41	9.2	224	27
Armor	ARX 9901	9.0	39	9.4	223	25
VA	McCormick	9.0	30	9.0	223	24
Delta King	DK XTJ 734	10.0	48	9.0	223	29
Progeny	145	10.0	41	9.0	223	30
Cache River Valley Seed	Dixie 989	10.0	41	9.0	224	27
USG	3342	10.0	27	9.9	224	21
Excel	357	10.1	51	9.1	224	29
USG	3910	10.1	45	9.0	226	25
USG	3665	10.1	39	9.0	223	28
Delta King	DK GR 9108	10.1	39	9.0	223	27
TN Exp	TN 601	10.1	37	9.1	224	26
FFR	556	10.1	35	9.0	225	25
MD	Chesapeake	10.1	34	9.1	223	24
TN Exp	TN 701	10.1	32	9.0	224	27
Armor	260Z	10.1	31	9.1	224	27
Vigoro	V9611	10.1	25	9.3	223	28
Excel	173	10.2	56	9.5	226	31
Vigoro	V9412	10.2	38	9.1	224	25
Progeny	185	10.2	38	9.2	224	27
Armor	3015	10.2	32	9.0	224	25
AgriPro Coker	Coker 9553	10.2	27	9.0	223	26
USG	3295	10.2	25	9.4	226	24
AgriPro Coker	Coker 9511	10.2	24	9.9	224	28
Delta King	DK 9577	10.2	23	9.1	224	27
Vigoro	WX 9601	10.3	38	9.5	224	26
VA Exp.	VA02W-555	10.3	29	9.1	224	23
GA Exp.	951231-4E26	10.3	22	9.0	224	26

(continued)

**Table 9. (continued) Growth stage (Feekes Scale) prior to the April freeze, mean yields†, and agronomic characteristics of 70 soft red winter wheat varieties evaluated at the West TN Research and Education Center (Jackson, TN) during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.82, p<0.0001).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

		<b>JACKSON</b>				
<b>Brand</b>	<b>Variety</b>	<b>Growth Stage 4/5/07</b>	<b>Avg. Yield</b>	<b>Moisture</b>	<b>Maturity</b>	<b>Height</b>
(Planted 11/24/06)		(Feekes)	bu/a	%	DAP	in.
USG	3209	10.3	18	9.1	225	24
GA Exp.	951231-4E25	10.3	17	9.0	224	26
Pioneer	26R87 (XW04C)	10.4	28	10.3	225	28
FFR	510	10.4	22	9.0	223	29
VA	Jamestown	10.5	27	9.5	223	24
GA Exp.	96693-4E16	10.5	22	9.3	225	30
<b>Average</b>		<b>9.5</b>	<b>44</b>	<b>9.4</b>	<b>224</b>	<b>27</b>
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>						
USG	3350 (Gaucho)	9.0	61	9.2	224	32
USG	3342 (Gaucho)	10.0	19	9.0	223	22
Delta King	DK 9577 (Cruiser)	10.2	28	9.1	224	26
FFR	8302 (Cruiser)	10.4	40	9.1	226	28
<b>Average</b>		<b>9.9</b>	<b>37</b>	<b>9.1</b>	<b>224</b>	<b>27</b>

† All yields are adjusted to 13.5% moisture.

Maturity (DAP) = Days after planting

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

\* Tested in the same trial with untreated varieties

Feekes growth stages:

8 = last leaf visible, but still rolled up, ear beginning to swell

9 = ligule of last leaf just visible

10 = sheath of last leaf completely grown out, ear swollen but not yet visible

10.1 = first ears just visible

10.2 = quarter of heading process completed

10.3 = half of heading process completed

10.4 = three-quarters of heading process completed

10.5 = all ears out of sheath

**Table 10. Contrast of mean yields† of 44 soft red winter wheat varieties evaluated at four locations in Tennessee that were in common during 2006 and 2007.**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield ± Std Err. (n=4)‡			Knoxville			Spring Hill			Jackson			Milan		
		2006	2007	Diff	2006	2007	Diff	2006	2007	Diff	2006	2007	Diff	2006	2007	Diff
		-----bu/a-----														
Pioneer	26R22	82 ± 2	33 ± 2	-49	87	18	-68	64	38	-26	104	45	-59	75	31	-44
AgriPro Coker	Cooper	80 ± 2	27 ± 2	-53	91	13	-78	57	20	-38	107	49	-58	64	27	-37
AgriPro Coker	Branson	79 ± 2	40 ± 2	-39	81	35	-46	64	39	-25	100	58	-42	70	29	-42
FFR	8302	79 ± 2	26 ± 2	-52	73	12	-61	66	33	-32	110	42	-68	67	19	-48
USG	3342	79 ± 2	21 ± 2	-58	91	4	-87	64	27	-36	95	27	-68	65	27	-39
USG	3350	78 ± 2	33 ± 2	-45	82	24	-58	62	28	-34	96	54	-41	74	26	-48
USG	3665	78 ± 2	23 ± 2	-54	84	8	-75	65	24	-41	98	39	-59	64	23	-41
TN Exp	TN 601	77 ± 2	29 ± 2	-49	88	17	-71	53	30	-23	100	37	-63	69	31	-38
USG	3910	77 ± 2	27 ± 2	-50	77	13	-64	58	23	-35	106	45	-61	67	27	-40
AgriPro Coker	Coker 9553	77 ± 2	24 ± 2	-53	86	15	-71	59	33	-26	98	27	-71	65	23	-42
Armor	260Z	77 ± 2	22 ± 2	-55	83	7	-76	52	30	-22	107	31	-77	65	21	-44
MD	Chesapeake	77 ± 2	26 ± 2	-50	86	15	-71	62	25	-37	94	34	-61	64	32	-32
Delta King	DK 9577	76 ± 2	19 ± 2	-57	83	7	-75	63	24	-38	94	23	-72	66	22	-44
Pioneer	26R87	76 ± 2	23 ± 2	-54	92	16	-77	54	29	-26	96	28	-68	62	19	-43
FFR	556	76 ± 2	26 ± 2	-50	79	19	-59	56	27	-29	99	35	-64	70	23	-47
USG	3209	76 ± 2	18 ± 2	-58	69	4	-65	60	31	-29	102	18	-84	73	21	-52
USG	3477	76 ± 2	33 ± 2	-43	75	23	-52	58	31	-27	95	52	-43	76	27	-49
Progeny	185	76 ± 2	31 ± 2	-45	76	17	-58	64	37	-27	92	38	-54	72	33	-39
Pioneer	26R15	76 ± 2	36 ± 2	-39	80	27	-53	57	35	-22	99	57	-42	66	27	-39
Vigoro	V9712	75 ± 2	35 ± 2	-40	85	26	-59	56	32	-23	94	51	-43	66	31	-34
TN Exp	TN 501	75 ± 2	41 ± 2	-34	76	21	-55	63	38	-26	99	63	-36	61	42	-19
Cache River Valley Seed	Dixie 989	75 ± 2	25 ± 2	-49	85	10	-75	53	26	-28	103	41	-62	58	25	-33
Delta Grow	1600	74 ± 2	26 ± 2	-48	84	14	-70	61	24	-37	96	41	-54	57	27	-30
AgriPro Coker	Coker 9511	74 ± 2	22 ± 2	-51	70	5	-64	67	31	-36	97	24	-73	60	29	-31
Delta Grow	4100	73 ± 2	34 ± 2	-38	73	27	-46	53	22	-31	96	60	-36	69	29	-41
Progeny	145	72 ± 2	28 ± 2	-45	81	15	-66	48	29	-18	92	41	-51	68	25	-43
Progeny	166	72 ± 2	36 ± 2	-36	79	28	-51	59	29	-31	85	59	-26	64	28	-36
MO	Bess	72 ± 2	28 ± 2	-44	70	16	-54	61	32	-29	95	46	-49	62	19	-43
FFR	510	72 ± 2	18 ± 2	-53	83	6	-77	56	25	-31	83	22	-61	66	21	-45
VA	McCormick	72 ± 2	22 ± 2	-50	73	19	-54	57	19	-39	94	30	-64	62	20	-42
Delta King	DK GR 9108	71 ± 2	29 ± 2	-42	72	20	-52	66	27	-39	87	39	-49	60	30	-30
Delta Grow	5200	71 ± 2	35 ± 2	-36	71	32	-39	56	22	-34	90	57	-33	68	28	-40

(continued)

**Table 10. (continued) Contrast of mean yields† of 44 soft red winter wheat varieties evaluated at four locations in Tennessee that were in common during 2006 and 2007.**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield ± Std Err. (n=4)‡			Knoxville			Spring Hill			Jackson			Milan		
		2006	2007	Diff	2006	2007	Diff	2006	2007	Diff	2006	2007	Diff	2006	2007	Diff
		-----bu/a-----														
Armor	5110	71 ± 2	36 ± 2	-35	68	32	-36	57	30	-27	91	56	-35	67	25	-43
Delta King	DK 7710	71 ± 2	32 ± 2	-39	72	27	-44	52	27	-25	95	45	-51	64	27	-37
Armor	3015	70 ± 2	23 ± 2	-47	66	8	-58	51	25	-26	96	32	-64	67	25	-42
USG	3295	70 ± 2	18 ± 2	-52	70	1	-69	62	34	-28	89	25	-64	59	12	-47
Vigoro	V9412	69 ± 2	29 ± 2	-41	70	14	-56	51	33	-18	94	38	-56	63	31	-32
MO	Truman	69 ± 2	39 ± 2	-30	62	29	-33	56	27	-29	94	72	-22	63	28	-35
VA	Roane	68 ± 2	37 ± 2	-32	72	38	-34	51	20	-31	94	62	-32	57	28	-29
Delta Grow	4500	68 ± 2	30 ± 2	-38	65	19	-46	55	25	-30	86	50	-37	66	26	-39
Cache River Valley Seed	Dixie 900	68 ± 2	33 ± 2	-35	55	27	-28	57	25	-32	93	55	-38	68	25	-43
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>																
Delta King	DK 9577 (Cruiser)	79 ± 2	21 ± 2	-58	88	8	-80	56	25	-31	104	28	-76	69	22	-46
USG	3350 (Gaucho)	76 ± 2	36 ± 2	-39	74	26	-48	59	31	-28	98	61	-36	74	27	-46
FFR	8302 (Cruiser)	75 ± 2	30 ± 2	-45	75	26	-49	59	32	-26	96	40	-56	72	21	-51
<b>Average (bu/a)</b>		<b>74</b>	<b>29</b>	<b>-45</b>	<b>77</b>	<b>18</b>	<b>-59</b>	<b>58</b>	<b>28</b>	<b>-30</b>	<b>96</b>	<b>43</b>	<b>-53</b>	<b>66</b>	<b>26</b>	<b>-40</b>
<b>L.S.D.<sub>.05</sub> (bu/a)</b>		<b>5</b>	<b>4</b>		<b>12</b>	<b>7</b>		<b>11</b>	<b>11</b>		<b>13</b>	<b>9</b>		<b>6</b>	<b>5</b>	<b>-1</b>
<b>C.V. (%)</b>		<b>9.0</b>	<b>17.4</b>		<b>9.9</b>	<b>24.6</b>		<b>11.7</b>	<b>22.7</b>		<b>8.3</b>	<b>12.3</b>		<b>5.9</b>	<b>12.6</b>	<b>6.7</b>

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

\* Tested in the same trial with untreated varieties

**Table 11. Contrast of mean yields† and agronomic characteristics of 44 soft red winter wheat varieties evaluated at four locations in Tennessee that were in common during 2006 and 2007.**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield ± Std Err. (n=4)‡		Moisture (n=4)		Test Weight# (n=2)		Maturity (n=4)		Height (n=4)		Lodging (n=2)	
		2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
		bu/a	bu/a	%	%	lbs/bu	lbs/bu	DAP	DAP	in.	in.	Score	Score
Pioneer	26R22	82 ± 2	33 ± 2	12.8	12.2	56.9	53.9	219	221	35	26	1.0	1.0
AgriPro Coker	Cooper	80 ± 2	27 ± 2	12.7	11.1	58.2	51.9	219	223	34	25	1.0	1.0
AgriPro Coker	Branson	79 ± 2	40 ± 2	12.5	12.2	56.7	52.1	217	221	33	26	1.0	2.3
FFR	8302	79 ± 2	26 ± 2	12.9	11.7	57.7	52.4	219	223	35	26	1.0	1.0
USG	3342	79 ± 2	21 ± 2	12.2	11.2	57.6	53.5	217	222	29	21	1.1	1.0
USG	3350	78 ± 2	33 ± 2	12.3	12.1	56.8	54.8	219	223	37	29	1.0	2.2
USG	3665	78 ± 2	23 ± 2	12.1	11.5	57.6	54.2	219	222	35	26	1.1	1.2
TN Exp	TN 601	77 ± 2	29 ± 2	12.6	12.5	57.0	54.6	218	223	34	26	1.1	1.8
USG	3910	77 ± 2	27 ± 2	12.8	11.6	58.7	55.3	220	223	35	25	1.0	1.9
AgriPro Coker	Coker 9553	77 ± 2	24 ± 2	12.7	11.8	59.7	52.2	217	221	34	25	1.0	1.0
Armor	260Z	77 ± 2	22 ± 2	12.4	11.7	58.0	52.9	218	223	35	26	1.0	1.2
MD	Chesapeake	77 ± 2	26 ± 2	12.7	11.9	58.6	54.9	217	222	33	23	1.2	1.0
Delta King	DK 9577	76 ± 2	19 ± 2	12.5	11.4	58.1	54.1	218	222	33	26	1.0	1.0
Pioneer	26R87	76 ± 2	23 ± 2	12.6	12.5	60.5	56.2	218	223	33	25	1.0	1.0
FFR	556	76 ± 2	26 ± 2	11.8	11.2	56.2	53.1	218	223	33	24	1.1	1.5
USG	3209	76 ± 2	18 ± 2	12.6	12.7	55.7	55.4	219	223	31	22	1.3	1.0
USG	3477	76 ± 2	33 ± 2	12.9	12.0	56.6	54.5	220	221	38	29	1.0	1.9
Progeny	185	76 ± 2	31 ± 2	12.5	12.1	55.6	53.9	221	223	33	26	1.0	1.0
Pioneer	26R15	76 ± 2	36 ± 2	12.3	11.5	56.6	50.9	219	223	34	27	1.0	1.0
Vigoro	V9712	75 ± 2	35 ± 2	12.7	11.9	58.8	54.6	218	222	33	25	1.1	1.6
TN Exp	TN 501	75 ± 2	41 ± 2	12.4	12.2	56.9	54.6	220	223	39	29	1.4	1.7
Cache River Valley Seed	Dixie 989	75 ± 2	25 ± 2	12.2	11.1	58.5	53.1	219	223	34	25	1.1	1.0
Delta Grow	1600	74 ± 2	26 ± 2	12.3	11.6	57.9	52.8	219	222	35	26	1.0	1.0
AgriPro Coker	Coker 9511	74 ± 2	22 ± 2	12.9	12.6	57.6	56.5	217	223	37	27	1.3	1.0
Delta Grow	4100	73 ± 2	34 ± 2	12.5	12.0	57.2	54.7	220	222	36	28	1.0	2.3
Progeny	145	72 ± 2	28 ± 2	12.2	12.1	56.1	54.1	219	222	37	28	1.0	1.8
Progeny	166	72 ± 2	36 ± 2	12.6	12.0	57.3	54.8	219	222	37	29	1.0	2.3
MO	Bess	72 ± 2	28 ± 2	12.6	12.1	56.6	53.9	219	223	35	27	1.0	2.5
FFR	510	72 ± 2	18 ± 2	12.2	11.3	56.4	53.2	217	222	34	26	1.0	1.2
VA	McCormick	72 ± 2	22 ± 2	13.0	11.3	58.6	53.6	219	222	32	23	1.1	2.3
Delta King	DK GR 9108	71 ± 2	29 ± 2	12.6	11.8	56.5	53.5	219	222	37	28	1.3	2.0
Delta Grow	5200	71 ± 2	35 ± 2	12.6	11.6	57.3	55.5	220	221	37	28	1.0	2.0

(continued)

**Table 11. (continued) Contrast of mean yields† and agronomic characteristics of 44 soft red winter wheat varieties evaluated at four locations in Tennessee that were in common during 2006 and 2007.**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield ± Std Err. (n=4)‡		Moisture (n=4)		Test Weight# (n=2)		Maturity (n=4)		Height (n=4)		Lodging (n=2)	
		2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
		bu/a	bu/a	%	%	lbs/bu	lbs/bu	DAP	DAP	in.	in.	Score	Score
Armor	5110	71 ± 2	36 ± 2	12.8	12.0	56.5	54.5	220	222	37	30	1.0	2.3
Delta King	DK 7710	71 ± 2	32 ± 2	12.6	12.3	57.8	53.4	220	223	37	28	1.0	1.3
Armor	3015	70 ± 2	23 ± 2	12.3	11.0	56.9	53.9	219	223	33	24	1.0	1.1
USG	3295	70 ± 2	18 ± 2	12.4	12.1	57.9	56.0	219	225	32	23	1.0	1.0
Vigoro	V9412	69 ± 2	29 ± 2	12.5	11.6	58.1	55.5	219	223	34	26	1.0	1.4
MO	Truman	69 ± 2	39 ± 2	15.5	12.6	56.2	54.4	222	223	39	30	1.0	2.1
VA	Roane	68 ± 2	37 ± 2	12.8	11.8	57.7	55.3	220	221	32	25	1.0	2.8
Delta Grow	4500	68 ± 2	30 ± 2	12.4	11.6	56.3	54.3	219	222	38	29	1.1	2.3
Cache River Valley Seed	Dixie 900	68 ± 2	33 ± 2	12.6	11.9	56.1	54.6	218	221	37	29	1.0	2.0
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>													
Delta King	DK 9577 (Cruiser)	79 ± 2	21 ± 2	12.3	11.6	57.9	54.2	217	222	33	25	1.0	1.7
USG	3350 (Gaucho)	76 ± 2	36 ± 2	12.9	12.1	56.8	54.7	220	223	37	29	1.0	2.4
FFR	8302 (Cruiser)	75 ± 2	30 ± 2	12.5	11.4	57.6	52.2	219	223	36	26	1.0	1.0
<b>Average</b>		<b>74</b>	<b>29</b>	<b>12.6</b>	<b>11.8</b>	<b>57.4</b>	<b>54.1</b>	<b>219</b>	<b>222</b>	<b>35</b>	<b>26</b>	<b>1.1</b>	<b>1.6</b>

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ all plots of this variety had very poor stand at the Spring Hill location; the average yield is an adjusted least squares estimate.

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

\* Tested in the same trial with untreated varieties

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

**Table 12. Yields† of 20 soft red winter wheat varieties evaluated in nine County Standard Tests in Tennessee during 2007.**

MS	Brand/Variety	Avg.	Test			KY					Weakley	Weakley	Madison
		Yield	Moisture	Weight‡	Ballard	Dyer	Gibson	Lake	Moore	Obion	UT Martin	Hall farm	(WTREC)
		bu/a	%	lbs/bu	10/21§	11/21	10/25	10/11	10/14	10/24	10/11	11/4	10/23
A	AgriPro/Coker Branson	56.2	11.3	57.3	60.9	85.4	59.0	74.3	51.7	63.0	14.1	77.7	20.1
AB	*Pioneer 26R15	55.9	11.6	56.8	61.1	95.4	59.8	56.6	32.3	64.2	35.7	77.6	20.6
AB	Vigoro 9712	55.7	11.7	56.9	43.6	94.1	60.9	76.9	41.5	68.6	28.5	73.5	13.7
ABC	AgriPro/Coker Cooper	54.9	11.7	57.2	50.0	99.9	59.2	63.3	33.7	69.4	24.6	80.9	12.7
ABCD	Progeny 166	52.0	11.4	57.6	50.2	87.9	57.6	61.8	36.7	61.9	27.2	73.6	10.8
ABCD	***USG 3350	51.9	11.9	57.8	48.6	86.6	56.5	58.4	39.3	58.7	31.6	74.8	12.9
ABCD	Progeny 185	51.6	12.4	57.5	50.3	93.8	57.7	51.9	40.6	63.6	19.3	73.3	13.5
ABCDE	CRV/Dixie 900	50.3	12.1	57.6	48.1	84.9	55.1	58.9	36.8	61.2	27.9	69.2	10.6
BCDE	Pioneer 26R22	49.9	11.2	58.4	54.4	98.0	61.1	44.7	32.0	47.1	24.6	76.3	10.6
CDE	Vigoro 9412	49.0	12.1	58.1	43.6	94.5	62.0	43.9	30.0	59.3	23.5	71.5	13.1
CDE	***FFR 556	48.7	11.6	57.0	46.2	92.3	52.3	51.6	33.9	51.6	31.6	68.9	10.1
DEF	CRV/Dixie 989	48.1	11.5	56.8	28.9	97.6	59.9	59.1	35.2	52.0	17.9	69.1	12.9
DEF	Delta King 9108	48.0	12.0	56.4	53.7	92.1	51.0	46.3	30.9	54.1	21.5	69.8	12.2
DEFG	Armor 3015	47.2	11.4	57.6	48.4	99.3	54.9	44.5	29.6	42.4	25.5	67.7	12.7
DEFG	**FFR 8302	46.8	12.6	57.3	50.0	92.0	50.4	45.1	26.9	47.6	19.9	73.0	16.5
EFGH	***USG 3209 Gaucho¶	44.5	12.6	57.7	49.1	96.4	48.1	30.3	34.6	46.7	13.0	70.7	11.5
FGH	Armor 260Z	42.0	12.2	57.3	31.2	85.8	58.2	38.0	29.9	46.8	14.1	66.5	7.6
GH	***USG 3209	41.1	12.8	57.5	34.5	98.1	41.7	33.6	30.7	40.5	14.9	67.1	8.5
H	*Delta King 9577	40.3	11.7	57.2	32.2	92.9	48.0	35.4	30.6	41.2	10.5	67.3	4.7
H	USG 3342	39.9	11.3	57.8	28.9	89.8	45.2	24.5	25.0	80.9	11.2	48.8	4.8
<b>Average</b>		<b>48.7</b>	<b>11.9</b>	<b>57.4</b>	<b>45.7</b>	<b>92.8</b>	<b>54.9</b>	<b>49.9</b>	<b>34.1</b>	<b>56.0</b>	<b>21.9</b>	<b>70.9</b>	<b>12.0</b>

† 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).

‡ Official test weight of No. 2 wheat = 58 lbs/bu. - average of 8 locations

¶ USG 3209 was tested with and without Gaucho seed applied systemic insecticide.

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 2006, 2005 and/or 2004.

WTREC = West Tennessee Research and Education Center, Jackson, TN.

Data provided by Robert C. Williams, Ext. Area Specialist, Grain Crops, and extension agents in counties shown above.

§ Planting date



**Table 13. Growth stage (Feekes Scale) prior to the April freeze and mean yields† of 20 soft red winter wheat varieties evaluated in nine County Standard Tests in Tennessee during 2007.**

MS	Brand/Variety	Dyer (11/21)#		Gibson (10/25)		Lake (10/11)		Obion (10/24)		Weakley (11/4)		Avg. Feekes (n=5)	Avg. Yield (n=5)
		Feekes§	Yield	Feekes	Yield	Feekes	Yield	Feekes	Yield	Feekes	Yield		
		(r=0.61, p=0.0043)		(r=-0.43, p=0.0563)		(r=-0.82, p=0.0001)		(r=-0.14, p=0.5636)		(r=-0.35, p=0.1262)		(r=-0.68, p=0.0010)	
A	AgriPro/Coker Branson	9.5	85.4	9.8	59.0	9.8	74.3	9.8	63.0	9.5	77.7	9.7	71.9
AB	*Pioneer 26R15	9.9	95.4	9.9	59.8	9.8	56.6	10.2	64.2	8.0	77.6	9.6	70.7
AB	Vigoro 9712	9.8	94.1	9.7	60.9	9.9	76.9	9.7	68.6	9.8	73.5	9.8	74.8
ABC	AgriPro/Coker Cooper	9.8	99.9	9.9	59.2	9.9	63.3	10.2	69.4	9.8	80.9	9.9	74.5
ABCD	Progeny 166	9.8	87.9	9.8	57.6	10.0	61.8	10.0	61.9	9.8	73.6	9.9	68.6
ABCD	***USG 3350	9.9	86.6	9.9	56.5	9.9	58.4	10.0	58.7	9.0	74.8	9.7	67.0
ABCD	Progeny 185	9.9	93.8	10.2	57.7	10.1	51.9	9.9	63.6	10.0	73.3	10.0	68.1
ABCDE	CRV/Dixie 900	9.8	84.9	9.8	55.1	9.9	58.9	10.0	61.2	9.0	69.2	9.7	65.8
BCDE	Pioneer 26R22	9.9	98.0	9.8	61.1	10.1	44.7	10.0	47.1	9.5	76.3	9.9	65.4
CDE	Vigoro 9412	9.9	94.5	10.1	62.0	10.1	43.9	10.2	59.3	9.0	71.5	9.9	66.2
CDE	***FFR 556	9.9	92.3	10.1	52.3	10.0	51.6	10.1	51.6	9.0	68.9	9.8	63.3
DEF	CRV/Dixie 989	10.0	97.6	10.0	59.9	10.0	59.1	10.3	52.0	9.8	69.1	10.0	67.5
DEF	Delta King 9108	9.9	92.1	10.0	51.0	10.1	46.3	10.0	54.1	10.0	69.8	10.0	62.7
DEFG	Armor 3015	10.0	99.3	10.0	54.9	10.1	44.5	10.0	42.4	10.0	67.7	10.0	61.8
DEFG	**FFR 8302	9.9	92.0	10.0	50.4	10.0	45.1	10.0	47.6	9.8	73.0	9.9	61.6
EFGH	***USG 3209 Gaucho¶	10.0	96.4	10.1	48.1	10.3	30.3	10.2	46.7	10.0	70.7	10.1	58.4
FGH	Armor 260Z	9.8	85.8	10.2	58.2	10.1	38.0	10.2	46.8	10.0	66.5	10.1	59.1
GH	***USG 3209	10.0	98.1	10.1	41.7	10.2	33.6	10.0	40.5	10.0	67.1	10.1	56.2
H	*Delta King 9577	10.0	92.9	10.2	48.0	10.1	35.4	10.2	41.2	10.0	67.3	10.1	57.0
H	USG 3342	9.8	89.8	10.0	45.2	10.1	24.5	10.2	80.9	10.0	48.8	10.0	57.8
<b>Average</b>		<b>9.9</b>	<b>92.8</b>	<b>10.0</b>	<b>54.9</b>	<b>10.0</b>	<b>49.9</b>	<b>10.1</b>	<b>56.0</b>	<b>9.6</b>	<b>70.9</b>	<b>9.9</b>	<b>64.9</b>

† 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).

¶ USG 3209 was tested with and without Gaucho seed applied systemic insecticide.

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 2006, 2005 and/or 2004.

Data provided by Robert C. Williams, Ext. Area Specialist, Grain Crops, and extension agents in counties shown above.

r = Pearson correlation coefficient, p = significance probability

# Planting date

§ Feekes growth stages: Feekes Scores collected for each variety on April 5, 2007 just prior to freeze of April 6 & 7.

8 = last leaf visible, but still rolled up, ear beginning to swell

9 = ligule of last leaf just visible

10 = sheath of last leaf completely grown out, ear swollen but not yet visible

10.1 = first ears just visible

10.2 = quarter of heading process completed

10.3 = half of heading process completed

**Table 14. Yields† , moistures, and test weights of 19 soft red winter wheat varieties that were in common to both the County Standard Tests (n=9) and the Research and Education Center (REC) Tests (n=6) in Tennessee during 2007.**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	County Standard Tests			R E C Tests		
		Avg. Yield bu/a	Moisture %	Test Weight‡ lbs/bu	Avg. Yield bu/a	Moisture %	Test Weight lbs/bu
AgriPro Coker	Branson	56	11.3	57.3	41	13.3	53.3
Pioneer	26R15	56	11.6	56.8	38	12.8	52.1
Vigoro	V9712 (WX6602)	56	11.7	56.9	36	13.1	55.1
AgriPro Coker	Cooper	55	11.7	57.2	30	12.4	52.8
Progeny	166	52	11.4	57.6	36	13.1	55.1
USG	3350	52	11.9	57.8	34	13.1	55.2
Progeny	185	52	12.4	57.5	35	13.1	54.6
Cache River Valley Seed	Dixie 900	50	12.1	57.6	35	13.0	55.1
Pioneer	26R22	50	11.2	58.4	34	13.2	54.3
Vigoro	V9412	49	12.1	58.1	31	12.9	55.8
FFR	556	49	11.6	57.0	29	12.4	54.0
Cache River Valley Seed	Dixie 989	48	11.5	56.8	29	12.5	53.8
Delta King	DK GR 9108	48	12.0	56.4	32	12.9	54.2
Armor	3015	47	11.4	57.6	26	12.3	54.1
FFR	8302	47	12.6	57.3	30	12.9	53.7
Armor	260Z	42	12.2	57.3	27	12.7	53.7
USG	3209	41	12.8	57.5	24	13.6	55.5
Delta King	DK 9577	40	11.7	57.2	22	12.4	54.4
USG	3342	40	11.3	57.8	27	12.3	53.9
<b>Average</b>		<b>49</b>	<b>11.8</b>	<b>57.4</b>	<b>31</b>	<b>12.8</b>	<b>54.2</b>

† All yields are adjusted to 13.5% moisture.

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

**Table 15. Mean yields† of 84 soft red winter wheat varieties evaluated at four locations in Tennessee during 2006.**

Brand	Variety	Avg. Yield	Spring			
		± Std Err. (n=4)‡	Knoxville	Hill	Jackson	Milan
		-----bu/a-----				
Pioneer	26R22	82 ± 2	87	64	104	75
AgriPro Coker	Cooper	80 ± 2	91	57	107	64
Pioneer	25R54	79 ± 2	85	60	102	71
AgriPro Coker	Branson	79 ± 2	81	64	100	70
FFR	8302	79 ± 2	73	66	110	67
USG	3342	79 ± 2	91	64	95	65
USG	3350	78 ± 2	82	62	96	74
USG	3665	78 ± 2	84	65	98	64
TN Exp	TN 601	77 ± 2	88	53	100	69
USG	3910 (Exp. 910)	77 ± 2	77	58	106	67
AgriPro Coker	Coker 9553	77 ± 2	86	59	98	65
Armor	260Z (ARX 5099)	77 ± 2	83	52	107	65
MD	Chesapeake	77 ± 2	86	62	94	64
Delta King	DK 9577	76 ± 2	83	63	94	66
Pioneer	26R87	76 ± 2	92	54	96	62
USG	3209	76 ± 2	69	60	102	73
FFR	556	76 ± 2	79	56	99	70
USG	3477	76 ± 2	75	58	95	76
Progeny	185	76 ± 2 §	76	.	92	72
Pioneer	26R15	76 ± 2	80	57	99	66
TN Exp	TN 604	75 ± 2	74	64	101	63
Vigoro	V9712	75 ± 2	85	56	94	66
Vigoro	WX 5501	75 ± 2	85	58	85	71
Vigoro	V9611	75 ± 2	89	61	90	61
TN Exp	TN 501	75 ± 2	76	63	99	61
VA Exp.	IMI 95047-6-3-18	75 ± 2	75	58	101	65
Cache River Valley Seed	Dixie 989	75 ± 2	85	53	103	58
Delta Grow	1600	74 ± 2	84	61	96	57
Armor	3330	74 ± 2	72	63	97	65
GA Exp.	96229-3E39	74 ± 2	91	62	88	56
Delta King	DK 9410	74 ± 2	76	55	99	65
Cropland Genetics	8301	74 ± 2	84	48	94	68
AgriPro Coker	Coker 9511 (B980582)	74 ± 2	70	67	97	60
Excel	392 TW	74 ± 2	76	61	102	56
TN Exp	TN 602	73 ± 2	80	55	97	61
GA Exp.	951079-2E31	73 ± 2	87	57	88	59
Delta Grow	4100	73 ± 2	73	53	96	69
TN Exp	TN 603	73 ± 2	64	69	90	67
Excel	211	73 ± 2	75	64	86	64
Progeny	145	72 ± 2	81	48	92	68
Excel	399	72 ± 2	69	59	95	65
MO	Bess	72 ± 2	70	61	95	62
Progeny	166	72 ± 2	79	59	85	64
Progeny	133	72 ± 2	72	60	91	65
FFR	510	72 ± 2	83	56	83	66
GA Exp.	96229-3A41	72 ± 2	82	58	86	61
VA	McCormick	72 ± 2	73	57	94	62
Delta King	DK GR 9108	71 ± 2	72	66	87	60
Delta Grow	5200	71 ± 2	71	56	90	68
Merschman	Barbie VII	71 ± 2	67	59	91	68
Excel	388	71 ± 2	69	58	91	67

(continued)

**Table 15. (continued) Mean yields† of 84 soft red winter wheat varieties evaluated at four locations in Tennessee during 2006.**

Brand	Variety	Avg. Yield	Knoxville	Spring	Jackson	Milan
		± Std Err. (n=4)‡		Hill		
		-----bu/a-----				
Cache River Valley Seed	Dixie 9512	71 ± 2	68	58	88	70
Delta King	DK 7710	71 ± 2	72	52	95	64
Armor	5110	71 ± 2	68	57	91	67
Vigoro	V9410	71 ± 2	73	59	84	68
Pioneer	25R37	71 ± 2	77	54	89	63
VA	Sisson	70 ± 2	67	59	91	64
Armor	3015 (ARX 5667)	70 ± 2	66	51	96	67
VA Exp.	IMI 95053-1A-11-6	70 ± 2	69	52	89	69
GA Exp.	951395-3E25	70 ± 2	70	62	89	59
Armor	3035	70 ± 2	57	54	102	67
Vigoro	V9412	69 ± 2	70	51	94	63
Excel	352 TW	69 ± 2	65	63	89	60
AgriPro Coker	Panola	69 ± 2	66	52	91	66
Renwood	3260	69 ± 2	66	55	94	61
MO	Truman	69 ± 2	62	56	94	63
Cache River Valley Seed	Dixie 500	69 ± 2	70	57	89	59
GA Exp.	951216-2E26	69 ± 2	74	56	83	62
VA	Roane	68 ± 2	72	51	94	57
Delta Grow	4500	68 ± 2	65	55	86	66
Cache River Valley Seed	Dixie 900	68 ± 2	55	57	93	68
Progeny	110	68 ± 2 §	61	.	94	65
Armor	2010	68 ± 2	68	49	91	63
AgriPro Coker	Coker 9152	67 ± 2	69	43	96	63
Merschman	Katie X	67 ± 2	67	56	87	60
MD	Choptank (MD 11-52)	67 ± 2	81	47	80	60
Progeny	196	66 ± 2	58	55	92	60
Excel	361	66 ± 2	76	51	84	54
Delta King	DK 7830	66 ± 2	62	53	84	65
GA Exp.	951395-3A31	66 ± 2	64	54	89	56
OH	Bravo	65 ± 2	65	47	92	57
<b>Average (bu/a)</b>		<b>73</b>	<b>75</b>	<b>57</b>	<b>94</b>	<b>64</b>
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>						
Delta King	DK 9577 (Cruiser)	79 ± 2	88	56	104	69
USG	3350 (Gaucho)	76 ± 2	74	59	98	74
FFR	8302 (Gaucho)	75 ± 2	75	59	96	72
<b>Average (bu/a)</b>		<b>77</b>	<b>79</b>	<b>58</b>	<b>99</b>	<b>71</b>
<b>L.S.D.<sub>.05</sub> (bu/a)</b>		<b>5</b>	<b>12</b>	<b>11</b>	<b>13</b>	<b>6</b>
<b>C.V. (%)</b>		<b>9.0</b>	<b>9.9</b>	<b>11.7</b>	<b>8.3</b>	<b>5.9</b>

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ All plots of this variety had very poor stand at the Spring Hill location; the average yield is an adjusted least squares estimate.

\* Tested in the same trial with untreated varieties

**Table 16. Mean yields† and agronomic characteristics of 84 soft red winter wheat varieties evaluated at four locations in Tennessee during 2006.**

Brand	Variety	Avg. Yield	Moisture	Test Weight#	Maturity	Height	Lodging
		± Std Err. (n=4)‡					
		bu/a	%	lbs/bu	DAP	in.	Score
Pioneer	26R22	82 ± 2	12.8	56.9	219	35	1.0
AgriPro Coker	Cooper	80 ± 2	12.7	58.2	219	34	1.0
Pioneer	25R54	79 ± 2	12.3	57.5	218	35	1.0
AgriPro Coker	Branson	79 ± 2	12.5	56.7	217	33	1.0
FFR	8302	79 ± 2	12.9	57.7	219	35	1.0
USG	3342	79 ± 2	12.2	57.6	217	29	1.1
USG	3350	78 ± 2	12.3	56.8	219	37	1.0
USG	3665	78 ± 2	12.1	57.6	219	35	1.1
TN Exp	TN 601	77 ± 2	12.6	57.0	218	34	1.1
USG	3910 (Exp. 910)	77 ± 2	12.8	58.7	220	35	1.0
AgriPro Coker	Coker 9553	77 ± 2	12.7	59.7	217	34	1.0
Armor	260Z (ARX 5099)	77 ± 2	12.4	58.0	218	35	1.0
MD	Chesapeake	77 ± 2	12.7	58.6	217	33	1.2
Delta King	DK 9577	76 ± 2	12.5	58.1	218	33	1.0
Pioneer	26R87	76 ± 2	12.6	60.5	218	33	1.0
USG	3209	76 ± 2	12.6	55.7	219	31	1.3
FFR	556	76 ± 2	11.8	56.2	218	33	1.1
USG	3477	76 ± 2	12.9	56.6	220	38	1.0
Progeny	185	76 ± 2 §	12.5	55.6	221	33	1.0
Pioneer	26R15	76 ± 2	12.3	56.6	219	34	1.0
TN Exp	TN 604	75 ± 2	12.2	55.8	220	37	1.1
Vigoro	V9712	75 ± 2	12.7	58.8	218	33	1.1
Vigoro	WX 5501	75 ± 2	12.8	56.8	220	38	1.0
Vigoro	V9611	75 ± 2	12.2	58.7	218	34	1.0
TN Exp	TN 501	75 ± 2	12.4	56.9	220	39	1.4
VA Exp.	IMI 95047-6-3-18	75 ± 2	12.1	55.4	218	35	1.0
Cache River Valley Seed	Dixie 989	75 ± 2	12.2	58.5	219	34	1.1
Delta Grow	1600	74 ± 2	12.3	57.9	219	35	1.0
Armor	3330	74 ± 2	12.7	56.2	219	38	1.0
GA Exp.	96229-3E39	74 ± 2	12.4	58.8	219	35	1.0
Delta King	DK 9410	74 ± 2	12.7	56.9	220	38	1.0
Cropland Genetics	8301	74 ± 2	12.8	59.1	219	35	1.1
AgriPro Coker	Coker 9511 (B980582)	74 ± 2	12.9	57.6	217	37	1.3
Excel	392 TW	74 ± 2	12.7	56.8	220	38	1.4
TN Exp	TN 602	73 ± 2	12.6	59.4	219	37	1.0
GA Exp.	951079-2E31	73 ± 2	12.7	58.7	217	34	1.3
Delta Grow	4100	73 ± 2	12.5	57.2	220	36	1.0
TN Exp	TN 603	73 ± 2	13.5	56.7	220	38	1.3
Excel	211	73 ± 2	12.4	56.3	218	37	1.2
Progeny	145	72 ± 2	12.2	56.1	219	37	1.0
Excel	399	72 ± 2	12.4	56.1	220	37	1.1
MO	Bess	72 ± 2	12.6	56.6	219	35	1.0
Progeny	166	72 ± 2	12.6	57.3	219	37	1.0
Progeny	133	72 ± 2	12.3	56.0	219	37	1.0
FFR	510	72 ± 2	12.2	56.4	217	34	1.0
GA Exp.	96229-3A41	72 ± 2	12.3	57.8	218	35	1.0
VA	McCormick	72 ± 2	13.0	58.6	219	32	1.1
Delta King	DK GR 9108	71 ± 2	12.6	56.5	219	37	1.3
Delta Grow	5200	71 ± 2	12.6	57.3	220	37	1.0
Merschman	Barbie VII	71 ± 2	12.3	55.6	220	37	1.0
Excel	388	71 ± 2	12.5	56.0	219	37	1.0

(continued)

**Table 16. (continued) Mean yields† and agronomic characteristics of 84 soft red winter wheat varieties evaluated at four locations in Tennessee during 2006.**

Brand	Variety	Avg. Yield	Moisture	Test			
		± Std Err. (n=4)‡		(n=4)	Weight# (n=2)	Maturity (n=4)	Height (n=4)
		bu/a	%	lbs/bu	DAP	in.	Score
Cache River Valley Seed	Dixie 9512	71 ± 2	12.4	55.3	219	37	1.1
Delta King	DK 7710	71 ± 2	12.6	57.8	220	37	1.0
Armor	5110	71 ± 2	12.8	56.5	220	37	1.0
Vigoro	V9410	71 ± 2	12.5	55.8	219	37	1.1
Pioneer	25R37	71 ± 2	12.6	58.5	220	34	1.0
VA	Sisson	70 ± 2	12.2	56.0	218	32	1.3
Armor	3015 (ARX 5667)	70 ± 2	12.3	56.9	219	33	1.0
VA Exp.	IMI 95053-1A-11-6	70 ± 2	11.8	55.7	217	35	2.0
GA Exp.	951395-3E25	70 ± 2	12.4	57.9	219	32	1.0
Armor	3035	70 ± 2	12.3	55.7	219	38	1.0
Vigoro	V9412	69 ± 2	12.5	58.1	219	34	1.0
Excel	352 TW	69 ± 2	12.2	56.6	219	36	1.1
AgriPro Coker	Panola	69 ± 2	12.2	56.2	217	33	1.3
Renwood	3260	69 ± 2	12.2	57.2	217	34	1.0
MO	Truman	69 ± 2	15.5	56.2	222	39	1.0
Cache River Valley Seed	Dixie 500	69 ± 2	12.6	57.1	220	37	1.0
GA Exp.	951216-2E26	69 ± 2	12.4	57.9	219	35	1.0
VA	Roane	68 ± 2	12.8	57.7	220	32	1.0
Delta Grow	4500	68 ± 2	12.4	56.3	219	38	1.1
Cache River Valley Seed	Dixie 900	68 ± 2	12.6	56.1	218	37	1.0
Progeny	110	68 ± 2 §	12.5	55.4	219	37	1.0
Armor	2010	68 ± 2	12.5	56.6	218	36	1.0
AgriPro Coker	Coker 9152	67 ± 2	12.2	57.0	219	37	1.0
Merschman	Katie X	67 ± 2	12.4	57.1	219	37	1.0
MD	Choptank (MD 11-52)	67 ± 2	11.9	57.8	217	29	1.0
Progeny	196	66 ± 2	11.8	55.1	219	31	1.0
Excel	361	66 ± 2	12.7	58.9	220	38	1.0
Delta King	DK 7830	66 ± 2	12.6	55.4	219	37	1.3
GA Exp.	951395-3A31	66 ± 2	12.3	57.6	219	31	1.0
OH	Bravo	65 ± 2	12.6	58.2	218	36	1.2

**Varieties\* -- Seed Treated with Systemic Insecticide**

Delta King	DK 9577 (Cruiser)	79 ± 2	12.3	57.9	217	33	1.0
USG	3350 (Gaucho)	76 ± 2	12.9	56.8	220	37	1.0
FFR	8302 (Gaucho)	75 ± 2	12.5	57.6	219	36	1.0

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ all plots of this variety had very poor stand at the Spring Hill location; the average yield is an adjusted least squares estimate.

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

\* Tested in the same trial with untreated varieties

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

**Table 17. Mean yields† of 48 soft red winter wheat varieties evaluated at four locations (n=8) in Tennessee for two years, 2005 - 2006.**

Brand	Variety	Avg. Yield	Spring				
		± Std Err. (n=8)‡	Knoxville	Hill	Jackson	Milan	
		-----bu/a-----					
Pioneer	26R22	79 ± 2	94	76	87	60	
USG	3350	77 ± 2	91	72	87	58	
AgriPro Coker	Cooper	77 ± 2	97	67	88	55	
AgriPro Coker	Coker 9553	75 ± 2	95	69	86	52	
Pioneer	25R54	75 ± 2	94	72	84	52	
Pioneer	26R15	74 ± 2	90	70	83	53	
USG	3910 (Exp. 910)	74 ± 2	88	66	87	53	
Delta King	DK 9410	73 ± 2	81	67	86	60	
Armor	3330	73 ± 2	82	76	87	47	
Progeny	185	73 ± 2	88	70	80	55	
USG	3209	73 ± 2	87	65	85	55	
FFR	8302	73 ± 2	84	70	84	54	
Armor	260Z (ARX 5099)	73 ± 2	91	66	84	51	
Vigoro	V9410	72 ± 2	79	68	81	59	
Delta King	DK 9577	72 ± 2	90	74	77	47	
Progeny	133	71 ± 2	78	71	80	56	
Pioneer	25R37	70 ± 2	81	68	82	50	
Armor	3015 (ARX 5667)	70 ± 2	77	67	79	58	
Progeny	145	70 ± 2	82	61	78	59	
Delta Grow	4100	70 ± 2	81	62	85	51	
Cache River Valley Seed	Dixie 900	69 ± 2	72	70	81	53	
AgriPro Coker	Coker 9511 (B980582)	69 ± 2	80	73	76	48	
Delta Grow	5200	69 ± 2	80	66	75	55	
Armor	3035	69 ± 2	70	66	86	53	
GA Exp.	951079-2E31	69 ± 2	82	69	74	51	
MD	Cheaspeake	69 ± 2	90	67	69	49	
Vigoro	V9412	69 ± 2	81	63	76	56	
Delta King	DK 7710	68 ± 2	77	65	79	53	
FFR	556	68 ± 2	89	60	73	52	
VA	McCormick	68 ± 2	84	65	75	49	
TN Exp	TN 501	68 ± 2	73	70	77	51	
Armor	2010	68 ± 2	75	63	87	46	
AgriPro Coker	Coker 9152	68 ± 2	76	60	80	55	
Progeny	166	68 ± 2	82	66	72	50	
VA	Roane	68 ± 2	82	61	80	48	
Progeny	110	67 ± 2	73	61	80	52	
GA Exp.	951216-2E26	66 ± 2	80	64	68	51	
Delta King	DK 7830	66 ± 2	70	64	75	54	
FFR	510	65 ± 2	92	60	60	49	

(Continued)

**Table 17. (continued) Mean yields† of 48 soft red winter wheat varieties evaluated at four locations (n=8) in Tennessee for two years, 2005 - 2006.**

Brand	Variety	Avg. Yield ± Std Err. (n=8)‡	Spring				
			Knoxville	Hill	Jackson	Milan	
		-----bu/a-----					
Renwood	3260	64 ± 2	76	58	76	47	
AgriPro Coker	Panola	64 ± 2	76	65	70	47	
MO	Truman	64 ± 2	73	60	72	51	
MD	Choptank (MD 11-52)	63 ± 2	85	54	68	45	
Delta Grow	4500	60 ± 2	69	56	71	46	
<b>Average (bu/a)</b>		<b>70</b>	<b>82</b>	<b>66</b>	<b>79</b>	<b>52</b>	
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>							
Delta King	DK 9577 (Cruiser)	74 ± 2	95	70	85	48	
USG	3350 (Gaucho)	74 ± 2	88	71	79	58	
FFR	8302 (Gaucho)	72 ± 2	87	74	72	56	
<b>Average (bu/a)</b>		<b>74</b>	<b>90</b>	<b>72</b>	<b>79</b>	<b>54</b>	
<b>L.S.D.<sub>.05</sub> (bu/a)</b>		<b>6</b>	<b>9</b>	<b>11</b>	<b>16</b>	<b>9</b>	
<b>C.V. (%)</b>		<b>11.1</b>	<b>7.9</b>	<b>11.0</b>	<b>13.3</b>	<b>12.2</b>	

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

\* Tested in the same trial with untreated varieties



**Table 18. Mean yields† and agronomic characteristics of 48 soft red winter wheat varieties evaluated at four locations (n=8) in Tennessee for two years, 2005 - 2006.**

Brand	Variety	Avg. Yield	Test				Stripe	Leaf	
		± Std Err. (n=8)‡	Moisture (n=9)	Weight§ (n=5)	Maturity (n=8)	Height (n=9)	Lodging (n=3)	Rust (n=1)	Diseases (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	Score	Score
Pioneer	26R22	79 ± 2	13.6	57.2	220	36	1.1	1.0	3.5
USG	3350	77 ± 2	13.4	57.6	220	39	1.1	1.0	4.8
AgriPro Coker	Cooper	77 ± 2	13.2	58.1	221	35	1.1	3.7	3.0
AgriPro Coker	Coker 9553	75 ± 2	13.4	59.1	218	35	1.2	1.0	2.3
Pioneer	25R54	75 ± 2	13.1	57.4	220	35	1.0	1.0	3.2
Pioneer	26R15	74 ± 2	12.9	57.1	221	35	1.1	2.5	2.7
USG	3910 (Exp. 910)	74 ± 2	13.1	58.4	221	36	1.2	4.7	3.0
Delta King	DK 9410	73 ± 2	13.6	57.6	220	39	1.2	1.0	3.3
Armor	3330	73 ± 2	13.7	57.3	220	38	1.2	1.0	2.5
Progeny	185	73 ± 2	13.3	56.8	221	34	1.1	2.8	2.3
USG	3209	73 ± 2	13.5	57.6	220	32	1.4	3.3	3.2
FFR	8302	73 ± 2	13.7	58.5	221	35	1.2	1.0	3.8
Armor	260Z (ARX 5099)	73 ± 2	13.1	58.2	220	35	1.3	1.0	2.5
Vigoro	V9410	72 ± 2	13.4	56.9	220	39	1.2	1.0	2.2
Delta King	DK 9577	72 ± 2	13.2	58.2	219	34	1.2	1.2	3.0
Progeny	133	71 ± 2	13.4	57.3	220	38	1.2	1.0	3.0
Pioneer	25R37	70 ± 2	14.0	58.6	221	35	1.0	1.2	3.8
Armor	3015 (ARX 5667)	70 ± 2	12.7	57.2	220	34	1.1	1.8	2.3
Progeny	145	70 ± 2	13.3	57.2	220	39	1.2	1.0	3.3
Delta Grow	4100	70 ± 2	13.7	57.9	221	38	1.1	1.0	3.5
Cache River Valley Seed	Dixie 900	69 ± 2	13.8	57.2	219	38	1.2	1.0	3.5
AgriPro Coker	Coker 9511	69 ± 2	13.6	58.8	219	37	1.5	2.7	4.0
Delta Grow	5200	69 ± 2	13.6	57.9	221	38	1.1	1.0	3.5
Armor	3035	69 ± 2	13.5	57.3	221	39	1.2	1.0	4.5
GA Exp.	951079-2E31	69 ± 2	13.1	58.3	219	35	1.9	1.0	1.8
MD	Chesapeake	69 ± 2	13.7	58.5	220	33	1.1	3.7	3.5
Vigoro	V9412	69 ± 2	13.9	58.7	220	35	1.3	3.3	4.2
Delta King	DK 7710	68 ± 2	13.6	58.0	221	38	1.2	1.0	3.3
FFR	556	68 ± 2	12.8	57.0	220	32	1.1	3.5	4.8
VA	McCormick	68 ± 2	13.8	59.2	220	32	1.1	1.0	3.3
TN Exp	TN 501	68 ± 2	13.2	57.8	221	40	1.8	1.2	3.7
Armor	2010	68 ± 2	13.4	57.7	220	38	1.2	1.0	1.5
AgriPro Coker	Coker 9152	68 ± 2	12.6	57.2	219	38	1.7	1.0	2.3
Progeny	166	68 ± 2	13.6	57.6	221	39	1.2	1.0	3.0
VA	Roane	68 ± 2	13.9	59.3	221	33	1.0	2.3	3.0
Progeny	110	67 ± 2	13.4	57.0	220	38	1.1	2.0	3.7
GA Exp.	951216-2E26	66 ± 2	13.0	58.4	220	35	1.1	1.0	2.5
Delta King	DK 7830	66 ± 2	13.3	56.8	220	39	1.4	1.0	3.0
FFR	510	65 ± 2	13.1	56.2	218	35	1.3	5.0	3.7

(continued)

**Table 18. (continued) Mean yields† and agronomic characteristics of 48 soft red winter wheat varieties evaluated at four locations (n=8) in Tennessee for two years, 2005 - 2006.**

Brand	Variety	Avg. Yield	Test			Height	Lodging	Stripe	Leaf
		± Std Err. (n=8)‡	Moisture (n=9)	Weight§ (n=5)	Maturity (n=8)			Rust (n=1)	Diseases (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	Score	Score
Renwood	3260	64 ± 2	13.0	58.0	219	34	1.2	4.8	2.5
AgriPro Coker	Panola	64 ± 2	12.8	56.6	220	34	1.4	1.0	2.5
MO	Truman	64 ± 2	15.5	57.8	224	39	1.1	1.2	4.5
MD	Choptank	63 ± 2	12.5	57.9	219	30	1.1	3.5	2.5
Delta Grow	4500	60 ± 2	13.3	57.3	222	38	1.2	1.0	2.5
<b>Varieties* -- Seed Treated with Systemic Insecticide</b>									
Delta King	DK 9577 (Cruiser)	74 ± 2	13.0	58.0	219	34	1.6	1.0	3.0
USG	3350 (Gaucho)	74 ± 2	13.7	57.4	221	38	1.2	1.0	3.0
FFR	8302 (Gaucho)	72 ± 2	13.8	58.6	221	36	1.3	1.0	4.0

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

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

\* Tested in the same trial with untreated varieties

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Stripe Rust, Leaf Disease - 1 to 5 scale; where 1 = 95% of plants non-infected;

2.5 = ~50% of plants infected; 5 = 95+% of plants infected.

Stripe Rust and Leaf Disease ratings taken at the West Tennessee Experiment Station, Jackson, TN in 2005.

## ----- Barley -----

### Results

Four released varieties of barley were tested during 2007 at six Research and Education Centers (REC) representing the different physiographic regions of Tennessee. All of the varieties evaluated in these tests were developed in the Barley Breeding Program at Virginia Tech. The varieties Doyce and Eve are hull-less types.

**DUE TO THE APRIL FREEZE DAMAGE, THE 2007 DATA ARE NOT RELIABLE FOR VARIETY COMPARISONS OR VARIETY SELECTION FOR PRODUCTION DURING A NORMAL GROWING SEASON.** For that reason, this publication includes **the more reliable 2006 yield and agronomic data**. In 2006, 4 varieties were evaluated across the state at five REC locations. Three of the four varieties (Doyce, Price, and Thoroughbred) have been evaluated for three years.

The average yield of the four entries across the six 2007 locations was 39 bu/a, with a range from 30 to 51 bu/a. The highest yields were obtained at Crossville where the location mean of the four entries was 71 bu/a and the highest variety yield was 88 bu/a (Thoroughbred). The maturity of the barley entries clustered around 221 DAP. The barley varieties adapted to Tennessee generally mature about a week to ten days earlier than adapted wheat varieties. The test weights of the barley entries ranged from 40.7 to 54.4 lbs/bu. Doyce and Eve have higher test weights (54.1 and 54.4 respectively) due to the hull-less nature of their grain. The official test weight for barley is 48 lbs/bu compared to 58 lbs/bu for wheat.

Data regarding the growth stage at the time of the April freeze and resulting damage and yield losses are presented in Tables 22 and 23. **Strong and significant negative correlations were found between the stage of development (Feekes scale) at the time of the freeze and the resulting yield across locations.**

**Table 19. Location information from research and education centers where the barley variety tests were conducted in 2007.**

Research and Education Center	Location	Planting Date	Harvest Date	Seeding Rate	Soil Type	Low Temperatures 4/5/07 - 4/12/07
Knoxville	Knoxville	10/25/2006	6/22/2007	28/ft <sup>2</sup>	Sequoia Silty Clay Loam	19° F
Plateau	Crossville	10/31/2006	6/28/2007	28/ft <sup>2</sup>	Lilly Silt Loam	23° F
Highland Rim	Springfield	11/14/2006	6/12/2007	28/ft <sup>2</sup>	Mountview Silt Loam	20° F
Middle Tennessee	Spring Hill	11/10/2006	6/21/2007	26/ft <sup>2</sup>	Maury Silt Loam	19° F
West Tennessee	Jackson	10/24/2006	6/14/2007	28/ft <sup>2</sup>	Lexington Silt Loam	19° F
Milan	Milan	11/10/2006	6/12/2007	32/ft <sup>2</sup>	Grenada Silt Loam	23° F

**Table 20. Mean yields† of four six-rowed barley varieties evaluated at six locations in Tennessee during 2007.**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield	Knoxville	Crossville	Springfield	Spring	Jackson	Milan
		± Std Err. (n=6)‡	10/25/06 §	10/31/06	11/14/06	Hill 11/10/06	10/24/06	11/10/06
-----bu/a-----								
VA	Thoroughbred	51 ± 2	34	88	56	54	56	21
VA	Price	40 ± 2	11	80	45	40	36	28
VA	Eve (Hulless)	32 ± 2	9	50	30	55	28	20
VA	Doyce (Hulless)	30 ± 3	9	42	46	28	31	27
<b>Average (bu/a)</b>		<b>39</b>	<b>16</b>	<b>71</b>	<b>44</b>	<b>44</b>	<b>38</b>	<b>24</b>
<b>L.S.D.<sub>.05</sub> (bu/a)</b>		<b>7</b>	<b>7</b>	<b>45</b>	<b>22</b>	<b>19</b>	<b>15</b>	<b>19</b>
<b>C.V. (%)</b>		<b>24.6</b>	<b>18.9</b>	<b>22.7</b>	<b>24.4</b>	<b>21.5</b>	<b>20.2</b>	<b>31.7</b>

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ Planting date

**Table 21. Mean yields† and agronomic characteristics of four six-rowed barley varieties evaluated at six locations in Tennessee during 2007.**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield	Moisture	Test	Maturity	Height	Lodging
		± Std Err. (n=6)‡	(n=6)	Weight§ (n=3)	(n=5)	(n=6)	(n=2)
		bu/a	%	lbs/bu	DAP	in.	Score
VA	Thoroughbred	51 ± 2	11.5	42.2	220	24	1.9
VA	Price	40 ± 2	11.7	40.7	220	24	2.2
VA	Eve (Hulless)	32 ± 2	13.6	54.4	223	27	2.4
VA	Doyce (Hulless)	30 ± 3	13.6	54.1	223	25	2.1

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ Official test weight of No. 1 barley = 48 lbs/bu.

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

**Table 22. Growth stage (Feekes Scale) prior to the April freeze, damage ratings, and mean yields† of four six-rowed barley varieties evaluated at three locations in Tennessee during 2007. Average yield was found to be negatively correlated to the growth stage at the time of the April freeze. The Pearson correlation coefficient was strong and highly significant (-0.54, p<0.0009).**

**CAUTION - DUE TO FREEZE DAMAGE, DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Knoxville				Springfield		Jackson		Avg. Growth Stage (n=3)	Avg. Yield ± Std Err. (n=3)
		Growth Stage 4/5/07 (Feekes)	Frost Damage§ 4/26/07	Harvest Phenotype¶ 6/19/07	Avg Yield bu/a	Growth Stage 4/5/07 (Feekes)	Avg Yield bu/a	Growth Stage 4/5/07 (Feekes)	Avg Yield bu/a		
VA	Thoroughbred	10.0	3.0	4.3	34	5.3	56	9.3	56	8.2	48 ± 3
VA	Price	10.5	4.5	5.0	11	6.0	45	10.3	36	8.9	31 ± 3
VA	Doyce (Hulless)	10.2	3.8	4.0	9	5.0	46	10.3	31	8.5	29 ± 3
VA	Eve (Hulless)	10.2	3.5	4.3	9	5.7	30	10.4	28	8.8	22 ± 3
<b>Average (bu/a)</b>		<b>10.2</b>	<b>3.7</b>	<b>4.4</b>	<b>16</b>	<b>5.5</b>	<b>44</b>	<b>10.1</b>	<b>38</b>	<b>8.6</b>	<b>32</b>
<b>L.S.D.<sub>.05</sub> (bu/a)</b>					<b>7</b>		<b>22</b>		<b>15</b>		<b>8</b>
<b>C.V. (%)</b>					<b>18.9</b>		<b>24.4</b>		<b>20.3</b>		<b>24.2</b>

† All yields are adjusted to 13.5% moisture.

n = number of environments

§ - Frost damage score 1 through 5: 1 = not damaged; 5 = severely damaged

¶ - Phenotypic score 1 through 5: 1 = normal, very attractive; 5 = very abnormal and trashy

Feekes growth stages:

8 = last leaf visible, but still rolled up, ear beginning to swell

9 = ligule of last leaf just visible

10 = sheath of last leaf completely grown out, ear swollen but not yet visible

10.1 = first ears just visible

10.2 = quarter of heading process completed

10.3 = half of heading process completed

10.4 = three-quarters of heading process completed

10.5 = all ears out of sheath

**Table 23. Contrast of mean yields† of four six-rowed barley varieties evaluated at five locations in Tennessee that were in common during 2006 and 2007.**

**CAUTION - DUE TO FREEZE DAMAGE, 2007 DATA ARE NOT RELIABLE FOR VARIETY SELECTION OR COMPARISONS**

Brand	Variety	Avg. Yield ± Std Err. (n=5)‡			Knoxville			Springfield			Spring Hill			Jackson			Milan		
		2006	2007	Diff	2006	2007	Diff	2006	2007	Diff	2006	2007	Diff	2006	2007	Diff	2006	2007	Diff
-----bu/a-----																			
VA	Thoroughbred	87 ± 3	44 ± 2	-43	90	34	-56	94	56	-38	92	54	-38	86	56	-30	71	21	-50
VA	Doyce (Hulless)	81 ± 3	28 ± 2	-53	72	9	-63	87	46	-41	85	28	-57	85	31	-54	74	27	-47
VA	Eve (Hulless)	80 ± 2	28 ± 2	-52	91	9	-82	76	30	-46	88	55	-33	71	28	-43	75	20	-55
VA	Price	77 ± 2	32 ± 2	-45	86	11	-75	77	45	-32	86	40	-46	64	36	-28	71	28	-44
<b>Average (bu/a)</b>		<b>81</b>	<b>33</b>	<b>-48</b>	<b>85</b>	<b>16</b>	<b>-69</b>	<b>83</b>	<b>44</b>	<b>-39</b>	<b>88</b>	<b>44</b>	<b>-43</b>	<b>77</b>	<b>38</b>	<b>-39</b>	<b>73</b>	<b>24</b>	<b>-49</b>
<b>L.S.D.<sub>.05</sub> (bu/a)</b>		<b>7</b>	<b>6</b>		<b>30</b>	<b>7</b>		<b>9</b>	<b>22</b>		<b>16</b>	<b>19</b>		<b>22</b>	<b>15</b>		<b>1</b>	<b>19</b>	
<b>C.V. (%)</b>		<b>11.9</b>	<b>24.6</b>		<b>17.9</b>	<b>18.8</b>		<b>5.4</b>	<b>24.4</b>		<b>8.9</b>	<b>21.5</b>		<b>14.6</b>	<b>20.3</b>		<b>0.5</b>	<b>31.7</b>	

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

\* Tested in the same trial with untreated varieties

**Table 24. Mean yields† of four six-rowed barley varieties evaluated at five locations in Tennessee during 2006.**

Brand	Variety	Avg. Yield ± Std Err. (n=5)‡	Spring				
			Knoxville	Springfield	Hill	Jackson Milan	
VA	Thoroughbred	87 ± 3	90	94	92	86	71
VA	Doyce (Hulless)	81 ± 3	72	87	85	85	74
VA	Eve (Hulless)	80 ± 2	91	76	88	71	75
VA	Price	77 ± 2	86	77	86	64	71
<b>Average (bu/a)</b>		<b>81</b>	<b>85</b>	<b>83</b>	<b>88</b>	<b>77</b>	<b>73</b>
<b>L.S.D.<sub>.05</sub> (bu/a)</b>		<b>7</b>	<b>30</b>	<b>9</b>	<b>16</b>	<b>22</b>	<b>1</b>
<b>C.V. (%)</b>		<b>11.9</b>	<b>17.9</b>	<b>5.4</b>	<b>8.9</b>	<b>14.6</b>	<b>0.5</b>

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

**Table 25. Mean yields† and agronomic characteristics of four six-rowed barley varieties evaluated at five locations in Tennessee during 2006.**

Brand	Variety	Avg. Yield ± Std Err. (n=2)‡	Moisture (n=2)	Test			Barley	
				Weight§ (n=3)	Maturity (n=4)	Height (n=5)	Lodging (n=2)	Yellow Dwarf (n=1)
VA	Thoroughbred	87 ± 3	11.0	45.2	220	32	2.6	1.7
VA	Doyce (Hulless)	81 ± 3	12.0	53.0	220	31	2.8	1.5
VA	Eve (Hulless)	80 ± 2	12.7	57.0	220	32	2.1	3.8
VA	Price	77 ± 2	10.7	43.4	220	28	3.2	2.7

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ Official test weight of No. 1 barley = 48 lbs/bu.

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Barley Yellow Dwarf Virus = 1 to 5 scale; where 1 = 95% of plants non-infected; 2.5 = ~50% of plants infected; 5 = 95+% of plants infected;

Disease notes taken at the West Tennessee Experiment Station, Jackson, TN 2006.

**Table 26. Mean yields† of three six-rowed barley varieties evaluated at two locations (n=4) in Tennessee for two years, 2005 - 2006.**

Brand	Variety	Avg. Yield	Knoxville	Spring Hill
		± Std Err. (n=4)‡		
		-----bu/a-----		
VA	Thoroughbred	103 ± 4	113	92
VA	Price	98 ± 4	110	86
VA	Doyce (Hulless)	84 ± 4	86	83
<b>Average (bu/a)</b>		<b>95</b>	<b>103</b>	<b>87</b>
<b>L.S.D.<sub>.05</sub> (bu/a)</b>		<b>12</b>	<b>22</b>	<b>11</b>
<b>C.V. (%)</b>		<b>11.7</b>	<b>13.9</b>	<b>7.3</b>

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

**Table 27. Mean yields† and agronomic characteristics of three six-rowed barley varieties evaluated at two locations (n=4) in Tennessee for two years, 2005 - 2006.**

Brand	Variety	Avg. Yield	Moisture (n=10)	Test	Maturity (n=9)	Height (n=10)	Lodging (n=5)	Barley
		± Std Err. (n=4)‡		Weight§ (n=6)				Yellow Dwarf (n=1)
		bu/a	%	lbs/bu	DAP	in.	Score	Score
VA	Thoroughbred	103 ± 4	11.4	46.2	220	33	2.2	1.7
VA	Price	98 ± 4	11.2	44.4	219	31	2.9	2.7
VA	Doyce (Hulless)	84 ± 4	12.8	53.9	219	33	3	1.5

† All yields are adjusted to 13.5% moisture.

‡ n = number of environments

§ Official test weight of No. 1 barley = 48 lbs/bu.

Maturity (DAP) = Days after planting

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Barley Yellow Dwarf Virus = 1 to 5 scale; where 1 = 95% of plants non-infected; 2.5 = ~50% of plants infected; 5 = 95+% of plants infected;

Disease notes taken at the West Tennessee Experiment Station, Jackson, TN 2006.