

WINTER WHEAT

2001 Missouri Crop Performance

McKendry, Sweets, Wright, Tague, Bestgen

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2001 MISSOURI WINTER WHEAT PERFORMANCE TESTS

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Introduction

The objective of the Missouri Winter Wheat Performance Tests is to provide wheat growers in Missouri with a reliable, unbiased, up-to-date source of information that will permit valid comparisons among improved wheat varieties. This information should help Missouri wheat growers select varieties best suited to their particular area and growing conditions. This report summarizes soft red winter wheat variety trials conducted throughout Missouri during the 2000-2001 cropping season. No hard red winter wheat test was conducted in 2001.

Variety Testing Procedures

Locations

The soft red winter wheats were planted at seven Missouri locations (Figure 1) including Portageville and Charleston in the southeastern region, Mt. Vernon and Lamar in the southwestern region, and Columbia, Novelty, and Trenton in the northern region of the state.



Figure 1. Test locations for Missouri winter wheat performance tests conducted during 2001.

Entries and Seed Sources

Names of commercially available entries evaluated in 2001 and their seed sources are given in Table 1. Fifty-six soft red winter wheats were tested comprised of 4 public, 8 public experimental and 44 proprietary varieties. Public varieties adapted to Missouri growing conditions or recommended by the state of origin were entered in the 2001 variety tests under the sponsorship of the Missouri Seed Improvement Association. Seed lots of named public varieties were acquired from the foundation seed organization of the originating state or from the University of Missouri Foundation Seed Organization. Numbered entries preceded by a state designation (e.g. MO 980525, VA 97W-206) were provided by the foundation seed organization or the wheat breeder of the originating state, and are experimental lines not yet available for commercial production. Public experimental lines are tested in order to gain preliminary Missouri data on varieties that may become available for commercial production in Missouri 2002 or thereafter. Proprietary entries were submitted for testing on a fee basis by the developing company or sponsor. Condition of all seed lots (vigor, viability, seed treatment, etc.) was the responsibility of the company or organization submitting the entry for testing.

Experimental Design and Seeding Methods

Each soft red winter wheat experiment was planted using a 7 x 8 lattice design with four replications. Except for the Trenton location, all test plots consisted of a 15-foot, 6-row plot with 7-inch row spacing. At the Trenton location, test plots consisted of a 12-foot, 7-row plot with 7-inch row spacing. All entries were seeded at approximately 1.5 million seeds per acre, roughly equivalent to seeding 1.5 to 2 bushels per acre. Actual seeding rates were calculated from the thousand kernel weights determined for each soft red winter wheat entry and ranged from 91 to 154 pounds per acre (Table 2). Seeding rates were not adjusted for germination. Except for the Trenton location, all entries were seeded into conventional seedbeds using a Hege 90™ plot drill equipped with six conventional double-disk openers. At the Trenton location, all entries were no-till seeded directly into soybean stubble using a plot drill equipped with Acraplant™ no-till openers.

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Cover photo: Wheat yield trials, Delta Center Lee Farm, Portageville, MO.

Table 1. Names and sources of commercial soft red winter wheat cultivars tested in Missouri during 2000-2001.

Variety	Source/Contact	Variety	Source/Contact
Ernie [†] Kaskaskia [†] Roane [†] Sisson [†]	Missouri Seed Improvement Assoc. 3211 Lemone Industrial Blvd. Columbia, MO 65210-8245 (573) 449-0586	Excel 307 Excel 400-1	Excel Brand Seed P.O. Box 320 Camp Point, IL 62320 (800) 593-7708
AR 494B-2-2 [†] AR 839-27-1-3 [†]	University of Arkansas 115 Plant Science Bldg. Fayetteville, AR 72701 (501) 575-5725	FFR 510 FFR 551	FFR Seed 969 Cloverleaf Dr. Southaven, MS 38671 (662) 349-9851
GA 901146E15 [†]	University of Georgia Dept. of Crop & Soil Science Griffin GA, 30223 (770) 228-7321	Fortune 9890	Mid-State Seed P.O. Box 126 Marshall, MO 65340 (660) 886-5578
KY 90C-292-4-1 [†] KY 91C-171-24 [†]	University of Kentucky Dept. of Agronomy Lexington, KY 40546-0091 (606) 257-5811	MFA Brand 766 MFA Brand 1828 MFA Brand 1944	MFA Incorporated 201 Ray Young Dr. Columbia, MO 65201 (573) 876-5285
MO 960903 [†] MO 980525 [†]	University of Missouri Dept. of Agronomy Columbia, MO 65211 (573) 882-7708	MPG 7921	Midwest Premium Genetics 101 N.E. Davis Rd. P.O. Box 688 Concordia, MO 64020 (800) 622-1150
VA 97W-206 [†]	Virginia Polytechnic Institute and State University P.O. Box 78 Mt. Holly, VA 22524 (804) 472-3500	NK BL940582 NK COKER 9025 NK COKER 9474 NK COKER 9663	Syngenta Seeds, Inc. P.O. Box 729 Bay, AR 72411 (870) 483-7691
AGRIPRO Gibson AGRIPRO Patton	Agripro Seeds Inc. 6025 West 300 South Lafayette, IN 47905-9278 (765) 572-2001	Pioneer ® Variety 25R37 Pioneer ® Variety 25R44 Pioneer ® Variety 25R49 Pioneer ® Variety 25R75	Pioneer Hi-Bred International Inc. 2306 Bluff Creek Columbia, MO 65201 (573) 443-1175
AGRIPRO M96*4403 AGRIPRO Natchez AGRIPRO Shiloh	Agripro Seeds Inc. P.O. Box 2365 Jonesboro, AR 72402 (870) 935-3941	SR 204 SR 218	Cropland Genetics P.O. Box 146 Blytheville, AR 72315 (870) 762-1557
AGS 2000	AgSouth Genetics LLC P.O. Box 88823 Dunwoody, GA 30356 (770) 350-0011	Stine 422 Stine 454	Stine Seed Co. P.O. Box 231 Sheridan, IN 46069 (317) 758-0800
Dixie 900 Dixie 911 Dixie 922 Dixie 2000	Cache River Valley Seed 12470 Highway 226 Cash, AR 72421 (870) 477-5427	USG 3209 USG 3709	UniSouth Genetics 2640-C Nolensville, Road Nashville, TN 37211 (800) 505-3133
DK 1551 W DK 9027 DK 9121 DK XTJ 7531 DK XTJ 7777 DK XTJ 7900 DK XTJ 9333	Delta King Seed Company P.O. Box 970 McCrary, AR 72101 (870) 731-5484	WILLCROSS 723 WILLCROSS 728	WILLCROSS Seed Development Association P.O. Box 560 Garden City, MO 64747 (816) 862-6002

[†] Public winter wheat cultivars or experimental entries.

Table 2. Seed size of entries, adjusted seeding rates, and seed treatments of seed lots used for establishing soft red winter wheat entries during the fall of 2000. Use of seed treatment trade names does not imply endorsement or recommended use of such seed treatments by the Missouri Agricultural Experiment Station or University Extension.

Variety	1,000-Kernel weight	Seeds per pound	Adjusted seeding rate [†]	Seed treatment(s)
	-g-	-no/lb-	-lb/acre-	
AGRIPRO Gibson	30.1	15,083	102	Raxil Allegiance
AGRIPRO M96*4403	31.6	14,367	107	Raxil MD
AGRIPRO Natchez	38.8	11,701	131	Raxil MD
AGRIPRO Patton	35.7	12,717	121	Raxil Allegiance
AGRIPRO Shiloh	34.9	13,009	118	Raxil MD
AGS 2000	45.5	9,978	154	Raxil
AR 494B-2-2	34.6	13,121	117	None
AR 839-27-1-3	34.6	13,121	117	None
Dixie 900	34.5	13,159	117	Raxil Thiram
Dixie 911	36.2	12,541	122	Dividend
Dixie 922	37.3	12,172	126	Dividend
Dixie 2000	30.2	15,033	102	Dividend
DK 1551 W	33.5	13,552	113	Dividend Gaucho
DK 9027	39.1	11,611	132	Dividend Gaucho
DK 9121	29.1	15,601	98	Dividend Gaucho
DK XTJ 7531	32.8	13,841	111	Dividend Gaucho
DK XTJ 7777	32.7	13,884	111	Dividend Gaucho
DK XTJ 7900	31.8	14,277	108	Dividend Gaucho
DK XTJ 9333	35.8	12,682	121	Dividend Gaucho
Ernie	36.4	12,473	123	Raxil/Reldan
EXCEL 307	33.9	13,392	115	Raxil XT
EXCEL 400-1	35.2	12,898	119	Raxil XT
FFR 510	38.9	11,671	132	Raxil
FFR 551	40.2	11,294	136	Raxil
Fortune 9890	26.8	16,940	91	None
GA 901146E15	30.6	14,837	103	None
Kaskaskia	31.8	14,277	108	Raxil/Reldan
KY 90C-292-4-1	31.1	14,598	105	Raxil Thiram
KY 91C-171-24	32.3	14,056	109	Raxil Thiram
MFA Brand 766	37.2	12,204	126	Raxil XT
MFA Brand 1828	33.4	13,593	113	Raxil XT
MFA Brand 1944	32.4	14,012	110	Raxil XT
MO 960903	33.0	13,758	112	Vitavax 200
MO 980525	33.4	13,593	113	Vitavax 200
MPG 7921	41.9	10,835	142	Raxil/Reldan
NK BL940582	39.1	11,611	132	Dividend XL/Reldan
NK COKER 9025 (formerly NK BL930390)	33.9	13,392	115	Dividend XL/Reldan
NK COKER 9474	34.0	13,345	115	Dividend XL/Reldan
NK COKER 9663	38.1	11,916	129	Dividend XL/Reldan
Pioneer Variety 25R37	43.6	10,413	147	Vitavax 200
Pioneer Variety 25R44	35.8	12,682	121	Vitavax 200
Pioneer Variety 25R49	43.5	10,437	147	Vitavax 200
Pioneer Variety 25R75	31.0	14,645	105	Vitavax 200
Roane	28.2	16,099	95	Raxil/Reldan
Sisson (formerly VA 96W-250)	39.4	11,523	133	Raxil
SR 204	34.0	13,353	115	Unknown
SR 218	37.4	12,139	127	Unknown
Stine 422	37.1	12,237	125	Raxil Thiram
Stine 454	35.9	12,646	121	Raxil Thiram
USG 3209	41.3	10,993	140	Raxil Thiram/Lorsban
USG 3709	40.8	11,127	138	Raxil Thiram/Lorsban
VA 97W-206	36.1	12,576	122	Raxil
WILLCROSS 723	30.4	14,934	103	Raxil Thiram
WILLCROSS 728	30.9	14,693	104	Raxil Thiram
WILLCROSS 730	42.4	10,708	143	Raxil Thiram
WILLCROSS 738	30.4	14,934	103	Raxil Thiram

[†] Adjusted to 1.5 million seeds per acre according to the number of seeds per pound for each entry.

Table 3. Summary of agronomic practices used on wheat performance trials in Missouri during 2000-2001. Fall nitrogen (N), phosphorus (P₂O₅), and potassium (K₂O) were pre-plant applied and incorporated.

Location	Predominant soil type(s)	Previous crop	2000 Planting date	Fertility Management					2001 Harvest date
				N			P ₂ O	K ₂ O	
				Fall	Spring	Total			
----- lb/acre -----									
Northern									
Columbia	Mexico silt loam	soybean	October 12	40	80	120	20	40	June 27
Novelty [†]	Putnam silt loam	soybean	October 31	40	82	122	20	40	July 10
Trenton [‡]	Grundy silt loam	soybean	November 1	36	80	116	92	200	July 09
Southwest									
Lamar [†]	Parsons silt loam	soybean	November 14	27	80	107	69	90	June 25
Mt. Vernon [†]	Gerald silt loam	soybean	November 21	40	80	120	40	40	June 26
Southeast									
Charleston [§]	Sharkey silty clay	corn	October 18	50	70/30 [¶]	150	58	75	June 18
Portageville	Tiptonville silt	soybean	October 19	40	80	120	40	-	June 19

[†] Due to excessive rainfall at planting, two northern locations and the southwest locations were planted very late compared to their respective fly-free dates which in general determine optimum planting time in Missouri. Fall stands at these locations were consequently poor.

[‡] All entries were no-till seeded directly into soybean stubble using a plot drill equipped with Acraplant™ no-till openers.

[§] Applications of Tilt and Warrior were done mid-April. Location was irrigated, once prior to heading and a second time post-heading.

[¶] A split spring N application was applied: 70 lb N applied in mid-February and 30 lb applied at green-up in mid-March.

Agronomic Practices

Basic agronomic practices are given in Table 3 by location. Nitrogen was applied in split fall/spring applications. Except where indicated, spring nitrogen applications were generally made at or shortly after initial green-up (Feeke's GS 6). Preplant phosphorous and potassium applications were based on soil test recommendations provided by the University of Missouri's Soil Testing Laboratory located at Columbia or by a similar private soil testing facility. Planting dates were generally determined by the fly-free date for the given location, however, an excessively wet fall resulted in planting at the Novelty, Trenton, Lamar, and Mt. Vernon being significantly later than optimal for those locations, respectively. Management practices at Charleston differed from those of the other test locations. Applications of Tilt and Warrior were made mid-April. In addition, the plots at Charleston were irrigated twice, once prior to heading and again post-heading.

Description of Data Collected

Yield

All rows of each test plot were trimmed 30 inches, measured for length, and harvested using a Kincaid™ experimental plot combine. Recorded grain yields were

adjusted to 13% grain moisture on comparable plot areas and reported in bushels per acre based on a 60 pound standard bushel weight. In addition to yields obtained in 2001, two-year averages (2000-01) are provided for entries tested during the previous cropping season. Three-year averages (1999-01) are also provided for those entries that have been in the Missouri tests for three consecutive years.

Test Weight and Grain Moisture Content

Test weight (pounds per bushel) and percent grain moisture content were determined for each plot using a Dickey-john GAC II™ grain analyzer.

Plant Height

Plant height was measured in inches from the soil surface to the top of the head, excluding the awns if present. Reported values have been rounded to the nearest inch.

Lodging

Lodging severity at crop maturity was rated at all test locations. Plots were rated on a severity scale of 0 to 9 where 0=no lodging and 9=plants in the plot completely flat.

Winter Survival

Percent winter survival was estimated for each plot after

initial spring green-up (approximately Feeke's GS 6) at all locations. Reported values have been rounded to the nearest percent.

Heading Date

Heading dates were recorded at Columbia, Portageville, and Novelty when 50% of the heads in a plot had extended above the flag leaf collar. Heading dates were recorded in Julian days (number of days after January 1) for statistical purposes. The corresponding calendar dates are also presented.

Disease Ratings

Septoria tritici blotch was present at many locations but levels were generally lower than those in a normal year because of the dry weather through March and April. Disease levels were high enough to rate at Columbia. Ratings presented reflect percent canopy infection. Fusarium head blight (scab) reduced yields and test weights in susceptible varieties at Novelty. Ratings presented reflect the mean percentage of shriveled kernels or tombstones in replicated 100-kernel samples of harvested grain. Data were collected prior to blowing the samples for test weight measurements. Soilborne mosaic virus ratings were taken at both Charleston and Portageville prior to jointing. Data presented reflect the percentage of the canopy showing viral symptoms and may be confounded by barley yellow dwarf symptoms as three strains of the virus were present in addition to soilborne mosaic virus. Plant samples were analyzed with the assistance of Dr. Barb Corwin at the University of Missouri's Plant Diagnostic Laboratory.

Statistical Analyses and Interpretation

Data collected on all traits measured in the soft red winter wheats tested during the 2000-2001 crop season are presented in Tables 5 through 14. Data presented for individual locations were analyzed using a lattice design. Regional, state-wide, and multi-year data result from analysis based on a randomized complete block design. If an observation was missing in one replication an adjusted average of the remaining observations (least squares mean) was used to approximate the missing observation. Mean comparisons were made using Fisher's protected least significant difference (LSD) at the 0.05 probability level ($p=0.05$). Coefficients of variation (CV%) were calculated from the analyses of variance of each location and across all locations.

The LSD is used to compare the performance of two specific varieties. If the mean of a variety exceeds that of another variety by more than the LSD, then the difference observed will be a true difference in 19 out of 20 instances under conditions similar to those of the test.

Differences in yield between any two varieties are considered significant or real only if that difference exceeds the LSD value given at the bottom of each column. Table 14 ranks soft red winter wheats according

to their state-wide average. Overall rank can be very misleading. Growers should be careful to make pair-wise comparisons of results from both the appropriate location or locations and the state-wide averages before selecting one wheat variety over another for production in Missouri. Variety selection should be based on yield stability in a production environment over years and locations. Where a variety has been in the test for two or three years, combined analyses of the yield data over years are presented. In choosing a variety, other characteristics such as test weight, heading date, and disease resistance should also be taken into consideration. Where disease data were not reported in a particular production environment, they can be evaluated from locations in which they were rated.

2001 Test Conditions

Field conditions during the fall of 2000 were wet at most locations where the performance tests were grown due to excessive fall rainfall which delayed planting in the southwest and at Trenton and Novelty in northern Missouri. The tests were planted into fair to poor seedbeds at these locations and into a wet seedbed at Columbia. At most locations, conditions continued to be wet through the fall and may have contributed to reduced stands. A cold weather pattern over Missouri during December resulted in the second coldest December on record. Temperatures averaged between 11-14° below normal statewide with the coldest temperatures in the northeast. Temperatures were milder in January and precipitation was variable, with above normal rainfall in the northwest and below normal rainfall in the southeast. Rainfall continued in February which, statewide, was among the wettest on record. March was cooler and drier than normal which slowed green-up statewide. Although the dry weather continued in April and the first two weeks in May temperatures were among the warmest on record. Grainfall was extended during the latter two weeks in May when temperatures were again cool (5-8° below normal) and rainfall returned to above normal.

In the southeast, soilborne mosaic virus was identified at both Charleston and Portageville as were the PAV, RPV and RMV strains of barley yellow dwarf virus, (personal communication, Dr. Barb Corwin, Univ. of Missouri Plant Pathologist). Serological tests were inconclusive for wheat streak. At Charleston, applications of both Tilt and Warrior were made in mid-April. In addition, to alleviate drought conditions at the location, the test was irrigated twice, once prior to heading and again post-heading. Dry conditions through much of the growing season at Portageville resulted in low levels of Septoria tritici blotch. The dry conditions at Portageville in May contributed to an outbreak of armyworms that damaged wheat fields in the bootheel. Although present in the wheat performance test at Portageville, threshold levels for spraying were not reached. Cooler and wetter conditions towards the end of May helped to alleviate the problem.

In the southwest, wet conditions at planting and through the fall prevented good fall stand establishment and reduced winter survival significantly. Most varieties compensated well during the spring and yields were, in general, better than expected. Dry spring conditions produced lower than normal levels of fungal diseases.

In the northern region, the generally dry conditions resulted in lower than normal levels of Septoria tritici blotch. Disease levels were high enough at Columbia to be rated and data have been provided for that location. At both Columbia and Novelty, stripe rust came into the crop late but was not considered to have had a significant effect on yield. At Novelty, excessive fall rainfall reduced seedbed quality and delayed planting until October 31st, approximately 4 weeks after the optimal planting date. Wet conditions through the fall prevented good fall stand establishment and reduced winter survival significantly. Rainfall at heading contributed to significant levels of Fusarium head blight (scab), further lowering yields and test weights in susceptible varieties. Percentage of scab damaged kernels in the harvested grain were determined and provide an indication of the susceptibility of varieties to this pathogen. Similar conditions at the Trenton location reduced fall stand establishment and winter survival, and reduced test weights at harvest.

2001 Test Results

The state-wide yield of soft red winter wheats tested in 2001 was 62.3 bushels per acre (Table 5), down 0.7 bushels per acre from the 2000 test average of 63.0 bushels per acre. State-wide yields were down 8.7 bushels per acre from the record high yield (71.0 bu/acre) recorded in 1997. Average yields across the seven test locations ranged from 41.7 bushels per acre at Trenton to 86.8 bushels per acre at Charleston (Table 14). Average regional yields ranged from 57.7 bushels per acre in the northern region to 62.1 bushels per acre in the southwestern region and 69.7 bushels per acre in the southeastern region of the state (Table 13).

'Pioneer Variety 25R37' was the highest yielding soft red winter wheat tested, averaging 70.7 bushels per acre across the state (Table 5). Four proprietary varieties including: 'Dixie 900' (68.0 bu/acre), 'Pioneer Variety 25R49' (67.9 bu/acre), 'DK XTJ 7531' (67.9 bu/acre), and 'MPG 7921' (67.7 bu/acre), did not differ significantly in yield from Pioneer Variety 25R37.

Regional test weights varied significantly in 2001 due to differential environmental conditions and disease pressure at northern locations. State-wide, the average test weight was 58.0 pounds per bushel (Table 5), up 1 pound per bushel from the state-wide average (57.0 lb/bu) recorded 2000. Location averages ranged from a low of 53.2 pounds per bushel at Novelty (Table 7) where disease pressure from Fusarium head blight (scab) lowered test weights, to a high of 62.3 pounds per bushel at Charleston (Table 9). Among soft red winter wheat varieties tested, 'NK Coker 9474' had the heaviest test

weight at 60.9 pounds per bushel (Table 5). The public variety, Kaskaskia (60.2 lb/bu) did not differ significantly from NK Coker 9474.

New Variety Descriptions

Brief descriptions of newly released varieties are derived from variety release statements provided by the originators and are included for information purposes only. Descriptions of 'branded varieties' are also provided when the true identity of the variety is provided. The inclusion of this information in this publication does not imply endorsement or exclusion of any commercially available wheat variety by the Missouri Agricultural Experiment Station.

AGRIPRO Natchez

AGRIPRO 'Natchez' is a soft red winter wheat bred and developed by Agripro Wheat at Jonesboro, AR. Natchez has good test weight, strong straw, medium tall height and mid-season maturity. It has shown resistance to leaf rust, stripe rust and to the soil virus complex most common to the mid-south. It is susceptible to the Hessian fly. AGRIPRO Natchez has good milling and baking properties. It was tested for the first time in the Missouri Winter Wheat Performance Tests in 2001 where it yielded 60.4 bushels per acre state-wide (Table 5), 1.9 bushels per acre below the test average. AGRIPRO Natchez was in the top yield group (61.0 bu/acre) in the northern region of the state (Table 13).

NK COKER 9025

NK COKER '9025' (formerly designated NK BL930390) is a soft red winter wheat developed and released by Syngenta Seeds, Inc. It has medium short plant height, medium maturity, good winterhardiness, and good straw strength. NK COKER 9025 is moderately resistant to prevalent races of leaf rust in the Mid-south and Southeast and to prevalent races of powdery mildew in the upper southeast. It is moderately resistant to wheat spindle streak mosaic virus, however, is susceptible to Septoria tritici blotch and to Hessian fly. NK COKER 9025 has acceptable milling and baking qualities compared to standards, 'Hickory', 'Pioneer 2552', and 'COKER 9543'. In two years of testing in the Missouri Winter Wheat Performance Tests, NK COKER 9025 yielded 61.2 bushels per acre (Table 5), 1.3 bushels per acre below the test average. NK COKER 9025 will be marketed in the upper mid-south, corn belt and northern east coast by Syngenta Seeds, Inc. It is best adapted to an area north of Interstate 40, across to the east coast and up into the northern east coast area.

Pioneer® Variety 25R37

Pioneer® Variety '25R37' (XW585, PVP 200000327) is a soft red winter wheat developed and released by Pioneer Hi-Bred International, Inc. Pioneer Variety 25R37 is an awnless, medium heading date variety, with short plant height and strong lodging resistance. It has shown outstanding yield potential and test weight across the soft

wheat growing region. It has excellent powdery mildew resistance and very good resistance to fungal leaf blights and soilborne viruses. Pioneer Variety 25R37 also has good winterhardiness and has shown very good tolerance to heat and drought stress. It was tested in the Missouri Winter Wheat Performance Tests for the first time in 2001 where it was either the top yielding variety or in the top yield group at all locations of the test. It won the performance tests with a state-wide yield of 70.7 bushels per acre and a test weight of 58.9 pounds per bushel, 0.9 pounds above the test average (Table 5). Pioneer Variety 25R37 is protected under the Plant Variety Protection Act. More detailed information on 25R37 is available on request from Pioneer Hi-Bred International, Inc., A DuPont Company.

Pioneer ® Variety 25R44

Pioneer ® Variety '25R44' (XW584, PVP 200000329) is a soft red winter wheat developed and released by Pioneer Hi-Bred International, Inc. Pioneer Variety 25R44 is an awned, medium heading date variety, with medium plant height and good lodging resistance. It has shown excellent yield potential and test weight across the soft wheat growing region. It has very good resistance to leaf rust, soilborne mosaic viruses and good resistance to fungal leaf blights. Pioneer Variety 25R44 is moderately susceptible to powdery mildew. It was tested for the first time in the Missouri Winter Wheat Performance Tests in 2001. State-wide it yielded 64.5 bushels per acre, 2.2 bushels above the test average (Table 5). Pioneer Variety 25R44 is protected under the Plant Variety Protection Act. More detailed information on Pioneer Variety 25R44 is available on request from Pioneer Hi-Bred International, Inc., A DuPont Company.

Pioneer ® Variety 25R49

Pioneer ® Variety '25R49' (XW587, PVP 200000328) is a soft red winter wheat developed and released by Pioneer Hi-Bred International, Inc. Pioneer Variety 25R49 is an awnless, medium heading date variety, with short plant height and good lodging resistance. It has shown outstanding yield potential and very good test weight across the soft wheat growing region. It has moderate powdery mildew and fungal leaf blight resistance and good resistance to the soilborne viruses. It also has very good leaf rust resistance and good winterhardiness. Pioneer Variety 25R49 was tested for the first time in the Missouri Winter Wheat Performance Tests in 2001. State-wide it yielded 67.9 bushels per acre, 5.6 bushels above the test average and in the top yield group. It was in the top yield group in both the northern and southeastern regions of the state (Table 13) and was either the top yielding variety or in the top yield group in 5 of the 7 locations of the Missouri Wheat Performance Tests (Table 14). Pioneer Variety 25R49 is protected under the Plant Variety Protection Act. More detailed information on Pioneer Variety 25R49 is available on request from Pioneer Hi-Bred International, Inc., A DuPont Company.

Pioneer ® Variety 25R75

Pioneer ® Variety '25R75' (XW588, PVP 200000320) is a soft red winter wheat developed and released by Pioneer Hi-Bred International, Inc. Pioneer Variety 25R75 is an awned, early maturity variety, with medium-tall plant height and slightly below average lodging resistance. It has shown excellent yield potential and good test weight across the soft wheat growing region. It has outstanding leaf rust resistance, good powdery mildew resistance and very good resistance to the soilborne viruses. Pioneer Variety 25R75 also has average winterhardiness and is moderately susceptible to the fungal leaf blights. It was tested for the first time in the Missouri Winter Wheat Performance Tests in 2001. State-wide it yielded 66.8 bushels per acre, 4.5 bushels above the test average (Table 5). It was in the top yield group in both the northern and southeastern regions of the state (Table 13). Pioneer Variety 25R75 is protected under the Plant Variety Protection Act. More detailed information on Pioneer Variety 25R75 is available on request from Pioneer Hi-Bred International, Inc., A DuPont Company.

Sisson

'Sisson' (formerly designated VA 96W-250) is a moderately early heading, short-stature, awnleted soft red winter wheat with broad adaptation. It was developed from the cross 'Coker 9803/Freedom'. Head emergence is 1 day later than that of 'Pioneer 2580' and one day earlier than 'Coker 9835'. Straw strength is similar to Coker 9835 and better than 'Jackson'. Winterhardiness is similar to Freedom. Sisson is moderately resistant to prevalent field populations of powdery mildew and moderately susceptible to leaf rust. It is resistant to the predominant race of stem rust, moderately resistant to barley yellow dwarf virus and glume blotch and moderately resistant to moderately susceptible to soilborne mosaic and wheat spindle streak mosaic viruses. Sisson is susceptible to Hessian fly biotypes GP, B, C, D, E, and L. In two years of testing in the Missouri Winter Wheat Performance Tests, Sisson yielded 64.1 bushels per acre, 1.6 bushels above the test average (Table 5).

2001 Missouri Winter Wheat Crop Statistics

Projected Crop Statistics

Based on July 1st USDA forecast provided by the Missouri Agricultural Statistics Service, Missouri's wheat crop was harvested from 760 thousand acres, a 20 percent decrease over acres harvested in 2000 (Table 4). State-wide, yields are projected to average 54 bushels per acre, up 2 bushels per acre from the 2000 yield. If realized, this would equal the 1997 record yield for the state. District yields ranged from a low of 48 bu/acre in the southwest to a high of 57 bu/acre in the west-central region of the state. Despite above average yields, total Missouri production is projected to be 41.04 million bushels which is down 17 percent from last year due to the reduction in overall acres planted in the state.

Table 4. Acreage, yield, and production of winter wheat in Missouri by reporting district. Data were provided by the Missouri Agricultural Statistics Service.

Reporting	Acres planted		Acres harvested		Yield		Production	
	2000	2001	2000	2001 [†]	2000	2001 [†]	2000	2001 [†]
	----- 1,000 acres -----				----- bu/acre -----		----- 1,000 bushels --	
Northwest	33.1	23	29.3	‡	43.6	‡	1,277	‡
North-central	83.5	47	78.7	‡	50.8	‡	4,001	‡
Northeast	125.5	79	117.9	71	56.4	56	6,648	4,000
West-central	131.8	120	122.0	100	48.2	57	5,886	5,700
Central	123.9	86	107.4	69	47.9	52	5,149	3,600
East-central	82.6	56	73.7	47	47.3	55	3,488	2,600
Southwest	113.9	99	98.7	84	46.8	48	4,616	4,000
South-central	10.4	9	5.7	‡	40.4	‡	230	‡
Southeast	345.3	361	316.6	322	57.2	55	18,105	17,800
Other [‡]				67		50		3,340
State	1,050.0	880	950.0	760	52.0	54	49,400	41,040

[†] Estimates based on the July 1 forecast.

[‡] Data for 2001 for the northwest, north-central, and south-central regions are included in "other".

Electronic Accessibility of Data

Results of the 2001 Missouri Winter Wheat Performance Tests are available on the University of Missouri's Agricultural Electronic Bulletin Board (AgEBB) web site. Complete soft red winter wheat variety test results can be found under crop performance testing at <http://agebb.missouri.edu/cropper/>. Call (573)882-4827 to contact AgEBB's staff concerning questions or problems related to the electronic accessibility of this data.

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Table 5. Performance of soft red winter wheats tested across seven locations in Missouri during 2001.

Variety	Grain yield [†]			Test weight	Grain moisture	Winter survival	Plant height	Lodging [‡]	Heading date	
	2001	2000-01	1999-01						Julian	Calendar
	-----	bu/acre	-----	- lb/bu -	%	%	in	0-9		
AGRIPRO Gibson	61.7	61.8	58.8	58.8	11.2	59	32	2	127	May 08
AGRIPRO M96*4403	55.5			57.8	11.7	63	33	3	127	May 08
AGRIPRO Natchez	60.4			57.7	12.1	59	35	4	130	May 11
AGRIPRO Patton	66.1	66.1	64.1*	57.1	11.3	63	33	3	128	May 09
AGRIPRO Shiloh	52.5	55.0	54.6	57.1	11.3	46	32	2	129	May 10
AGS 2000	65.8	68.8*	66.1**	58.3	11.8	55	33	3	129	May 10
AR 494B-2-2	56.6	59.7		58.1	11.6	60	36	3	130	May 11
AR 839-27-1-3	61.6			58.0	11.2	57	36	2	130	May 11
Dixie 900	68.0*			58.9	11.8	62	36	3	127	May 08
Dixie 911	51.1	54.8		57.5	11.6	45	33	2	129	May 10
Dixie 922	66.9			58.6	11.7	60	36	3	127	May 08
Dixie 2000	58.0	59.9		58.0	11.4	57	33	3	127	May 08
DK 1551 W	63.2			57.3	11.2	62	32	2	130	May 11
DK 9027	61.1			57.5	11.3	65	33	3	127	May 08
DK 9121	64.3			58.6	11.1	63	31	2	127	May 08
DK XTJ 7531	67.9*			57.3	11.3	66	35	2	128	May 09
DK XTJ 7777	62.9			58.6	11.9	61	35	2	128	May 09
DK XTJ 7900	63.9			58.3	11.7	62	36	3	127	May 08
DK XTJ 9333	64.2			58.7	11.3	64	37	3	127	May 08
Ernie	53.6	53.8	54.3	58.1	11.2	57	29	4	127	May 08
EXCEL 307	66.6			58.8	11.8	63	36	3	127	May 08
EXCEL 400-1	66.9	66.2*		58.9	11.4	66	36	3	128	May 09
FFR 510	62.1			55.8	11.5	61	33	3	127	May 08
FFR 551	58.2			57.2	11.4	63	30	3	129	May 10
Fortune 9890	58.2	61.7	60.0	58.0	11.4	56	33	3	128	May 09
GA 901146E15	63.8	64.4		57.5	11.5	56	31	2	127	May 08
Kaskaskia	63.3	62.6	59.4	60.2*	11.6	61	36	3	128	May 09
KY 90C-292-4-1	60.9			57.6	11.5	56	31	2	128	May 09
KY 91C-171-24	60.5			59.5	12.0	54	32	2	128	May 09
MFA Brand 766	64.7			58.4	11.3	65	30	4	127	May 08
MFA Brand 1828	64.3	63.5	61.8	58.8	11.8	64	36	3	127	May 08
MFA Brand 1944	62.8			57.7	11.7	57	36	3	128	May 09

MO 960903	62.6	64.8		57.6	11.5	61	36	3	127	May 08
MO 980525	63.6	62.9		58.6	12.1	58	37	2	133	May 14
MPG 7921	67.7*	68.9**		56.7	11.1	64	34	2	127	May 08
NK BL940582	64.4			58.0	11.0	62	35	2	127	May 08
NK COKER 9025 (NK BL 930390) [§]	58.4	61.2		55.2	11.7	62	32	3	129	May 10
NK COKER 9474	60.6	57.4	55.7	60.9**	11.6	59	32	2	128	May 09
NK COKER 9663	65.5	63.9	63.3	59.1	12.3	59	36	3	129	May 10
Pioneer Variety 25R37	70.7**			58.9	11.9	64	32	2	128	May 09
Pioneer Variety 25R44	64.5			58.1	11.7	55	32	2	129	May 10
Pioneer Variety 25R49	67.9*			56.9	11.6	66	31	3	127	May 08
Pioneer Variety 25R75	66.8			57.5	11.8	62	33	2	126	May 07
Roane	63.2	65.9	64.0	60.1	11.7	59	30	2	128	May 09
Sisson (VA 96W-250) [§]	58.6	64.1		57.5	11.5	60	30	3	127	May 08
SR 204	61.2			59.9	12.1	60	35	2	129	May 10
SR 218	62.6	66.3*	61.5	58.6	11.5	61	35	3	128	May 09
Stine 422	64.1			57.7	11.5	64	33	4	127	May 08
Stine 454	65.6			58.3	11.9	63	34	3	128	May 09
USG 3209	59.0	64.4	63.5	57.7	11.8	50	30	3	129	May 10
USG 3709	66.3	66.0		56.7	11.2	58	34	2	127	May 08
VA 97W-206	62.2			57.2	11.2	62	31	3	129	May 10
WILLCROSS 723	47.0	53.4	54.7	56.3	11.8	41	32	2	128	May 09
WILLCROSS 728	62.5	61.9	60.1	57.5	11.7	59	35	3	128	May 09
WILLCROSS 730	64.9	66.3*		56.8	11.4	61	34	2	127	May 08
WILLCROSS 738	63.7	63.3	61.8	58.2	11.6	59	36	3	128	May 09
Average	62.3	62.5	60.2	58.0	11.6	59.6	33.4	2.5	127.9	May 09
LSD (0.05)	3.3	2.7	2.0	0.7	0.3	4.1	0.6	0.4	0.8	
CV%	10.0	11.1	10.7	2.2	4.9	13.1	3.5	32.9	0.7	
Location Years	7	13	20	7	7	7	7	7	3	

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD (p=0.05).

† Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain. Two- and three-year data were compiled without the 2000 Mt. Vernon location which was lost due to heavy viral pressure and persistent rainfall at harvest.

‡ Lodging rated on a 0 to 9 scale where 0 = no lodging and 9 = plants in the plot completely flat.

§ Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

Table 6. Performance of soft red winter wheats tested near Columbia, Missouri during 2001.

Variety	Grain yield [†]			Test weight	Grain moisture	Winter survival	Plant height	Lodging [‡]	Heading date		Septoria leaf blotch [§]
	2001	2000-01	1999-01						Julian	Calendar	
	bu/acre			- lb/bu -	%	%	in	0-9			%
AGRIPRO Gibson	82.4	71.3	68.5	60.0	11.7	67	35	2	127	May 08	38
AGRIPRO M96*4403	82.5			58.3	12.1	75	38	4	128	May 09	43
AGRIPRO Natchez	80.3			60.6	12.2	74	40	4	128	May 09	20
AGRIPRO Patton	82.6	70.3	70.6	58.0	11.9	72	36	3	128	May 09	42
AGRIPRO Shiloh	83.3	68.6	64.7	59.1	11.6	59	36	3	128	May 09	38
AGS 2000	86.7	78.3*	78.3**	61.6*	12.1	54	37	2	128	May 09	32
AR 494B-2-2	76.0	69.3		61.4*	12.1	74	40	3	131	May 12	30
AR 839-27-1-3	75.3			58.0	11.7	51	40	2	129	May 10	27
Dixie 900	91.2*			61.0*	12.5	72	41	2	127	May 08	38
Dixie 911	76.5	67.1		59.2	11.7	66	36	2	127	May 08	28
Dixie 922	82.6			60.4	12.1	73	41	2	126	May 07	42
Dixie 2000	77.5	69.7		59.2	11.7	66	38	3	127	May 08	33
DK 1551 W	91.1*			60.2	11.9	78	37	3	128	May 09	43
DK 9027	78.1			59.2	11.7	71	36	4	126	May 07	42
DK 9121	82.1			60.5	11.5	72	35	2	127	May 08	25
DK XTJ 7531	86.7			57.9	11.8	81	38	1	128	May 09	28
DK XTJ 7777	89.5			61.5*	12.4	81	40	2	127	May 08	30
DK XTJ 7900	84.7			59.9	12.1	81	41	3	126	May 07	39
DK XTJ 9333	85.5			59.5	11.9	79	42	3	126	May 07	30
Ernie	76.5	64.2	61.8	59.1	11.8	72	34	3	126	May 07	29
EXCEL 307	87.0			60.5	12.3	80	42	3	126	May 07	34
EXCEL 400-1	90.1*	77.6*		60.4	12.3	78	41	3	128	May 09	43
FFR 510	83.3			58.2	11.9	79	38	3	126	May 07	39
FFR 551	78.9			59.8	11.7	72	35	2	128	May 09	39
Fortune 9890	77.9	73.5	71.9	59.5	11.8	55	38	4	126	May 07	37
GA 901146E15	84.3	76.4*		58.7	11.9	58	36	2	126	May 07	26
Kaskaskia	82.6	73.0	71.1	61.4*	12.2	76	39	4	129	May 10	57
KY 90C-292-4-1	83.8			60.7*	11.9	64	35	2	128	May 09	49
KY 91C-171-24	86.0			61.8*	12.3	57	35	2	128	May 09	30
MFA Brand 766	84.6			59.6	11.7	85	36	4	127	May 08	32
MFA Brand 1828	87.6	77.9*	73.2	60.3	12.3	69	40	3	128	May 09	43
MFA Brand 1944	86.4			60.3	12.3	80	41	2	128	May 09	41

MO 960903	84.2	76.2*		60.0	11.9	74	39	4	128	May 09	32
MO 980525	83.3	71.4		60.1	12.2	75	38	1	132	May 13	25
MPG 7921	91.3*	80.1**		59.4	11.9	79	39	2	127	May 08	46
NK BL940582	81.1			59.4	11.8	72	40	3	127	May 08	52
NK COKER 9025 (NK BL 930390) [¶]	79.5	69.2		57.2	11.9	74	38	6	128	May 09	48
NK COKER 9474	81.5	65.6	63.4	62.5**	12.2	77	36	2	126	May 07	33
NK COKER 9663	85.6	74.6	74.0	61.0*	12.6	53	37	4	129	May 10	24
Pioneer Variety 25R37	91.9*			59.2	12.3	78	35	2	127	May 08	21
Pioneer Variety 25R44	89.6			61.3*	12.0	54	37	1	128	May 09	26
Pioneer Variety 25R49	96.4**			59.7	12.2	72	35	3	128	May 09	24
Pioneer Variety 25R75	93.2*			57.6	12.3	75	39	2	127	May 08	47
Roane	86.3	76.3*	75.4*	61.8*	12.4	79	37	2	127	May 08	22
Sisson (VA 96W-250) [¶]	81.5	76.7*		59.7	11.8	59	34	2	127	May 08	34
SR 204	76.2			61.5*	12.6	56	40	2	129	May 10	27
SR 218	81.0	71.8	66.4	60.5	12.2	63	40	3	129	May 10	32
Stine 422	82.0			59.4	11.7	72	40	4	126	May 07	43
Stine 454	84.3			59.8	12.2	66	40	3	127	May 08	29
USG 3209	86.8	75.1	74.9*	60.8*	12.2	54	38	3	129	May 10	36
USG 3709	87.9	78.3*		59.5	11.9	55	39	2	128	May 09	50
VA 97W-206	85.0			58.6	11.7	82	35	3	128	May 09	24
WILLCROSS 723	72.1	67.2	68.3	59.4	11.7	45	37	3	127	May 08	39
WILLCROSS 728	84.0	68.8	68.6	58.5	12.2	60	38	2	126	May 07	44
WILLCROSS 730	89.4	76.7*		59.4	12.0	77	38	2	127	May 08	42
WILLCROSS 738	86.2	74.9	73.7	59.9	12.3	62	40	2	128	May 09	28
Average	84.0	72.9	70.3	59.9	12.0	69.4	37.9	2.6	127.5	May 09	35.3
LSD (0.05)	6.6	4.9	3.9	1.8	0.2	20.6	3.1	1.4	1.5		12.0
CV%	5.4	6.8	6.8	2.1	1.3	20.3	5.6	36.3	0.8		22.8

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD (p=0.05).

† Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain.

‡ Lodging rated on a 0 to 9 scale where 0 = no lodging and 9 = plants in the plot completely flat.

§ Percent of canopy showing symptoms of Septoria leaf blotch infection.

¶ Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

Table 7. Performance of soft red winter wheats tested at Novelty, Missouri during 2001.

Variety	Grain yield [†]			Test weight	Grain moisture	Winter survival	Plant height	Lodging [‡]	Heading date		Scab [§]
	2001	2000-01	1999-01						Julian	Calendar	
	----- bu/acre -----			- lb/bu -	%	%	in	0-9			%
AGRIPRO Gibson	49.2*	64.4	65.5	53.9	10.4	19	30	5	136	May 17	21
AGRIPRO M96*4403	41.4			54.0	11.0	23	33	5	137	May 18	20
AGRIPRO Natchez	58.0**			53.5	12.9	19	38	3	142	May 23	26
AGRIPRO Patton	57.9*	73.7**	73.6**	53.9	10.2	24	32	4	139	May 20	22
AGRIPRO Shiloh	36.9	57.0	61.2	52.2	10.2	13	31	3	141	May 22	31
AGS 2000	50.7*	63.9	63.3	52.1	11.2	19	33	3	140	May 21	26
AR 494B-2-2	33.3	56.2		52.2	11.2	13	36	4	142	May 23	30
AR 839-27-1-3	45.1			52.9	10.3	21	35	3	141	May 22	25
Dixie 900	54.8*			54.5	10.9	22	36	4	137	May 18	22
Dixie 911	39.5	57.2		54.2	11.1	11	35	3	143	May 24	15
Dixie 922	54.0*			53.9	11.2	28	38	5	137	May 18	21
Dixie 2000	44.6	62.3		53.7	10.3	15	32	5	137	May 18	17
DK 1551 W	47.7			52.4	10.2	26	32	3	141	May 22	29
DK 9027	42.7			53.4	10.6	21	32	5	137	May 18	21
DK 9121	53.1*			55.5	10.5	18	28	2	137	May 18	10
DK XTJ 7531	54.5*			53.8	10.7	16	34	2	139	May 20	25
DK XTJ 7777	46.7			52.9	11.1	21	36	3	140	May 21	15
DK XTJ 7900	45.5			54.0	10.8	16	35	5	136	May 17	19
DK XTJ 9333	49.8*			55.2	10.6	22	36	4	137	May 18	26
Ernie	49.2*	62.2	64.7	54.3	10.4	22	30	5	137	May 18	13
EXCEL 307	54.4*			54.5	11.1	20	35	5	136	May 17	12
EXCEL 400-1	53.0*	70.2*		55.4	10.9	26	36	5	139	May 20	7
FFR 510	46.1			50.5	10.2	14	32	3	137	May 18	22
FFR 551	47.2			53.1	10.7	19	31	3	139	May 20	24
Fortune 9890	38.9	62.1	62.6	53.3	10.6	16	30	3	138	May 19	19
GA 901146E15	49.5*	63.8		52.7	11.1	19	30	3	137	May 18	31
Kaskaskia	45.6	61.6	63.7	55.9*	10.8	20	36	5	138	May 19	9
KY 90C-292-4-1	43.9			51.0	10.5	21	31	4	138	May 19	29
KY 91C-171-24	39.7			54.0	11.0	22	31	4	137	May 18	18
MFA Brand 766	54.5*			54.9	10.6	21	29	5	136	May 17	13
MFA Brand 1828	50.4*	66.2	69.6*	55.5	10.8	24	37	4	137	May 18	11
MFA Brand 1944	42.9			51.8	10.8	20	37	6	138	May 19	21

MO 960903	51.9*	64.4		52.8	10.5	21	38	4	137	May 18	28
MO 980525	54.3*	66.6*		57.2*	11.5	23	39	3	143	May 24	2
MPG 7921	46.5	65.3		51.0	10.2	22	33	4	138	May 19	32
NK BL940582	47.6			53.7	10.8	20	34	2	138	May 19	27
NK COKER 9025 (NK BL 930390) [¶]	40.3	59.2		49.4	10.7	22	32	3	140	May 21	25
NK COKER 9474	48.7*	66.9*	66.0	57.7*	11.2	20	31	2	139	May 20	16
NK COKER 9663	58.0**	69.9*	71.4*	54.4	12.1	24	36	3	141	May 22	13
Pioneer Variety 25R37	53.9*			56.3*	11.7	28	32	4	138	May 19	17
Pioneer Variety 25R44	55.1*			53.8	10.7	18	32	2	140	May 21	25
Pioneer Variety 25R49	44.6			50.0	10.6	23	30	4	138	May 19	36
Pioneer Variety 25R75	47.5			54.5	11.0	19	32	3	137	May 18	19
Roane	52.6*	66.7*	67.8	58.3**	11.0	17	23	2	139	May 20	24
Sisson (VA 96W-250) [¶]	41.4	63.0		51.8	10.7	21	28	2	137	May 18	31
SR 204	47.7			55.4	11.2	28	35	4	139	May 20	12
SR 218	48.0	64.0	63.7	53.9	10.6	28	37	5	138	May 19	23
Stine 422	51.9*			53.7	10.6	21	33	6	138	May 19	30
Stine 454	48.1			54.0	10.7	23	34	3	138	May 19	35
USG 3209	42.8	60.5	60.1	51.9	11.8	10	31	3	139	May 20	21
USG 3709	46.2	58.5		52.6	10.3	24	33	2	139	May 20	23
VA 97W-206	43.0			51.2	10.3	22	30	5	141	May 22	42
WILLCROSS 723	32.7	54.5	59.2	52.2	10.7	11	33	5	139	May 20	38
WILLCROSS 728	42.1	61.0	62.3	51.9	10.8	21	35	4	138	May 19	18
WILLCROSS 730	48.0	64.1		52.7	10.4	21	33	2	138	May 19	14
WILLCROSS 738	45.4	63.0	67.4	52.3	10.9	14	35	4	138	May 19	18
Average	47.5	63.1	65.1	53.2	10.8	20.2	33.2	3.7	138.0	May 19	21.5
LSD (0.05)	9.6	7.3	5.6	2.6	0.6	7.8	3.1	1.9	2.3		ns
CV%	13.6	11.6	10.7	3.5	3.5	25.9	6.4	35.2	1.2		45.3

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD ($p=0.05$).

† Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain.

‡ Lodging rated on a 0 to 9 scale where 0 = no lodging and 9 = plants in the plot completely flat.

§ Mean percentage of Fusarium head blight (scab) damaged kernels in replicated 100-kernel samples of harvested grain.

¶ Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

Table 8. Performance of soft red winter wheats tested near Trenton, Missouri during 2001.

Variety	Grain yield [†]			Test weight - lb/bu -	Grain moisture %	Winter survival %	Plant height in	Lodging [‡] 0-9
	2001	2000-01	1999-01					
	----- bu/acre -----							
AGRIPRO Gibson	37.5	44.5	50.8	56.1	12.1	60	30	2
AGRIPRO M96*4403	31.6			54.1	12.9	70	32	3
AGRIPRO Natchez	49.2*			55.0	13.0	54	35	2
AGRIPRO Patton	48.5*	52.9*	59.3*	53.3	12.5	53	31	2
AGRIPRO Shiloh	28.3	42.9	49.1	54.3	13.1	32	31	2
AGS 2000	43.4*	56.1**	58.8*	54.0	14.1	54	32	2
AR 494B-2-2	45.9*	52.0*		55.4	13.0	70	36	3
AR 839-27-1-3	39.4			55.7	12.0	64	35	2
Dixie 900	49.5*			56.6*	13.0	60	34	3
Dixie 911	34.6	43.1		55.4	13.4	37	32	2
Dixie 922	46.0*			54.8	13.1	47	35	3
Dixie 2000	36.1	43.9		54.5	12.9	44	32	3
DK 1551 W	38.9			54.7	12.4	56	31	1
DK 9027	40.9			55.1	12.5	71	32	3
DK 9121	43.0			54.4	12.8	66	29	2
DK XTJ 7531	45.3*			54.6	12.2	68	32	1
DK XTJ 7777	41.5			54.6	13.2	60	34	3
DK XTJ 7900	39.4			54.3	12.9	58	35	3
DK XTJ 9333	43.7*			55.4	12.1	70	36	3
Ernie	46.2*	46.3	54.1*	56.3*	12.2	52	28	5
EXCEL 307	47.4*			55.0	12.6	61	35	2
EXCEL 400-1	54.4**	55.1*		55.6	12.5	60	36	3
FFR 510	35.6			50.5	13.4	61	31	3
FR 551	33.1			52.2	13.5	54	30	2
Fortune 9890	40.1	46.8	54.0*	54.5	13.1	55	33	3
GA 901146E15	46.4*	50.8*		54.0	12.4	49	30	2
Kaskaskia	49.7*	49.0	53.5	58.7*	12.5	62	35	4
KY 90C-292-4-1	39.1			53.2	12.7	60	31	1
KY 91C-171-24	28.2			54.8	14.4	37	29	2
MFA Brand 766	46.3*			54.3	12.6	49	29	3
MFA Brand 1828	47.3*	51.6*	56.4*	55.6	13.0	61	36	3
MFA Brand 1944	40.9			54.3	13.4	46	34	2

MO 960903	44.8*	53.0*		53.3	12.7	71	37	4
MO 980525	47.6*	53.0*		58.8*	13.1	51	36	2
MPG 7921	47.8*	55.3*		53.2	11.8	63	33	2
NK BL940582	46.2*			55.0	11.9	69	34	2
NK COKER 9025 (NK BL 930390) [§]	30.0	44.3		50.6	12.9	59	31	2
NK COKER 9474	42.8	40.9	47.5	58.9**	12.4	49	31	2
NK COKER 9663	44.8*	48.4	50.9	55.3	14.2	57	33	2
Pioneer Variety 25R37	44.1*			55.8	13.5	53	30	2
Pioneer Variety 25R44	39.0			53.7	13.8	56	31	2
Pioneer Variety 25R49	41.5			52.6	12.3	70	30	3
Pioneer Variety 25R75	46.2*			52.0	13.7	52	32	3
Roane	44.4*	51.8*	57.6*	57.4*	12.8	58	30	3
Sisson (VA 96W-250) [§]	36.8	50.4*		52.6	12.9	57	27	2
SR 204	36.5			56.6*	13.2	60	34	2
SR 218	42.7	54.2*	55.9*	55.7	12.5	54	35	2
Stine 422	38.4			55.1	13.5	56	33	3
Stine 454	39.7			53.6	14.4	51	33	3
USG 3209	39.4	52.5*	59.7**	53.9	13.0	56	29	3
USG 3709	37.5	48.1		52.5	12.1	59	33	1
VA 97W-206	39.3			53.5	12.3	58	29	3
WILLCROSS 723	39.6	45.8	51.9	55.6	12.6	49	31	2
WILLCROSS 728	47.0*	49.5	55.0*	54.2	12.7	66	34	4
WILLCROSS 730	36.2	49.5		51.7	12.1	49	33	2
WILLCROSS 738	42.9	49.4	57.1*	55.3	12.7	66	34	4
Average	41.7	49.3	54.5	54.6	12.9	57.0	32.4	2.5
LSD (0.05)	11.0	6.5	5.9	2.7	1.5	19.2	2.5	1.5
CV%	18.8	13.4	13.3	3.6	7.9	23.4	5.3	41.8

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD (p=0.05).

† Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain.

‡ Lodging rated on a 0 to 9 scale where 0 = no lodging and 9 = plants in the plot completely flat.

§ Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

Table 9. Performance of soft red winter wheats tested at Charleston[†], Missouri during 2001.

Variety	Grain yield [‡]			Test weight	Grain moisture	Winter survival	Plant height	Lodging [§]	Soilborne mosaic virus [¶]
	2001	2000-01	1999-01						
	bu/acre			- lb/bu -	%	%	in	0-9	%
AGRIPRO Gibson	88.4	82.3	71.6	62.9	9.7	87	38	3	2
AGRIPRO M96*4403	67.7			61.6	9.8	87	35	3	4
AGRIPRO Natchez	72.7			60.5	9.8	90	38	6	3
AGRIPRO Patton	92.4*	92.3*	84.2**	61.4	9.7	89	37	4	4
AGRIPRO Shiloh	82.3	76.3	69.7	61.3	9.6	89	36	3	2
AGS 2000	80.9	83.3	76.2	62.2	9.9	91	36	6	6
AR 494B-2-2	76.4	73.7		61.8	9.7	89	40	5	5
AR 839-27-1-3	85.3			62.7	9.7	92	40	1	10
Dixie 900	89.7*			62.2	10.2	89	38	1	3
Dixie 911	84.1	79.6		62.3	9.8	87	39	3	4
Dixie 922	92.5*			62.1	10.0	85	41	2	2
Dixie 2000	80.0	81.1		62.3	9.8	88	34	3	2
DK 1551 W	90.5*			62.5	9.7	88	35	2	5
DK 9027	81.6			62.5	9.8	84	36	4	3
DK 9121	95.7*			62.1	9.3	91	34	3	2
DK XTJ 7531	87.9			61.5	9.8	91	37	2	9
DK XTJ 7777	86.5			64.2*	10.7	82	37	2	7
DK XTJ 7900	89.6*			62.4	10.1	86	40	2	3
DK XTJ 9333	84.4			61.8	9.6	85	41	4	7
Ernie	59.4	62.0	57.9	60.5	9.2	89	33	7	5
EXCEL 307	92.6*			62.4	10.3	85	40	2	3
EXCEL 400-1	86.3	81.6		62.3	7.9	88	40	2	3
FFR 510	88.7			61.1	10.2	88	37	3	17
FFR 551	78.4			62.0	9.7	87	34	2	2
Fortune 9890	79.2	80.9	71.7	62.2	9.7	91	36	6	4
GA 901146E15	93.4*	87.3*		62.6	9.9	86	33	3	3
Kaskaskia	84.2	81.5	70.9	63.3	10.1	85	40	3	3
KY 90C-292-4-1	86.1			62.6	9.7	81	33	2	10
KY 91C-171-24	88.9			65.0**	10.2	85	39	1	2
MFA Brand 766	73.6			63.0	9.9	87	34	3	10
MFA Brand 1828	90.3*	81.6	74.1	62.3	10.2	91	41	2	3
MFA Brand 1944	95.5*			61.9	10.2	92	40	3	2

MO 960903	87.9	87.8*		63.0	10.2	89	39	4	7
MO 980525	91.5*	80.3		62.1	12.2	83	41	3	4
MPG 7921	98.5*	93.1**		60.9	9.7	91	39	2	1
NK BL940582	89.8*			62.1	9.6	88	40	2	1
NK COKER 9025 (NK BL 930390) †	91.8*	79.5		62.5	10.0	88	34	3	1
NK COKER 9474	81.3	70.9	64.0	62.8	9.8	89	35	1	11
NK COKER 9663	83.7	80.1	75.0	62.7	10.2	91	41	6	2
Pioneer Variety 25R37	101.5**			63.4	10.1	94	37	2	2
Pioneer Variety 25R44	89.1*			63.4	9.8	87	36	3	1
Pioneer Variety 25R49	94.0*			62.9	10.2	89	34	3	2
Pioneer Variety 25R75	95.5*			62.3	9.8	86	37	4	2
Roane	87.3	88.1*	80.2*	64.5*	10.2	87	33	2	3
Sisson (VA 96W-250) †	86.0	87.4*		63.1	10.0	88	35	5	1
SR 204	87.5			63.8	10.8	82	38	2	3
SR 218	88.1	87.0*	74.9	62.2	10.0	92	39	2	4
Stine 422	84.3			61.4	9.8	89	38	4	3
Stine 454	95.4*			63.0	10.3	89	36	3	4
USG 3209	93.5*	88.8*	80.1*	62.6	10.2	85	33	3	2
USG 3709	91.5*	84.8*		61.3	9.7	87	39	2	2
VA 97W-206	89.3*			61.5	9.4	85	35	5	13
WILLCROSS 723	81.3	78.9	67.9	62.3	10.0	86	35	2	3
WILLCROSS 728	87.4	88.1*	74.1	62.1	10.3	85	38	4	4
WILLCROSS 730	92.2*	85.4*		61.7	9.8	91	38	2	2
WILLCROSS 738	88.0	82.8	73.8	62.3	10.0	86	40	3	2
Average	86.8	82.4	72.9	62.3	9.9	87.7	37.2	3.1	4.1
LSD (0.05)	12.5	8.6	6.4	0.9	1.0	7.3	2.1	2.3	2.7
CV%	10.0	10.6	10.9	1.0	7.3	5.6	3.9	50.1	46.4

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD (p=0.05).

† Management included mid-April applications of Tilt and Warrior. Plots were irrigated prior to heading and again post-heading.

‡ Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain.

§ Lodging rated on a 0 to 9 scale where 0 = no lodging and 9 = plants in the plot completely flat.

¶ Percent of canopy showing symptoms of soilborne mosaic virus. Data may have been confounded by barley yellow dwarf virus.

Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

Table 10. Performance of soft red winter wheats tested at Portageville, Missouri during 2001.

Variety	Grain yield [†]			Test weight - lb/bu -	Grain moisture %	Winter survival %	Plant height in	Lodging [‡] 0-9	Heading date		Soilborne mosaic virus [§] %
	2001	2000-01	1999-01						Julian	Calendar	
	----- bu/acre -----										
AGRIPRO Gibson	55.1	51.0	49.3	60.4	11.7	85	33	1	118	April 29	2
AGRIPRO M96*4403	47.6			58.9	12.0	82	33	1	116	April 27	8
AGRIPRO Natchez	51.6			59.0	11.7	77	34	3	118	April 29	3
AGRIPRO Patton	54.3	51.4	53.4*	57.4	11.4	86	35	2	117	April 28	1
AGRIPRO Shiloh	52.2	48.8	51.9	59.0	11.8	81	32	1	118	April 29	2
AGS 2000	52.8	56.8*	57.0**	58.7	11.9	80	32	1	119	April 30	5
AR 494B-2-2	57.1*	55.3		60.1	11.8	89	36	3	118	April 29	2
AR 839-27-1-3	59.5*			60.0	11.4	83	36	1	120	May 01	2
Dixie 900	53.8			59.2	11.9	79	35	2	118	April 29	3
Dixie 911	42.4	45.4		58.7	11.4	78	34	1	119	April 30	2
Dixie 922	53.8			59.9	11.6	83	35	3	118	April 29	3
Dixie 2000	47.1	48.5		58.2	11.8	81	32	1	118	April 29	4
DK 1551 W	54.6			59.6	11.8	82	31	1	120	May 01	5
DK 9027	47.5			58.5	11.5	87	33	1	118	April 29	3
DK 9121	52.3			60.4	11.5	83	32	1	117	April 28	2
DK XTJ 7531	60.3*			58.8	11.7	85	37	1	117	April 28	3
DK XTJ 7777	53.1			60.1	11.9	85	35	1	118	April 29	3
DK XTJ 7900	47.4			58.7	11.9	78	34	2	118	April 29	3
DK XTJ 9333	51.8			59.8	11.7	83	37	1	119	April 30	4
Ernie	39.4	39.0	45.8	59.0	12.1	82	29	1	117	April 28	2
EXCEL 307	54.3			59.3	12.0	82	35	2	118	April 29	2
EXCEL 400-1	51.4	51.0		59.3	11.6	82	35	2	118	April 29	2
FFR 510	59.0*			55.7	12.1	86	33	2	117	April 28	5
FFR 551	51.8			59.5	11.6	82	28	3	119	April 30	3
Fortune 9890	46.8	48.1	50.0	58.5	11.5	85	33	1	118	April 29	3
GA 901146E15	42.9	47.2		58.7	11.8	83	30	1	118	April 29	3
Kaskaskia	49.7	48.6	45.8	61.1	11.9	78	35	1	119	April 30	5
KY 90C-292-4-1	52.5			60.7	11.8	80	30	1	118	April 29	3
KY 91C-171-24	65.8**			62.9**	12.1	85	32	1	118	April 29	2
MFA Brand 766	56.4*			59.3	11.8	87	30	3	117	April 28	4
MFA Brand 1828	49.3	48.0	52.0	59.3	11.8	86	36	2	118	April 29	3
MFA Brand 1944	52.5			58.9	11.8	81	34	2	118	April 29	3

MO 960903	51.3	48.4		58.6	11.9	86	37	2	114	April 25	4
MO 980525	50.1	52.0		58.6	11.8	82	34	1	124	May 05	6
MPG 7921	57.0*	59.6*		57.5	11.6	84	33	1	115	April 26	2
NK BL940582	56.0*			58.7	11.0	85	36	1	116	April 27	1
NK COKER 9025 (NK BL 930390) [¶]	49.2	55.6		57.2	12.0	84	33	2	118	April 29	2
NK COKER 9474	50.0	44.9	45.6	62.6*	12.1	76	31	1	119	April 30	7
NK COKER 9663	47.6	47.9	53.1*	59.2	12.2	83	36	3	118	April 29	6
Pioneer Variety 25R37	63.0*			60.2	11.9	87	34	1	117	April 28	1
Pioneer Variety 25R44	59.3*			58.1	12.2	84	33	1	118	April 29	1
Pioneer Variety 25R49	63.6*			58.8	11.7	87	33	3	115	April 26	1
Pioneer Variety 25R75	57.7*			58.9	11.9	87	34	2	115	April 26	1
Roane	51.4	54.9	52.8*	61.5*	12.1	75	29	1	119	April 30	3
Sisson (VA 96W-250) [¶]	50.5	52.0		60.7	12.2	84	29	2	116	April 27	2
SR 204	48.3			61.2	12.1	86	33	2	119	April 30	1
SR 218	47.5	56.1*	54.9*	59.2	11.5	83	33	1	119	April 30	4
Stine 422	44.7			58.9	11.6	83	31	1	119	April 30	4
Stine 454	54.7			59.8	12.1	80	34	2	118	April 29	7
USG 3209	46.1	54.8	56.6*	59.6	12.1	77	28	2	118	April 29	3
USG 3709	61.9*	61.3**		57.3	11.5	84	34	1	116	April 27	1
VA 97W-206	55.2			59.2	11.6	83	32	1	118	April 29	4
WILLCROSS 723	42.3	44.9	48.2	58.8	11.7	80	32	1	118	April 29	6
WILLCROSS 728	48.5	48.8	50.3	59.9	11.7	83	34	3	119	April 20	3
WILLCROSS 730	61.9*	59.7*		57.6	11.5	88	35	1	116	April 27	2
WILLCROSS 738	46.8	47.2	49.7	59.4	11.8	76	34	2	118	April 29	4
Average	52.3	50.9	51.0	59.3	11.8	82.8	33.2	1.6	117.7	April 29	3.1
LSD (0.05)	10.2	6.3	4.7	1.5	0.5	7.1	1.9	0.6	1.1		2.1
CV%	13.3	12.4	11.5	1.8	2.8	6.0	3.9	28.2	0.7		45.3

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD ($p=0.05$).

† Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain.

‡ Lodging rated on a 0 to 9 scale where 0 = no lodging and 9 = plants in the plot completely flat.

§ Percent of canopy showing symptoms of soilborne mosaic virus. Data may have been confounded by barley yellow dwarf virus symptoms.

¶ Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

Table 11. Performance of soft red winter wheats tested at Lamar, Missouri during 2001.

Variety	Grain yield [†]			Test weight - lb/bu -	Grain moisture %	Winter survival %	Plant height in	Lodging [‡] 0-9
	2001	2000-01	1999-01					
AGRIPRO Gibson	61.1	56.8	47.8	58.6*	10.3	34	32	3
AGRIPRO M96*4403	60.4			58.2*	11.1	48	32	2
AGRIPRO Natchez	52.4			56.3	12.1	37	34	3
AGRIPRO Patton	64.6	56.1	48.9	57.6	10.6	51	32	3
AGRIPRO Shiloh	52.9	49.5	42.3	56.9	10.4	32	31	2
AGS 2000	72.7*	71.2**	62.1**	59.3*	10.7	44	34	2
AR 494B-2-2	54.3	54.2		57.8	10.7	39	34	3
AR 839-27-1-3	63.7			57.6	10.5	43	34	1
Dixie 900	69.9*			59.3*	11.1	49	35	3
Dixie 911	40.2	41.0		57.1	10.6	25	33	2
Dixie 922	72.2*			59.4*	11.1	53	36	3
Dixie 2000	56.9	53.1		59.3*	10.5	39	31	2
DK 1551 W	53.1			54.3	10.0	49	32	2
DK 9027	64.2			54.2	10.6	42	33	2
DK 9121	61.3			58.7*	10.0	44	31	2
DK XTJ 7531	63.4			56.5	10.5	41	34	2
DK XTJ 7777	61.9			58.3*	11.0	42	34	2
DK XTJ 7900	77.9**			59.0*	10.9	61	35	3
DK XTJ 9333	64.5			59.1*	10.5	47	36	2
Ernie	50.7	49.3	44.3	58.1*	10.2	41	29	3
EXCEL 307	70.3*			59.5*	11.2	50	34	3
EXCEL 400-1	70.5*	62.1		59.3*	11.0	57	36	3
FFR 510	59.1			56.8	10.4	39	33	2
FFR 551	56.0			55.9	10.0	55	30	3
Fortune 9890	63.3	58.7	52.0	59.5*	10.5	37	33	2
GA 901146E15	65.5	61.3		57.7	10.7	43	31	1
Kaskaskia	67.4*	60.5	51.2	60.4**	11.1	43	36	4
KY 90C-292-4-1	57.7			56.5	11.8	44	30	2
KY 91C-171-24	60.9			58.5*	10.7	40	31	2
MFA Brand 766	74.0*			58.6*	10.3	52	29	3
MFA Brand 1828	61.9	58.3	49.9	58.8*	11.2	47	35	3
MFA Brand 1944	62.2			58.4*	11.0	43	35	3

MO 960903	65.8*	63.2		57.4	10.7	39	35	3
MO 980525	54.1	54.1		56.8	11.0	41	36	2
MPG 7921	66.7*	63.9		56.7	10.3	39	33	2
NK BL940582	68.8*			58.0	10.2	37	35	2
NK COKER 9025 (NK BL 930390) [§]	61.0	61.6		53.3	12.0	47	31	2
NK COKER 9474	57.3	52.9	48.7	60.4**	10.7	48	32	2
NK COKER 9663	68.0*	57.7	52.5	60.3*	11.5	45	36	3
Pioneer Variety 25R37	68.1*			58.1*	10.7	44	31	1
Pioneer Variety 25R44	59.3			56.8	10.5	34	31	2
Pioneer Variety 25R49	67.7*			56.9	10.9	50	30	2
Pioneer Variety 25R75	71.4*			57.7	10.9	54	32	2
Roane	64.4	63.6	54.7	60.3*	10.8	44	29	1
Sisson (VA 96W-250) [§]	53.4	56.9		56.3	10.3	50	30	3
SR 204	60.8			59.8*	11.4	45	33	2
SR 218	65.1	66.7*	58.1*	58.8*	10.6	42	35	2
Stine 422	68.8*			57.0	10.7	54	32	2
Stine 454	67.6*			59.0*	10.8	55	33	2
USG 3209	46.3	56.9	54.6	57.0	10.6	17	28	2
USG 3709	72.9*	65.6*		56.7	10.4	53	31	2
VA 97W-206	57.0			56.9	10.2	36	30	2
WILLCROSS 723	30.3	41.1	41.3	56.0	10.9	16	30	1
WILLCROSS 728	65.9*	55.7	52.2	57.8	11.1	48	35	3
WILLCROSS 730	69.8*	65.2*		57.1	11.9	39	33	2
WILLCROSS 738	66.9*	60.1	51.9	58.4*	11.0	41	36	3
Average	62.2	57.8	50.8	57.8	10.8	43.3	32.7	2.2
LSD (0.05)	12.2	6.5	4.2	2.3	1.1	16.9	1.8	1.0
CV%	13.7	11.4	10.2	2.8	7.4	26.6	3.8	31.7

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD ($p=0.05$).

† Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain.

‡ Lodging rated on a 0 to 9 scale where 0 = no lodging and 9 = plants in the plot completely flat.

§ Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

Table 12. Performance of soft red winter wheats tested at Mt. Vernon, Missouri during 2001.

Variety	Grain yield [†]		Test weight - lb/bu -	Grain moisture %	Winter survival %	Plant height in	Lodging [§] 0-9
	2001	1999/2001 [†]					
	----- bu/acre -----						
AGRIPRO Gibson	59.6	57.8	59.2	12.8	59	24	3
AGRIPRO M96*4403	61.0		59.6*	12.7	60	29	2
AGRIPRO Natchez	66.5*		59.0	12.9	54	29	4
AGRIPRO Patton	66.9*	56.1	58.4	12.5	66	28	2
AGRIPRO Shiloh	30.8	39.0	56.9	12.3	17	25	1
AGS 2000	73.1*	66.9*	60.0*	12.6	48	27	2
AR 494B-2-2	57.7		58.1	12.6	50	28	2
AR 839-27-1-3	65.8*		59.5*	12.5	61	29	1
Dixie 900	65.2*		59.7*	13.0	59	27	3
Dixie 911	45.6		55.8	13.2	24	27	1
Dixie 922	62.0		59.4*	13.1	51	30	3
Dixie 2000	56.8		58.7	12.8	53	28	3
DK 1551 W	61.9		57.6	12.5	56	26	2
DK 9027	63.6		59.4*	12.8	67	27	3
DK 9121	59.3		59.0	12.3	61	26	2
DK XTJ 7531	67.1*		57.9	12.8	64	28	2
DK XTJ 7777	62.3		58.9	13.1	45	29	2
DK XTJ 7900	65.2*		59.8*	12.9	56	30	2
DK XTJ 9333	70.4*		60.1*	12.6	65	30	2
Ernie	52.1	50.0	59.2	12.4	38	23	2
EXCEL 307	62.3		60.2*	13.0	62	28	2
EXCEL 400-1	66.2*		60.2*	13.1	66	28	3
FFR 510	59.7		57.8	12.5	59	27	3
FFR 551	58.9		58.2	12.4	70	24	2
Fortune 9890	67.0*	56.3	59.4*	12.8	68	27	2
GA 901146E15	68.7*		57.9	12.9	61	26	2
Kaskaskia	73.6*	59.3	60.7*	12.9	69	30	3
KY 90C-292-4-1	62.7		58.3	12.6	59	23	2
KY 91C-171-24	59.9		59.4*	12.8	53	25	2
MFA Brand 766	59.9		59.3	12.6	64	26	3
MFA Brand 1828	63.4	54.9	59.8*	12.9	61	29	3
MFA Brand 1944	56.3		57.9	12.8	38	29	3

MO 960903	61.8		58.8	12.7	65	30	2
MO 980525	63.8		57.1	12.8	58	31	2
MPG 7921	67.0*		58.2	12.4	74	27	2
NK BL940582	63.8		59.2	12.2	61	28	2
NK COKER 9025 (NK BL 930390) [¶]	58.3		56.0	12.7	56	25	2
NK COKER 9474	58.4	53.4	61.1**	12.8	62	26	2
NK COKER 9663	73.8**	68.2**	61.0*	13.4	65	31	3
Pioneer Variety 25R37	67.8*		59.5*	12.9	57	25	1
Pioneer Variety 25R44	65.1*		59.3	12.8	56	26	2
Pioneer Variety 25R49	66.2*		57.7	12.8	63	24	2
Pioneer Variety 25R75	65.3*		59.4*	12.9	65	27	2
Roane	56.4	56.8	56.9	12.7	47	23	2
Sisson (VA 96W-250) [¶]	57.6		58.2	12.5	67	22	3
SR 204	64.0		60.5*	13.3	60	28	2
SR 218	63.6	53.5	60.2*	13.0	59	29	3
Stine 422	72.0*		58.4	12.7	65	26	3
Stine 454	63.4		59.2	12.9	61	28	2
USG 3209	62.4	55.6	58.0	12.6	49	24	3
USG 3709	65.6*		57.5	12.1	56	26	2
VA 97W-206	66.3*		59.0	12.6	65	25	3
WILLCROSS 723	32.2	41.8	49.6	14.8	16	28	2
WILLCROSS 728	57.7	56.7	58.0	12.8	47	28	3
WILLCROSS 730	58.9		58.1	12.5	54	26	1
WILLCROSS 738	66.2*	57.7	59.5*	13.0	55	30	3
Average	61.9	55.2	58.7	12.8	56.6	27.0	2.2
LSD (0.05)	8.8	6.7	1.7	0.3	12.1	2.9	0.7
CV%	9.4	12.2	2.0	1.7	14.1	7.0	22.9

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD ($p=0.05$).

† Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain.

‡ Multi-year data at Mt. Vernon reflect mean data for the 1999 and 2001 crop years. Data for the 2000 crop season were not collected for this location due to heavy viral pressure and persistent rainfall at harvest.

§ Lodging rated on a 0 to 9 scale where 0 = no lodging and 9 = plants in the plot completely flat.

¶ Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

Table 13. Grain yields[†] of soft red winter wheats tested across the northern (Columbia, Novelty, and Trenton), southeastern (Charleston and Portageville), and southwestern (Lamar and Mt. Vernon) regions of Missouri during 2001.

Variety	Northern region			Southeastern region			Southwestern region [†]			State Average
	2001	2000-01	1999-01	2001	2000-01	1999-01	2001	2000-01	1999-01	2001
	----- bushels/acre -----									
AGRIPRO Gibson	55.3	60.1	61.6	71.0	66.6	60.5	61.9	58.7	51.8	61.7
AGRIPRO M96*4403	51.1			59.9			57.7			55.5
AGRIPRO Natchez	61.0*			61.3			58.5			60.4
AGRIPRO Patton	62.5*	65.6*	67.8**	72.7	71.9*	68.8**	64.6	59.2	51.8	66.1
AGRIPRO Shiloh	49.7	56.2	58.3	67.7	62.2	60.8	41.6	42.9	40.6	52.5
AGS 2000	59.5	66.1*	66.8*	64.5	70.1	66.6*	73.8**	72.5**	64.0**	65.8
AR 494B-2-2	51.3	59.2		66.9	64.5		54.4	54.5		56.6
AR 839-27-1-3	52.6			74.2			62.6			61.6
Dixie 900	65.7**			70.1			69.6*			68.0*
Dixie 911	49.3	55.8		62.5	62.5		42.2	42.6		51.1
Dixie 922	60.4			73.9			69.8*			66.9
Dixie 2000	52.9	58.6		65.1	64.8		58.8	55.8		58.0
DK 1551 W	59.6			74.3			58.1			63.2
DK 9027	54.4			65.0			67.3			61.1
DK 9121	60.2			74.5			60.2			64.3
DK XTJ 7531	63.0*			74.4			69.9*			67.9*
DK XTJ 7777	59.6			68.9			61.8			62.9
DK XTJ 7900	56.6			68.6			71.8*			63.9
DK XTJ 9333	58.0			69.9			69.0*			64.2
Ernie	57.8	57.6	60.2	49.0	50.5	51.8	51.8	50.6	46.6	53.6
EXCEL 307	62.2*			73.6			66.1			66.6
EXCEL 400-1	65.1*	67.6**		68.9	66.3		67.6	63.1		66.9
FFR 510	55.7			74.9			59.0			62.1
FFR 551	53.3			65.7			58.3			58.2
Fortune 9890	52.7	60.8	62.8	62.5	64.5	60.8	62.1	59.6	53.7	58.2
GA 901146E15	59.7	63.6		68.6	67.2		65.1	62.1		63.8
Kaskaskia	59.1	61.2	62.8	66.5	65.1	58.3	66.6	62.1	54.4	63.3
KY 90C-292-4-1	55.5			69.3			60.4			60.9
KY 91C-171-24	50.4			76.1*			60.0			60.5
MFA Brand 766	63.2*			64.3			67.2			64.7
MFA Brand 1828	63.4*	65.2*	66.4*	69.2	64.8	63.1	60.8	58.5	51.9	64.3
MFA Brand 1944	57.3			75.2*			59.5			62.8

MO 960903	58.6	64.5*		69.8	68.1		61.4	60.9		62.6
MO 980525	61.8*	63.6		70.9	66.1		58.8	57.0		63.6
MPG 7921	63.0*	66.9*		78.5*	76.3**		63.8	63.0		67.7*
NK BL940582	58.2			73.0			65.2			64.4
NK COKER 9025 (NK BL 930390) [§]	49.8	57.6		70.7	67.6		59.2	59.9		58.4
NK COKER 9474	58.2	57.8	59.1	64.9	57.9	54.8	59.9	56.0	50.6	60.6
NK COKER 9663	63.0*	64.3*	65.4*	64.4	64.0	64.0	70.5*	63.0	58.8	65.5
Pioneer Variety 25R37	64.2*			82.5**			68.6			70.7**
Pioneer Variety 25R44	59.7			73.5			62.6			64.5
Pioneer Variety 25R49	61.2*			77.7*			68.1			67.9*
Pioneer Variety 25R75	61.1*			76.7*			65.7			66.8
Roane	61.4*	64.9*	66.9*	69.1	71.5*	66.5*	60.1	60.5	55.6	63.2
Sisson (VA 96W-250) [§]	53.4	63.4		68.2	69.7		56.9	58.0		58.6
SR 204	54.3			69.0			63.8			61.2
SR 218	57.6	63.3	62.0	69.3	71.5*	64.9*	63.6	65.0	56.3	62.6
Stine 422	58.4			65.2			71.7*			64.1
Stine 454	58.2			74.8			67.6			65.6
USG 3209	56.4	62.7	64.9*	69.5	71.8*	68.4*	52.6	57.7	55.0	59.0
USG 3709	56.4	61.6		78.6*	73.0*		68.8*	65.4		66.3
VA 97W-206	54.9			68.0			64.8			62.2
WILLCROSS 723	48.2	55.8	59.8	62.9	61.9	58.1	29.4	37.3	41.5	47.0
WILLCROSS 728	58.6	59.8	62.0	67.6	68.4	62.2	63.1	57.3	54.0	62.5
WILLCROSS 730	58.0	63.4		74.8	72.5*		65.4	63.7		64.9
WILLCROSS 738	58.8	62.4	66.0*	67.5	65.0	61.7	67.2	62.6	54.2	63.7
Average	57.7	61.8	63.3	69.7	66.6	62.0	62.1	58.2	52.5	62.3
LSD (0.05)	4.8	3.6	3.0	7.5	5.3	4.0	5.1	5.7	3.7	3.3
CV%	10.3	10.3	10.2	10.9	11.5	11.3	8.3	12.1	11.2	10.0
Location years	3	6	9	2	4	6	2	3	5	7

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD (p=0.05).

† Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain.

‡ Two- and three-year data reflect mean data for 3 and 5 location years, respectively. The 2000 Mt. Vernon location was not harvested due to heavy viral pressure and persistent rainfall at harvest.

§ Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

Table 14. Grain yield[†] for soft red winter wheats tested at seven locations in Missouri during 2001. Varieties are listed in descending order of state average yield.

Variety	Northern region			Southeastern region		Southwestern region		State average 2001
	Columbia	Novelty	Trenton	Charleston [†]	Portageville	Lamar	Mt. Vernon	
	----- bushels/acre -----							
Pioneer Variety 25R37	91.9*	53.9*	44.1*	101.5**	63.0*	68.1*	67.8*	70.7**
Dixie 900	91.2*	54.8*	49.5*	89.7*	53.8	69.9*	65.2*	68.0*
Pioneer Variety 25R49	96.4**	44.6	41.5	94.0*	63.6*	67.7*	66.2*	67.9*
DK XTJ 7531	86.7	54.5*	45.3*	87.9	60.3*	63.4	67.1*	67.9*
MPG 7921	91.3*	46.5	47.8*	98.5*	57.0*	66.7*	67.0*	67.7*
EXCEL 400-1	90.1*	53.0*	54.4**	86.3	51.4	70.5*	66.2*	66.9
Dixie 922	82.6	54.0*	46.0*	92.5*	53.8	72.2*	62.0	66.9
Pioneer Variety 25R75	93.2*	47.5	46.2*	95.5*	57.7*	71.4*	65.3*	66.8
EXCEL 307	87.0	54.4*	47.4*	92.6*	54.3	70.3*	62.3	66.6
USG 3709	87.9	46.2	37.5	91.5*	61.9*	72.9*	65.6*	66.3
AGRIPRO Patton	82.6	57.9*	48.5*	92.4*	54.3	64.6	66.9*	66.1
AGS 2000	86.7	50.7*	43.4*	80.9	52.8	72.7*	73.1*	65.8
Stine 454	84.3	48.1	39.7	95.4*	54.7	67.6*	63.4	65.6
NK COKER 9663	85.6	58.0**	44.8*	83.7	47.6	68.0*	73.8**	65.5
WILLCROSS 730	89.4	48.0	36.2	92.2*	61.9*	69.8*	58.9	64.9
MFA Brand 766	84.6	54.5*	46.3*	73.6	56.4*	74.0*	59.9	64.7
Pioneer Variety 25R44	89.6	55.1*	39.0	89.1*	59.3*	59.3	65.1*	64.5
NK BL940582	81.1	47.6	46.2*	89.8*	56.0*	68.8*	63.8	64.4
MFA Brand 1828	87.6	50.4*	47.3*	90.3*	49.3	61.9	63.4	64.3
DK 9121	82.1	53.1*	43.0	95.7*	52.3	61.3	59.3	64.3
DK XTJ 9333	85.5	49.8*	43.7*	84.4	51.8	64.5	70.4*	64.2
Stine 422	82.0	51.9*	38.4	84.3	44.7	68.8*	72.0*	64.1
DK XTJ 7900	84.7	45.5	39.4	89.6*	47.4	77.9**	65.2*	63.9
GA 901146E15	84.3	49.5*	46.4*	93.4*	42.9	65.5	68.7*	63.8
WILLCROSS 738	86.2	45.4	42.9	88.0	46.8	66.9*	66.2*	63.7
MO 980525	83.3	54.3*	47.6*	91.5*	50.1	54.1	63.8	63.6
Kaskaskia	82.6	45.6	49.7*	84.2	49.7	67.4*	73.6*	63.3
Roane	86.3	52.6*	44.4*	87.3	51.4	64.4	56.4	63.2
DK 1551 W	91.1*	47.7	38.9	90.5*	54.6	53.1	61.9	63.2
DK XTJ 7777	89.5	46.7	41.5	86.5	53.1	61.9	62.3	62.9
MFA Brand 1944	86.4	42.9	40.9	95.5*	52.5	62.2	56.3	62.8
SR 218	81.0	48.0	42.7	88.1	47.5	65.1	63.6	62.6

MO 960903	84.2	51.9*	44.8*	87.9	51.3	65.8*	61.8	62.6
WILLCROSS 728	84.0	42.1	47.0*	87.4	48.5	65.9*	57.7	62.5
VA 97W-206	85.0	43.0	39.3	89.3*	55.2	57.0	66.3*	62.2
FFR 510	83.3	46.1	35.6	88.7	59.0*	59.1	59.7	62.1
AGRIPRO Gibson	82.4	49.2*	37.5	88.4	55.1	61.1	59.6	61.7
AR 839-27-1-3	75.3	45.1	39.4	85.3	59.5*	63.7	65.8*	61.6
SR 204	76.2	47.7	36.5	87.5	48.3	60.8	64.0	61.2
DK 9027	78.1	42.7	40.9	81.6	47.5	64.2	63.6	61.1
KY 90C-292-4-1	83.8	43.9	39.1	86.1	52.5	57.7	62.7	60.9
NK COKER 9474	81.5	48.7*	42.8	81.3	50.0	57.3	58.4	60.6
KY 91C-171-24	86.0	39.7	28.2	88.9	65.8**	60.9	59.9	60.5
AGRIPRO Natchez	80.3	58.0**	49.2*	72.7	51.6	52.4	66.5*	60.4
USG 3209	86.8	42.8	39.4	93.5*	46.1	46.3	62.4	59.0
Sisson (VA 96W-250) [§]	81.5	41.4	36.8	86.0	50.5	53.4	57.6	58.6
NK COKER 9025 (NK BL 930390) [§]	79.5	40.3	30.0	91.8*	49.2	61.0	58.3	58.4
FFR 551	78.9	47.2	33.1	78.4	51.8	56.0	58.9	58.2
Fortune 9890	77.9	38.9	40.1	79.2	46.8	63.3	67.0*	58.2
Dixie 2000	77.5	44.6	36.1	80.0	47.1	56.9	56.8	58.0
AR 494B-2-2	76.0	33.3	45.9*	76.4	57.1*	54.3	57.7	56.6
AGRIPRO M96*4403	82.5	41.4	31.6	67.7	47.6	60.4	61.0	55.5
Ernie	76.5	49.2*	46.2*	59.4	39.4	50.7	52.1	53.6
AGRIPRO Shiloh	83.3	36.9	28.3	82.3	52.2	52.9	30.8	52.5
Dixie 911	76.5	39.5	34.6	84.1	42.4	40.2	45.6	51.1
WILLCROSS 723	72.1	32.7	39.6	81.3	42.3	30.3	32.2	47.0
Average	84.0	47.5	41.7	86.8	52.3	62.2	61.9	62.3
LSD (0.05)	6.6	9.6	11.0	12.5	10.2	12.2	8.8	3.3
CV%	5.4	13.6	18.8	10.0	13.3	13.7	9.4	10.0

** Indicates the highest yielding variety in the column.

* Indicates varieties that do not differ in yield from the highest yielding variety based on Fisher's protected LSD ($p=0.05$).

† Yields are based on 60 pound standard bushel weight adjusted to 13.0 percent moisture content of the grain.

‡ Management included mid-April applications of Tilt and Warrior. Plots were irrigated prior to heading and again post-heading.

§ Number in parentheses is the experimental number under which the variety was tested in the 2000 Missouri Winter Wheat Performance Tests.

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