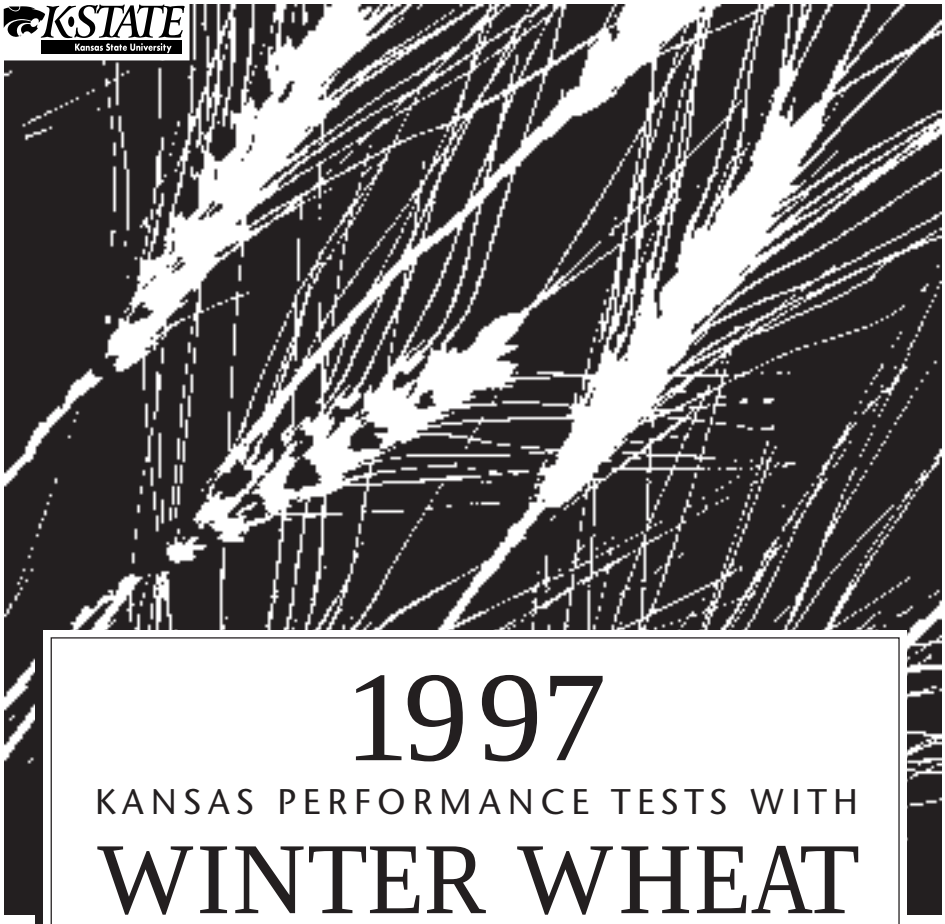
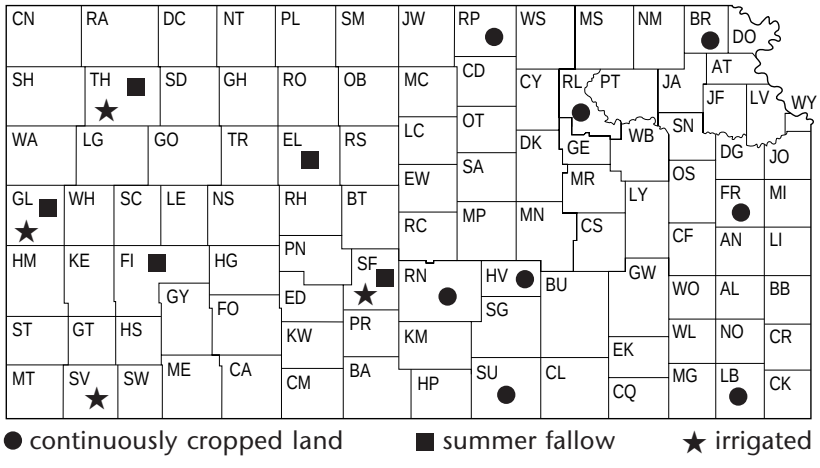


1997

KANSAS PERFORMANCE TESTS WITH

WINTER WHEAT VARIETIES



Report of Progress 790
Kansas State University Agricultural Experiment Station and Cooperative Extension Service

CONTENTS

Contribution No. 98-22-S from the Kansas Agricultural Experiment Station

1997 KANSAS PERFORMANCE TESTS WITH WINTER WHEAT VARIETIES

INTRODUCTION

This publication presents results from the 1996-97 Kansas Winter Wheat Performance Tests and other information related to winter wheat variety performance. The information included in the report is intended to assist wheat producers in the variety selection process. The first section includes a summary of statewide growing conditions and harvest information for the entire 1997 Kansas wheat crop. The second section includes the statewide acreage distribution of leading Kansas varieties and a summary of important agronomic and quality traits for these varieties. The third section presents procedures and results for the 1997 Kansas Winter Wheat Performance Tests.

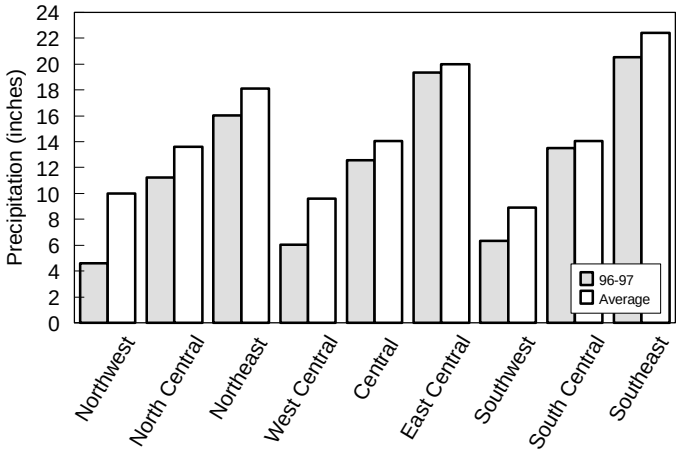


Figure 1. Critical precipitation (October-May) by crop reporting district.

1997 CROP CONDITIONS

Weather Conditions

The critical weather factors for wheat are precipitation and temperature. The precipitation for the 1996-97 wheat season was much more favorable than last season. However, during the critical October to April period, all divisions reported below-normal precipitation (Figure 1).

Temperatures also were favorable for the most part. The major exception was during mid-April. Most of the state experienced low temperatures below 20° F. The most severely affected area of the state was in the extreme southwest, where temperatures remained below 18° F for extended periods (Figure 2).

Cool temperatures persisted through mid-June. June also brought more rain, particularly to the southwest and south central portions of the state. Preliminary rainfall totals show Cowley county with 7.97 inches, Reno county with 6.17 inches, Kingman County with 5.31 inches, and Ellis county with 4.35 inches. This contributed to harvest delays in some locations.

(From Mary Knapp, KSU State Climatologist).

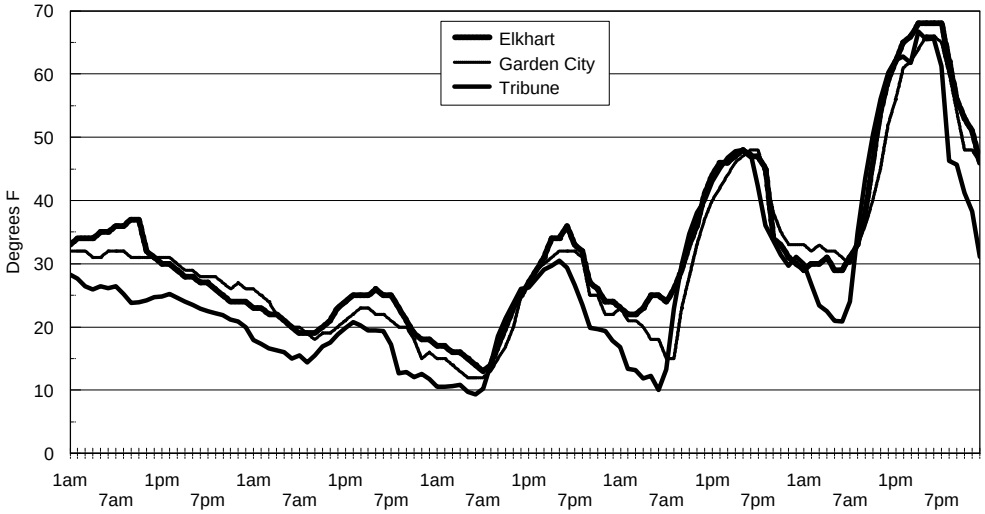


Figure 2. Hourly temperatures, April 10-14, 1997.

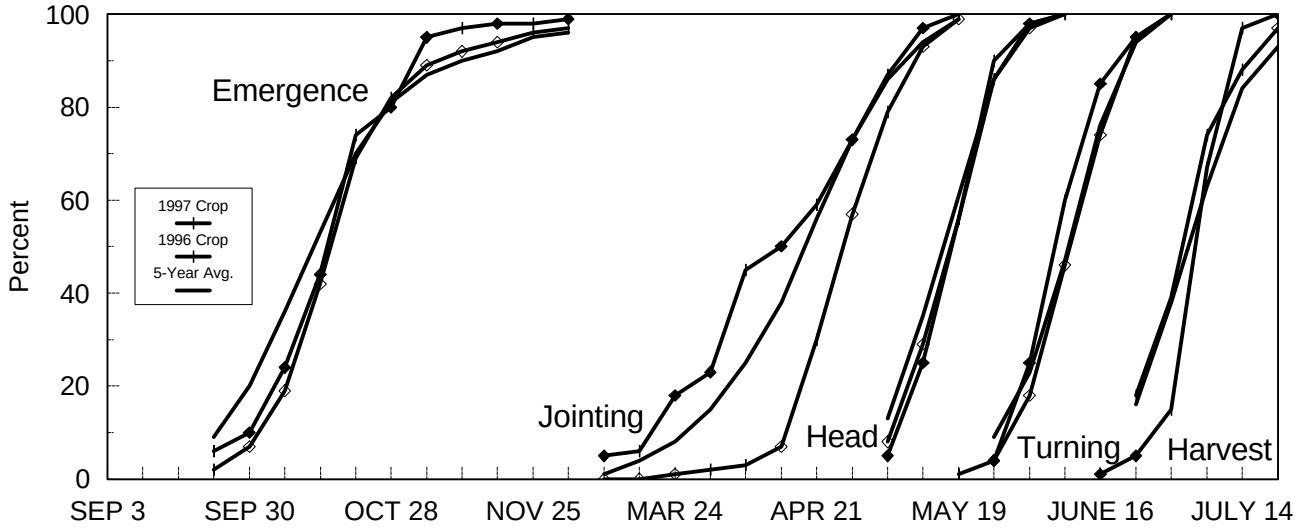


Figure 3. Statewide development of winter wheat crop.

Crop Development

Adequate soil moisture and warm temperatures enabled most of the wheat to emerge by early November even though much of it was planted later than normal (Figure 3). Continued rains slowed planting for a time over much of the state and prevented planting entirely on some acres in southeast and east central Kansas. The wheat started jointing slightly ahead of normal and several days ahead of last year. Cool temperatures in April slowed progress to the point where heading was behind normal. Harvest started out slowly but made rapid progress in late June and finished slightly ahead of normal.

A large portion of the wheat acreage was in good-excellent condition for most of the season (Figure 4). Nearly 80%-90% was rated as good or excellent from emergence until the mid-April freeze. Some drying during the winter in western Kansas raised concerns about potential wind damage, but later snows and other precipitation enabled most of the acreage to escape severe wind damage. The April 13 freeze initially appeared to severely damage much of the wheat in southern Kansas. As the season progressed, the crop condition continued to rebound until over 60% was rated good-excellent at harvest.

Soil moisture was generally adequate for most of the season (Figure 5). Some fields, primarily in western Kansas, dried out somewhat over the winter, in late March, and again in May, but timely rains replenished surface moisture and prevented serious drought stress during grain filling. (From *Crop-Weather* reports, Kansas Agricultural Statistics, Topeka).

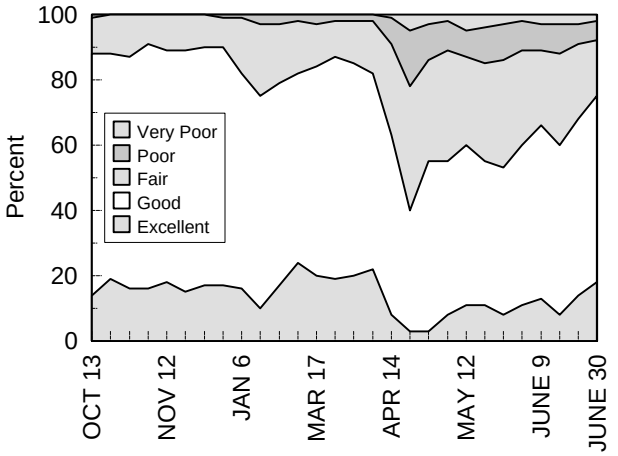


Figure 4. Condition of Kansas winter wheat crop, 1996-1997.

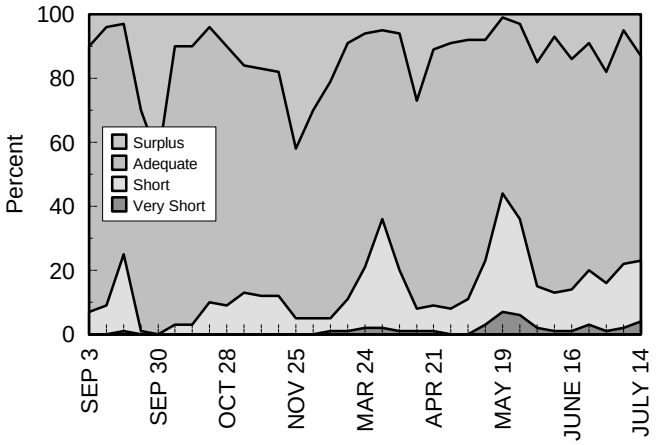


Figure 5. Statewide status of topsoil moisture, 1996-1997.

Diseases

Abundant summer rainfall promoted development of volunteer wheat following wheat harvest in 1996. By early fall, the volunteer wheat was heavily infected with leaf rust. Wheat streak mosaic also was present on some of the volunteer wheat. Leaf rust moved from the volunteer onto early planted wheat causing significant yellowing on susceptible varieties in the fall.

In early March, numerous reports of soilborne mosaic and spindle streak mosaic were received. Southwest Kansas reported some soilborne mosaic in fields that had never shown symptoms before. Cool weather caused symptoms of these cold-loving viruses to last longer than usual.

By late March, it was clear that leaf rust had overwintered well in Texas, Oklahoma, and the southern tier of counties in Kansas. Reports of varietal resistance breakdowns in Texas and Oklahoma were attributed to the appearance of several new leaf rust races. Expectations of a major leaf rust epidemic in Kansas prompted interest in foliar fungicide treatments. However, the late spring freeze on April 12-13 caused great concern about the yield potential of the crop. Therefore, very little wheat was subsequently treated with fungicides.

Cool, dry weather in late April and May resulted in slow foliar disease progress over most of the state. Major transport of rust from southern states did not occur until very late in the season. Except for the southern tier, most wheat made it to the soft dough stage before significant leaf rust was noted.

Wheat streak mosaic caused serious damage in isolated fields in the southwestern and northwestern districts. The variety Ike was particularly hard hit. Patches of stunted plants with barley yellow dwarf were noted in some fields, but losses were low. Isolated reports of moderate speckled leaf blotch and tan spot were received. Traces of powdery mildew, loose smut, and scab were noted in a few fields. Take-all root rot was a serious problem in a few continuous wheat fields in south central and northeastern Kansas.

(From Robert Bowden, State Extension Plant Pathologist).

Insects

Russian wheat aphids showed renewed activity during May in western Kansas. They were in all fields surveyed in Kearny, Stanton, Hamilton, Wallace, and Sherman counties. Infestations in some fields in Kearny, Hamilton, and Greeley counties ranged as high as 28% to 30% of the tillers. Where wheat was approaching heading stage, 30% to 40% of the primary tillers exhibited symptoms. At that time, yield prospects in many of those fields appeared questionable.

Greenbug establishment was poor throughout the season compared to heavy infestations last year in central and north central Oklahoma and southern Kansas. Similarly, oat-bird cherry aphids, while present, were relatively scarce. Isolated growers in the southern half of the state reported some concerns in April and early May.

Fewer mite problems were reported in 1997. Brown wheat mite, favored by dry fall weather, was much less of a concern in the western areas than it had been last year. The winter grain mite, occasionally a concern in central areas of Kansas, also was less noticeable this year. Some grasshopper activity was noticed in 1997, but it was not especially high. However, grasshopper populations appear to be on the increase in Kansas, signaling potential problems ahead.

Historically, Hessian fly is one of the worst insects that wheat growers face because of its potential to cause destruction and because of the lack of rescue treatments. For the past two years, Hessian fly has been less of a problem in Kansas than in the past. We think this is due to progress in wheat breeding and to good production practices.

(From Leroy Brooks, State Extension Entomologist).

Harvest Statistics

The Kansas Agricultural Statistics' July 11 estimate of the 1997 crop was 449.4 million bushels harvested from 10.7 million acres (Figure 6). This estimate was up 76% from the 1996 harvest and up 24% from the June 1 forecast. The statewide yield average of 42 bushels per acre was up 13 bushels from last year and set a new record. Estimates of total production were higher than last year in all but

the East Central district, which had several thousand acres that couldn't get planted last fall because of weather conditions. (From July 11, 1997 *CROPS* report, Kansas Agricultural Statistics, Topeka).

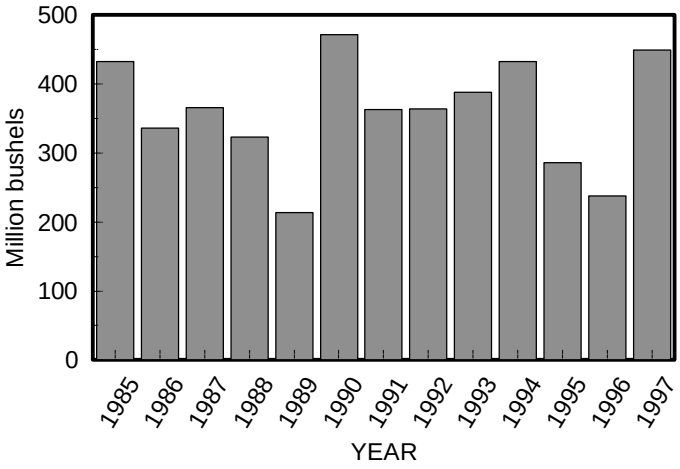


Figure 6. Historical Kansas winter wheat productic

WHEAT VARIETIES GROWN IN KANSAS

Acreage Distribution

The leading wheat varieties planted in Kansas are reported in Figures 7 and 8 and in Table 1. The top 10 varieties occupied 85% of the state's seeded acreage in 1997.

The top 10 varieties for each crop reporting district are presented in Figure 7. In the western districts, TAM 107 acreage held its own, Ike acreage increased from last year, and Larned acreage dropped slightly. Vista doubled its share of the acreage from 5% to 10% in the Northwest district. Half or more of the central Kansas acreage was dedicated to Karl/Karl 92 and 2163. Karl/Karl 92 acreage increased slightly in the Central and North Central districts but dropped slightly in the South Central district compared to 1996. The acreage of 2163 dropped in all 3 central districts. Ike and Jagger occupied 15% of the central Kansas acreage, up from 6% in 1996. Tomahawk and 7853 were planted on 10% of the central-Kansas acreage, down from 15% in 1996. Karl/Karl 92 was the most prevalent variety by far in eastern Kansas, with 63% of the acreage. 2163 and Jagger were the only other varieties planted on more than 5% of the wheat acres in eastern Kansas.

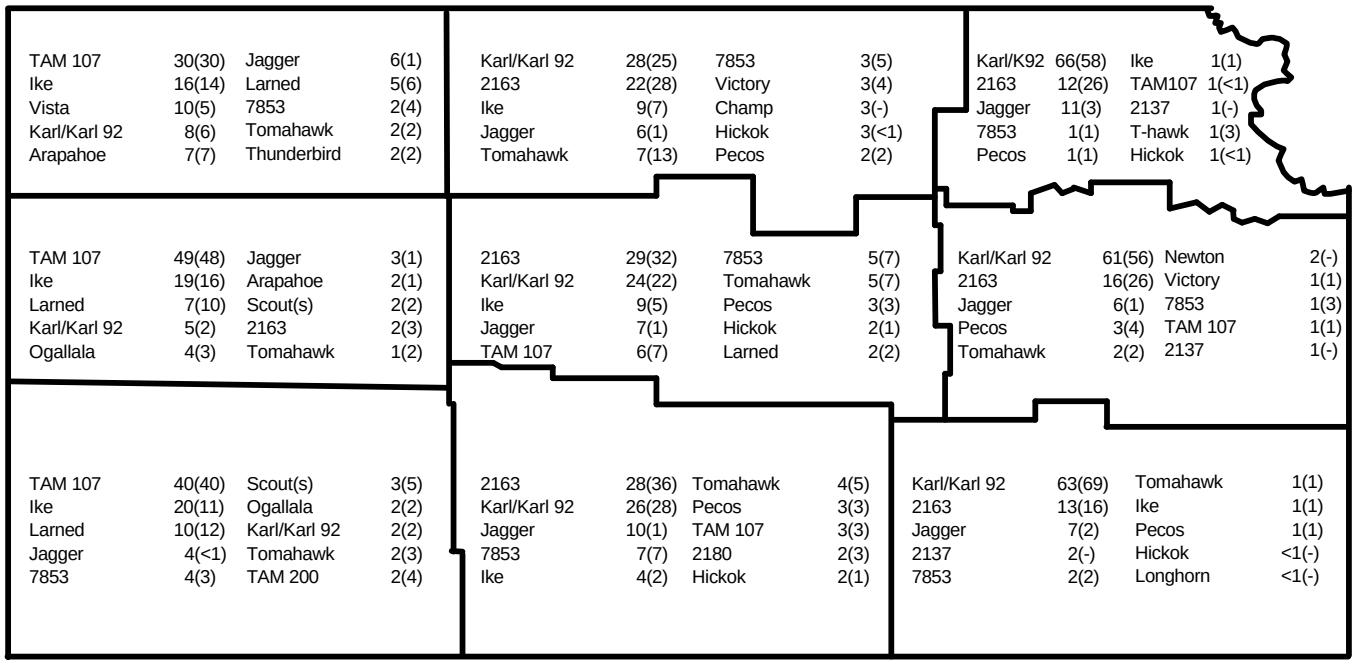


Figure 7. Leading wheat varieties in Kansas in 1997, presented as percent of seeded acreage by crop reporting districts for 1997 and 1996 (1996 in parentheses). From Wheat Variety report, Kansas Agricultural Statistics, February 8, 1997.

Figure 8 illustrates the statewide distribution of several leading varieties from 1977 through 1997. These varieties occupied 86.1% of the planted wheat acres in 1997. Scout/Scout 66, Eagle, and Sage combined for nearly 60% of the statewide acreage in the late 1970s. In the early 1980s, Newton and Larned dominated, with over 50% of the acreage devoted to these two varieties. Larned consistently maintained nearly 10% of the planted acreage during the 1980s but has begun to drop off in recent years. Newton acreage has dropped from a high of over 40% in 1982 to 0.6% in 1997. TAM 107 predominated in the early 1990s. In 1993, Karl/Karl 92 displaced TAM 107 as the leading variety. Four varieties, Karl/Karl 92, TAM 107, 2163, and Ike, made up 65% of the total wheat acreage in 1997.

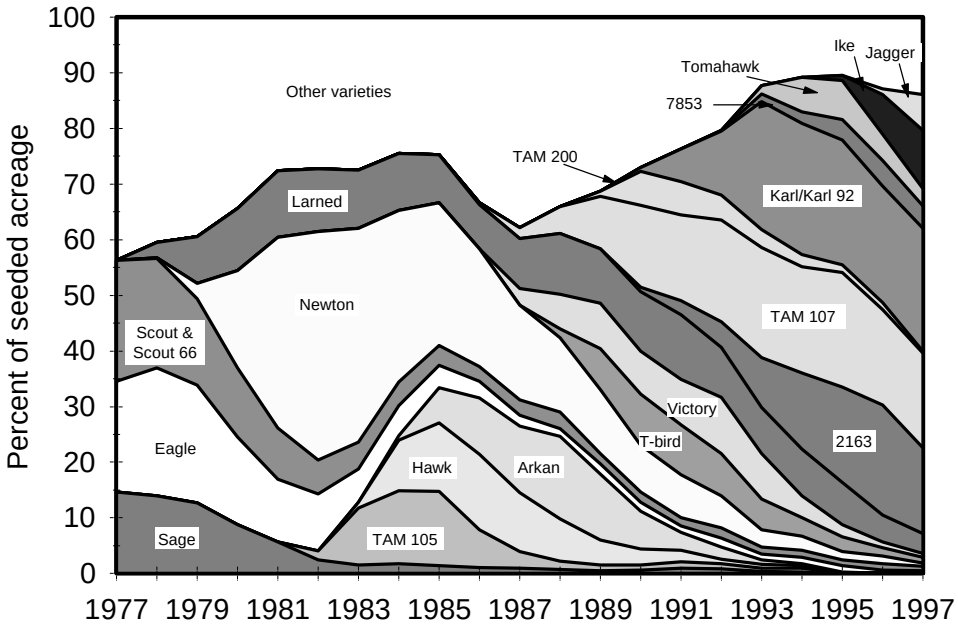


Figure 8. Historical distribution of leading varieties, percent of statewid acreage. From Kansas Agricultural Statistics, Topeka.

From February 7, 1997, *Wheat Variety* report, Kansas Agricultural Statistics, Topeka).

Agronomic Characteristics

Comparative ratings for important agronomic traits, pest resistance, and milling and baking quality are listed in Table 1. Varieties are included in this table if they appear in the annual *Wheat Variety* survey report from Kansas Agricultural Statistics. Ratings for a given trait in this table are experts' best estimates of the relative performance of the varieties based on information and observations over several seasons and from numerous sources. The ratings are updated annually to account for changes in performance that occur over time and to adjust for the changes in ranking that arise with the continued additions of new varieties.

New Variety Descriptions

General descriptions of new public entries in the Kansas Wheat Performance Tests are included below. These descriptions are abstracted from release notices or other material provided by the releasing agencies.

2174 hard red winter wheat was released by the Oklahoma Agricultural Experiment Station in 1997. 2174 flowers about the same time as 2163 but yielded an average of 1.6 bu/a more than 2163 in 15 Oklahoma tests. 2174 is resistant to soilborne mosaic virus, leaf rust, powdery mildew, and tan spot. It has some tolerance to low pH soils but not as much as 2163 or 2137. This variety appears to be best adapted to central and north central Oklahoma and possibly south central Kansas. Foundation seed should be available for fall planting. Registered seed should be available in 1998 and certified seed in 1999. (From Gene Krenzer, Oklahoma State University Extension Small Grains Specialist).

Windstar hard red winter wheat was developed cooperatively by the Nebraska Experiment Station; the South Dakota Experiment Station; and the Northern Plains Area, Agricultural Research Service, U.S. Department of Agriculture. Windstar is similar in appearance to Rawhide and Siouxland. It is a taller semidwarf of medium to late maturity. Windstar has shown moderate resistance to stem rust and moderate susceptibility to leaf rust and wheat streak mosaic virus. It is susceptible to Russian wheat aphid, Hessian fly, and soilborne mosaic virus.

Table 1. Comparisons of leading winter wheat varieties grown in Kansas.[1]

Brand	Variety	Percent Kansas seeded acreage 1997[2]	Relative[3]				Resistance or tolerance to:[4]							Relative milling and baking quality[5]
			Maturity	Test Weight	Straw Str.	Winter hardiness	Tan spot	Speck. leaf blotch	Leaf rust	Stem rust	Hessian fly	Wheat streak mosaic	Soil-borne mosaic	
----	Karl/Karl 92	22.1	1	3	4	3	3	5	9	7	9	9	1	EX*
----	TAM 107	17.0	1	4	2	2	7	6	9	4	9	6	8	LD
----	2163	15.4	3	6	1	4	5	4	7	4	1	5	1	LD
----	Ike	10.5	4	3	4	3	7	8	8	2	1	9	1	AC
----	Jagger	6.4	1	4	3	6	3	3	5	3	9	4	1	EX
AGSECO	7853	4.0	3	4	4	5	6	9	8	4	9	5	1	EX
----	Larned	3.6	4	4	5	3	9	7	8	3	3	7	8	AC
AgriPro	Tomahawk	3.1	3	4	3	2	4	8	3	3	9	8	1	AC
AgriPro	Pecos	1.6	1	4	1	5	6	5	7	4	1	7	1	AC
AgriPro	Ogallala	1.3	3	2	2	4	6	5	4	3	9	6	9	EX
----	Vista	1.2	5	4	6	2	8	5	5	5	1	8	8	AC*
----	Arapahoe	1.1	6	4	6	3	8	4	5	2	3	7	8	AC
----	2137	1.0	3	4	1	3	4	3	6	6	2	5	1	AC
AgriPro	Thunderbird	1.0	2	3	3	2	9	6	7	3	9	5	1	AC
AgriPro	Hickok	1.0	2	2	3	6	7	8	3	3	9	5	1	AC
----	Scout(s)	0.8	4	4	6	3	9	7	8	3	9	7	9	AC
AgriPro	Victory	0.7	3	4	4	3	5	9	5	6	9	8	1	AC
----	Newton	0.6	3	4	4	5	9	9	9	3	9	6	1	AC
AgriPro	Laredo	0.6	4	4	3	3	6	8	6	4	9	7	7	LD
----	2180	0.5	1	4	1	7	7	5	6	5	2	9	1	LD
----	Eagle	0.5	4	4	6	3	9	7	8	4	7	8	9	EX*
----	TAM 200	0.4	4	2	4	6	6	3	7	4	9	7	9	LD
AgriPro	Abilene	0.4	4	3	2	2	6	7	8	2	9	5	1	AC
Star	Champ	0.4	4	5	5	3	6	6	6	6	9	5	1	--
AgriPro	Longhorn	0.3	5	3	2	3	6	7	6	1	8	5	8	LD
AgriPro	Ponderosa	0.3	3	3	3	3	5	8	3	3	9	8	1	EX*
----	Triumph(s)	0.2	1	3	7	6	5	9	9	8	9	4	8	LD
AgriPro	Sierra	0.2	5	4	1	5	4	2	4	3	9	8	1	LD
AGSECO	7805	0.2	4	4	4	5	7	8	8	1	8	8	9	--
Other Hard Varieties		3.3												
Other Soft Varieties		0.3												

[1] Varieties listed in the Feb. 7, 1997, Wheat Variety survey, KS Ag. Statistics. Ratings are expert's best estimates, based on information and observations from several sources. Rated on a scale of 1 to 9; except for maturity (where 1 is earliest), 1 best and 9 poorest,, -- = not tested.

[2] From February 7, 1997 Wheat Variety survey, Kansas Ag. Statistics Office, Topeka, KS.

[3] Agronomic information and some disease ratings provided by Rollin Sears, Dept. of Agron., K.S.U. and some by John Moffatt, AgriPro Seeds.

[4] Disease ratings provided by R.L. Bowden and W.W. Bockus, Dept. of Plant Path.; Hessian fly ratings by J.H. Hatchett, Dept. of Entomology.

[5] Ratings compiled by P.J. McCluskey are based on data from the K.S.U. Department of Grain Science and Industry, the U.S. Grain Marketing and Production Research Center, and inputs from the milling and baking industries.

EX = Exceptional Quality; usually large kernels; high protein content; very good milling, mixing, and commercial bread baking performances.

AC = Acceptable Quality; milling and baking attributes acceptable, but not outstanding for all properties, may have minor defect

LD = Less Desirable Quality; one or more serious quality defects.

-- = Inadequate information or conflicting data.

*Strong blending wheat. Needed for blending with weaker wheats. May not be suitable alone for bread flour.

Windstar is best adapted to dryland production in the Nebraska Panhandle and western South Dakota. It has demonstrated consistent dryland yields in those areas. (From March 11, 1997, release notice, University of Nebraska Department of Agronomy).

TAM 110 hard red winter wheat was released by the Texas Agricultural Experiment Station in 1996. This variety is similar to TAM 107 in type and area of adaptation but possesses resistance to greenbug biotypes C, E, I, and K. TAM 110 likely is best adapted to dryland or limited-irrigation systems on the High Plains where leaf rust is typically not a major problem. TAM 110 has shown improvement over TAM 107 in some quality factors (water absorption, mixing tolerance, and loaf grain characteristics) but is similar to TAM 107 for others. (From TAM 110 Hard Red Winter Wheat pamphlet published by the Texas Agricultural Experiment Station, Texas A&M University, 1997).

TAM 301 hard red winter wheat was released by the Texas Agricultural Experiment Station in 1995. TAM 301 carries several leaf rust resistance genes and demonstrates field resistance to *Septoria tritici* (speckled leaf blotch), stem rust, and powdery mildew. It is susceptible to *Septoria nodorum* (glume blotch), barley yellow dwarf virus, soilborne mosaic virus, and common root rot. Head emergence of TAM 301 is about 3 days later than TAM 107. (From PVP application submitted by Texas Agricultural Experiment Station).

1997 PERFORMANCE TESTS

Objectives

To help Kansas growers select wheat cultivars suited for their area and conditions, the Kansas Agricultural Experiment Station annually compares both new and currently grown varieties and hybrids in the state's major crop-producing areas. The objective is to provide Kansas growers with unbiased performance information on all varieties and hybrids likely to become available in the state.

Varieties Included in Tests

Parentage and origin of public varieties included in the 1997 Kansas Agricultural Experiment Station tests are given in Table 2. Public varieties are selected for inclusion in the tests based on several criteria. Most represent new or established varieties with potential for successful utilization by Kansas wheat producers. Some are included as long-term checks for use in environment or maturity comparisons. Others are entered at the request of the originating institution.

Privately developed varieties are entered into the Kansas Wheat Performance Tests by their originators or marketers. Entry is voluntary. Entrants choose both the entries and test sites and pay a fee for each entry-location to help defray test expenses. The program is similar to those for corn, sorghum, soybeans, and alfalfa.

The 1997 private entrants and entries are listed in Table 3. Eleven entrants provided a total of 43 varieties and hybrids for testing at locations of their choice. Public and private entries were grown together at random in the same tests. Growers interested in more detailed descriptions of private entries should contact the entrants directly (see addresses and telephone numbers in Table 3 or consult the Kansas Crop Improvement Certified Seed Directory).

Seed quality, including such factors as size, purity, and germination, can be important in determining the performance of a variety. Wheat seed used for public and private entries in the Kansas Crop Performance Tests is prepared professionally and usually meets or exceeds Kansas Crop Improvement Certification standards (see Table 12). Relative performance of a given variety or hybrid comparable to that obtained in these tests is best assured under similar environmental conditions and cultural practices and with the use of certified or professionally prepared seed.

Environmental Factors Affecting Individual Tests

Locations of test sites are shown on the map on the front cover. Only 1 of the 17 tests had to be discarded in 1997. Descriptions of environmental conditions are included below.

Environmental factors should be considered when examining the results for a particular location. Site descriptions and management practices for each site are summarized in Table 4.

Performance test summary: The performance tests were subjected to much the same regimen as described under the statewide growing conditions. A number of the tests yielded much better than expected after the dry winter and late freezes. Either the freezes didn't cause as much damage as thought or the wheat was able to overcome the damage better than anticipated. Diseases and insects caused noticeable yield decreases in only a few tests. The location codes listed in parentheses after each location name are used as column headers in the data tables.

Table 2. Parentage of public wheat varieties in 1997 tests.

Type and variety	Parentage	State and year of release	
HARD RED WINTER			
Akron	TAM 107/Hail	Colorado	1994
Alliance	Arkan/Colt//Chisholm	Nebraska	1994
Arapahoe	Brule/3/Pkr*4/Agent/Beloterkovskaia 198/Lancer	Nebraska	1988
Custer	F29-76/TAM 105// Chisholm	Oklahoma	1994
Halt	Sumner/CO820026,F_1//PI372129,F_1/3/TAM 107	Colorado	1994
Ike	Dular/Eagle//2*Larned/Cheney/3/Colt	Kansas	1993
Jagger	KS82W418/Stephans	Kansas	1994
Karl 92	F_{11} head row selection from 'Karl' seed increase	Kansas	1992
Karl 92-G	Same as Karl 92, but treated with Gaucho seed treatment		
Larned	Scout*5/Ottawa	Kansas	1976
Nekota	Bennett/TAM 107	Nebraska	1994
Newton	Pitic62/Chris sib//2*Sonora64/Klein Rendidor/4/Scout,	Kansas	1977
Niobrara	TAM 105*4/Amigo//Brule	Nebraska	1994
Scout 66	A composite of 85 selections from Scout	Nebraska	1967
TAM 107	TAM 105*4/Amigo	Texas	1984
TAM 110	TAM 105*4/Amigo*5//Largo	Texas	1996
TAM 200	TX71A1039-V1*3/Amigo	Texas	1987
TAM 301	Mit/Kavkaz	Texas	1995
Tonkawa	F29-76/TAM 105//Chisholm	Oklahoma	1994
Vista	NE68513/NE68457//Centurk/3/Brule	Nebraska	1992
Windstar	TX79A2729//Caldwell/Brule field sel #6/3/Siouxland,	Nebraska	1997
Yuma	NS14/NS25//2*Vona	Colorado	1991
2137	W2440/W9488//2163	Kansas	1995
2163	Pioneer line W558/5/Etoile de Choisy//Thorne/Clarkan/3/Cl15342/4/ Purdue 4946A4-18-2	Kansas (Pioneer)	1989
2174	IL 71-5662/PL 145//2165	Oklahoma	1997
2180	TAM W-101/5/Etoile de Choisy//Thorne/Clarkan/3/ Cl15342/4/Purdue 4946A4-18-2/6/W558	Kansas (Pioneer)	1988
SOFT RED WINTER			
Caldwell	Benhur sib *2/Siette Cerros	Indiana	1981
Cardinal	Logan 2*/3/Va63-52-12/Logan/Blueboy	Ohio	1986
Ernie	Pike/3/(MO9965,Stoddard/Blueboy//Stoddard/D1707),	Missouri	1994
Jackson	Saluda/Coker 762	Virginia	1993

EAST

Brown County (BR): This test was planted into good moisture last fall resulting in good stands. Little winter injury occurred, and damage from the late spring freezes appeared to be minimal. Spring and summer growing conditions were favorable, with adequate moisture for good growth and high-yield potential. Leaf rust appeared early enough and became severe enough to reduce yields of susceptible varieties.

Riley County (RL): The trial was planted October 3; good stands were obtained, and no winterkilling occurred. A severe freeze on April 11-12 caused ice formation below the growing points in approximately 15% of the primary stems of the earliest varieties; however, no visible damage or lodging resulted. Timely rains and cool temperatures during the growing season allowed for excellent crop development and yield potential. Leaf rust reduced yields of susceptible varieties but arrived late enough to minimize the damage. The leaf spotting complex (*Septoria(s)* and tan spot), which are normally severe at this location, remained on the lower leaves and didn't cause yield reductions. A rain after the wheat was ripe and before harvest reduced test weights slightly.

Franklin County (FR): Cool, wet conditions following planting limited fall growth and tillering. Some varieties appear to have suffered more than others from the poor fall growing conditions. The winter was relatively cold, and snowfall was above average. Diseases and insects appeared to cause little damage to varieties in this test.

Labette County (LB): Excellent fall weather favored stand establishment and early growth. Minimal damage resulted from the hard freezes in March and April. Later spring and summer

Table 3. Private entrants and entries in 1997 Kansas Wheat Performance Tests.

Entrant	*Brand*	Variety/Hybrid
AgriPro Seeds, Inc. 806 N. Second St., PO Box 30 Berthoud, CO 80513 (970) 532-3721	***AgriPro***	Big Dawg Coronado Hickok Laredo Ogallala Pecos Rowdy Tomahawk Elkhart (S)
AGSECO, Inc. P.O. Box 7 Girard, KS 66743 (316) 724-6223	***AGSECO***	7853 7853-D* 7853-VRTU** 9001 Colby 94 Mankato 12019 Exp
*Seed treated with Dividend **Seed treated with Vitavax RTU		
American White Wheat Producers Association P.O. Box 326 Atchinson, KS 66002 (785) 367-4422	***Public, KS*** ***AgriPro***	Arlin (W) Oro Blanco (W)
Drussel Seed and Supply 2197 W. Parallel Road Garden City, KS 67846 (316) 275-2359	***Drussel***	DSS-285
Goertzen Seed Research 14604 S. Haven Rd. Haven, KS 67543 (316) 465-2675		G12017 Exp G1594 Exp G1720 Exp G1878
HybriTech Seed Intl., Inc. 5912 N. Meridian Wichita, KS 67204 (800) 346-2256	***Quantum***	566 579 7406 7504 AP 7501 AP 7510 AP 7601 H1870 Exp
Novartis 1060 Wheatland Dr. Buhler, KS 67522 (316) 543-2707	***NK***	Coker 9474 (S) Coker 9543 (S) Coker 9663 (S)
Pioneer Hi-Bred Intl., Inc. 1616 S Kentucky St. Suite C-150 Amarillo, TX 79102 (806) 356-0160	***Pioneer***	2548 (S)
Polansky Seed P.O. Box 306 2729 M St. Belleville, KS 66935 (785) 527-2271	***Polansky***	Dominator
Star Seed, Inc. Box 504 Beloit, KS 67420 (800) 782-7611	***Star***	505 560 Champ
Terra International, Inc. Terra Centre, 600 Fourth St. Sioux City, IA 51102 (712) 233-3609	***Terra***	HR 153 SR 204 (S) SR 205 (S) Exp 211 (S)

conditions were perfect for wheat development and high yield potential. Leaf rust appeared too late to cause significant yield reductions.

CENTRAL

Republic County (RP): Favorable moisture conditions resulted in good stands for most varieties. November rains helped the plants to establish well going into the winter. Cold, dry winter conditions and several spring freezes did not seem to significantly harm the plants. A heavy infestation of leaf rust developed too late to cause much yield reduction.

Harvey County (HV): Excellent stands, minimal winter and freeze injury, and favorable spring and summer growing conditions set the stage for very good yields at this location. Temperatures in the low 20s on April 11-13 raised concerns of possible freeze damage that did not materialize. Soilborne mosaic virus was evident in some small areas in early spring but didn't appear to have a large affect on yields. Leaf rust arrived too late to impact yields.

Reno County (RN): The test established and overwintered well. The late freezes in March and April caused less damage than initially thought. Leaf diseases were present but appeared too late to cause significant yield reductions.

Stafford County, dryland (SD): Blowing sand destroyed one replication and caused enough variation in the remaining replications to make

Table 4. Wheat Performance Test site descriptions and management in 1997.

County and Cooperator	Site, nearest town, and location code	Dates of planting & harvest	Soil type and previous crop	Fertilizers applied, lbs/acre 1/	N	P	K	Seeding rate 2/ and row spacing
EAST								
BROWN	Cornbelt Expt Field	10/14	Grundy silty clay loam	F	75	--	35	90 lb/a
Brian Marsh	Powhattan (BR)	7/10	pH 5.8, Oats, 1996	S	--	--	--	8" row spacing
RILEY	Ashland Agron Farm	10/3	Reading silt loam	F	75	25	--	75 lb/a
Rollin Sears	Manhattan (RL)	7/5	Oats, 1996	S	50	--	--	9" row spacing
FRANKLIN	EC KS Expt Field	10/14	Woodson silt loam	F	6	26	13	1,200,000 seeds/a
Keith Janssen	Ottawa (FR)	7/3	Soybeans, 1996	S	80	--	--	7" row spacing
LABETTE	SE Agric Res Ctr	10/10	Parsons silt loam	F	41	46	120	75 lb/a
Jim Long	Parsons (LB)	6/23	Corn, 1996	S	31	--	--	7" row spacing
CENTRAL								
REPUBLIC	NC KS Expt Field	9/25	Crete silt loam	F	80	30	--	60 lb/a
Barney Gordon	Belleville (RP)	7/2	pH 6.4, Wheat, 1996	S	--	--	--	7.5" row spacing
HARVEY	Harvey Co Expt Field	10/16	Ladysmith silty clay	F	90	35	--	60 lb/a
Mark Claassen	Hesston (HV)	7/4	loam, Oats, 1996	S	--	--	--	8" row spacing
RENO	SC KS Expt Field	10/11	Ost silt loam	F	75	40	--	60 lb/a
Bill Heer	Hutchinson (RN)	7/3	Oats, 1996	S	50	--	--	8" row spacing
STAFFORD Dry	Sandyland Expt Field	10/11	Pratt loamy fine sand	Abandoned - Wind damage and other				
Victor Martin	St. John (SD)	7/7	Grain sorghum, 1995	variability made results suspect				
SUMNER	Max Kolarik Farm	10/14	Sandy loam	F	18	48	--	60 lb/a
Rollin Sears	Caldwell (SU)	7/1	Wheat, 1996	S	50	--	--	9" row spacing
WEST								
ELLIS	Agric Res Ctr - Hays	10/5	Harney clay loam	F	50	--	--	60 lb/a
T. Joe Martin	Hays (EL)	6/28	Wheat, 1995	S	--	--	--	12" row spacing
THOMAS Dry	NW Res-Ext Ctr	9/24	Keith silt loam, ph 7.7	F	48	--	--	50 lb/a
Pat Evans	Colby (TD)	7/2	Wheat, 1995	S	--	--	--	12" row spacing
GREELEY Dry	SW Res-Ext Ctr	9/28	Richfield silt loam	F	11	52	--	45 lb/a
Alan Schlegel	Tribune (GD)	7/4	Wheat, 1995	S	60	--	--	10" row spacing
FINNEY Dry	SW Res-Ext Ctr	9/30	Keith silt loam	F	60	--	--	42 lb/a
Merle Witt	Garden City (FD)	7/2	Wheat, 1995	S	--	--	--	10" row spacing
IRRIGATED 3/								
STAFFORD Irr	Sandyland Expt Field	10/4	Pratt loamy fine sand	F	53	46	--	90 lb/a
Victor Martin	St. John (SI)	7/3	Corn, 1995	S	--	--	--	7" row spacing
THOMAS Irr	NW Res-Ext Ctr	9/27	Keith silt loam, pH 7.6	F	93	--	--	90 lb/a
Pat Evans	Colby (TI)	7/4	Wheat, 1996	S	--	--	--	12" row spacing
GREELEY Irr	SW Res-Ext Ctr	10/4	Ulysses silt loam	F	--	--	--	90 lb/a
Alan Schlegel	Tribune (GI)	7/10	pH 7.4, Corn 1995	S	105	--	--	10" row spacing
STEVENS Irr	Jim Kramer Farm	10/9	Richfield sandy loam	F	130	30	--	90 lb/a
Rollin Sears	Hugoton (ST)	7/10	Corn, 1996	S	--	--	--	9" row spacing

1/ F = fall application; S = spring
2/ Seed weight of 1997 entries varied from 24.0 to 43.8 grams/1000 kernels, averaging 30.6 grams/1000 kernels (see Table 12).
3/ Irrigated tests received irrigations necessary to maintain vigorous plant growth.

the variety yield averages suspect. The test was abandoned and no results are reported.

Sumner County (SU): This trial was planted under good conditions on October 14, and uniform stands were obtained. A mild winter enabled leaf rust to overwinter on most varieties.

A severe freeze on April 11-12 resulted in death of approximately 20%-30% of the primary tillers in early varieties. More significant, however, was the ice formation below the growing point in 50%-60% of the stems of early varieties and 20%-30% of the later varieties. Almost ideal weather conditions following the freeze allowed the crop to develop and fill grain almost normally. Lack of moisture stress and high-temperature stress allowed the tillers to fill grain despite 2"-4" of freeze damaged stem tissue at the soil level.

Leaf rust developed late for this location but was still severe on Karl by the soft dough stage. Yields could have been reduced by as much as 10%-15% on susceptible varieties.

A severe storm lodged virtually the entire test at the hard-dough stage. The lodging was caused by the weakened stems from the early freeze and does not indicate genetic differences in straw strength. The lodging note reported (Table 11) was recorded before the storm. Lodging at this stage reduced yield potential slightly and is the primary cause of the high CV for this trial.

WEST

Ellis County (EL): Favorable soil moisture led to excellent stands. The winter months were mild, but had very little precipitation. The spring freezes caused very little damage because of the ice and snow cover present at the time. Leaf rust appeared late in the growing season but appeared to have little affect on performance. Rains just before harvest appeared to decrease the test weights of the early-maturing varieties. Another result of the rain was that kernels began to shatter as the grain dried.

Thomas County, dryland (TD): Above-average precipitation in 1996 provided excellent planting conditions. The favorable conditions continued into the fall, resulting in good stands with adequate growth going into the winter. The winter months were very dry but no colder than normal and very little stand was lost. Timely showers and cool temperatures from mid-May through June provided favorable grain-filling conditions. Leaf rust developed too late in the season to have a significant affect on yields. Wheat streak mosaic was not serious.

Greeley County, dryland (GD): Most of the growing season was dry, but favorable grain filling conditions resulted in yields that were better than expected. Russian wheat aphids decreased yields of susceptible varieties and increased yield variability somewhat.

Finney County, dryland (FD): This test developed well in the fall and winter months, entering spring in an advanced stage of maturity with high-yield potential. A freeze on April 12 (9 °F) killed many early tillers and caused nearly a week's delay in maturity. Cool and nearly ideal grain-filling conditions allowed better-than-expected yields. Small areas of the test were infested with Russian wheat aphids. Leaf rust appeared late in the season but decreased yields very little.

IRRIGATED

Stafford County, irrigated (SI): The test was in good condition coming out of the winter, but soilborne mosaic virus and the late freezes caused concern about its yielding ability. Fortunately, the freeze didn't appear to cause as much damage as originally thought and favorable conditions the rest of the season enabled the wheat to overcome earlier setbacks.

Thomas County, irrigated (TI): See description for dryland test.

Greeley County, irrigated (GI): Similar to dryland test, but Russian wheat aphids were not present in this test. A July 5 hail storm caused some shattering, decreasing yields of susceptible varieties.

Stevens County, irrigated (ST): This test was planted October 9, and good stands were obtained. Winter conditions were not severe and no winter damage was observed. Two extremely cold freezes on April 8 and April 12-13 caused considerable damage. Temperatures on the evening of April 12 were as low as 12 °F for over 12 hours. Primary tiller death ranged from 40%-60% on early varieties and 10%-30% for

later varieties. Ideal conditions following the freeze allowed secondary tillers to replace dead primary tillers, resulting in surprisingly good yields. These results are more a reflection of recovery from severe freeze rather than a good indication of genetic potential under irrigated conditions.

Little disease pressure was observed, and virtually no lodging occurred. The wheat was significantly shorter than normal because of the loss of many of the primary tillers and replacement by secondary or tertiary tillers. High temperatures at the end of grain filling hastened maturity and probably contributed to lighter test weights. Two rains after maturity and before harvesting also contributed to light test weights.

Test Results and Variety Characterization

Results from Kansas tests are presented in Tables 5 through 13. The information in these tables is derived from replicated varietal comparisons at several sites representing various wheat-producing areas of the state.

Characteristics of specific 1997 entries can best be determined by examining Table 1 and data in Tables 5 through 12 for the relative performance of new varieties or hybrids of interest compared to those the grower is currently planting. Yields are reported in Table 5 as bushels per acre (60 pounds per bushel) adjusted to a moisture content of 12.5%, where moistures were reported at harvest. In Table 6, bushel yields are converted to yields as percentages of the test averages to speed recognition of highest yielding entries (more than 100%, the test average). The excellent performances of several of the entries are highlighted in these tables.

Growers should examine Table 7 to check the performance of entries over several years at locations closest to their farms. These tables present yields averaged over 2, 3, and 4 years. One-year or one-location results can be misleading because of the possibility of unusual weather conditions.

Measurements of characteristics often contributing to yield performance are shown in Table 8 (test weights); Table 9 (relative heading dates); Table 10 (heights); Tables 11 (lodging and disease ratings); and Table 12 (planted seed characteristics, coleoptile lengths, and Hessian fly ratings).

At the bottom of each table is the LSD (least significant difference) for each column of replicated data. The use of the LSD is intended to reduce the chance of overemphasizing small differences in yield or other characteristics. Small variations in soil structure, fertility, water-holding characteristics, and other test-site characteristics can cause considerable yield variation among plots of the same variety grown only a short distance apart.

Another statistical parameter is the coefficient of variation (CV) shown at the bottom of most columns. This figure, if properly interpreted, can be used to estimate the degree of confidence one may have in the data presented. In this testing program, CV's below 10% generally indicate reliable, uniform data, whereas CV's from 11% to 15% usually indicate less desirable but generally useful data for the rough performance comparisons desired from these tests.

Protein Content

Samples of grain from each variety harvested from Kansas Wheat Performance Tests are submitted annually for protein content, kernel hardness, kernel weight analysis, and other tests. Screening for protein and other analyses are conducted by the staff at the U.S. Grain Marketing and Production Research Center in Manhattan, Kansas. Because of the time requirement for obtaining analyses, protein results included in this report are for the previous year's tests. Results for the 1996 harvest are presented in Table 13.

Table 5a. Yield (bushels per acre)
1997 EASTERN Kansas Winter Wheat Performance Tests.

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
AgriPro					
Big Dawg	56	67	66	83	68
Coronado	57	68	71	81	69
Pecos	--	--	71	77	--
Tomahawk	62	64	69	74	67
(S) Elkhart	--	--	70	83	--
AGSECO					
12019 EXP	59	--	62	--	--
7853	59	69	73	64	66
7853-D	--	--	--	73	--
7853-VRTU	--	--	--	65	--
Mankato	58	68	--	--	--
Northrup King					
(S) Coker 9474	--	--	64	71	--
(S) Coker 9543	--	--	--	91	--
(S) Coker 9663	--	--	--	76	--
Pioneer					
(S) 2548	--	--	--	65	--
Polansky					
Dominator	57	73	--	--	--
Quantum					
AP 7510	--	72	--	--	--
7504	--	82	--	--	--
Star					
505	--	54	--	--	--
560	--	62	--	--	--
Champ	60	67	67	--	--
Terra					
(S) SR 204	58	--	63	78	--
(S) SR 205	60	--	71	90	--
(S) SR 211	62	--	77	93	--
HR 153	57	--	62	70	--

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
Public					
2137	61	77	83	75	74
2163	53	76	76	85	73
Arapahoe	66	59	--	--	--
Custer	62	68	55	74	65
Jagger	67	77	42	85	68
Karl 92	46	66	68	75	64
Karl 92-G	50	66	67	77	65
KS84063-HW Exp	60	63	80	73	69
KS940935 Exp	63	68	74	67	68
KS941064 Exp	68	83	69	79	75
KS94H147Exp	62	76	66	80	71
Niobrara	59	60	--	--	--
Scout 66	56	51	44	58	52
TAM 107	49	57	51	67	56
TAM 301	46	--	49	66	--
Tonkawa	55	53	69	69	61
Vista	58	63	--	--	--
(S) Caldwell	58	79	61	77	69
(S) Cardinal	58	70	48	81	64
(S) Ernie	46	78	52	80	64
(S) Jackson	47	86	70	79	71
Test Average	57	68	65	76	--
CV (%)	4	8	11	9	--
LSD (0.05)**	3	6	8	8	--

[1]BR = Brown County test at Cornbelt Experiment Field near Powhattan, KS.

[2]RL = Riley County test at Ashland Experiment Farm, Manhattan, KS.

[3]FR = Franklin County test at East Central Experiment Field near Ottawa, KS.

[4]LB = Labette County test at KSU Southeast Agricultural Research Center, Parsons, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 5b. Yield (bushels per acre)
1997 CENTRAL Kansas Winter Wheat Performance Tests.

Brand / Name	RP[1]	HV[2]	RN[3]	SU[4]	Avg.
AgriPro					
Big Dawg	55	72	45	38	52
Coronado	73	65	52	35	56
Hickok	--	55	47	33	--
Pecos	61	54	46	31	48
Tomahawk	72	65	47	42	57
AGSECO					
7853	62	66	53	38	55
7853-D	66	65	52	41	56
7853-VRTU	60	67	56	42	56
Colby 94	69	--	--	--	--
Mankato	70	76	53	--	--
AWWPA					
(W) Oro Blanco	63	59	51	35	52
Goertzen					
G12017 Exp	--	71	54	--	--
G1594 Exp	--	66	57	--	--
G1878	--	67	44	--	--
Polansky					
Dominator	80	68	53	36	59
Quantum					
AP 7510	83	--	54	--	--
7504	--	78	59	--	--
Star					
505	71	--	--	--	--
560	64	--	--	--	--
Champ	74	71	50	--	--
Terra					
HR 153	--	63	52	--	--

Brand / Name	RP[1]	HV[2]	RN[3]	SU[4]	Avg.
Public					
2137	87	71	52	47	64
2163	78	66	49	37	58
Alliance	90	--	--	--	--
Arapahoe	76	--	--	--	--
Custer	73	73	53	62	65
2174	--	65	48	47	--
Ike	72	61	--	38	--
Jagger	57	77	59	45	59
Karl 92	66	67	47	36	54
Karl 92-G	68	66	53	37	56
KS84063-HW Exp	63	77	55	39	59
KS940935 Exp	71	69	50	57	62
KS941064 Exp	74	74	51	53	63
KS94H147Exp	72	62	49	38	55
Larned	69	57	36	30	48
Nekota	79	--	--	--	--
Niobrara	79	--	--	--	--
Scout 66	66	52	37	28	46
TAM 107	67	53	48	30	49
TAM 110	67	56	44	31	50
TAM 301	66	55	49	36	51
Tonkawa	60	68	48	61	59
Vista	77	--	--	--	--
Windstar	82	--	--	--	--
Yuma	64	--	--	--	--
Test Average	70	64	50	40	--
CV (%)	5	5	7	12	--
LSD (0.05)**	4	4	4	6	--

[1]RP = Republic County test at North Central Experiment Field near Belleville, KS.

[2]HV = Harvey County test at Harvey County Experiment Field near Hesston, KS.

[3]RN = Reno County test at South Central Experiment Field near Hutchinson, KS.

[4]SU = Sumner County test at Max Kolarik farm, Caldwell, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 5c. Yield (bushels per acre)
1997 WESTERN Kansas Winter Wheat Performance Tests.

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
AgriPro					
Big Dawg	67	53	37	--	--
Coronado	66	59	--	--	--
Hickok	67	--	--	--	--
Laredo	72	58	49	--	--
Ogallala	66	59	55	48	57
Pecos	61	--	--	--	--
Rowdy	69	59	--	--	--
Tomahawk	67	--	--	--	--
AGSECO					
7853	62	57	48	48	54
7853-D	63	60	50	48	55
7853-VRTU	64	57	50	46	54
9001	--	56	54	43	--
Colby 94	72	65	55	--	--
Mankato	67	64	51	45	57
AWWPA					
(W) Arlin	--	--	--	46	--
Goertzen					
G12017 Exp	--	--	52	51	--
G1594 Exp	--	--	44	55	--
G1720 Exp	--	--	43	45	--
G1878	--	--	43	43	--
Polansky					
Dominator	69	61	--	--	--
Quantum					
566	--	67	--	--	--
AP 7501	--	63	--	--	--
AP 7510	--	64	--	--	--
7406	--	73	--	--	--
Star					
560	67	--	--	--	--
Champ	61	60	--	47	--

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
Public					
2137	69	65	53	57	61
2163	67	64	50	56	59
Akron	74	65	55	56	62
Alliance	68	60	45	53	57
Arapahoe	70	58	49	50	57
Custer	65	56	47	43	53
Halt	63	63	60	44	57
2174	63	--	--	--	--
Ike	66	56	46	51	54
Jagger	74	70	56	53	63
Karl 92	59	53	42	43	49
Karl 92-G	64	54	51	44	53
KS84063-HW Exp	64	56	41	48	52
KS940935 Exp	57	56	44	50	52
KS941064 Exp	53	56	44	47	50
KS94H147Exp	68	63	51	53	59
Larned	68	57	48	51	56
Nekota	60	56	47	52	54
Niobrara	66	61	49	52	57
Scout 66	64	57	49	44	53
TAM 107	65	60	53	48	56
TAM 110	73	62	55	55	62
Tonkawa	55	49	41	43	47
Vista	70	58	48	57	58
Windstar	72	64	47	53	59
Yuma	75	66	52	51	61
Test Average	66	60	49	49	--
CV (%)	7	4	7	8	--
LSD (0.05)**	6	3	4	5	--

[1]EL = Ellis County test at KSU Agricultural Research Center near Hays, KS.

[2]TD = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3]GD = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4]FD = Finney County test at KSU Southwest Research Extension Center near Garden City, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 5d. Yield (bushels per acre)
1997 IRRIGATED Kansas Winter Wheat Performance Tests.

Brand / Name	SI [1]	TI [2]	GI [3]	ST [4]	Avg.
AgriPro					
Big Dawg	--	71	--	--	--
Coronado	--	80	62	65	--
Hickok	--	78	70	67	--
Laredo	--	83	63	--	--
Ogallala	--	80	63	65	--
Rowdy	--	81	56	74	--
Tomahawk	79	--	--	--	--
AGSECO					
7853	79	81	56	67	71
7853-D	68	80	58	67	68
7853-VRTU	68	79	55	73	69
9001	--	78	65	69	--
Mankato	--	--	74	69	--
AWWPA					
(W) Arlin	58	--	--	71	--
(W) Oro Blanco	--	--	--	68	--
Drussel					
DSS-285	69	74	58	70	68
Goertzen					
G12017 Exp	78	--	83	--	--
G1594 Exp	84	--	56	--	--
G1720 Exp	--	--	67	--	--
G1878	74	--	67	--	--
Polansky					
Dominator	77	81	--	--	--
Quantum					
579	--	--	--	71	--
AP 7501	--	81	75	--	--
AP 7510	--	84	71	79	--
AP 7601	--	82	71	76	--
H1870 Exp	--	--	72	--	--
7406	--	94	87	--	--
Star					
Champ	78	--	--	--	--
Public					
2137	87	86	67	76	79
2163	71	85	53	72	70
Akron	23	86	74	74	64
Alliance	42	86	69	72	67
Custer	43	74	78	79	69
2174	77	--	--	--	--
Ike	82	82	65	68	74
Jagger	59	92	68	70	72
Karl 92	60	74	58	67	65
Karl 92-G	70	78	69	70	72
KS84063-HW Exp	77	72	76	73	75
KS940935 Exp	55	66	56	66	61
KS941064 Exp	79	80	48	62	67
KS94H147Exp	85	84	70	68	77
Newton	--	--	--	--	--
TAM 107	28	88	69	67	63
TAM 110	31	87	72	71	65
TAM 200	47	82	81	70	70
TAM 301	72	--	--	--	--
Tonkawa	66	63	66	72	67
Yuma	41	90	71	71	68
Test Average	65	80	66	70	--
CV (%)	9	3	9	4	--
LSD (0.05)**	7	3	7	4	--

[1] SI = Stafford County test at Sandyland Experiment Field near St. John, KS.

[2] TI = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3] GI = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4] ST = Stevens County test at Jim Kramer farm near Hugoton, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 6a. Yield (% of test average)
1997 EASTERN Kansas Winter Wheat Performance Tests.

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
AgriPro					
Big Dawg	99	99	102	110	102
Coronado	100	100	109	107	104
Pecos	--	--	110	102	--
Tomahawk	109	94	106	97	102
(S) Elkhart	--	--	108	110	--
AGSECO					
12019 EXP	103	--	96	--	--
7853	104	102	113	85	101
7853-D	--	--	--	96	--
7853-VRTU	--	--	--	86	--
Mankato	103	99	--	--	--
Northrup King					
(S) Coker 9474	--	--	99	93	--
(S) Coker 9543	--	--	--	121	--
(S) Coker 9663	--	--	--	100	--
Pioneer					
(S) 2548	--	--	--	87	--
Polansky					
Dominator	100	107	--	--	--
Quantum					
AP 7510	--	106	--	--	--
7504	--	120	--	--	--
Star					
505	--	79	--	--	--
560	--	92	--	--	--
Champ	105	99	103	--	--
Terra					
(S) SR 204	103	--	98	103	--
(S) SR 205	106	--	110	119	--
(S) SR 211	109	--	118	123	--
HR 153	100	--	95	93	--

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
Public					
2137	108	113	128	99	112
2163	94	112	117	112	109
Arapahoe	116	87	--	--	--
Custer	109	99	85	98	98
Jagger	117	113	65	113	102
Karl 92	81	97	104	99	95
Karl 92-G	87	97	103	102	97
KS84063-HW Exp	105	93	123	97	104
KS940935 Exp	111	100	114	89	103
KS941064 Exp	120	122	107	105	113
KS94H147Exp	108	112	102	106	107
Niobrara	103	88	--	--	--
Scout 66	98	75	67	77	79
TAM 107	86	83	79	89	84
TAM 301	81	--	76	88	--
Tonkawa	96	77	106	92	93
Vista	102	92	--	--	--
(S) Caldwell	102	116	93	102	103
(S) Cardinal	101	103	74	107	97
(S) Ernie	81	114	80	106	95
(S) Jackson	83	127	108	104	106
Test Average, bu/a	57	68	65	76	--
CV (%)	4	8	11	9	--
LSD (0.05)**	5	9	13	11	--

[1]BR = Brown County test at Cornbelt Experiment Field near Powhattan, KS.

[2]RL = Riley County test at Ashland Experiment Farm, Manhattan, KS.

[3]FR = Franklin County test at East Central Experiment Field near Ottawa, KS.

[4]LB = Labette County test at KSU Southeast Agricultural Research Center, Parsons, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 6b. Yield (% of test average)
1997 CENTRAL Kansas Winter Wheat Performance Tests.

Brand / Name	RP[1]	HV[2]	RN[3]	SU[4]	Avg.
AgriPro					
Big Dawg	78	111	90	96	94
Coronado	104	101	105	87	99
Hickok	--	86	95	82	--
Pecos	87	84	93	77	85
Tomahawk	103	101	95	105	101
AGSECO					
7853	88	103	106	97	98
7853-D	94	102	104	103	101
7853-VRTU	85	104	113	106	102
Colby 94	98	--	--	--	--
Mankato	99	118	106	--	--
AWWPA					
(W) Oro Blanco	90	92	103	89	93
Goertzen					
G12017 Exp	--	110	109	--	--
G1594 Exp	--	103	115	--	--
G1878	--	104	88	--	--
Polansky					
Dominator	114	105	106	91	104
Quantum					
AP 7510	119	--	109	--	--
7504	--	121	118	--	--
Star					
505	101	--	--	--	--
560	91	--	--	--	--
Champ	105	111	100	--	--
Terra					
HR 153	--	98	105	--	--

Brand / Name	RP[1]	HV[2]	RN[3]	SU[4]	Avg.
Public					
2137	124	110	105	119	114
2163	112	103	98	94	101
Alliance	129	--	--	--	--
Arapahoe	109	--	--	--	--
Custer	105	113	107	156	120
2174	--	101	97	119	--
Ike	103	95	--	94	--
Jagger	81	119	119	113	108
Karl 92	94	103	94	91	96
Karl 92-G	97	102	106	94	100
KS84063-HW Exp	91	120	110	99	105
KS940935 Exp	101	107	101	142	113
KS941064 Exp	106	115	102	133	114
KS94H147Exp	102	96	97	96	98
Larned	98	89	73	75	84
Nekota	112	--	--	--	--
Niobrara	113	--	--	--	--
Scout 66	94	81	75	71	80
TAM 107	96	82	97	75	87
TAM 110	96	87	88	78	87
TAM 301	94	85	99	90	92
Tonkawa	85	106	96	153	110
Vista	110	--	--	--	--
Windstar	118	--	--	--	--
Yuma	91	--	--	--	--
Test Average, bu/a	70	64	50	40	--
CV (%)	5	5	7	12	--
LSD (0.05)**	6	6	8	14	--

[1]RP = Republic County test at North Central Experiment Field near Belleville, KS.

[2]HV = Harvey County test at Harvey County Experiment Field near Hesston, KS.

[3]RN = Reno County test at South Central Experiment Field near Hutchinson, KS.

[4]SU = Sumner County test at Max Kolarik farm, Caldwell, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 6c. Yield (% of test average)
1997 WESTERN Kansas Winter Wheat Performance Tests.

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
AgriPro					
Big Dawg	103	89	77	--	--
Coronado	101	99	--	--	--
Hickok	103	--	--	--	--
Laredo	109	97	101	--	--
Ogallala	101	99	112	97	102
Pecos	94	--	--	--	--
Rowdy	106	99	--	--	--
Tomahawk	102	--	--	--	--
AGSECO					
7853	94	95	99	98	97
7853-D	95	100	103	97	99
7853-VRTU	98	95	103	93	97
9001	--	94	112	87	--
Colby 94	110	108	113	--	--
Mankato	102	107	105	92	101
AWWPA					
(W) Arlin	--	--	--	93	--
Goertzen					
G12017 Exp	--	--	106	104	--
G1594 Exp	--	--	90	111	--
G1720 Exp	--	--	88	91	--
G1878	--	--	88	88	--
Polansky					
Dominator	105	101	--	--	--
Quantum					
566	--	113	--	--	--
AP 7501	--	106	--	--	--
AP 7510	--	106	--	--	--
7406	--	123	--	--	--
Star					
560	102	--	--	--	--
Champ	93	100	--	96	--

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
Public					
2137	105	109	110	116	110
2163	102	107	102	113	106
Akron	113	109	114	113	112
Alliance	103	101	94	109	102
Arapahoe	107	97	101	101	102
Custer	100	94	96	88	94
Halt	96	105	123	89	103
2174	96	--	--	--	--
Ike	100	94	94	103	98
Jagger	113	117	115	108	113
Karl 92	89	89	86	88	88
Karl 92-G	98	91	104	89	95
KS84063-HW Exp	98	94	84	97	93
KS940935 Exp	87	93	91	102	93
KS941064 Exp	81	94	91	95	90
KS94H147Exp	104	106	106	107	106
Larned	104	96	99	104	101
Nekota	92	94	97	105	97
Niobrara	101	103	102	106	103
Scout 66	97	96	100	88	95
TAM 107	99	100	110	98	101
TAM 110	111	105	114	112	111
Tonkawa	84	81	84	87	84
Vista	106	97	98	116	104
Windstar	109	107	96	107	105
Yuma	114	110	107	104	109
Test Average, bu/a	66	60	49	49	--
CV (%)	7	4	7	8	--
LSD (0.05)**	9	5	9	9	--

[1]EL = Ellis County test at KSU Agricultural Research Center near Hays, KS.

[2]TD = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3]GD = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4]FD = Finney County test at KSU Southwest Research Extension Center near Garden City, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 6d. Yield (% of test average)
1997 IRRIGATED Kansas Winter Wheat Performance Tests.

Brand / Name	SI [1]	TI [2]	GI [3]	ST [4]	Avg.
AgriPro					
Big Dawg	--	88	--	--	--
Coronado	--	100	94	92	--
Hickok	--	97	106	96	--
Laredo	--	103	95	--	--
Ogallala	--	100	95	93	--
Rowdy	--	100	85	106	--
Tomahawk	122	--	--	--	--
AGSECO					
7853	122	101	84	96	101
7853-D	106	99	88	96	97
7853-VRTU	105	98	82	104	97
9001	--	97	98	99	--
Mankato	--	--	112	99	--
AWWPA					
(W) Arlin	90	--	--	102	--
(W) Oro Blanco	--	--	--	98	--
Drussel					
DSS-285	107	92	87	100	97
Goertzen					
G12017 Exp	120	--	125	--	--
G1594 Exp	131	--	84	--	--
G1720 Exp	--	--	100	--	--
G1878	114	--	101	--	--
Polansky					
Dominator	120	101	--	--	--
Quantum					
579	--	--	--	101	--
AP 7501	--	101	113	--	--
AP 7510	--	105	108	114	--
AP 7601	--	102	106	108	--
H1870 Exp	--	--	109	--	--
7406	--	116	132	--	--
Star					
Champ	121	--	--	--	--
Public					
2137	134	107	101	108	113
2163	109	106	80	103	100
Akron	35	107	111	106	90
Alliance	64	107	103	102	94
Custer	66	92	118	113	97
2174	119	--	--	--	--
Ike	127	102	98	97	106
Jagger	92	114	102	100	102
Karl 92	94	92	88	96	92
Karl 92-G	108	97	104	100	102
KS84063-HW Exp	120	90	115	105	107
KS940935 Exp	86	82	84	94	87
KS941064 Exp	122	100	72	89	96
KS94H147Exp	132	104	105	97	110
Newton	--	--	--	--	--
TAM 107	43	109	104	95	88
TAM 110	48	109	109	101	92
TAM 200	73	102	122	100	99
TAM 301	111	--	--	--	--
Tonkawa	103	79	99	103	96
Yuma	64	112	107	102	96
Test Average, bu/a	65	80	66	70	--
CV (%)	9	3	9	4	--
LSD (0.05)**	11	3	10	6	--

[1] SI = Stafford County test at Sandyland Experiment Field near St. John, KS.

[2] TI = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3] GI = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4] ST = Stevens County test at Jim Kramer farm near Hugoton, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 7a. Multi-year yield averages (bu./acre) Kansas Wheat Performance Tests - EAST.

Brand / Name	BROWN			RILEY			FRANKLIN			LABETTE		
	2YR	3YR	4YR	2YR	3YR	4YR	2YR	3YR	4YR	2YR	3YR	4YR
AgriPro												
Big Dawg	--	--	--	72	--	--	50	--	--	66	--	--
Coronado	43	--	--	69	51	--	56	51	--	63	54	--
Pecos	--	--	--	--	--	--	55	51	51	61	51	46
Tomahawk	--	--	--	73	--	--	58	--	--	--	--	--
(S) Elkhart	--	--	--	--	--	--	58	--	--	--	--	--
AGSECO												
7853	51	51	51	68	51	51	53	49	51	56	50	47
Mankato	52	53	--	--	--	--	--	--	--	--	--	--
Northrup King												
(S) Coker 9474	--	--	--	--	--	--	54	--	--	59	53	52
(S) Coker 9543	--	--	--	--	--	--	--	--	--	71	60	--
Pioneer												
(S) 2548	--	--	--	--	--	--	--	--	--	64	--	--
Polansky												
Dominator	--	--	--	72	--	--	--	--	--	--	--	--
Quantum												
AP 7510	--	--	--	77	59	--	--	--	--	--	--	--
7504	--	--	--	84	--	--	--	--	--	--	--	--
Star												
Champ	50	52	--	74	54	51	59	--	--	--	--	--
Terra												
(S) SR 204	56	--	--	--	--	--	53	50	--	71	60	56
(S) SR 205	63	--	--	--	--	--	52	55	--	69	59	55
(S) SR 211	--	--	--	--	--	--	58	--	--	72	--	--
HR 153	48	--	--	--	--	--	52	48	--	61	53	--
Public												
2137	46	51	--	84	64	60	65	56	--	70	59	57
2163	48	46	46	79	59	55	60	54	51	66	58	52
Arapahoe	56	49	51	64	46	43	--	--	--	--	--	--
Custer	51	--	--	73	55	--	44	46	--	59	48	--
Jagger	58	53	--	77	60	57	34	37	--	68	61	57
Karl 92	44	46	--	72	54	50	58	50	51	60	52	48
Newton	29	35	37	56	40	38	40	36	37	60	47	45
Niobrara	48	--	--	71	51	--	--	--	--	--	--	--
Scout 66	41	40	41	53	37	32	38	30	32	55	42	41
TAM 107	39	37	37	64	46	45	46	42	41	56	46	44
Tonkawa	46	--	--	61	44	--	55	51	--	52	45	--
Vista	48	46	--	65	46	45	--	--	--	--	--	--
(S) Caldwell	55	50	46	84	64	59	54	53	44	65	56	50
(S) Cardinal	53	47	43	74	59	55	37	42	43	69	61	56
(S) Ernie	50	--	--	77	60	--	40	41	--	61	52	53
(S) Jackson	52	--	--	71	55	--	37	41	--	55	50	--
Averages	49	47	44	71	53	49	51	46	44	63	53	51

Table 7b. Multi-year yield averages (bu./acre) Kansas Wheat Performance Tests - CENTRAL.

Brand / Name	REPUBLIC			HARVEY			RENO			SUMNER		
	2YR	3YR	4YR	2YR	3YR	4YR	2YR	3YR	4YR	2YR	3YR	4YR
AgriPro												
Big Dawg	48	--	--	38	--	--	46	--	--	--	--	--
Coronado	57	54	--	40	38	--	53	43	--	21	18	--
Hickok	--	--	--	31	30	36	51	43	45	--	--	--
Pecos	--	--	--	35	32	36	48	41	45	22	20	23
Tomahawk	66	59	65	54	41	44	54	41	45	29	--	--
AGSECO												
7853	54	54	63	47	40	44	58	46	48	26	24	27
Colby 94	62	61	--	--	--	--	--	--	--	--	--	--
Mankato	65	63	68	69	--	--	59	46	49	--	--	--
AWWPA												
(W) Oro Blanco	49	51	--	48	40	--	53	41	--	27	22	--
Polansky												
Dominator	70	--	--	52	--	--	57	--	--	--	--	--
Quantum												
AP 7510	73	72	--	--	--	--	57	--	--	--	--	--
7504	--	--	--	46	--	--	57	--	--	--	--	--
Star												
Champ	67	66	69	66	--	--	57	--	--	--	--	--
Terra												
HR 153	--	--	--	46	40	44	57	45	48	--	--	--
Public												
2137	72	66	68	69	56	54	60	51	54	36	28	30
2163	70	70	70	51	45	45	52	42	45	26	26	27
Alliance	78	70	--	--	--	--	--	--	--	--	--	--
Arapahoe	69	66	69	--	--	--	--	--	--	--	--	--
Custer	66	62	--	45	41	--	54	46	--	37	31	--
Ike	66	64	69	55	44	48	--	--	--	25	19	21
Jagger	51	59	63	41	43	46	57	51	53	31	30	32
Karl 92	61	60	67	62	53	52	55	44	48	30	24	25
Larned	59	54	60	44	33	36	50	36	39	19	15	16
Nekota	69	--	--	--	--	--	--	--	--	--	--	--
Newton	48	45	51	24	20	28	45	32	38	18	13	16
Niobrara	70	64	--	--	--	--	--	--	--	--	--	--
Scout 66	58	51	54	39	30	33	47	33	38	19	15	17
TAM 107	57	54	61	42	34	40	57	45	48	21	16	16
TAM 110	56	--	--	38	--	--	54	--	--	24	--	--
Tonkawa	51	48	--	49	40	--	52	43	--	35	30	--
Vista	70	64	66	--	--	--	--	--	--	--	--	--
Yuma	53	55	60	--	--	--	--	--	--	--	--	--
Averages	62	60	64	47	39	42	54	43	46	26	22	23

Table 7c. Multi-year yield averages (bu./acre) Kansas Wheat Performance Tests - WEST.

Brand / Name	ELLIS			THOMAS			GREELEY			FINNEY		
	2YR	3YR	4YR	2YR	3YR	4YR	2YR	3YR	4YR	2YR	3YR	4YR
AgriPro												
Big Dawg	--	--	--	48	--	--	--	--	--	--	--	--
Coronado	52	--	--	--	--	--	--	--	--	--	--	--
Hickok	56	51	--	--	--	--	--	--	--	--	--	--
Laredo	56	52	56	51	46	47	44	42	--	--	--	--
Ogallala	57	51	51	50	52	51	53	48	50	39	43	46
Rowdy	58	--	--	46	--	--	--	--	--	--	--	--
Tomahawk	54	51	53	--	--	--	--	--	--	--	--	--
AGSECO												
7853	51	46	49	49	43	44	42	40	43	37	42	44
9001	--	--	--	52	54	53	55	--	--	36	--	--
Colby 94	59	--	--	60	58	--	50	--	--	--	--	--
Mankato	56	51	--	58	57	--	49	--	--	--	--	--
AWWPA												
(W) Arlin	--	--	--	--	--	--	--	--	--	31	38	41
Quantum												
566	--	--	--	62	--	--	--	--	--	--	--	--
AP 7501	--	--	--	55	57	--	--	--	--	--	--	--
AP 7510	--	--	--	56	60	--	--	--	--	--	--	--
7406	--	--	--	62	59	--	--	--	--	--	--	--
Star												
Champ	53	49	--	--	--	--	--	--	--	--	--	--
Public												
2137	56	50	--	59	58	58	52	49	--	44	48	--
2163	57	50	51	56	56	54	51	48	50	42	44	45
Akron	59	--	--	57	54	--	54	--	--	40	--	--
Alliance	55	--	--	59	59	--	--	--	--	--	--	--
Arapahoe	59	52	56	55	56	55	50	45	49	40	45	45
Custer	57	--	--	46	48	--	50	--	--	31	--	--
Halt	49	--	--	55	50	--	50	--	--	32	--	--
Ike	55	50	54	50	50	51	43	41	46	41	46	47
Jagger	63	54	--	57	57	56	50	45	--	38	45	--
Karl 92	51	46	50	49	49	50	43	41	46	32	38	41
Larned	49	46	49	51	49	49	40	39	42	33	40	40
Nekota	--	--	--	53	--	--	--	--	--	--	--	--
Newton	40	40	43	42	43	45	39	39	43	33	40	41
Niobrara	56	--	--	58	57	--	49	--	--	42	--	--
Scout 66	45	44	46	52	48	47	41	39	41	30	36	38
TAM 107	50	46	51	55	51	52	46	43	47	34	40	42
TAM 110	--	--	--	55	--	--	--	--	--	--	--	--
Tonkawa	48	--	--	43	45	--	43	--	--	33	--	--
Vista	60	54	57	57	60	59	51	47	51	45	48	49
Yuma	60	--	--	57	54	--	50	47	49	39	44	45
Averages	54	49	51	54	53	51	48	44	46	37	43	43

Table 7d. Multi-year yield averages (bu./acre) Kansas Wheat Performance Tests - IRRIGATED.

NAME	STAFFORD			THOMAS			GREELEY			SOUTHWEST		
	2YR	3YR	4YR	2YR	3YR	4YR	2YR	3YR	4YR	2YR	3YR	4YR
AgriPro												
Coronado	--	--	--	--	--	--	--	--	--	40	--	--
Hickok	--	--	--	73	65	60	61	50	55	44	52	--
Laredo	--	--	--	80	67	63	60	46	51	--	--	--
Ogallala	--	--	--	77	71	65	64	51	57	44	52	56
Rowdy	--	--	--	78	70	--	63	52	--	49	--	--
Tomahawk	48	54	52	--	--	--	--	--	--	--	--	--
AGSECO												
7853	48	48	49	73	59	--	--	--	--	44	56	59
9001	--	--	--	78	71	64	65	57	--	44	52	--
AWWPA												
(W) Arlin	34	36	37	--	--	--	--	--	--	42	52	55
(W) Oro Blanco	--	--	--	--	--	--	--	--	--	43	--	--
Polansky												
Dominator	--	--	--	83	--	--	--	--	--	--	--	--
Quantum												
AP 7501	--	--	--	79	73	--	67	57	--	--	--	--
AP 7510	--	--	--	83	77	--	69	60	--	56	--	--
AP 7601	--	--	--	81	73	--	67	56	--	49	--	--
7406	--	--	--	90	--	--	72	--	--	--	--	--
Public												
2137	56	54	--	84	78	71	70	59	66	51	61	--
2163	44	45	49	85	79	72	60	50	55	48	55	58
Custer	23	--	--	71	63	--	63	53	--	48	--	--
Ike	53	52	50	79	68	64	58	49	55	42	54	59
Jagger	38	45	--	85	74	68	64	53	58	46	57	--
Karl 92	39	43	45	73	65	60	59	48	55	43	53	58
Newton	43	46	45	74	64	60	48	38	44	34	44	47
TAM 107	18	21	23	87	71	65	65	51	57	41	49	51
TAM 110	--	--	--	84	--	--	65	--	--	--	--	--
TAM 200	28	36	36	80	72	66	72	57	62	44	50	52
Tonkawa	38	--	--	61	55	--	60	52	--	43	--	--
Yuma	22	--	--	87	75	--	65	52	57	42	52	54
Averages	38	44	43	79	69	65	64	52	56	45	53	55

Table 8a. Test weight (pounds per bushel)
1997 EASTERN Kansas Winter Wheat Performance Tests.

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
AgriPro					
Big Dawg	60	61	62	60	61
Coronado	59	61	63	58	60
Pecos	--	--	64	60	--
Tomahawk	60	60	63	59	60
(S) Elkhart	--	--	63	59	--
AGSECO					
12019 EXP	61	--	65	--	--
7853	61	63	65	60	62
7853-D	--	--	--	62	--
7853-VRTU	--	--	--	61	--
Mankato	59	60	--	--	--
Northrup King					
(S) Coker 9474	--	--	65	59	--
(S) Coker 9543	--	--	--	57	--
(S) Coker 9663	--	--	--	57	--
Pioneer					
(S) 2548	--	--	--	57	--
Polansky					
Dominator	60	63	--	--	--
Quantum					
AP 7510	--	61	--	--	--
7504	--	62	--	--	--
Star					
505	--	61	--	--	--
560	--	62	--	--	--
Champ	58	60	62	--	--
Terra					
(S) SR 204	61	--	63	57	--
(S) SR 205	59	--	61	58	--
(S) SR 211	58	--	63	58	--
HR 153	60	--	64	59	--

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
Public					
2137	61	61	63	59	61
2163	57	60	62	57	59
Arapahoe	60	60	--	--	--
Custer	62	61	62	58	61
Jagger	61	62	61	59	60
Karl 92	58	61	64	59	60
Karl 92-G	60	61	64	59	61
KS84063-HW Exp	60	61	64	60	61
KS940935 Exp	62	62	64	60	62
KS941064 Exp	60	59	61	58	59
KS94H147Exp	60	63	63	59	61
Niobrara	58	60	--	--	--
Scout 66	60	61	60	60	60
TAM 107	59	61	59	59	59
TAM 301	60	--	60	59	--
Tonkawa	60	62	64	60	61
Vista	59	61	--	--	--
(S) Caldwell	59	60	62	56	59
(S) Cardinal	57	59	58	56	57
(S) Ernie	56	59	60	56	58
(S) Jackson	57	59	63	56	59
Test Average	59	61	62	59	--
CV (%)	2	1	1	2	--
LSD (0.05)**	2	0	1	1	--

[1]BR = Brown County test at Cornbelt Experiment Field near Powhattan, KS.

[2]RL = Riley County test at Ashland Experiment Farm, Manhattan, KS.

[3]FR = Franklin County test at East Central Experiment Field near Ottawa, KS.

[4]LB = Labette County test at KSU Southeast Agricultural Research Center, Parsons, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 8b. Test weight (pounds per bushel)
1997 CENTRAL Kansas Winter Wheat Performance Tests.

Brand / Name	RP[1]	HV[2]	RN[3]	SU[4]	Avg.
AgriPro					
Big Dawg	60	58	58	57	58
Coronado	61	58	59	55	58
Hickok	--	60	59	57	--
Pecos	62	59	59	54	59
Tomahawk	61	58	57	55	58
AGSECO					
7853	62	59	59	56	59
7853-D	62	59	58	55	59
7853-VRTU	63	60	59	57	60
Colby 94	62	--	--	--	--
Mankato	61	58	56	--	--
AWWPA					
(W) Oro Blanco	62	59	59	53	58
Goertzen					
G12017 Exp	--	58	57	--	--
G1594 Exp	--	58	59	--	--
G1878	--	60	60	--	--
Polansky					
Dominator	63	60	60	56	60
Quantum					
AP 7510	62	--	58	--	--
7504	--	59	59	--	--
Star					
505	61	--	--	--	--
560	62	--	--	--	--
Champ	62	58	56	--	--
Terra					
HR 153	--	60	59	--	--

Brand / Name	RP[1]	HV[2]	RN[3]	SU[4]	Avg.
Public					
2137	62	58	57	54	58
2163	61	56	54	51	55
Alliance	60	--	--	--	--
Arapahoe	61	--	--	--	--
Custer	62	60	60	58	60
2174	--	59	59	58	--
Ike	61	60	--	57	--
Jagger	62	59	60	53	58
Karl 92	62	59	60	56	59
Karl 92-G	62	58	60	56	59
KS84063-HW Exp	61	59	58	54	58
KS940935 Exp	62	59	59	58	59
KS941064 Exp	62	57	56	53	57
KS94H147Exp	63	59	59	54	59
Larned	62	59	59	58	59
Nekota	62	--	--	--	--
Niobrara	60	--	--	--	--
Scout 66	62	59	59	59	60
TAM 107	61	56	58	54	57
TAM 110	61	57	59	53	57
TAM 301	61	58	58	55	58
Tonkawa	62	60	60	59	60
Vista	61	--	--	--	--
Windstar	61	--	--	--	--
Yuma	61	--	--	--	--
Test Average	62	59	58	55	--
CV (%)	1	1	1	2	--
LSD (0.05)**	1	1	1	2	--

[1]RP = Republic County test at North Central Experiment Field near Belleville, KS.

[2]HV = Harvey County test at Harvey County Experiment Field near Hesston, KS.

[3]RN = Reno County test at South Central Experiment Field near Hutchinson, KS.

[4]SU = Sumner County test at Max Kolarik farm, Caldwell, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 8c. Test weight (pounds per bushel)
1997 WESTERN Kansas Winter Wheat Performance Tests.

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
AgriPro					
Big Dawg	61	60	57	--	--
Coronado	61	61	--	--	--
Hickok	63	--	--	--	--
Laredo	61	61	60	--	--
Ogallala	62	63	61	61	62
Pecos	62	--	--	--	--
Rowdy	62	62	--	--	--
Tomahawk	61	--	--	--	--
AGSECO					
7853	62	62	62	61	62
7853-D	62	63	62	60	62
7853-VRTU	62	62	62	61	62
9001	--	60	59	58	--
Colby 94	62	63	61	--	--
Mankato	61	61	60	60	61
AWWPA					
(W) Arlin	--	--	--	61	--
Goertzen					
G12017 Exp	--	--	58	59	--
G1594 Exp	--	--	60	60	--
G1720 Exp	--	--	59	59	--
G1878	--	--	61	61	--
Polansky					
Dominator	62	62	--	--	--
Quantum					
566	--	60	--	--	--
AP 7501	--	62	--	--	--
AP 7510	--	62	--	--	--
7406	--	62	--	--	--
Star					
560	61	--	--	--	--
Champ	61	61	--	60	--

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
Public					
2137	61	61	60	60	61
2163	59	59	58	58	58
Akron	60	61	60	60	60
Alliance	59	60	59	60	60
Arapahoe	60	60	60	59	60
Custer	61	60	59	61	60
Halt	61	61	61	59	60
2174	62	--	--	--	--
Ike	61	61	60	60	60
Jagger	61	62	60	60	61
Karl 92	60	60	60	59	60
Karl 92-G	60	60	61	59	60
KS84063-HW Exp	61	60	59	60	60
KS940935 Exp	61	61	60	61	61
KS941064 Exp	60	59	58	58	59
KS94H147Exp	62	62	61	61	62
Larned	62	62	61	61	61
Nekota	61	61	60	60	61
Niobrara	60	60	59	59	59
Scout 66	61	62	60	60	61
TAM 107	61	61	59	59	60
TAM 110	61	61	60	60	60
Tonkawa	61	59	60	60	60
Vista	60	61	60	60	60
Windstar	60	61	59	59	60
Yuma	61	61	59	60	60
Test Average	61	61	60	60	--
CV (%)	1	1	1	1	--
LSD (0.05)**	0	1	1	1	--

[1]EL = Ellis County test at KSU Agricultural Research Center near Hays, KS.

[2]TD = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3]GD = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4]FD = Finney County test at KSU Southwest Research Extension Center near Garden City, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 8d. Test weight (pounds per bushel)
1997 IRRIGATED Kansas Winter Wheat Performance Tests.

Brand / Name	SI [1]	TI [2]	GI [3]	ST [4]	Avg.
AgriPro					
Big Dawg	--	61	--	--	--
Coronado	--	62	58	53	--
Hickok	--	64	59	56	--
Laredo	--	62	59	--	--
Ogallala	--	63	61	55	--
Rowdy	--	63	60	55	--
Tomahawk	58	--	--	--	--
AGSECO					
7853	60	63	60	55	59
7853-D	59	63	61	55	60
7853-VRTU	59	63	60	55	59
9001	--	61	58	53	--
Mankato	--	--	59	54	--
AWWPA					
(W) Arlin	57	--	--	55	--
(W) Oro Blanco	--	--	--	55	--
Drussel					
DSS-285	59	63	61	56	60
Goertzen					
G12017 Exp	58	--	57	--	--
G1594 Exp	59	--	61	--	--
G1720 Exp	--	--	57	--	--
G1878	60	--	60	--	--
Polansky					
Dominator	60	63	--	--	--
Quantum					
579	--	--	--	53	--
AP 7501	--	62	59	--	--
AP 7510	--	63	60	56	--
AP 7601	--	62	60	56	--
H1870 Exp	--	--	55	--	--
7406	--	62	57	--	--
Star					
Champ	57	--	--	--	--
Public					
2137	57	62	57	55	58
2163	56	60	58	52	57
Akron	57	62	58	54	57
Alliance	57	61	56	55	57
Custer	58	62	60	54	58
2174	60	--	--	--	--
Ike	58	62	59	55	58
Jagger	55	62	58	54	57
Karl 92	58	62	58	55	58
Karl 92-G	58	62	57	54	58
KS84063-HW Exp	59	61	60	54	58
KS940935 Exp	58	62	60	55	59
KS941064 Exp	57	60	57	52	56
KS94H147Exp	60	63	61	56	60
Newton	--	--	--	--	--
TAM 107	56	61	58	53	57
TAM 110	55	61	58	52	57
TAM 200	59	64	57	54	58
TAM 301	55	--	--	--	--
Tonkawa	59	62	59	56	59
Yuma	55	62	57	53	57
Test Average	58	62	59	54	--
CV (%)	1	1	2	2	--
LSD (0.05)**	1	1	2	2	--

[1] SI = Stafford County test at Sandyland Experiment Field near St. John, KS.

[2] TI = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3] GI = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4] ST = Stevens County test at Jim Kramer farm near Hugoton, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 9a. Heading (days +/- Scout 66, Scout 66 heading listed as date in May) 1997 EASTERN Kansas Winter Wheat Performance Tests.

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
AgriPro					
Big Dawg	-0.3	2.0	-3.8	-2.0	-1.0
Coronado	-3.3	-4.5	-9.0	-8.8	-6.4
Pecos	--	--	-9.8	-9.8	--
Tomahawk	-0.3	-4.0	-5.0	-1.8	-2.8
(S) Elkhart	--	--	-4.0	-4.0	--
AGSECO					
12019 EXP	-7.0	--	-7.8	--	--
7853	-5.0	-4.0	-7.5	-3.0	-4.9
7853-D	--	--	--	-2.5	--
7853-VRTU	--	--	--	-3.8	--
Mankato	-7.3	-3.5	--	--	--
Northrup King					
(S) Coker 9474	--	--	-7.8	-4.8	--
(S) Coker 9543	--	--	--	-7.0	--
(S) Coker 9663	--	--	--	-3.8	--
Pioneer					
(S) 2548	--	--	--	-2.8	--
Polansky					
Dominator	-3.7	-3.5	--	--	--
Quantum					
AP 7510	--	-3.0	--	--	--
7504	--	-5.5	--	--	--
Star					
505	--	-2.0	--	--	--
560	--	-4.5	--	--	--
Champ	-4.0	-3.5	-7.5	--	--
Terra					
(S) SR 204	-1.3	--	-4.0	-1.8	--
(S) SR 205	-4.7	--	-4.5	-2.3	--
(S) SR 211	-2.3	--	-6.3	-4.8	--
HR 153	-2.7	--	-6.8	-3.3	--

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
Public					
2137	-7.7	-4.5	-6.8	-2.3	-5.3
2163	-4.3	-4.0	-6.5	-4.0	-4.7
Arapahoe	-3.7	-0.5	--	--	--
Custer	-2.7	-4.5	-3.8	-7.3	-4.5
Jagger	-8.0	-6.0	-7.5	-9.3	-7.7
Karl 92	-8.3	-4.5	-10.	-8.5	-7.8
Karl 92-G	-7.7	-5.5	-9.3	-8.0	-7.6
KS84063-HW Exp	-5.0	-0.5	-4.3	-1.8	-2.9
KS940935 Exp	-5.3	-2.0	-6.3	-2.8	-4.1
KS941064 Exp	-4.3	-4.0	-6.0	-4.3	-4.6
KS94H147Exp	1.0	-0.5	-1.8	-0.3	-0.4
Niobrara	-3.0	-1.5	--	--	--
Scout 66	30.7	18.0	22.0	7.3	19.5
TAM 107	-8.3	-6.0	-5.8	-9.0	-7.3
TAM 301	-1.0	--	-2.3	-3.0	--
Tonkawa	0.0	-4.0	-6.5	-5.8	-4.1
Vista	0.3	0.0	--	--	--
(S) Caldwell	-4.7	-5.5	-6.0	-3.3	-4.9
(S) Cardinal	-1.7	-1.5	-1.3	-1.0	-1.4
(S) Ernie	-2.3	-4.0	-3.3	-7.3	-4.2
(S) Jackson	1.3	-3.5	-4.3	-4.0	-2.6
Test Average	-3.5	-3.3	-5.7	-4.4	--
CV (%)	1.5	0.7	0.6	0.7	--
LSD (0.05)**	3.0	1.6	1.0	1.0	--

[1]BR = Brown County test at Cornbelt Experiment Field near Powhattan, KS.

[2]RL = Riley County test at Ashland Experiment Farm, Manhattan, KS.

[3]FR = Franklin County test at East Central Experiment Field near Ottawa, KS.

[4]LB = Labette County test at KSU Southeast Agricultural Research Center, Parsons, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 9b. Heading (days +/- Scout 66, Scout 66 heading listed as date in May) 1997 CENTRAL Kansas Winter Wheat Performance Tests.

Brand / Name	RP[1]	HV[2]	RN[3]	SU[4]	Avg.
AgriPro					
Big Dawg	-0.5	0.3	-2.0	0.0	-0.6
Coronado	-3.5	-4.5	-5.5	-8.0	-5.4
Hickok	--	-4.0	-6.3	-8.0	--
Pecos	-5.0	-4.5	-7.3	-10.	-6.7
Tomahawk	-3.0	-1.0	-4.0	-3.0	-2.8
AGSECO					
7853	-4.0	-3.5	-5.5	-3.0	-4.0
7853-D	-4.0	-3.8	-5.0	-4.0	-4.2
7853-VRTU	-4.0	-3.8	-5.8	-4.0	-4.4
Colby 94	-3.5	--	--	--	--
Mankato	-3.3	-2.5	-4.3	--	--
AWWPA					
(W) Oro Blanco	-2.5	-2.0	-4.0	-5.0	-3.4
Goertzen					
G12017 Exp	--	-4.0	-2.3	--	--
G1594 Exp	--	-0.3	-2.0	--	--
G1878	--	-2.0	-4.0	--	--
Polansky					
Dominator	-3.8	-2.0	-4.3	-6.0	-4.0
Quantum					
AP 7510	-4.3	--	-4.3	--	--
7504	--	-6.0	-6.5	--	--
Star					
505	-3.8	--	--	--	--
560	-4.3	--	--	--	--
Champ	-3.0	-2.0	-5.0	--	--
Terra					
HR 153	--	-3.6	-6.0	--	--
Public					
2137	-4.3	-2.3	-4.3	-5.0	-3.9
2163	-3.3	-2.8	-4.0	-7.0	-4.3
Alliance	-2.3	--	--	--	--
Arapahoe	-1.0	--	--	--	--
Custer	-3.0	-3.7	-5.3	-10.	-5.5
2174	--	-3.8	-5.0	-7.0	--
Ike	-2.8	-0.5	--	-2.0	--
Jagger	-3.8	-6.0	-7.0	-9.0	-6.4
Karl 92	-4.8	-4.8	-7.3	-10.	-6.7
Karl 92-G	-5.3	-5.0	-7.3	-11.	-7.1
KS84063-HW Exp	-3.5	-0.3	-2.0	-3.0	-2.2
KS940935 Exp	-4.5	-2.0	-3.0	-6.0	-3.9
KS941064 Exp	-3.0	-2.8	-4.0	-5.0	-3.7
KS94H147Exp	-3.3	1.0	-2.0	1.0	-0.8
Larned	-2.3	0.0	-2.0	1.0	-0.8
Nekota	-2.0	--	--	--	--
Niobrara	-1.8	--	--	--	--
Scout 66	22.0	17.0	18.0	15.0	18.0
TAM 107	-5.5	-5.0	-9.0	-11.	-7.6
TAM 110	-4.8	-5.3	-9.0	-11.	-7.5
TAM 301	-4.8	-2.0	-3.0	-5.0	-3.7
Tonkawa	-4.3	-3.5	-4.8	-7.0	-4.9
Vista	-1.8	--	--	--	--
Windstar	-2.0	--	--	--	--
Yuma	-4.8	--	--	--	--
Test Average	-3.4	-2.8	-4.8	-5.6	--
CV (%)	0.4	2.7	0.7	--	--
LSD (0.05)**	0.6	0.5	1.1	--	--

[1]RP = Republic County test at North Central Experiment Field near Belleville, KS.

[2]HV = Harvey County test at Harvey County Experiment Field near Hesston, KS.

[3]RN = Reno County test at South Central Experiment Field near Hutchinson, KS.

[4]SU = Sumner County test at Max Kolarik farm, Caldwell, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 9c. Heading (days +/- Scout 66, Scout 66 heading listed as date in May) 1997 WESTERN Kansas Winter Wheat Performance Tests.

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
AgriPro					
Big Dawg	1.8	2.8	3.0	--	--
Coronado	-3.3	-1.8	--	--	--
Hickok	-4.8	--	--	--	--
Laredo	-2.3	-4.0	-2.0	--	--
Ogallala	-1.5	-1.8	-1.8	0.0	-1.3
Pecos	-3.8	--	--	--	--
Rowdy	-3.8	-3.3	--	--	--
Tomahawk	-2.5	--	--	--	--
AGSECO					
7853	-3.8	-3.8	-1.8	-1.8	-2.8
7853-D	-4.0	-4.3	-2.0	-1.5	-2.9
7853-VRTU	-4.0	-4.3	-2.0	-1.8	-3.0
9001	--	-2.0	-0.8	-0.5	--
Colby 94	-0.3	1.3	2.0	--	--
Mankato	-3.5	-3.3	-2.0	-2.5	-2.8
AWWPA					
(W) Arlin	--	--	--	-3.5	--
Goertzen					
G12017 Exp	--	--	-1.0	-2.0	--
G1594 Exp	--	--	1.3	1.0	--
G1720 Exp	--	--	2.3	0.8	--
G1878	--	--	-0.3	-0.8	--
Polansky					
Dominator	-0.8	-1.0	--	--	--
Quantum					
566	--	1.8	--	--	--
AP 7501	--	-0.5	--	--	--
AP 7510	--	-1.5	--	--	--
7406	--	-3.3	--	--	--
Star					
560	-1.8	--	--	--	--
Champ	-2.8	-3.0	--	-3.0	--

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
Public					
2137	-1.5	-0.8	-0.5	-1.3	-1.0
2163	-3.3	-2.0	-0.8	-1.3	-1.8
Akron	-1.3	-1.0	-0.5	-0.5	-0.8
Alliance	-0.5	-0.5	-0.3	-0.5	-0.4
Arapahoe	1.0	1.0	1.8	0.5	1.1
Custer	-3.0	-2.5	-1.3	-1.8	-2.1
Halt	-4.8	-3.8	-1.8	-3.8	-3.5
2174	-2.3	--	--	--	--
Ike	-2.3	-2.3	-2.0	-2.8	-2.3
Jagger	-5.0	-4.3	-2.3	-5.3	-4.2
Karl 92	-4.8	-3.0	-1.8	-5.0	-3.6
Karl 92-G	-5.0	-3.5	-1.8	-4.5	-3.7
KS84063-HW Exp	0.8	1.5	2.5	1.8	1.6
KS940935 Exp	-2.3	-0.3	-0.3	-0.8	-0.9
KS941064 Exp	-0.8	0.3	2.8	0.0	0.6
KS94H147Exp	-0.3	1.0	1.5	2.0	1.1
Larned	-1.8	-1.8	-1.5	-0.3	-1.3
Nekota	-0.5	-0.5	0.0	-0.5	-0.4
Niobrara	-1.0	-0.5	0.0	0.0	-0.4
Scout 66	19.0	21.3	20.3	19.8	20.1
TAM 107	-5.8	-4.0	-2.3	-4.8	-4.2
TAM 110	-5.5	-3.8	-2.0	-4.0	-3.8
Tonkawa	-1.3	-1.8	-1.0	-1.3	-1.3
Vista	0.3	-0.3	0.5	0.5	0.3
Windstar	0.3	0.0	1.8	0.3	0.6
Yuma	-2.8	-1.8	-0.5	-1.5	-1.6
Test Average	-2.3	-1.6	-0.5	-1.4	--
CV (%)	0.5	0.4	0.6	0.5	--
LSD (0.05)**	0.8	0.7	1.0	0.8	--

[1]EL = Ellis County test at KSU Agricultural Research Center near Hays, KS.

[2]TD = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3]GD = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4]FD = Finney County test at KSU Southwest Research Extension Center near Garden City, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 9d. Heading (days +/- Newton, Newton heading listed as date in May) 1997 IRRIGATED Kansas Winter Wheat Performance Tests.

Brand / Name	SI[1]	TI[2]	GI[3]	ST[4]	Avg.
AgriPro					
Big Dawg	--	2.3	--	--	--
Coronado	--	-1.0	-0.8	-3.0	--
Hickok	--	-2.5	-2.3	-2.0	--
Laredo	--	-2.5	-1.8	--	--
Ogallala	--	-2.0	-2.0	-2.0	--
Rowdy	--	-2.3	-1.8	0.0	--
Tomahawk	0.3	--	--	--	--
AGSECO					
7853	-3.3	-3.0	-3.5	-1.0	-2.7
7853-D	-3.3	-3.3	-3.0	-1.0	-2.6
7853-VRTU	-3.5	-2.3	-3.3	-1.0	-2.5
9001	--	-1.5	-0.8	0.0	--
Mankato	--	--	-1.8	0.0	--
AWWPA					
(W) Arlin	-4.8	--	--	-5.0	--
(W) Oro Blanco	--	--	--	-1.0	--
Drussel					
DSS-285	-0.3	-0.8	0.3	-3.0	-0.9
Goertzen					
G12017 Exp	-2.0	--	-1.3	--	--
G1594 Exp	1.0	--	1.0	--	--
G1720 Exp	--	--	1.3	--	--
G1878	-0.3	--	0.3	--	--
Polansky					
Dominator	-2.0	0.0	--	--	--
Quantum					
579	--	--	--	-4.0	--
AP 7501	--	-0.3	-0.8	--	--
AP 7510	--	-1.8	-1.3	-1.0	--
AP 7601	--	-1.3	-0.8	0.0	--
H1870 Exp	--	--	-2.8	--	--
7406	--	-1.3	-1.5	--	--
Star					
Champ	-2.5	--	--	--	--
Public					
2137	0.0	0.0	0.3	-2.0	-0.4
2163	-3.3	-1.3	-1.5	-2.0	-2.0
Akron	3.0	0.5	-1.0	1.0	0.9
Alliance	-1.5	-0.3	-0.5	0.0	-0.6
Custer	0.5	-2.0	-1.3	-2.0	-1.2
2174	-0.8	--	--	--	--
Ike	0.3	-2.3	-2.3	0.0	-1.1
Jagger	-4.5	-3.3	-2.0	-4.0	-3.4
Karl 92	-5.0	-2.0	-2.8	-4.0	-3.4
Karl 92-G	-4.0	-3.0	-2.5	-4.0	-3.4
KS84063-HW Exp	0.5	2.3	0.8	0.0	0.9
KS940935 Exp	0.3	0.0	0.0	-2.0	-0.4
KS941064 Exp	-1.3	0.0	-0.3	0.0	-0.4
KS94H147Exp	0.8	1.5	0.5	0.0	0.7
Newton	11.0	21.5	23.8	19.0	18.8
TAM 107	-0.8	-3.5	-2.5	-4.0	-2.7
TAM 110	-1.0	-3.0	-3.3	-4.0	-2.8
TAM 200	0.8	-0.5	-0.5	-1.0	-0.3
TAM 301	-2.0	--	--	--	--
Tonkawa	-1.8	-1.3	-0.8	-2.0	-1.4
Yuma	0.8	0.0	-1.0	1.0	0.2
Test Average	-1.4	-1.2	-1.2	-1.6	--
CV (%)	1.2	0.5	0.6	--	--
LSD (0.05)**	1.8	0.9	1.0	--	--

[1]SI = Stafford County test at Sandyland Experiment Field near St. John, KS.

[2]TI = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3]GI = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4]ST = Stevens County test at Jim Kramer farm near Hugoton, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 10a. Plant height (inches)
1997 EASTERN Kansas Winter Wheat Performance Tests.

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
AgriPro					
Big Dawg	34	38	32	37	35
Coronado	30	34	32	33	32
Pecos	--	--	31	31	--
Tomahawk	32	35	32	36	34
(S) Elkhart	--	--	33	39	--
AGSECO					
12019 EXP	31	--	31	--	--
7853	34	37	35	36	35
7853-D	--	--	--	37	--
7853-VRTU	--	--	--	37	--
Mankato	33	39	--	--	--
Northrup King					
(S) Coker 9474	--	--	30	34	--
(S) Coker 9543	--	--	--	33	--
(S) Coker 9663	--	--	--	37	--
Pioneer					
(S) 2548	--	--	--	30	--
Polansky					
Dominator	30	34	--	--	--
Quantum					
AP 7510	--	34	--	--	--
7504	--	36	--	--	--
Star					
505	--	33	--	--	--
560	--	35	--	--	--
Champ	35	40	33	--	--
Terra					
(S) SR 204	33	--	32	37	--
(S) SR 205	34	--	32	37	--
(S) SR 211	31	--	32	35	--
HR 153	33	--	34	35	--

Brand / Name	BR[1]	RL[2]	FR[3]	LB[4]	Avg.
Public					
2137	35	37	34	37	36
2163	32	35	31	36	33
Arapahoe	41	39	--	--	--
Custer	31	35	32	34	33
Jagger	34	35	29	36	34
Karl 92	31	36	34	35	34
Karl 92-G	32	35	35	36	34
KS84063-HW Exp	34	39	36	39	37
KS940935 Exp	32	35	32	38	34
KS941064 Exp	31	34	31	34	32
KS94H147Exp	34	37	34	35	35
Niobrara	38	41	--	--	--
Scout 66	45	48	40	46	45
TAM 107	31	36	30	35	33
TAM 301	29	--	27	33	--
Tonkawa	33	36	32	35	34
Vista	35	36	--	--	--
(S) Caldwell	33	38	33	37	35
(S) Cardinal	37	39	33	39	37
(S) Ernie	29	36	26	34	31
(S) Jackson	30	38	32	34	34
Test Average	33	37	32	36	--
CV (%)	5	4	5	4	--
LSD (0.05)**	2	2	2	2	--

[1]BR = Brown County test at Cornbelt Experiment Field near Powhattan, KS.

[2]RL = Riley County test at Ashland Experiment Farm, Manhattan, KS.

[3]FR = Franklin County test at East Central Experiment Field near Ottawa, KS.

[4]LB = Labette County test at KSU Southeast Agricultural Research Center, Parsons, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 10b. Plant height (inches)
1997 CENTRAL Kansas Winter Wheat Performance Tests.

Brand / Name	RP[1]	HV[2]	RN[3]	SU[4]	Avg.
AgriPro					
Big Dawg	33	34	29	41	34
Coronado	31	30	27	35	31
Hickok	--	29	27	33	--
Pecos	28	28	27	34	29
Tomahawk	33	32	28	37	33
AGSECO					
7853	31	33	30	40	33
7853-D	31	32	28	39	33
7853-VRTU	32	32	29	40	33
Colby 94	38	--	--	--	--
Mankato	33	35	30	--	--
AWWPA					
(W) Oro Blanco	29	29	28	35	30
Goertzen					
G12017 Exp	--	33	29	--	--
G1594 Exp	--	35	31	--	--
G1878	--	34	29	--	--
Polansky					
Dominator	29	30	26	35	30
Quantum					
AP 7510	31	--	27	--	--
7504	--	33	30	--	--
Star					
505	32	--	--	--	--
560	31	--	--	--	--
Champ	35	35	31	--	--
Terra					
HR 153	--	32	29	--	--

Brand / Name	RP[1]	HV[2]	RN[3]	SU[4]	Avg.
Public					
2137	34	33	29	39	34
2163	30	31	27	37	31
Alliance	34	--	--	--	--
Arapahoe	38	--	--	--	--
Custer	33	31	29	37	32
2174	--	31	30	37	--
Ike	34	37	--	39	--
Jagger	31	34	30	38	33
Karl 92	31	32	28	34	31
Karl 92-G	32	32	27	35	31
KS84063-HW Exp	35	36	31	41	36
KS940935 Exp	33	32	28	37	32
KS941064 Exp	31	30	27	36	31
KS94H147Exp	34	34	28	36	33
Larned	40	41	33	42	39
Nekota	32	--	--	--	--
Niobrara	37	--	--	--	--
Scout 66	41	44	33	46	41
TAM 107	31	31	28	34	31
TAM 110	32	30	28	36	32
TAM 301	32	29	26	35	31
Tonkawa	30	31	29	38	32
Vista	31	--	--	--	--
Windstar	38	--	--	--	--
Yuma	31	--	--	--	--
Test Average	33	32	29	38	--
CV (%)	5	2	7	3	--
LSD (0.05)**	2	1	2	2	--

[1]RP = Republic County test at North Central Experiment Field near Belleville, KS.

[2]HV = Harvey County test at Harvey County Experiment Field near Hesston, KS.

[3]RN = Reno County test at South Central Experiment Field near Hutchinson, KS.

[4]SU = Sumner County test at Max Kolarik farm, Caldwell, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 10c. Plant height (inches)
1997 WESTERN Kansas Winter Wheat Performance Tests.

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
AgriPro					
Big Dawg	30	30	30	--	--
Coronado	29	27	--	--	--
Hickok	29	--	--	--	--
Laredo	30	28	28	--	--
Ogallala	29	27	27	28	27
Pecos	29	--	--	--	--
Rowdy	28	25	--	--	--
Tomahawk	31	--	--	--	--
AGSECO					
7853	30	28	27	28	28
7853-D	30	27	27	29	28
7853-VRTU	30	28	27	28	28
9001	--	30	29	28	--
Colby 94	34	33	34	--	--
Mankato	34	32	31	31	32
AWWPA					
(W) Arlin	--	--	--	30	--
Goertzen					
G12017 Exp	--	--	31	31	--
G1594 Exp	--	--	30	30	--
G1720 Exp	--	--	29	31	--
G1878	--	--	30	28	--
Polansky					
Dominator	29	28	--	--	--
Quantum					
566	--	35	--	--	--
AP 7501	--	27	--	--	--
AP 7510	--	28	--	--	--
7406	--	31	--	--	--
Star					
560	29	--	--	--	--
Champ	32	32	--	32	--

Brand / Name	EL[1]	TD[2]	GD[3]	FD[4]	Avg.
Public					
2137	31	30	30	30	30
2163	29	28	27	28	28
Akron	33	31	31	32	32
Alliance	30	30	30	31	30
Arapahoe	33	34	32	34	33
Custer	30	29	27	27	28
Halt	28	27	27	26	27
2174	31	--	--	--	--
Ike	32	30	29	32	31
Jagger	31	30	28	29	30
Karl 92	31	27	27	29	28
Karl 92-G	31	29	27	29	29
KS84063-HW Exp	32	33	33	31	32
KS940935 Exp	29	28	27	28	28
KS941064 Exp	29	27	26	27	27
KS94H147Exp	30	31	30	31	30
Larned	35	35	34	35	35
Nekota	30	31	30	30	30
Niobrara	34	34	32	33	33
Scout 66	37	37	36	36	36
TAM 107	30	29	29	29	29
TAM 110	32	28	30	29	29
Tonkawa	30	29	29	29	29
Vista	30	28	26	29	28
Windstar	34	34	33	35	34
Yuma	31	29	28	28	29
Test Average	31	30	29	30	--
CV (%)	4	4	5	4	--
LSD (0.05)**	2	1	2	1	--

[1]EL = Ellis County test at KSU Agricultural Research Center near Hays, KS.

[2]TD = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3]GD = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4]FD = Finney County test at KSU Southwest Research Extension Center near Garden City, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 10d. Plant height (inches)
1997 IRRIGATED Kansas Winter Wheat Performance Tests.

Brand / Name	SI [1]	TI [2]	GI [3]	ST [4]	Avg.
AgriPro					
Big Dawg	--	29	--	--	--
Coronado	--	29	35	31	--
Hickok	--	30	34	31	--
Laredo	--	28	35	--	--
Ogallala	--	29	35	32	--
Rowdy	--	27	33	28	--
Tomahawk	30	--	--	--	--
AGSECO					
7853	29	29	38	33	32
7853-D	29	30	37	33	32
7853-VRTU	28	29	37	34	32
9001	--	32	39	32	--
Mankato	--	--	40	34	--
AWWPA					
(W) Arlin	29	--	--	32	--
(W) Oro Blanco	--	--	--	30	--
Drussel					
DSS-285	27	31	38	32	32
Goertzen					
G12017 Exp	30	--	38	--	--
G1594 Exp	32	--	45	--	--
G1720 Exp	--	--	39	--	--
G1878	30	--	39	--	--
Polansky					
Dominator	28	29	--	--	--
Quantum					
579	--	--	--	32	--
AP 7501	--	30	35	--	--
AP 7510	--	28	36	31	--
AP 7601	--	30	38	32	--
H1870 Exp	--	--	36	--	--
7406	--	33	39	--	--
Star					
Champ	30	--	--	--	--
Public					
2137	30	32	39	35	34
2163	27	30	35	32	31
Akron	22	33	39	33	32
Alliance	25	32	39	34	33
Custer	23	25	38	34	30
2174	30	--	--	--	--
Ike	32	34	38	36	35
Jagger	28	32	38	32	33
Karl 92	28	29	35	31	30
Karl 92-G	29	29	35	32	31
KS84063-HW Exp	32	33	41	36	36
KS940935 Exp	31	30	39	33	33
KS941064 Exp	28	29	37	31	31
KS94H147Exp	30	32	38	34	34
Newton	--	--	--	--	--
TAM 107	24	31	38	32	31
TAM 110	24	29	38	33	31
TAM 200	25	28	34	31	29
TAM 301	29	--	--	--	--
Tonkawa	29	31	39	32	33
Yuma	25	31	40	33	32
Test Average	28	30	37	33	--
CV (%)	5	9	4	6	--
LSD (0.05)**	2	3	2	4	--

[1] SI = Stafford County test at Sandyland Experiment Field near St. John, KS.

[2] TI = Thomas County test at KSU Northwest Research Extension Center near Colby, KS.

[3] GI = Greeley County test at KSU Southwest Research Extension Center near Tribune, KS.

[4] ST = Stevens County test at Jim Kramer farm near Hugoton, KS.

(S) = Soft red winter wheat.

(W) = Hard white winter wheat.

** Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 11. Lodging and disease ratings from 1997 Kansas wheat Performance Tests.

Brand/Name	FD[1] Freeze Damage 4/30/97	SU Lodge %	Leaf rust rating 1 = best, 9 = worst RL	RN	SU	HV Soil-borne mosaic
AgriPro						
Big Dawg	--	25.0	2.0	3.5	2.3	1.0
Coronado	--	10.0	6.0	6.5	7.7	1.0
Hickok	--	47.5	--	4.5	8.0	1.0
Laredo	--	--	--	--	--	--
Ogallala	2.0	--	--	--	--	--
Pecos	--	40.0	--	7.0	9.0	1.0
Rowdy	--	--	--	--	--	--
Tomahawk	--	5.0	3.3	5.5	6.7	1.0
(S) Elkhart	--	--	--	--	--	--
AGSECO						
12019 EXP	--	--	--	--	--	--
7853	3.0	52.5	7.0	8.0	8.0	1.0
7853-D	3.5	25.0	--	8.5	8.0	1.0
7853-VRTU	3.0	15.0	--	8.0	8.6	1.0
9001	2.5	--	--	--	--	--
Colby 94	--	--	--	--	--	--
Mankato	1.5	--	6.0	6.5	--	1.0
AWWPA						
(W) Arlin	4.0	--	--	--	--	--
(W) Oro Blanco	--	17.5	--	6.5	9.0	3.3
Drussel						
DSS-285	--	--	--	--	--	--
Goertzen						
G12017 Exp	2.0	--	--	7.5	--	1.0
G1594 Exp	2.0	--	--	8.0	--	1.0
G1720 Exp	3.0	--	--	--	--	--
G1878	3.0	--	--	7.5	--	1.0
Northrup King						
(S) Coker 9474	--	--	--	--	--	--
(S) Coker 9543	--	--	--	--	--	--
(S) Coker 9663	--	--	--	--	--	--
Pioneer						
(S) 2548	--	--	--	--	--	--
Polansky						
Dominator	--	35.0	4.7	6.5	8.0	1.0
Quantum						
566	--	--	--	--	--	--
579	--	--	--	--	--	--
AP 7501	--	--	--	--	--	--
AP 7510	--	--	3.0	3.0	--	--
AP 7601	--	--	--	--	--	--
H1870 Exp	--	--	--	--	--	--
7504	--	--	3.0	6.0	--	2.0
7406	--	--	--	--	--	--
Star						
505	--	--	8.3	--	--	--
560	--	--	4.0	--	--	--
Champ	1.5	--	6.0	6.5	--	1.0
Terra						
(S) SR 204	--	--	--	--	--	--
(S) SR 205	--	--	--	--	--	--
(S) SR 211	--	--	--	--	--	--
HR 153	--	--	--	8.0	--	1.0
Public						
2137	2.0	2.5	3.3	7.0	8.0	1.0
2163	2.5	25.0	5.0	7.0	8.3	1.0
2180	--	0.0	--	5.0	8.0	1.0
Akron	2.0	--	--	--	--	--
Alliance	2.0	--	--	--	--	--
Arapahoe	2.0	--	5.3	--	--	--
Custer	3.5	0.0	3.7	4.0	8.0	9.0
Halt	3.0	--	--	--	--	--
2174	--	5.0	--	7.0	7.7	1.0
Ike	1.5	0.0	--	--	9.0	1.0
Jagger	1.5	50.0	3.0	5.0	7.0	1.0
Karl 92	2.0	0.0	9.0	8.5	9.0	1.0
Karl 92-G	2.0	0.0	9.0	8.0	9.0	1.0
KS84063-HW Ex	2.5	52.5	3.0	3.0	6.3	1.0
KS940935 Exp	2.5	10.0	2.0	3.0	4.3	1.0
KS941064 Exp	3.5	17.5	2.3	6.0	7.3	1.0
KS94H147Exp	3.0	20.0	6.3	9.0	8.0	1.0
Larned	2.5	12.5	--	8.5	9.0	9.0
Nekota	2.0	--	--	--	--	--
Newton	4.0	0.0	9.0	9.0	8.3	1.0
Niobrara	2.0	--	8.3	--	--	--
Scout 66	3.0	32.5	8.0	8.0	9.0	8.5
TAM 107	2.0	0.0	9.0	9.0	9.0	6.0
TAM 110	2.0	0.0	--	9.0	9.0	8.0
TAM 200	--	--	--	--	--	--
TAM 301	--	0.0	--	3.0	7.0	9.0
Tonkawa	3.0	0.0	3.3	3.5	5.7	1.5
Vista	1.5	--	6.0	--	--	--
Windstar	2.0	--	--	--	--	--
Yuma	3.5	--	--	--	--	--
(S) Caldwell	--	--	6.7	--	--	--
(S) Cardinal	--	--	4.7	--	--	--
(S) Ernie	--	--	7.7	--	--	--
(S) Jackson	--	--	4.7	--	--	--
Test Average	2.5	16.1	5.4	6.5	7.8	2.2
CV (%)	20.2	121.3	9.2	10.3	5.7	24.9
LSD (0.05)**	0.8	22.9	0.8	1.4	0.7	0.8

1 Freeze Damage rating taken 4/30/97 after 4/12/97 freeze. 1 = least damage, 10 = most damage. FD = Finney Dryland test, Garden City. SU = Sumner test, Caldwell; RL = Riley test, Manhattan; RN = Reno test, Hutchinson; HV = Harvey test, Hesston.

-- indicates that variety was not entered at that location.

Table 12. Planted seed characteristics, coleoptile lengths, and Hessian fly ratings.

Brand/Name	1000 Seed weight (grams)	Test wt. (lb/bu)	Seeds per lb. (1000)	Col. length (in.)	Hess. fly*
AgriPro					
Big Dawg	35.8	56.9	12.7	4.3	9
Coronado	41.3	58.9	11.0	2.9	7
Hickok	29.8	61.9	15.2	3.3	9
Laredo	29.0	53.9	15.6	3.3	9
Ogallala	27.8	55.5	16.3	3.5	9
Pecos	33.5	57.8	13.5	3.0	2
Rowdy	29.0	58.5	15.6	3.1	9
Tomahawk	37.0	56.0	12.3	3.5	7
(S) Elkhart	37.0	55.8	12.3	3.7	6
AGSECO					
12019 EXP	27.5	58.2	16.5	3.3	2
7853	42.8	58.4	10.6	3.0	9
7853-D	40.8	58.7	11.1		9
7853-VRTU	41.8	56.2	10.9		9
9001	37.5	55.7	12.1	3.0	9
Colby 94	26.3	56.9	17.3	2.9	8
Mankato	35.8	57.6	12.7	2.8	4
AWWPA					
(W) Arlin	33.0	59.7	13.7	3.2	9
(W) Oro Blanco	32.8	59.9	13.9	2.9	6
Drussel					
DSS-285	38.8	61.7	11.7	3.2	8
Goertzen					
G12017 Exp	35.3	56.6	12.9	3.9	9
G1594 Exp	34.0	59.9	13.3	4.6	2
G1720 Exp	29.0	58.5	15.6	3.2	5
G1878	38.0	61.2	11.9	3.6	9
Northrup King					
(S) Coker 9474	33.3	57.0	13.6	4.1	4
(S) Coker 9543	26.5	56.4	17.1	3.3	4
(S) Coker 9663	34.3	53.9	13.2	4.6	7
Pioneer					
(S) 2548	31.0	57.9	14.6	3.5	8
Polansky					
Dominator	29.8	60.6	15.2	3.2	3
Quantum					
566	29.0	54.7	15.6	3.6	8
579	31.5	56.3	14.4	3.2	2
AP 7501	29.8	58.2	15.2	3.1	1
AP 7510	30.0	57.1	15.1	3.3	4
AP 7601	30.8	53.5	14.8	3.1	3
H1870 Exp	35.8	56.3	12.7	3.2	9
7504	27.3	53.3	16.6	3.7	9
7406	37.8	56.3	12.0	2.8	9
Star					
505	41.0	56.0	11.1	3.7	1
560	33.5	54.9	13.5	3.4	9
Champ	37.0	58.3	12.3	3.0	8
Terra					
(S) SR 204	32.0	59.0	14.2	3.0	4
(S) SR 205	25.8	53.2	17.6	3.3	4
(S) SR 211	25.5	54.0	17.8	3.5	3
HR 153	32.0	57.8	14.2	2.9	9
Public					
2137	36.3	58.1	12.5	3.2	2
2163	34.8	59.4	13.1	3.3	1
2180	32.0	55.3	14.2	3.1	2
Akron	37.8	60.8	12.0	3.3	5
Alliance	30.3	53.7	15.0	2.8	2
Arapahoe	31.8	56.0	14.3	3.3	1
Custer	27.5	55.9	16.5	3.1	7
Halt	34.3	59.2	13.2	3.2	9
2174	24.0	54.7	18.9	3.1	9
Ike	29.5	58.3	15.4	3.2	1
Jagger	37.5	61.0	12.1	3.7	9
Karl 92	29.8	54.0	15.2	3.4	9
Karl 92-G	29.5	54.3	15.4		9
KS84063-HW Ex	33.0	58.0	13.7	3.3	8
KS940935 Exp	35.5	59.5	12.8	3.2	4
KS941064 Exp	29.8	59.4	15.2	3.0	3
KS94H147Exp	35.5	59.4	12.8	3.4	9
Larned	36.8	59.7	12.3	4.3	3
Nekota	31.0	57.1	14.6	3.9	8
Newton	32.5	56.3	14.0	3.5	9
Niobrara	30.8	54.5	14.8	3.3	9
Scout 66	32.0	58.1	14.2	4.3	9
TAM 107	39.5	56.5	11.5	3.9	9
TAM 110	34.8	56.9	13.1	4.2	9
TAM 200	30.8	60.8	14.8	3.1	9
TAM 301	29.0	57.6	15.6	3.2	9
Tonkawa	26.3	59.0	17.3	3.5	8
Vista	33.5	56.4	13.5	2.9	1
Windstar	27.8	53.1	16.3	3.2	8
Yuma	43.8	61.1	10.4	2.8	9
(S) Caldwell	27.0	51.9	16.8	3.1	3
(S) Cardinal	30.8	55.2	14.8	3.7	1
(S) Ernie	40.0	55.0	11.3	3.9	9
(S) Jackson	36.5	54.0	12.4	3.0	9
Maximum	43.8	61.9	18.9	4.6	9
Minimum	24.0	51.9	10.4	2.8	1
Average	30.6	53.0	13.0	3.4	6

* Coleoptile lengths provided by T. Joe Martin, Kansas State University Agricultural Research Center - Hays. Tested at 65 degrees F. Semi-dwarf wheat coleoptile lengths will be longer if germinated under cooler temperatures.
Hessian fly ratings by J. Hatchett, USDA; 1 = highly resistant, 9 = highly susceptile. Tested with the Great Plains Hessian fly.

Table 13. Protein (% at 14% moisture) 1996 Kansas Winter Wheat Performance Tests.

	East					Central					West	Irrigated		
Brand / Name	**BR**	**RL**	**FR**	**LB**	**Avg.**	**RP**	**HV**	**RN**	**SU**	**Avg.**	**TD**	**TI**	**GI**	**Avg.**
AgriPro														
Coronado	14.8	12.8	14.5	16.1	14.6	12.8	16.2	14.9	16.5	15.1	--	--	--	--
Hickok	15.2	12.8	--	--	--	12.6	15.9	14.2	--	--	--	13.6	13.7	13.7
Laredo	--	--	--	--	--	--	--	--	--	--	13.7	13.9	13.1	13.5
Longhorn	--	--	--	--	--	--	--	--	--	--	13.5	--	--	--
Ogallala	--	--	--	--	--	--	--	--	--	--	14.7	14.8	14.5	14.7
Pecos	--	--	13.4	15.2	--	--	15.3	14.2	15.2	--	--	14.0	13.3	13.7
Rowdy	--	--	--	--	--	--	--	--	--	--	13.5	14.2	13.6	13.9
Tomahawk	14.8	12.0	12.9	--	--	12.1	14.6	14.2	15.3	14.1	--	--	--	--
Victory	--	--	--	--	--	11.9	--	--	--	--	--	--	--	--
Big Dawg	14.8	13.5	14.3	14.1	14.2	12.9	16.0	15.4	--	--	14.4	--	--	--
(S) Elkhart	15.5	--	14.6	--	--	--	--	--	--	--	--	--	--	--
(W) Platte	--	--	--	--	--	--	--	--	--	--	--	--	--	--
(W) Solomon	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AGSECO														
7853	15.3	13.0	14.0	16.7	14.8	12.9	16.0	15.5	16.6	15.3	14.7	15.9	--	--
9001	--	--	--	--	--	--	--	--	--	--	14.8	14.6	14.2	14.4
Colby 94	--	--	--	--	--	11.3	--	--	--	--	13.4	--	--	--
Mankato	13.6	--	--	--	--	11.4	13.2	14.5	--	--	14.1	--	--	--
AWWPA														
(W) Arlin	--	--	--	--	--	13.0	--	16.8	15.9	--	14.4	15.4	14.3	14.9
(W)KS84HW196Exp	--	--	--	--	--	--	--	--	--	--	13.7	--	--	--
(W) Oro Blanco	14.4	12.3	--	14.6	--	11.4	14.6	14.6	16.1	14.2	13.5	13.3	13.5	13.4
(W) Rio Blanco	--	--	--	--	--	--	--	--	--	--	14.0	14.4	--	--
Century II														
(S) G2500	15.5	13.4	13.8	15.4	14.5	12.7	14.2	15.0	--	--	--	--	--	--
Discovery	14.8	15.1	15.8	16.9	15.7	13.5	15.9	16.1	17.1	15.7	--	--	--	--
Drussel														
T81	--	--	--	--	--	--	--	--	--	--	13.1	12.8	12.8	12.8
Northrup Kin														
(S) Coker 9474	--	--	11.6	15.1	--	--	--	--	--	--	--	--	--	--
(S) Coker 9543	--	--	12.9	14.0	--	--	--	--	--	--	--	--	--	--
(S) Coker 9803	--	--	12.7	14.6	--	--	--	--	--	--	--	--	--	--
Ohlde														
(S) T441	--	--	11.8	13.7	--	--	--	--	--	--	--	--	--	--
Pioneer														
(S) 2548	--	--	--	13.0	--	--	--	--	--	--	--	--	--	--
(S) 2552	--	--	--	13.6	--	--	--	--	--	--	--	--	--	--
Polansky														
Dominator	14.3	12.9	13.4	--	--	12.1	14.5	14.4	--	--	--	13.6	13.4	13.5
Quantum														
AP 7501	--	--	--	--	--	--	--	--	--	--	14.0	14.2	13.8	14.0
AP 7510	--	13.2	--	--	--	12.0	--	14.9	--	--	14.0	13.7	14.0	13.9
AP 7601	--	--	--	--	--	--	--	--	--	--	--	13.7	13.3	13.5
WX92-3210 Exp	--	--	--	--	--	--	--	--	--	--	--	--	13.8	--
7504	--	12.4	--	--	--	--	17.0	15.5	--	--	--	--	--	--
566	--	--	--	--	--	--	--	--	--	--	13.6	--	--	--
579	--	--	--	--	--	--	15.7	14.6	15.8	--	--	--	14.0	--
7406	--	--	--	--	--	--	--	--	--	--	12.8	12.4	12.6	12.5

Table 13. Protein (% at 14% moisture) 1996 Kansas Winter Wheat Performance Tests.

	East					Central					West	Irrigated		
Brand / Name	**BR**	**RL**	**FR**	**LB**	**Avg.**	**RP**	**HV**	**RN**	**SU**	**Avg.**	**TD**	**TI**	**GI**	**Avg.**
Star														
Champ	14.2	12.3	13.1	--	--	11.5	13.3	14.4	--	--	--	--	--	--
Champ Extra	13.8	11.8	12.0	--	--	11.6	13.1	14.1	--	--	--	--	--	--
Terra														
(S) SR 211	12.7	--	12.1	13.6	--	--	--	--	--	--	--	--	--	--
(S) SR 204	12.6	--	12.0	14.0	--	--	--	--	--	--	--	--	--	--
(S) SR 205	12.6	--	11.6	13.0	--	--	--	--	--	--	--	--	--	--
HR 153	15.8	--	13.9	16.2	--	--	16.2	15.8	--	--	--	--	--	--
Public														
2137	12.4	11.5	12.9	14.0	12.7	11.6	12.3	13.8	14.7	13.1	13.8	14.0	12.8	13.4
2163	13.5	11.6	13.3	13.7	13.0	11.7	14.0	14.0	15.8	13.9	13.7	12.9	13.2	13.1
2180	--	--	--	--	--	--	16.0	14.8	16.7	--	--	--	--	--
Akron	--	--	--	--	--	--	--	--	--	--	13.3	--	--	--
Alliance	--	--	--	--	--	10.9	--	--	--	--	12.7	--	--	--
Arapahoe	13.8	13.0	--	--	--	11.8	--	--	--	--	14.3	--	--	--
Arkan	16.0	12.8	16.1	15.3	15.1	13.4	16.6	15.0	16.2	15.3	--	--	--	--
Custer	15.1	12.4	14.7	14.4	14.2	12.6	15.4	14.1	15.5	14.4	13.4	13.4	13.2	13.3
Halt	--	--	--	--	--	--	--	--	--	--	14.4	--	--	--
Ike	--	--	--	--	--	12.4	15.0	15.5	16.5	14.9	15.2	14.4	14.4	14.4
Jagger	15.7	12.5	15.2	16.1	14.9	12.6	16.5	15.8	17.5	15.6	15.2	15.2	14.5	14.9
Jules	--	--	--	--	--	--	--	--	--	--	12.0	--	--	--
Karl 92	13.5	12.3	13.2	17.0	14.0	12.1	14.0	15.8	16.1	14.5	15.4	15.1	14.7	14.9
Larned	--	--	--	--	--	11.7	14.7	14.3	15.3	14.0	13.0	--	--	--
Nekota	--	--	--	--	--	12.0	--	--	--	--	13.4	--	--	--
Newton	15.4	12.0	14.1	13.9	13.9	12.5	15.9	14.0	15.2	14.4	13.4	13.0	13.1	13.1
Niobrara	13.8	12.0	--	--	--	11.6	--	--	--	--	13.1	--	--	--
Scout 66	14.1	12.8	13.2	14.7	13.7	12.0	15.1	14.5	14.9	14.1	14.0	--	--	--
TAM 107	14.4	11.4	13.4	14.1	13.3	11.8	14.8	13.4	14.1	13.5	13.3	13.6	13.2	13.4
TAM 200	--	--	--	--	--	12.9	14.6	13.6	15.2	14.1	13.4	13.4	13.0	13.2
TAM 110	--	--	--	--	--	12.2	14.8	13.0	13.7	13.4	12.9	13.4	13.3	13.4
Tonkawa	15.5	13.3	14.3	16.2	14.8	13.0	15.3	14.4	16.4	14.8	14.2	14.9	13.5	14.2
Vista	13.4	11.8	--	--	--	11.5	--	--	--	--	14.1	--	--	--
Yuma	--	--	--	--	--	11.4	--	--	--	--	12.3	12.1	11.8	11.9
(S) Caldwell	13.5	10.3	11.9	12.9	12.2	--	--	--	--	--	--	--	--	--
(S) Cardinal	12.9	10.3	12.4	13.5	12.3	--	--	--	--	--	--	--	--	--
(S) Clark	14.8	11.2	14.1	14.4	13.6	--	--	--	--	--	--	--	--	--
(S) Ernie	12.7	10.4	13.2	14.8	12.8	--	--	--	--	--	--	--	--	--
(S) Excel	13.9	11.0	12.8	14.0	12.9	--	--	--	--	--	--	--	--	--
(S) Freedom	16.2	11.0	15.0	13.2	13.9	--	--	--	--	--	--	--	--	--
(S) Jackson	14.5	10.2	14.0	14.6	13.3	--	--	--	--	--	--	--	--	--
(S) MO12258 Exp	15.3	10.4	14.3	14.3	13.6	--	--	--	--	--	--	--	--	--
Test Average	14.3	12.1	13.5	14.6	--	12.1	15.0	14.7	15.8	--	13.8	13.9	13.5	--

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