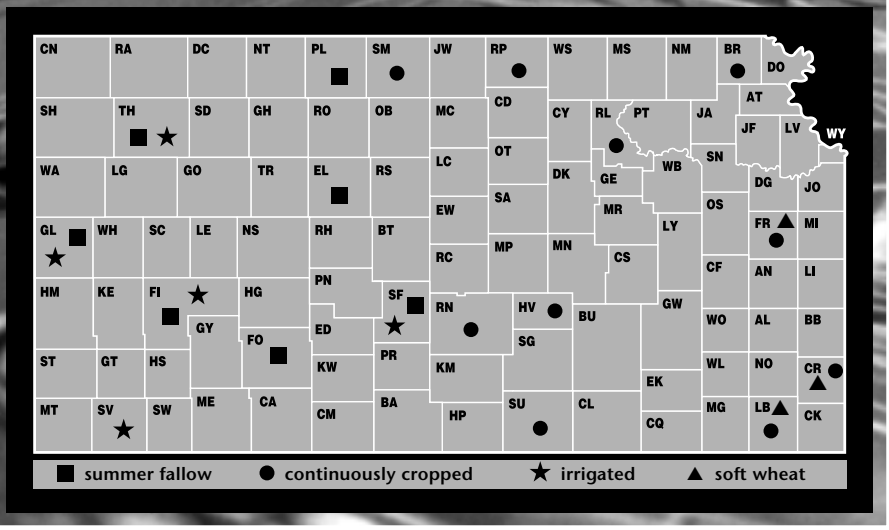
2003

KANSAS PERFORMANCE TESTS WITH WINTER WHEAT VARIETIES

REPORT OF PROGRESS 912

Kansas State University
Agricultural Experiment Station
and Cooperative Extension Service



CONTENTS

Table 1. Private entrants in the 2003 Kansas Wheat Performance Tests.

AgriPro	***AWWPA***	***Goertzen***	***NK***
AgriPro Wheat, Inc.	Am. White Wheat Prod Assn	Goertzen Seed Research	Syngenta Seeds
6515 Ascher Rd	PO Box 326	14604 S Haven Rd	PO Box 1240
Junction City, KS 66441	Atchinson, KS 66002	Haven, KS 67543	Winterville, NC 28590
785-210-0218	913-367-4422	620-465-2675	252-746-3004
AGS	***Drussel***	***MFA***	***Polansky***
AGSouth Genetics, LLC	Drussel Seed and Supply	MFA Incorporated	Polansky Seed
PO Box 398	2197 W Parallel Road	201 Ray Yound Dr.	PO Box 306, 2729 M St
Newton, GA 39870-0398	Garden City, KS 67846	Columbia, MO 65201	Belleville, KS 66935
229-881-7455	620-275-2359	573-876-5285	785-527-2271
AGSECO	***General Mills***	***M-Pride***	***Star***
DeLange Seed (AGSECO)	General Mills Operations, Inc.	Midwest Premium Genetics	Star Seed, Inc.
PO Box 7	1201 North 4th	523 S Main, PO Box 688	PO Box 504
Girard, KS 66743-0007	Le Sueur, MN 56058	Concordia, MO 64020	Beloit, KS 67420
620-724-6223	507-665-3515	800-662-1150	785-768-5775

Contribution No. 04-008-S from the Kansas Agricultural Experiment Station

2003 WHEAT CROP REVIEW

Crop Development

As usual, the condition of the 2003 wheat crop rose and fell in a large part as a response to precipitation. Initial planting conditions were not promising. Over 70% of the state reported short-very short topsoil moisture conditions in September of 2002. October-November rains improved the moisture situation and enabled the wheat to emerge at a near-normal rate. Unfortunately, heavy rains in some areas caused crusting, forcing replanting. Roughly 90% of the crop was emerged by mid-November. Over 90% of the crop was rated as fair or better during the emergence period. However, the condition of the crop deteriorated steadily from mid-November through mid-March. By the middle of March, roughly 75% of the acres were rated as fair or better. Spring rains improved the soil moisture situation in much of the state so that by early May, more than 80% of the crop acres had adequate or surplus topsoil moisture. The favorable moisture situation continued through harvest in much of the state, quite different than the situation last year (Figure 1). Crop condition improved gradually from mid-March to late June with a sharp spike in the first week of July so that over 90% of the wheat crop was classified as fair, good, or excellent at the end of the season.

Figure 1. April-June precipitation

Mild temperatures during grain filling, combined with the favorable soil moisture situation, enabled wheat to produce near-record yields. Jointing and heading occurred at an average to slightly earlier than average pace. The heads colored at about the same time as average. However, harvest lagged behind last year's pace because of the cooler temperatures and continued rainfall. The bulk of the harvest occurred during the last week of June and the first week of July. (From *Crop-Weather* reports, Kansas Ag. Statistics).

Diseases

Coming out of a dry winter, early spring disease levels were relatively light. April rains promoted foliar leaf disease development. Tan spot, speckled leaf blotch, leaf rust, and powdery mildew were reported across the eastern half of Kansas in late April. In early May, leaf rust, stripe rust, powdery mildew, and speckled leaf blotch were evident on upper leaves in fields south of Wichita. Speckled leaf blotch was particularly common. Barley yellow dwarf was present at low levels, causing less damage than in recent years. Tan spot was common at low levels in north central Kansas. As the relatively cool, wet weather continued in May, weather patterns favoring spore dissemination from Oklahoma and southern Kansas enabled stripe rust to reach epidemic levels across much of the state. Susceptible varieties expressed significant symptoms of stripe rust, with severities reaching 90% in some cases.

(Kansas Department of Agriculture Plant Disease Reports).

Insects

Fall and winter insect activity was light in most wheat fields. Even grasshopper levels were lower than anticipated after heavy activity on summer crops during the 2002 season.

Spring insect activity was relatively light. Few greenbugs or Russian wheat aphids were found in surveys conducted in March and April. Wheat curl mites were heavy in many fields of volunteer wheat in northwest Kansas.

Colorado entomologists reported that Russian wheat aphids were successfully attacking formerly resistant varieties (e.g. Halt, Prairie Red). Evidently a new biotype of this pest has developed that can overcome the current genetic resistance present in many varieties.

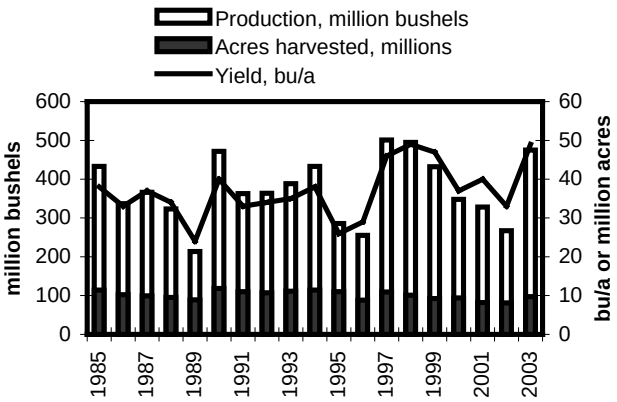
Wheat head armyworm caused brief concern early in the harvest in northwestern Kansas by damaging the grain in the head, potentially lowering the grade of the harvested grain. Later truckloads appeared to have less damage. This pest is present in most years, but seldom causes noticeable damage.

(From Kansas Department of Agriculture Cooperative Economic Insect Reports and Extension Entomologist, Leroy Brooks).

Harvest Statistics

The Kansas Agricultural Statistics' July 11 estimate of the 2003 crop was 475.3 million bushels from 9.7 million acres. This is the third highest recorded production. The 49 bushels/acre yield average matches the record yield average set in 1998. (From July 11, 2003 *CROPS* report, Kansas Ag. Statistics, Topeka).

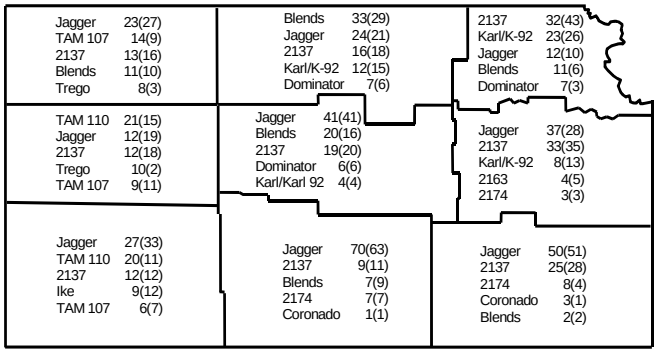
Figure 2. Historical Kansas wheat production



Acreage Distribution

The top two varieties occupied 58.5% of the state's wheat acreage in 2003. Including the blends as a single variety increased that to 71.3% for the top three. (From January 28, 2003, *Wheat Variety* report, Kansas Ag. Statistics, Topeka).

Figure 3. Leading wheat varieties in Kansas
Percent of seeded acreage for 2003 and (2002) crops



2003 PERFORMANCE TESTS

Objectives

To help Kansas growers select wheat varieties suited for their area and conditions, the Kansas Agricultural Experiment Station annually compares both new and currently grown varieties in the state's major crop-producing areas. These tests provide Kansas growers with unbiased performance information on varieties available in the state.

Varieties Included in Tests

Public varieties are selected for inclusion in the tests based on several criteria. Most represent new or established varieties with potential for successful use in Kansas. Some are included as long-term checks. Others are entered at the request of the originating institution.

Originators or marketers enter privately developed varieties on a voluntary basis. Entrants choose both the entries and test sites and pay a fee to help defray test expenses. The 2003 private entrants are listed in Table 1. Twelve entrants provided a total of 35 varieties for testing.

Table 13 describes the characteristics of seed submitted for testing. Seed quality, including such factors as size, purity, and germination, can be important in determining the performance of a variety. Wheat seed used for entries in the Kansas Crop Performance Tests is prepared professionally and usually meets or exceeds Kansas Crop Improvement Certification standards. Performance of a given variety or hybrid comparable to that obtained in these tests is best assured under similar environmental and cultural conditions and with the use of certified or professionally prepared seed.

Environmental Factors Affecting Tests

Locations of test sites are shown on the map on the front cover. Two locations had to be abandoned, one because of poor stands after heavy rains, the other to a herbicide misapplication. One other location (St. John) is reported but is not included in regional averages or graphical summaries due to high stand, growth, and yield variability. Please use caution when interpreting results from these locations. Site descriptions and management practices for each site are summarized in Table 3 on page 4.

Test Results and Variety Characterization

Results from Kansas tests are presented in Tables 4 through 12. Yields are reported as bushels per acre (60 pounds per bushel) adjusted to a moisture content of 13%, where moistures were reported at harvest. Yields also are converted to percentages of the test average to speed recognition of highest yielding entries. Multi-year averages are presented for those varieties entered more than one year. One-year or one-location results can be misleading because of the possibility of unusual weather or pest conditions.

Additional information such as test weight, heading date, and plant height is helpful for fine-tuning variety comparisons. For example, a relatively tall variety may yield well in the tests, but may not be appropriate for some situations. Conversely, some producers may want a tall variety for a variety of reasons. Planting varieties with a range of maturities helps minimize weather risks.

At the bottom of each table is the LSD (least significant difference) for each column of replicated data. One can think of the LSD as a "margin of error" that shows how big the difference between two varieties must be for it to be significant. The use of the LSD is intended to reduce the chance of overemphasizing small differences. Small variations in soil structure, fertility, water-holding characteristics, and other test-site characteristics can cause considerable yield variation among plots of one variety.

Coleoptile length (Table 13) predicts the relative ability of a cultivar to emerge from deep plantings through noncrusted soil. Maximum coleoptile elongation of a variety is influenced heavily by soil temperature. If deep planting is needed because of dry soil late in the planting season, choice of variety will have minimal effects on stand establishment. The same can be said for plantings made during optimum times when soil temperature is already below 65° F. Plantings made in late August or early September when soil temperature is high will be the most vulnerable to poor emergence because of coleoptile length. If plantings must be made deeper than 3.5 in. when soil temperature is high, use a variety that has a long coleoptile.

Graphical Performance Summaries

Figures 4-11 summarize the performance of each variety standardized to the average of two check varieties: Jagger and 2137. These were the most popular varieties in 2003. The number of direct comparisons of a given variety with the check varieties has a bearing on the confidence one can place in the performance of that variety. The number beside each bar shows the number of times that variety was compared to the check varieties. In general, the more comparisons, the greater confidence one has in a value.

Table 2. Comparisons of leading winter wheat varieties - agronomy and quality.

Variety[1]	Percent Kansas seeded acreage 2003 [1]	Relative[2]									Relative milling and baking quality[4]	Resistance or tolerance to:[5]														
		Test weight	Straw strength	Maturity	Height[3]	Coleoptile length	Shattering	Winter hardiness	Al Tolerance	Protein content[3]		Soilborne mosaic	Spindle streak mosaic	Wheat streak mosaic	Barley yellow dwarf	Leaf rust	Stem rust	Stripe rust	Speckled leaf blotch	Glume blotch	Tan spot	Powdery mildew	Head scab	Hessian fly	Russ. wheat aphid
Jagger	45.2	4	4	1	5	6	5	6	3	3	EX*	1	2	4	7	8	3	1	3	6	3	7	7	9	9
2137	13.3	4	1	3	5	7	5	3	2	7	AC	1	5	4	6	7	7	8	5	7	4	4	8	2	9
TAM 110	3.8	3	2	1	5	5	2	--	8	7	AC	9	7	5	8	9	3	8	6	6	7	1	8	9	8
Karl/Karl 92	3.2	3	4	1	3	7	3	3	9	3	EX*	1	3	9	8	9	6	3	5	3	3	3	6	9	9
2174	3.1	3	1	3	4	5	3	4	5	3	AC	1	5	7	5	6	8	5	4	7	5	2	6	9	9
TAM 107	2.3	4	2	1	4	5	2	2	9	6	LD	8	7	5	8	9	3	8	6	6	6	1	6	9	7
Dominator	2.2	4	3	4	2	8	7	3	8	3	AC	1	1	7	6	8	3	6	5	4	5	4	7	3	9
Ike	2.1	3	4	4	6	7	2	3	8	3	AC	1	5	9	6	9	3	6	8	6	7	6	6	1	9
Trego+	1.8	3	4	4	4	6	2	2	8	7	AC	2	4	5	7	2	2	8	7	5	7	8	9	6	9
2163	0.8	6	1	3	3	7	6	4	2	7	LD	1	4	4	6	7	4	7	5	8	4	2	8	2	9
Larned	0.8	4	5	4	9	3	3	3	8	4	AC	9	8	9	9	8	2	2	8	8	9	5	5	3	9
Coronado	0.8	3	1	2	3	8	4	5	3	3	AC	1	3	6	6	7	3	6	6	6	6	4	9	5	9
Thunderbolt	0.8	2	--	3	7	6	--	--	7	4	AC	8	7	5	7	1	8	5	--	--	6	7	7	9	9
T81	0.6	4	--	2	4	7	--	--	--	8	AC	8	4	6	7	7	3	3	7	--	6	1	--	8	9
Stanton	0.6	4	3	3	5	6	2	2	--	4	AC	8	--	5	8	2	2	6	--	--	--	--	--	5	3
Vista	0.3	4	6	5	2	8	3	2	7	6	AC*	8	7	9	7	7	6	2	5	6	8	4	6	1	9
7853	0.3	4	4	3	5	7	3	5	8	3	EX	1	5	5	6	7	4	7	9	5	6	4	6	9	9
NuFrontier+	0.3	4	3	4	6	5	3	--	--	7	LD	--	--	--	--	9	--	--	--	--	--	--	--	7	--
Akron	0.2	3	5	4	6	6	3	3	--	7	AC	9	9	9	9	8	3	4	9	7	8	1	6	8	9
Ogallala	0.2	2	2	3	2	7	6	4	5	2	EX	9	8	5	7	5	3	6	5	6	6	6	--	9	9
Big Dawg	0.2	4	1	6	7	4	3	5	5	2	AC	1	2	4	7	7	5	1	2	3	4	6	5	9	9
Onaga	0.2	3	--	3	2	6	--	--	--	3	--	1	5	5	6	5	8	6	5	--	8	4	5	5	8
Scout / S66	0.2	4	6	4	9	3	3	3	8	3	AC	9	7	7	9	8	3	1	7	9	9	5	--	9	9
NuHorizon+	0.2	4	1	4	3	5	3	--	--	6	AC	--	--	--	--	9	--	--	--	--	--	--	--	9	--
Lakin+	0.2	4	3	3	5	7	3	2	--	7	AC	2	--	5	6	9	7	8	7	--	7	--	5	9	--
T83	0.2	--	--	--	--	--	--	--	--	--	AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Blends	12.8																								
Other White	0.2																								
Other Red	3.0																								
Other Soft	0.1																								
+ Hard white variety	Scale:	1=Best 9=Poor	1=Best 9=Poor	1=Early 9=Late	1=Short 9=Tall	1=Long 9=Short	1=Best 9=Poor	1=Best 9=Poor	1=Best 9=Poor	1=Best 9=Poor		Scale: 1=Most resistant/tolerant 9=Least resistant/tolerant													

[1] Varieties and percent seeded acreage from the Jan. 28, 2003, Wheat Variety survey, KS Ag. Statistics, Topeka, KS.

[2] Most ratings are estimates based on information and observations from many sources over several years. Agronomic information by Joe Martin, Hays, and Allan Fritz, Jim Shroyer, Ray Lamond, and Kraig Roozeboom, KSU Agronomy.

[3] Summary of crop performance test results from recent years.

[4] Ratings by Bob Bennet, KSU Grain Science and Industry, using inputs from the U.S. Grain Marketing and Production Research Center, and industry. See also "Milling & Bread-baking Qualities of Hard Winter Wheat Varieties".

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

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

LD = Less Desirable; 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.

[5] Ratings by Joe Martin, Hays; W.W. Bockus, KSU Plant Pathology. Final ratings and descriptions of disease and insect pests are available in "Wheat Variety Disease and Insect Ratings 2003".

Table 3. Wheat Performance Test site descriptions and management in 2003.

Region / Location	Soil / crop	N	P	K		Plant-harvest	Conditions
Northeast							
Bunck Seed Farms	Grundy silty clay loam	75	--	--	Fall	10/12/02 - 7/2/03	Generally favorable growing conditions, leaf diseases appeared late
Everest (EV)	Corn, 2001	--	20	--	Spring	90 lb/a	
Ashland Agronomy Farm	Reading silt loam	50	--	--	Fall	10/10/02 - 7/3/03	Favorable growing conditions, leaf diseases appeared in May
Manhattan (MA)	Oats, 2001	50	--	--	Spring	75 lb/a	
Southeast							
EC KS Experiment Field	Woodson silt loam	8	32	16	Fall	10/9/02 - 6/27/03	Good stands, favorable spring and summer, stripe rust and tan spot developed late
Ottawa (OT)	Soybean, 2002	90	--	--	Spring	1200000 seeds/a	
4-State Farm Show	silt loam	50	60	60	Fall	10/16/02 - 6/20/03	Generally favorable, leaf diseases (esp. septoria nodorum) appeared late in season
Pittsburg (PI)	Soybean, 2002	30	--	--	Spring	90 lb/a	
SE Agric Res Ctr	Parsons silt loam	50	70	70	Fall	10/14/02 - 6/19/03	Generally favorable growing conditions, severe septoria nodorum caused leaf loss and reduced yields
Parsons (PA)	Corn, 2002	30	--	--	Spring	90 lb/a	
Southeast - Soft							
EC KS Experiment Field	Woodson silt loam	8	32	16	Fall	10/10/02 - 7/2/03	Good stands, favorable spring and summer, stripe rust and tan spot developed late
Ottawa (OT)	Wheat, 2002	80	--	--	Spring	1200000 seeds/a	
4-State Farm Show	silt loam	50	60	60	Fall	10/16/02 - 6/20/03	Generally favorable, leaf diseases (esp. septoria nodorum) appeared late in season
Pittsburg (PI)	Soybean, 2002	30	--	--	Spring	75 lb/a	
SE Agric Res Ctr	Parsons silt loam	70	60	60	Fall	10/14/02 - 6/25/03	Generally favorable growing conditions, severe septoria nodorum caused leaf loss and reduced yields
Parsons (PA)	Corn, 2001	60	--	--	Spring	75 lb/a	
North Central							
NC KS Experiment Field	Crete silt loam	60	40	--	Fall	9/26/02 - 7/3/03	Dry at planting, October rains, good stands and fall growth, storm on 6/22 caused severe lodging
Belleville (BE)	Corn, 2001	--	--	--	Spring	90 lb/a	
Farmer's Field	Silt loam	80	30	--	Fall	9/25/02 - 6/27/03	Dry at planting, October rains resulted in good stands and fall growth
Smith Center (SC)	Sorghum, 2001	--	--	--	Spring	90 lb/a	
Farmer's Field	Silty loam	60	--	--	Fall	9/24/02 - 6/30/03	Good stands, mild winter, excellent conditions through spring and summer
Phillipsburg (PH)	Sorghum, 2001	--	--	--	Spring	60 lb/a	
South Central							
Harvey Co Expt Field	Ladysmith silty clay loam	90	32	--	Fall	10/11/02 - 6/24/03	Good precipitation in the fall and spring, leaf diseases appeared in May
Hesston (HE)	Soybean, 2002	--	--	--	Spring	60 lb/a	
SC KS Experiment Field	Ost silt loam	75	40	--	Fall	10/16/02 - 6/23/03	Good emergence and fall growth, mild winter; stripe rust and other diseases lowered yields
Hutchinson (HU)	Fallow, 2002	50	--	--	Spring	60 lb/a	
Max Kolarik Farm	Sandy loam	70	25	--	Fall	11/3/02 - 6/24/03	Drought stressed most of season, diseases further lowered yields
Caldwell (CA)	Wheat, 2002	--	--	--	Spring	60 lb/a	
Northwest Dryland							
Agric Res Ctr - Hays	Harney clay loam	60	--	--	Fall	10/8/02 - 6/28/03	Rain delayed planting, good stands, little fall growth, mild winter; stripe rust and leaf rust present
Hays (HA)	Wheat, 2001	--	--	--	Spring	60 lb/a	
NW Res-Ext Ctr	Keith silt loam	55	--	--	Fall	9/23/02 - 6/26/03	Good fall stands, no winter kill, excellent spring and summer growing conditions
Colby (CO)	Wheat, 2002	--	--	--	Spring	60 lb/a	
SW Res-Ext Ctr	Richfield silt loam	5	25	--	Fall	9/20/02 - 7/2/03	Dry winter, spring; rains in late spring; some wheat head armyworm damage
Tribune (TR)	Sunflower, 2001	60	--	--	Spring	55 lb/a	
Southwest Dryland							
Sandyland Expt Field	sandy loam	68	46	--	Fall	10/22/02 - 7/1/03	Heavy rains destroyed first planting, growth and yield variable, use with care
St. John (SJ)	Sorghum, 2001	50	--	--	Spring	60 lb/a	
Farmer's Field	Silt loam	50	--	--	Fall	9/25/02 - 7/1/03	Heavy rains, stands variable, good growth, drought in winter and spring, stripe rust present
Dodge City (DC)	Wheat, 2002	--	--	--	Spring	45 lb/a	
SW Res-Ext Ctr	Keith silt laom	60	--	--	Fall	10/1/02 - 6/24/03	Fair stands, mild winter, favorable May-June temperatures and precipitation
Garden City (GC)	Wheat, 2001	--	--	--	Spring	45 lb/a	
Irrigated							
NW Res-Ext Ctr	Keith silt loam	110	--	--	Fall	9/19/02 - 7/2/03	Good stands, mild winter, excellent growing conditions in spring and summer, light stripe and leaf rust
Colby (CO)	Sunflower, 2001	--	--	--	Spring	90 lb/a	
SW Res-Ext Ctr	Silty loam	6	29	--	Fall	9/23/02 - 7/3/03	Tilt on 5/15, June rain, some stripe rust and leaf rust, hail on 6/14 caused minor shattering
Tribune (TR)	Sunflower, 2001	120	--	--	Spring	80 lb/a	
SW Res-Ext Ctr	Keith silt loam	120	--	--	Fall	9/27/03 - 6/25/03	Good stands, mild winter, favorable spring temperatures and precipitation
Garden City (GC)	Corn, 2002	--	--	--	Spring	75 lb/a	

Table 4. 2003 NORTHEAST Kansas Winter Wheat Performance Tests.

Brand / Name	yield (bu/a)			% of test average			multi-year avg (bu/a)				tw (lb/bu)			head (+/- Jagger)			height (in)		
	EV[1]	MA[2]	Av.	EV	MA	Av.	-EV- 2yr	-EV- 3yr	-MA- 2yr	-MA- 3yr	EV	MA	Av.	EV	MA	Av.	EV	CA	Av.
AgriPro																			
Cutter	75	75	75	109	108	109	61	--	--	--	59	60	59	--	3	--	--	36	--
Jagalene	73	81	77	105	116	111	67	--	--	--	60	61	60	--	2	--	--	32	--
AGSECO																			
Exp 2047	70	72	71	101	104	103	63	--	--	--	58	58	58	--	3	--	--	32	--
Exp 2139	70	72	71	101	104	102	60	--	--	--	59	59	59	--	9	--	--	33	--
Onaga	77	75	76	112	108	110	65	58	71	65	61	61	61	--	2	--	--	33	--
General Mills																			
(W) GM10005	70	80	75	102	115	108	--	--	--	--	60	61	60	--	4	--	--	32	--
(W) NuFrontier	65	58	61	94	83	88	51	49	60	--	59	58	58	--	8	--	--	37	--
(W) NuHorizon	59	67	63	86	96	91	51	50	59	--	60	58	59	--	10	--	--	31	--
Goertzen																			
Cisco	63	67	65	91	96	93	--	--	--	--	60	59	60	--	7	--	--	35	--
Enhancer	82	73	78	120	105	112	--	--	--	--	58	59	58	--	2	--	--	36	--
Kalvesta	58	63	60	83	91	87	--	--	67	63	57	59	58	--	1	--	--	32	--
Venango	62	70	66	90	100	95	61	54	70	67	59	59	59	--	8	--	--	34	--
Polansky																			
Dominator	68	60	64	99	85	92	57	53	65	59	60	60	60	--	2	--	--	31	--
Public																			
2137	63	71	67	91	101	96	61	58	70	65	56	58	57	--	3	--	--	34	--
2145	73	75	74	106	108	107	63	58	73	70	60	60	60	--	2	--	--	32	--
2174	71	76	73	103	109	106	59	53	72	65	58	60	59	--	2	--	--	35	--
Culver	54	54	54	78	78	78	--	--	52	53	57	55	56	--	9	--	--	39	--
Goodstreak	71	65	68	102	93	98	--	--	--	--	61	61	61	--	10	--	--	43	--
Harry	71	68	69	103	97	100	--	--	--	--	58	55	57	--	11	--	--	36	--
Jag,2137	74	70	72	108	100	104	64	--	--	--	58	58	58	--	2	--	--	33	--
Jag,2137,Dom	67	67	67	97	97	97	61	--	--	--	59	59	59	--	2	--	--	34	--
Jagger	76	69	73	110	100	105	68	62	66	62	58	58	58	--	0	--	--	35	--
Karl 92	68	70	69	99	101	100	58	57	70	65	59	60	59	--	0	--	--	33	--
Millennium	72	67	69	104	97	100	--	--	--	--	59	59	59	--	11	--	--	40	--
Overley	69	81	75	100	116	108	--	--	--	--	60	60	60	--	0	--	--	35	--
Wahoo	68	61	65	99	88	94	--	--	--	--	58	56	57	--	10	--	--	39	--
Wesley	71	73	72	103	105	104	--	--	--	--	60	58	59	--	11	--	--	33	--
Average	69	70	69	69	70	69	60	54	66	61	59	59	59	--	5	--	--	35	--
CV (%)	6	8	7	6	8	7	--	--	--	--	1	1	1	--	0	--	--	3	--
LSD (0.05)**	6	7	5	8	11	10	--	--	--	--	1	1	1	--	1	--	--	2	--

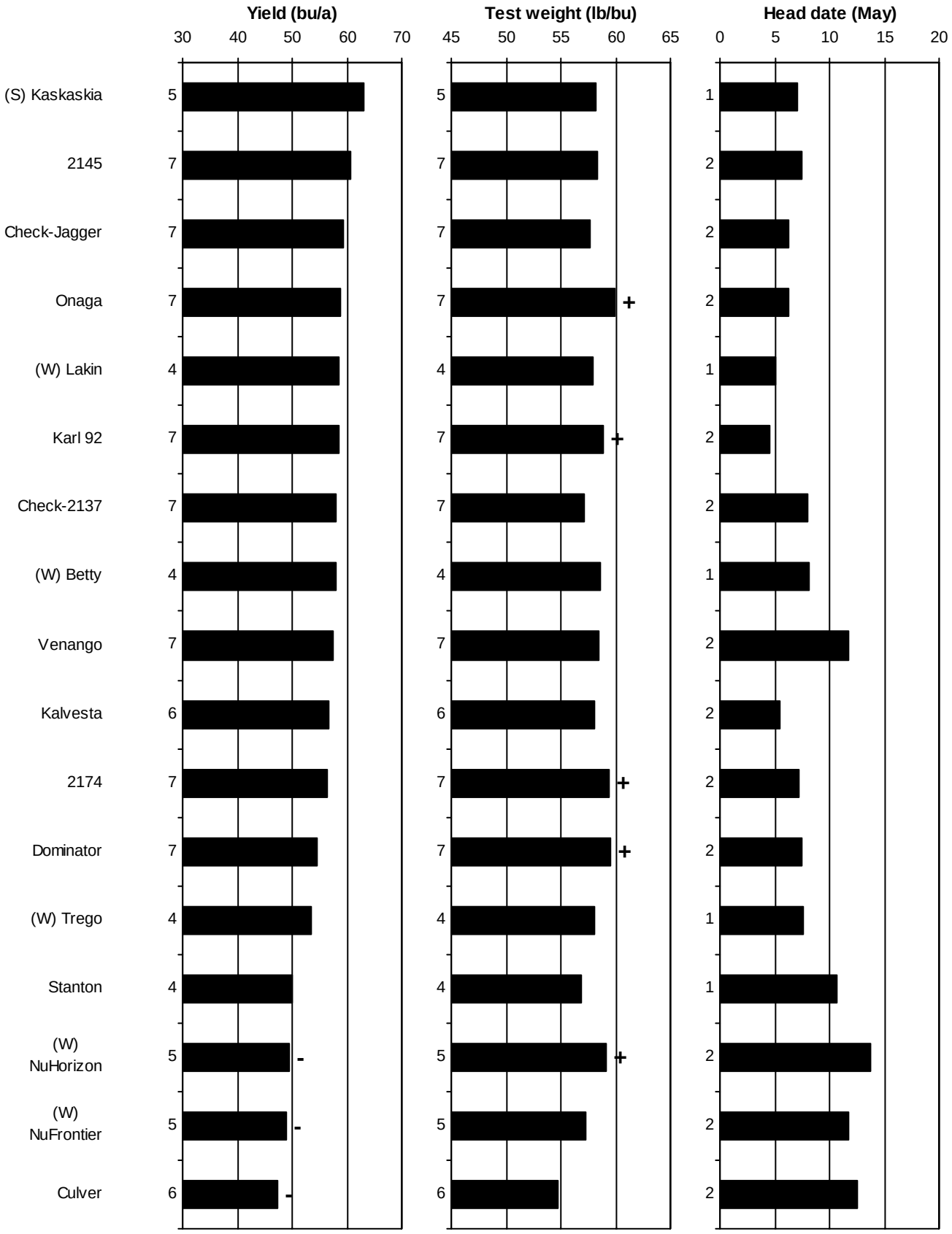
[1] EV = Everest, KS - Bunck Seed Farm, Brown County

[2] MA = Manhattan, KS - Ashland Bottoms Research Farm, Riley County

(W) = Hard white wheat

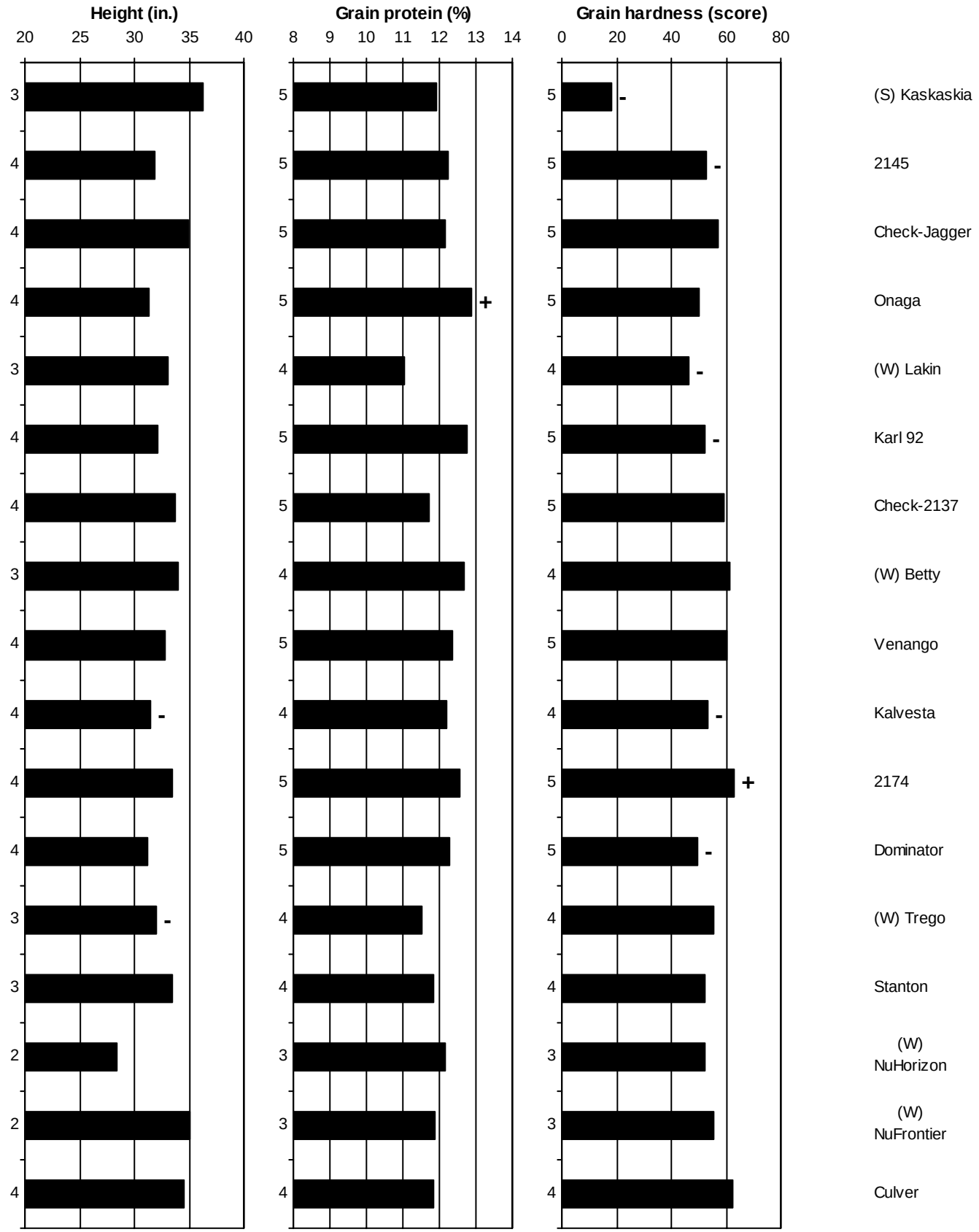
** Least Significant Difference, similar to 'Margin of Error', indicates difference needed to overcome test error.

Figure 4. Wheat variety performance summary, NORTHEAST region, 2000-2003



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Figure 4. NORTHEAST region - continued



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Table 5. 2003 SOUTHEAST Kansas Winter Wheat Performance Tests.

Brand / Name	yield (bu/a)				% of test average				multi-year avg (bu/a)						tw (lb/bu)				head (+/- Jagger)				height (in)			
	OT [1]	PI [2]	PA [3]	Av.	OT	PI	PA	Av.	-OT- 2yr	-OT- 3yr	-PI- 2yr	-PI- 3yr	-PA- 2yr	-PA- 3yr	OT	PI	PA	Av.	OT	PI	PA	Av.	OT	PI	PA	Av.
AgriPro																										
Cutter	78	43	53	58	105	80	90	91	63	--	--	--	39	43	59	58	57	58	4	4	3	4	34	37	38	36
Jagalene	87	51	65	68	116	95	111	107	69	--	--	--	51	--	61	59	56	59	3	2	1	2	32	36	37	35
AGSECO																										
7853	59	42	41	47	79	78	69	75	--	--	--	--	--	--	60	59	58	59	4	3	3	3	34	38	38	37
Exp 2047	82	56	65	67	109	104	111	108	66	--	--	--	48	--	59	58	57	58	4	3	2	3	31	35	36	34
Onaga	82	61	73	72	109	114	125	116	64	59	--	--	56	54	61	61	62	62	3	2	2	2	31	34	35	34
General Mills																										
(W) GM10005	88	48	53	63	118	90	89	99	--	--	--	--	--	--	61	60	56	59	3	3	2	3	32	35	36	34
(W) NuFrontier	85	52	51	63	114	97	87	99	68	65	--	--	40	43	58	59	58	58	6	7	6	6	34	39	41	38
(W) NuHorizon	75	32	34	47	100	59	58	72	62	60	--	--	28	33	59	57	52	56	8	7	7	7	32	34	36	34
Goertzen																										
Cisco	71	46	33	50	95	86	56	79	--	--	--	--	--	--	61	58	55	58	6	5	4	5	34	37	38	36
Enhancer	62	44	45	50	82	82	76	80	--	--	--	--	--	--	60	56	55	57	3	3	-1	2	33	38	37	36
Venango	81	55	62	66	107	101	106	105	66	63	--	--	48	50	60	59	57	59	7	6	5	6	33	36	38	36
Public																										
2137	73	75	66	71	97	140	113	116	60	60	--	--	51	52	59	60	58	59	4	3	3	3	34	38	38	36
2145	75	63	71	69	99	116	120	112	62	53	--	--	52	50	61	59	58	59	4	3	2	3	30	36	36	34
2174	80	62	76	73	107	115	130	117	62	59	--	--	56	56	61	61	62	61	4	3	2	3	34	37	38	36
Jag,2137	77	57	64	66	103	105	109	105	62	--	--	--	48	--	60	58	56	58	1	--	1	1	34	37	37	36
Jag,2137,Dom	80	57	67	68	107	105	115	109	63	--	--	--	51	--	60	59	59	59	3	1	1	1	33	36	38	36
Jagger	69	53	55	59	92	99	93	95	54	57	--	--	41	45	61	57	55	58	0	--	0	--	33	37	37	36
Karl 92	68	49	70	62	91	90	120	100	55	56	--	--	55	55	60	60	61	60	1	2	0	1	29	36	36	33
Overley	81	64	64	70	108	118	110	112	--	--	--	--	--	--	60	61	58	59	1	--	0	0	33	38	40	37
Average	75	54	59	63	75	54	59	63	61	59	--	--	45	46	60	59	57	59	4	3	2	3	32	36	37	35
CV (%)	5	12	9	8	5	12	9	8	--	--	--	--	--	--	1	2	2	2	0	0	1	1	3	3	3	3
LSD (0.05)**	5	11	7	4	7	20	13	7	--	--	--	--	--	--	1	2	2	1	1	1	2	1	1	2	1	1

[1] OT = Ottawa, KS - East Central Experiment Field, Franklin County

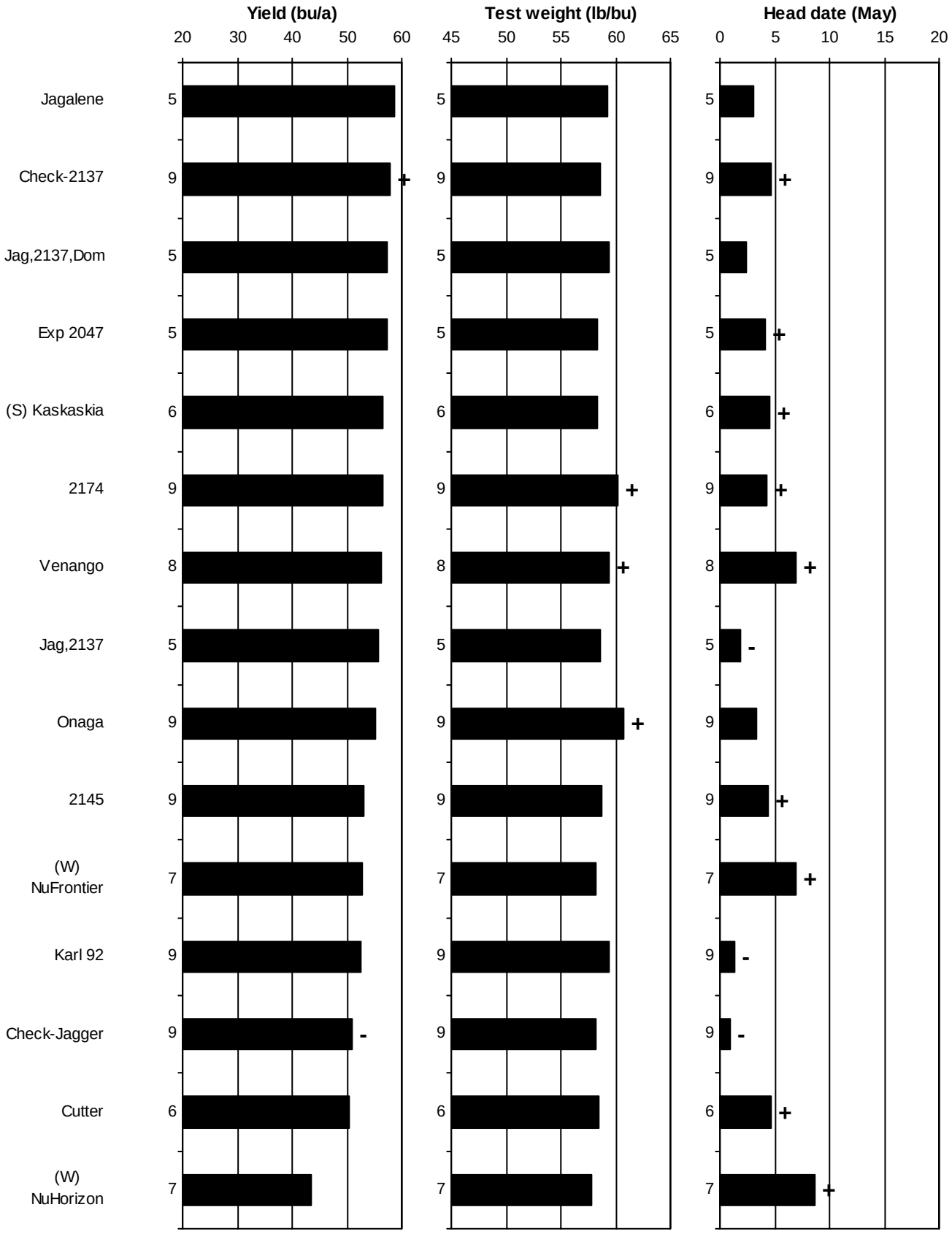
[2] PI = Pittsburg, KS, Crawford County

[3] PA = Parsons, KS, Southeast Agricultural Research Center, Labette County

(W) = Hard white wheat

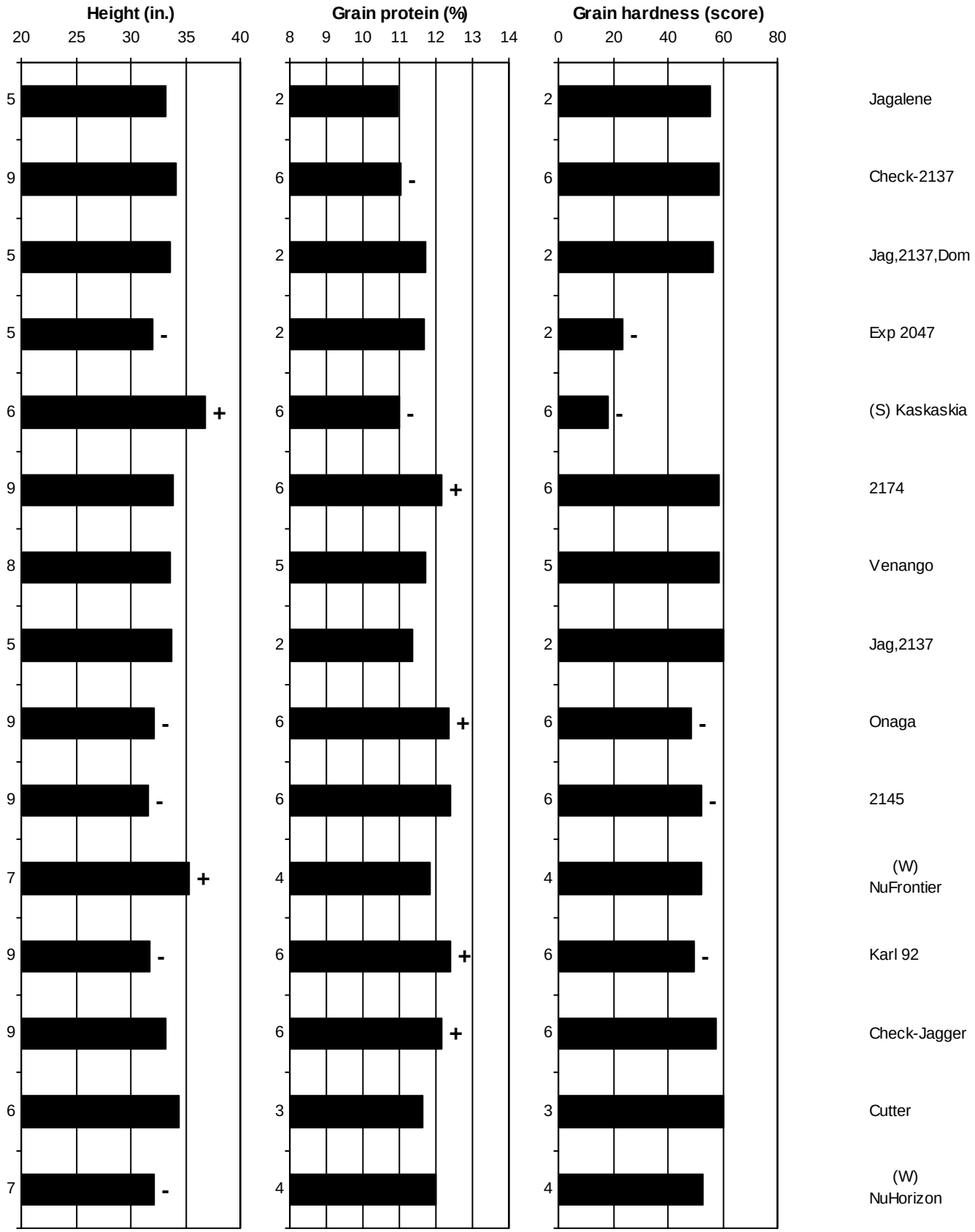
** Least Significant Difference, similar to 'Margin of Error', indicates difference needed to overcome test error.

Figure 5. Wheat variety performance summary, SOUTHEAST region, 2000-2003



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Figure 5. SOUTHEAST region - continued



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Table 6. 2003 SOUTHEAST Kansas SOFT Winter Wheat Performance Tests.

Brand / Name	yield (bu/a)				% of test average				multi-year avg (bu/a)						tw (lb/bu)				head (+/- Jagger)				height (in)			
	OT[1]	PI	PA[2]	Av.[3]	OT	PI	PA	Av.	-OT- 2yr	-OT- 3yr	-PI- 2yr	-PI- 3yr	-PA- 2yr	-PA- 3yr	OT	PI	PA	Av.	OT	PI	PA	Av.	OT	PI	PA	Av.
AGS																										
(S) 2000	88	72	82	81	108	107	111	108	--	--	47	--	--	--	58	59	57	58	3	2	2	2	32	38	37	36
(S) 485	80	79	81	80	98	117	109	108	--	--	--	--	--	--	59	61	59	60	3	1	2	2	33	39	38	36
MFA																										
(S) 2020	82	70	86	79	101	102	116	106	--	--	--	--	--	--	58	59	59	59	3	2	2	2	34	40	39	38
(S) 766	73	66	70	70	90	97	95	94	--	--	53	--	--	--	58	60	60	59	2	--	1	1	29	37	37	34
M-Pride																										
(S)MPG4122SRW	66	57	60	61	81	83	81	82	--	--	--	--	--	--	56	56	56	56	1	--	1	1	35	42	41	39
(S)MPG4664SRW	82	79	82	81	101	116	110	109	--	--	--	--	--	--	57	59	59	58	3	2	2	2	35	41	40	38
NK																										
(S)Coker 9663	100	72	76	83	123	106	103	111	--	--	49	--	--	--	57	60	60	59	4	2	2	2	34	43	42	40
Public																										
(S) Kaskaskia	89	64	76	76	109	95	102	102	--	--	45	--	--	--	57	60	59	59	4	3	3	3	36	42	44	41
(S) MO980525	96	73	88	86	118	108	119	115	--	--	--	--	--	--	57	58	58	58	9	7	7	8	35	39	39	38
(S) Pat	93	79	81	84	114	116	110	113	--	--	--	--	--	--	56	59	59	58	8	5	5	6	34	40	42	39
(S) Roane	84	62	79	75	103	92	107	101	--	--	51	--	--	--	59	60	60	60	5	3	3	3	29	36	36	33
(S) Sabbe	98	84	92	91	120	123	124	123	--	--	--	--	--	--	56	60	58	58	7	4	4	5	32	39	40	37
(S)GA931241E16	57	51	45	51	69	75	60	68	--	--	--	--	--	--	56	59	57	57	5	3	2	3	32	39	38	36
2137	69	70	62	67	84	103	83	90	--	--	49	--	--	--	57	60	57	58	4	3	3	3	33	38	38	36
Jagger	64	41	50	52	79	60	68	69	--	--	28	--	--	--	59	56	54	56	0	--	0	--	32	39	37	36
Average	81	68	74	74	81	68	74	74	--	--	49	--	--	--	57	59	58	58	4	2	2	3	33	40	39	37
CV (%)	7	10	11	9	7	10	11	9	--	--	--	--	--	--	1	2	3	2	0	0	1	1	3	2	4	3
LSD (0.05)**	8	11	12	6	10	16	16	8	--	--	--	--	--	--	1	2	2	1	1	1	2	1	1	2	2	1

[1] OT = Ottawa, KS - East Central Experiment Field, Franklin County

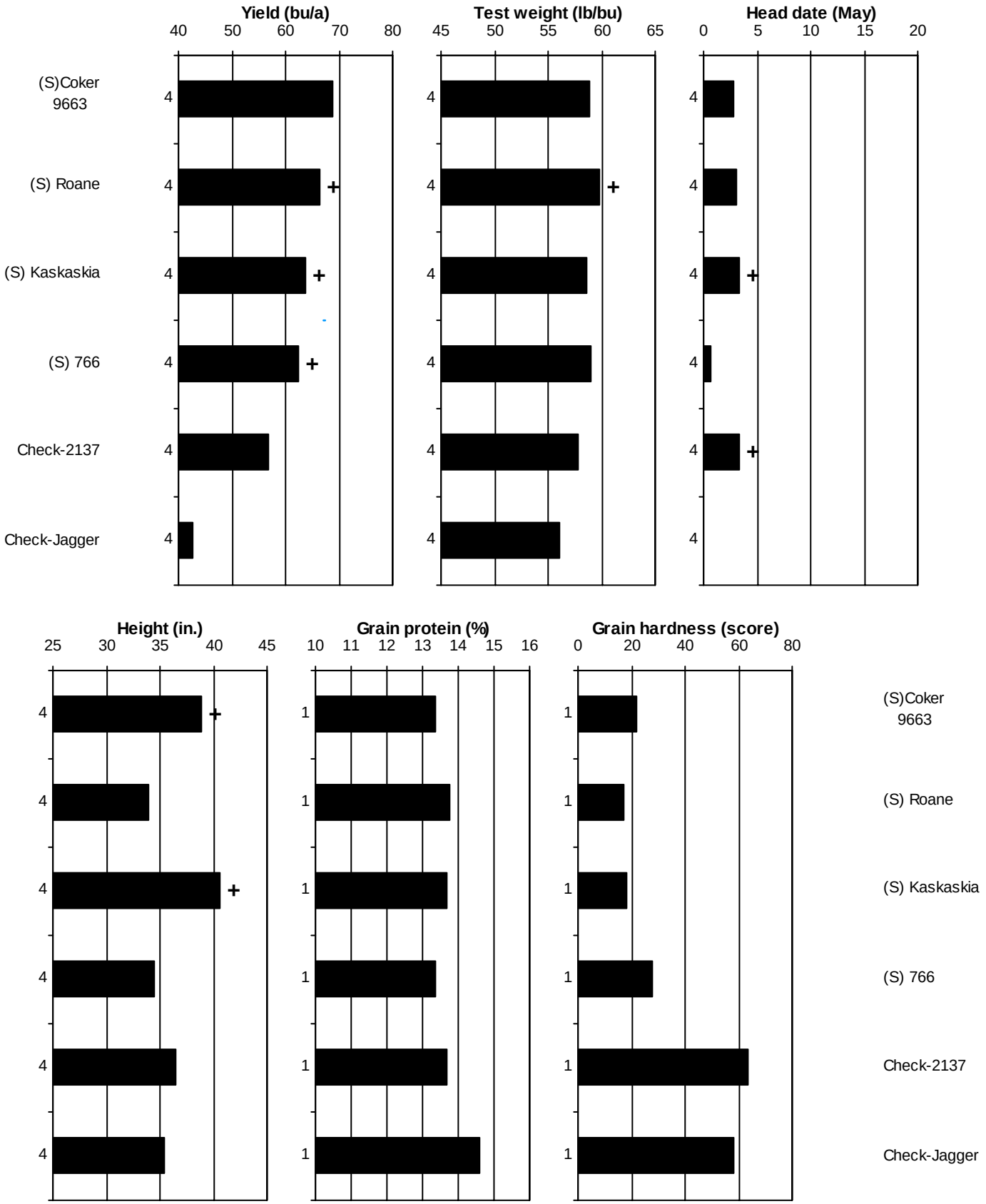
[2] PI = Pittsburg, KS, Crawford County

[3] PA = Parsons, KS, Southeast Agricultural Research Center, Labette County

(S) = Soft red wheat

** Least Significant Difference, similar to 'Margin of Error', indicates difference needed to overcome test error.

Figure 6. Wheat variety performance summary, SOFT region, 2002-2003



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Table 7. 2003 NORTH CENTRAL Kansas Winter Wheat Performance Tests.

Brand / Name	BE[1]	SC[2]	PH[3]	Av.	BE	SC	PH	Av.	-BE- 2yr	-BE- 3yr	-SC- 2yr	-SC- 3yr	-PH- 2yr	-PH- 3yr	BE	SC	PH	Av.	BE	BE	SC	PH	Av.
	yield (bu/a)				% of test average				multi-year avg (bu/a)						tw (lb/bu)				head (+/- Jagger)	height (in)			
AgriPro																							
Cutter	97	81	111	96	98	100	110	103	97	--	--	--	81	--	60	63	58	60	2	41	34	36	37
Jagalene	120	85	126	110	121	106	125	117	108	--	--	--	93	--	60	63	58	60	3	38	33	34	35
AGSECO																							
Exp 2139	105	81	93	93	106	100	92	99	95	--	--	--	69	--	60	63	59	61	3	37	34	34	35
Onaga	101	71	101	91	101	88	100	96	94	78	69	71	67	--	60	63	58	60	1	36	32	35	35
General Mills																							
(W) GM10005	119	82	116	106	120	102	116	113	--	--	--	--	--	--	61	63	59	61	1	37	34	35	35
(W) NuFrontier	102	84	108	98	102	104	107	104	88	77	77	74	79	--	61	63	58	61	5	41	38	36	38
(W) NuHorizon	102	90	101	98	103	112	101	105	92	81	79	79	73	--	60	63	59	61	4	36	34	33	34
Goertzen																							
Cisco	94	81	99	91	95	101	98	98	89	--	--	--	74	--	59	63	58	60	3	36	32	34	34
Enhancer	97	74	108	93	98	92	107	99	--	--	--	--	--	--	60	62	58	60	1	39	33	35	36
Kalvesta	89	75	86	84	90	93	86	90	--	--	73	73	--	--	60	62	58	60	2	36	33	31	33
Venango	88	65	83	79	89	80	83	84	85	74	68	73	60	--	59	63	58	60	4	38	35	35	36
Polansky																							
Dominator	110	88	105	101	110	109	104	108	97	85	85	83	72	--	61	63	58	61	2	36	32	33	34
Public																							
(W) Trego	105	75	93	91	106	94	93	97	--	--	75	76	--	--	61	62	59	61	3	36	35	34	35
2137	110	86	94	97	110	107	94	104	98	82	80	79	74	--	60	62	58	60	3	38	36	35	36
2145	112	72	99	95	113	90	98	100	105	86	74	78	70	--	61	63	58	61	2	36	34	33	35
2174	104	69	94	89	105	85	93	94	94	76	70	70	66	--	61	63	58	60	3	38	33	37	36
Alliance	87	84	100	90	87	104	100	97	88	78	80	80	77	--	60	63	57	60	5	38	35	36	37
Culver	68	82	98	83	68	102	97	89	73	67	75	76	72	--	60	62	56	59	4	42	37	37	38
Goodstreak	78	75	93	82	79	93	93	88	--	--	--	--	--	--	61	63	58	60	4	45	40	41	42
Harry	72	85	106	87	72	105	105	94	--	--	--	--	--	--	58	61	59	59	5	40	36	37	38
Ike	88	86	96	90	89	107	96	97	88	76	80	79	71	--	60	62	58	60	3	37	33	35	35
Jag,2137	111	85	94	97	112	106	93	104	97	--	--	--	72	--	60	63	58	60	1	38	36	34	36
Jag,2137,Dom	112	88	113	105	113	110	113	112	99	--	--	--	79	--	60	63	58	60	2	38	35	35	36
Jagger	102	87	98	96	102	108	97	102	93	84	87	82	71	--	60	63	58	60	0	38	34	35	35
Karl 92	105	75	99	93	106	93	98	99	94	80	79	79	68	--	60	63	58	60	-1	34	32	33	33
Millennium	84	81	100	88	84	100	99	95	83	76	79	76	74	--	58	63	57	59	5	44	38	40	41
Overley	119	75	83	92	120	94	82	99	--	--	--	--	--	--	60	63	58	60	1	38	35	35	36
Stanton	102	83	99	95	102	103	99	101	98	83	76	73	73	--	60	62	58	60	2	41	37	39	39
Wahoo	79	83	104	89	80	104	104	96	81	--	--	--	75	--	58	61	58	59	5	39	37	37	38
Wesley	121	87	121	110	122	108	121	117	108	93	87	83	86	--	60	63	58	60	3	37	34	36	35
Average	99	80	101	94	99	80	101	94	90	78	75	75	72	--	60	63	58	60	3	38	35	35	36
CV (%)	4	3	4	4	4	3	4	4	--	--	--	--	--	--	1	0	1	1	0	5	3	5	4
LSD (0.05)**	6	4	7	3	6	5	7	4	--	--	--	--	--	--	1	0	1	0	1	3	2	3	1

[1] BE = Belleville, KS - North Central Experiment Field, Republic Count

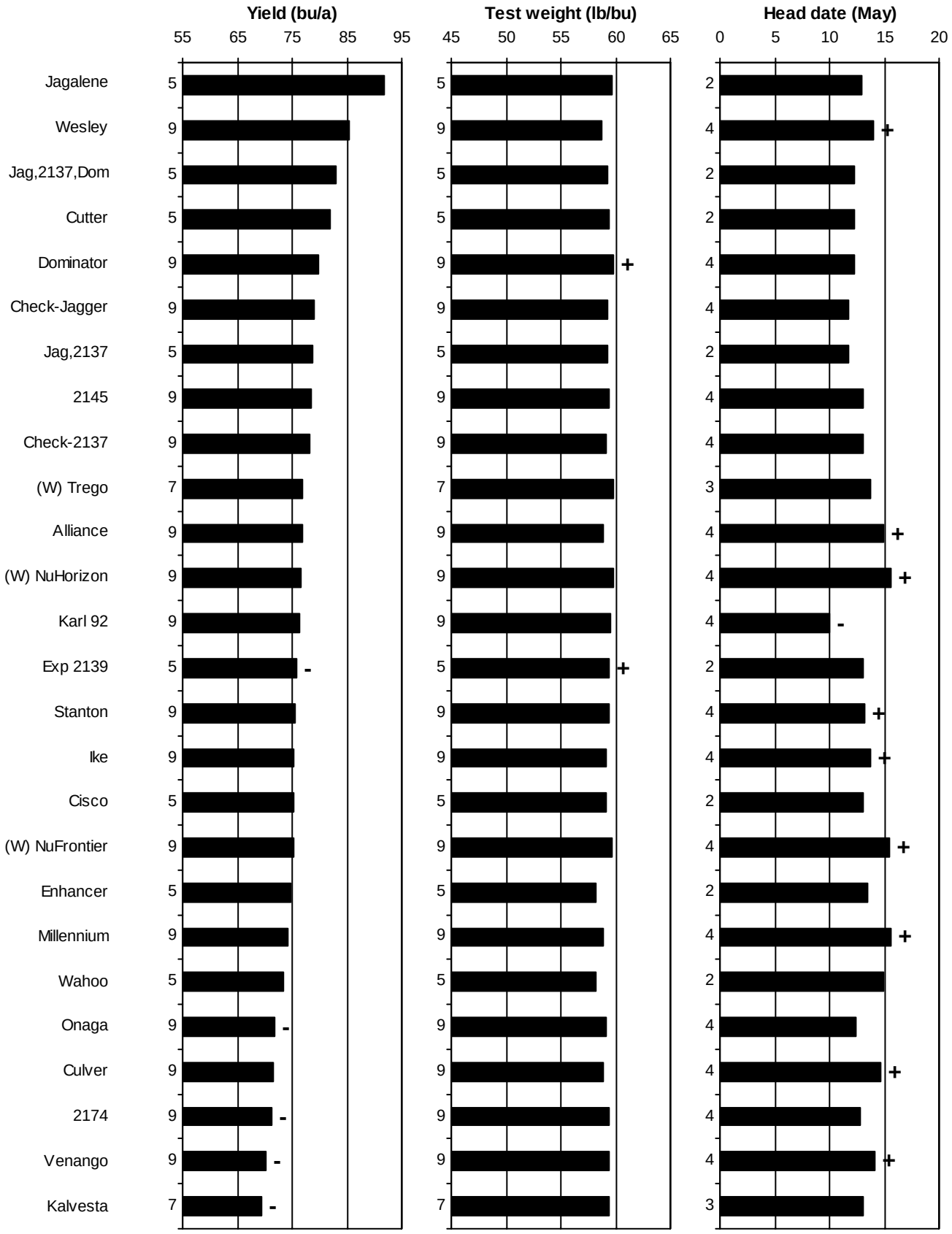
[2] SC = Smith Center, KS, Smith County

[3] PH = Phillipsburg, KS, Phillips County

(W) = Hard white wheat

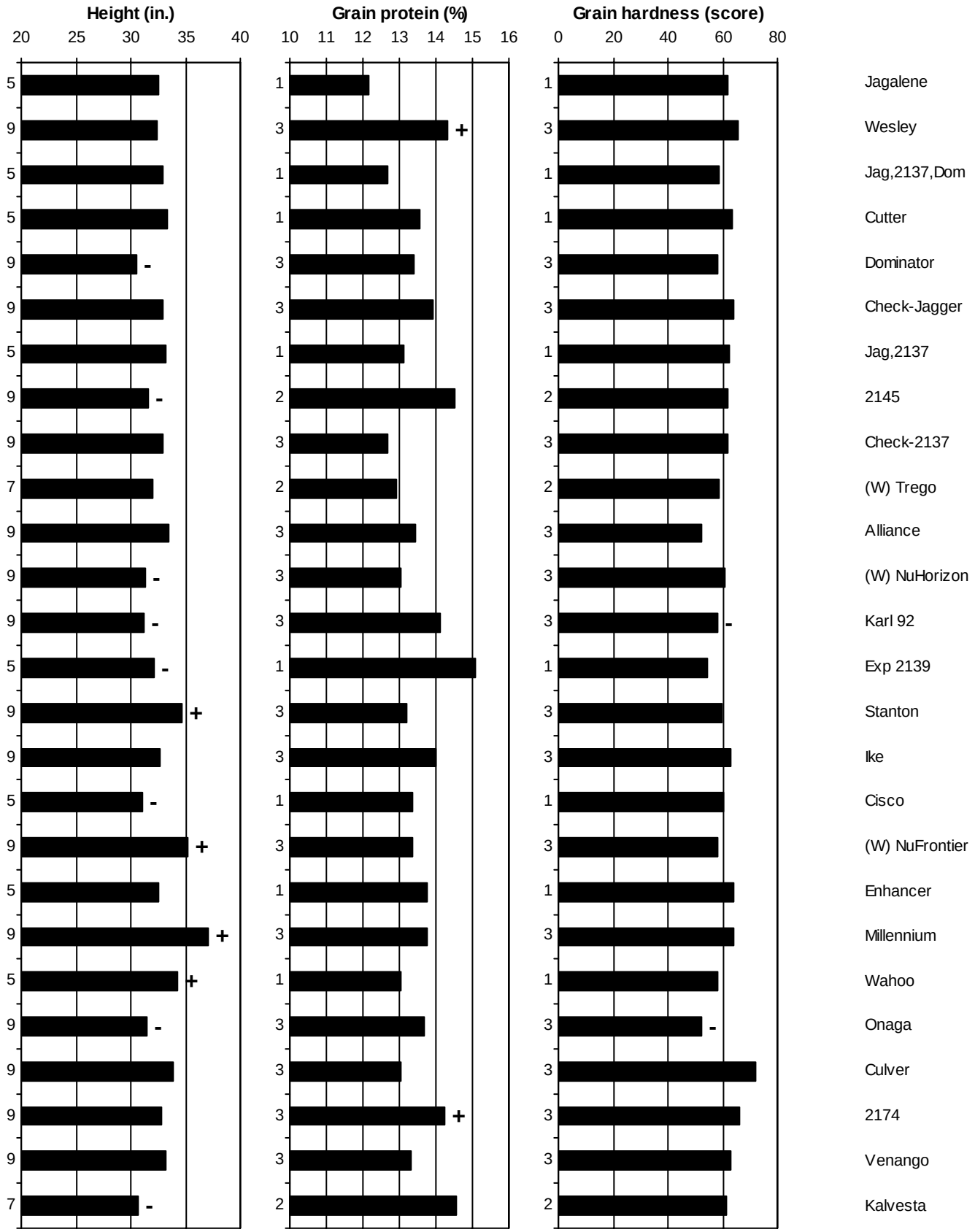
** Least Significant Difference, similar to 'Margin of Error', indicates difference needed to overcome test error.

Figure 7. Wheat variety performance summary, NORTH CENTRAL region, 2000-2003



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Figure 7. NORTH CENTRAL region - continued



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Table 8. 2003 SOUTH CENTRAL Kansas Winter Wheat Performance Tests.

Brand / Name	yield (bu/a)				% of test average				multi-year avg (bu/a)						tw (lb/bu)				head (+/- Jagger)				height (in)			
	HE[1]	HU[2]	CA[3]	Av.	HE	HU	CA	Av.	-HE- 2yr	-HE- 3yr	-HU- 2yr	-HU- 3yr	-CA- 2yr	-CA- 3yr	HE	HU	CA	Av.	HE	HU	CA	Av.	HE	HU	CA	Av.
AgriPro																										
Cutter	62	62	40	55	94	109	143	115	58	55	60	--	36	--	60	58	54	57	5	3	--	4	35	39	32	35
Jagalene	72	67	37	59	110	117	134	120	66	--	--	--	40	--	62	58	51	57	2	3	--	2	34	37	30	33
AGSECO																										
7853	52	29	19	33	80	51	69	66	44	43	40	39	26	29	61	49	52	54	4	4	--	4	33	38	31	34
Exp 2047	74	63	27	54	113	109	96	106	57	--	--	--	30	--	61	57	52	57	4	3	--	4	34	37	32	34
Onaga	62	61	32	52	94	106	116	105	48	43	56	52	29	35	63	58	60	60	3	2	--	3	32	36	29	33
General Mills																										
(W) GM10005	62	59	29	50	94	103	104	100	--	--	--	--	--	--	62	58	55	58	4	4	--	4	33	36	30	33
(W) NuFrontier	65	63	18	49	99	110	66	91	58	49	58	--	26	--	62	59	48	56	7	8	--	7	37	41	33	37
(W) NuHorizon	45	36	16	32	68	63	58	63	44	38	45	--	25	--	59	53	46	53	11	8	--	10	31	37	29	32
Goertzen																										
Cisco	55	46	26	43	84	81	94	86	--	--	--	--	--	--	61	55	55	57	7	5	--	6	35	40	34	36
Enhancer	62	49	22	44	94	86	80	86	--	--	--	--	--	--	59	54	49	54	3	2	--	3	35	38	31	34
G980039	84	75	39	66	127	132	141	133	--	--	--	--	--	--	63	58	57	59	1	1	--	1	34	37	29	33
G982159	73	68	23	55	111	119	82	104	--	--	--	--	--	--	61	58	52	57	4	3	--	4	33	38	29	33
G982163	63	71	27	54	96	124	98	106	--	--	--	--	--	--	61	58	53	57	-1	-2	--	-1	30	34	26	30
G982238	68	68	27	55	103	119	99	107	--	--	--	--	--	--	61	56	52	57	1	-1	--	0	33	37	30	33
G982241	65	60	25	50	99	104	89	97	--	--	--	--	--	--	61	57	51	56	1	0	--	1	33	37	30	33
Venango	68	37	24	43	104	64	86	85	55	48	42	41	27	34	62	52	51	55	7	6	--	6	33	38	29	34
Polansky																										
Dominator	71	43	17	44	108	74	62	82	55	54	50	44	--	--	62	56	52	57	3	2	--	2	32	35	28	32
Star																										
Grazit	74	49	24	49	113	86	85	95	--	--	--	--	--	--	60	53	42	52	7	7	--	7	38	41	37	39
Public																										
2137	57	44	29	43	87	76	105	89	52	48	45	42	34	39	60	52	52	55	4	2	--	3	35	38	30	34
2145	63	65	31	53	96	113	110	106	50	44	58	56	30	37	60	55	49	55	3	4	--	3	32	38	27	32
2174	61	63	32	52	93	110	115	106	53	48	59	53	33	35	62	57	56	58	4	3	--	3	34	40	29	34
Jag,2137	68	60	29	52	103	105	103	104	60	--	--	--	32	--	60	56	51	56	1	1	--	1	35	38	31	34
Jag,2137,K92	70	57	28	51	107	99	99	102	60	--	--	--	32	--	61	55	52	56	2	1	--	1	34	38	31	34
Jagger	71	62	29	54	108	108	103	106	63	57	62	52	31	36	61	54	47	54	0	0	--	0	35	37	31	34
Karl 92	73	59	28	53	111	103	100	105	58	56	60	53	33	34	62	58	55	58	2	0	--	1	33	38	29	33
Ok101	62	47	27	45	93	83	98	91	53	46	46	--	31	--	61	53	49	54	2	-1	--	1	33	37	29	33
Ok102	64	55	29	49	97	96	104	99	--	--	--	--	--	--	62	57	53	57	3	1	--	2	32	35	28	32
Overley	76	87	44	69	116	152	160	143	--	--	--	--	--	--	62	59	54	59	0	-2	--	-1	35	40	31	35
Average	66	57	28	50	66	57	28	50	55	49	54	47	31	34	61	56	52	56	3	2	--	3	34	38	30	34
CV (%)	5	8	13	8	5	8	13	8	--	--	--	--	--	--	1	3	--	2	0	1	--	1	2	6	3	4
LSD (0.05)**	4	7	5	3	7	11	18	6	--	--	--	--	--	--	0	2	--	1	1	1	--	1	1	3	2	1

[1] HE = Hesston, KS - Harvey County Experiment Field, Harvey County

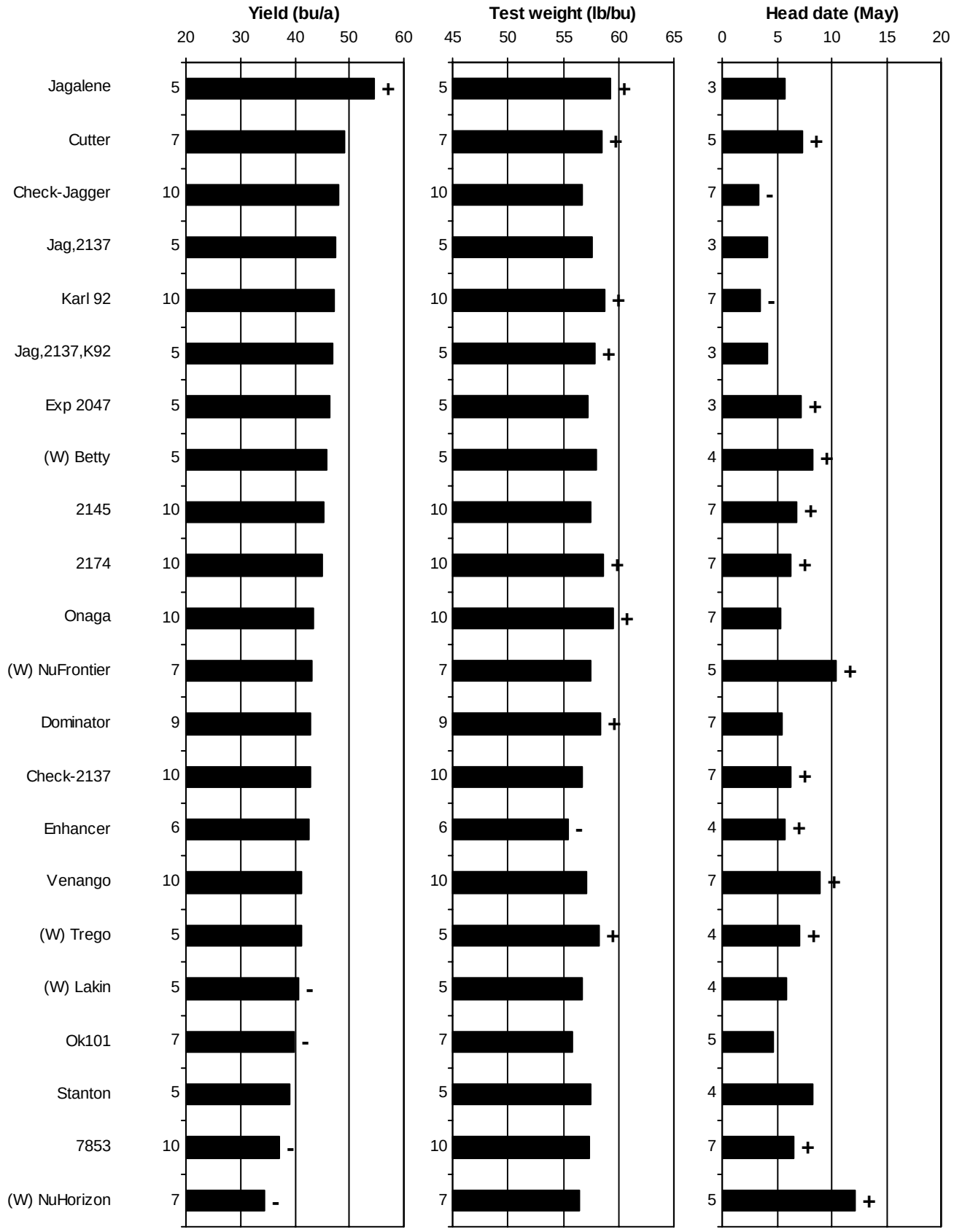
[2] HU = Hutchinson, KS - South Central Experiment Field, Reno County

[3] CA = Caldwell, KS - Max Kolarik farm, Sumner County

(W) = Hard white wheat

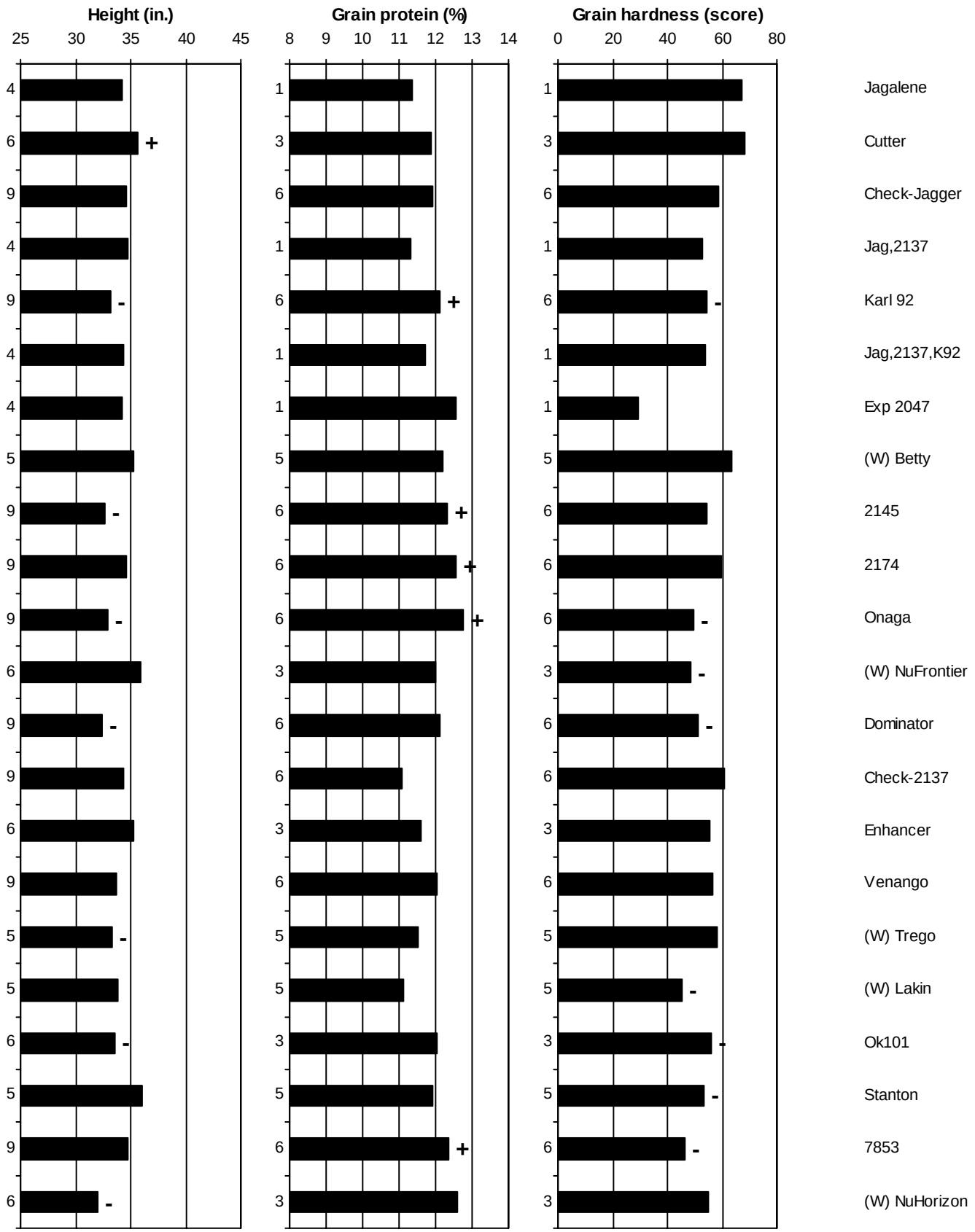
** Least Significant Difference, similar to 'Margin of Error', indicates difference needed to overcome test error.

Figure 8. Wheat variety performance summary, SOUTH CENTRAL region, 2000-2003



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Figure 8. SOUTH CENTRAL region - continued



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Table 9. 2003 NORTHWEST DRYLAND Kansas Winter Wheat Performance Tests.

Brand / Name	yield (bu/a)				% of test average				multi-year avg (bu/a)						tw (lb/bu)				head (+/- Scout)				height (in)			
	HA[1]	CO[2]	TR[3]	Av.	HA	CO	TR	Av.	-HA- 2yr	-HA- 3yr	-CO- 2yr	-CO- 3yr	-TR- 2yr	-TR- 3yr	HA	CO	TR	Av.	HA	CO	TR	Av.	HA	CO	TR	Av.
AgriPro																										
AP502CL	82	78	17	59	93	103	83	93	64	--	58	--	22	--	59	60	56	58	-1	1	-1	--	35	31	18	28
Cutter	97	71	23	64	111	94	114	106	71	--	54	--	22	--	63	60	56	60	4	5	3	4	38	36	22	32
Jagalene	98	77	20	65	112	102	97	104	74	--	61	--	22	--	63	62	57	61	2	3	1	2	37	33	20	30
Thunderbolt	89	72	25	62	101	95	124	107	67	67	56	63	28	34	63	61	59	61	5	6	2	4	40	35	21	32
AGSECO																										
TAM 110	80	76	15	57	91	100	77	89	62	65	58	63	21	31	60	58	57	58	-1	2	-1	--	36	32	18	29
AWWPA																										
(W) Burchett	95	76	23	65	109	101	117	109	--	--	--	--	--	--	64	60	59	61	1	4	2	2	35	34	20	30
(W)PrairieWhite	95	80	22	66	109	106	112	109	--	--	--	--	--	--	62	61	57	60	-1	1	0	0	35	32	19	29
General Mills																										
(W) GM10005	108	80	18	68	123	106	89	106	--	--	--	--	--	--	64	59	56	60	4	4	1	3	36	34	19	30
(W) NuFrontier	87	75	25	62	99	99	126	108	63	63	56	63	18	29	63	61	58	61	6	7	3	5	40	35	20	32
(W) NuHorizon	89	73	15	59	102	96	74	91	64	65	54	59	20	28	62	60	59	60	7	7	5	6	35	31	20	29
Goertzen																										
(W)G980411W	93	80	12	62	106	106	59	90	--	--	--	--	--	--	61	62	54	59	3	3	-2	1	35	33	19	29
Cisco	86	81	17	61	98	107	86	97	--	--	--	--	14	--	62	58	56	59	5	5	0	3	38	34	18	30
Enhancer	93	78	27	66	106	103	134	115	--	--	--	--	--	--	61	60	56	59	2	5	2	3	39	36	23	33
G980122	87	73	18	59	99	96	90	95	--	--	--	--	--	--	62	60	57	59	3	6	3	4	36	33	19	29
Kalvesta	82	73	22	59	94	97	111	101	--	--	--	--	23	32	60	60	57	59	2	5	1	3	36	33	20	30
Public																										
(W) Avalanche	82	77	22	61	94	102	109	102	64	--	59	--	25	--	60	61	58	60	4	5	2	4	38	36	21	31
(W) Betty	89	68	25	61	101	90	122	105	65	64	51	58	20	30	63	60	56	60	6	8	4	6	41	35	25	34
(W) Intrada	84	72	19	58	96	95	93	94	60	62	53	60	16	26	64	60	57	60	3	4	5	4	34	33	18	28
(W) Lakin	72	76	14	54	83	101	69	84	60	61	57	62	16	27	58	61	56	58	3	6	2	4	38	33	19	30
(W) Nuplains	68	70	25	54	77	93	122	98	53	58	54	58	28	35	59	61	59	60	8	9	6	8	38	32	22	30
(W) Trego	89	77	16	60	101	101	78	94	68	70	60	65	20	30	61	60	57	59	3	6	2	4	36	32	19	29
2137	83	71	25	60	95	94	125	105	63	62	56	61	25	32	60	59	57	59	4	6	3	4	38	35	22	32
2145	90	67	19	58	102	88	95	95	65	66	51	58	17	27	63	62	58	61	4	6	4	5	36	33	21	30
2174	83	74	18	59	95	98	91	95	62	62	55	60	16	27	63	60	58	60	3	7	2	4	37	34	19	30
Above	83	78	16	59	95	102	79	92	65	--	58	--	22	--	60	61	56	59	0	1	-1	--	36	32	17	28
Akron	81	80	20	60	92	105	99	99	61	61	59	64	23	33	59	60	57	59	3	6	3	4	39	36	21	32
Alliance	84	78	17	59	96	103	83	94	63	64	60	63	21	30	61	60	58	60	6	6	3	5	39	34	21	31
Ankor	82	80	21	61	93	106	102	101	--	--	--	--	--	--	59	60	57	59	4	6	3	4	39	36	21	32
Culver	87	78	22	62	99	103	110	104	--	--	--	--	--	--	59	58	57	58	6	7	4	5	40	37	24	34
Goodstreak	76	71	26	58	87	93	129	103	--	--	--	--	--	--	63	57	58	59	6	8	5	6	45	40	26	37
Harry	92	82	30	68	105	108	147	120	--	--	--	--	--	--	59	57	58	58	7	9	5	7	37	34	24	32
Ike	91	80	17	63	104	106	83	98	68	67	60	64	19	30	62	61	56	59	5	5	-1	3	40	35	18	31
Jag,2137	92	77	23	64	106	102	114	107	67	--	57	--	23	--	61	58	57	59	3	--	1	1	37	34	20	31
Jag,2137,Stan	94	78	21	64	107	103	102	104	68	--	59	--	22	--	61	60	57	59	2	1	1	1	39	35	22	32
Jagger	93	74	20	62	106	98	102	102	68	65	56	64	17	27	61	61	56	59	0	--	0	--	37	34	20	30
Karl 92	92	70	10	57	105	92	51	83	65	64	49	58	13	25	63	60	55	59	-1	2	-1	0	35	32	17	28
Millennium	88	78	23	63	101	104	116	107	64	64	59	65	27	--	62	59	57	59	7	8	4	6	42	38	24	35
Ok101	90	75	24	63	103	100	118	107	66	--	55	--	20	--	62	58	57	59	0	4	0	1	37	35	21	31
Overley	92	74	21	62	105	98	106	103	--	--	--	--	--	--	62	58	57	59	-1	0	0	--	38	33	21	30
Prairie Red	83	78	15	59	95	103	77	92	63	66	59	63	19	30	59	58	56	58	0	1	-2	--	34	32	18	28
Stanton	89	71	17	59	102	94	82	93	66	66	55	62	18	30	60	60	57	59	3	6	2	4	41	35	22	33
TAM 107	77	74	18	56	88	98	87	91	60	63	55	60	18	29	58	56	57	57	-1	1	-1	--	35	33	17	28
Wahoo	90	80	23	64	103	106	112	107	67	--	61	--	24	--	61	59	57	59	6	7	4	6	39	37	24	33
Wesley	95	78	20	64	109	103	99	103	68	66	59	63	26	35	62	60	57	60	6	6	3	5	36	32	20	29
Average	88	76	20	61	88	76	20	61	65	64	57	62	21	30	61	60	57	59	3	5	2	3	37	34	20	31
CV (%)	5	5	14	6	5	5	14	6	--	--	--	--	--	--	1	3	2	2	1	1	1	1	3	3	4	3
LSD (0.05)**	7	5	4	3	8	7	19	5	--	--	--	--	--	--	1	2	2	1	1	1	1	1	2	2	1	1

[1] HA = Hays, KS - K-State Research and Extension Center - Hays, Ellis County

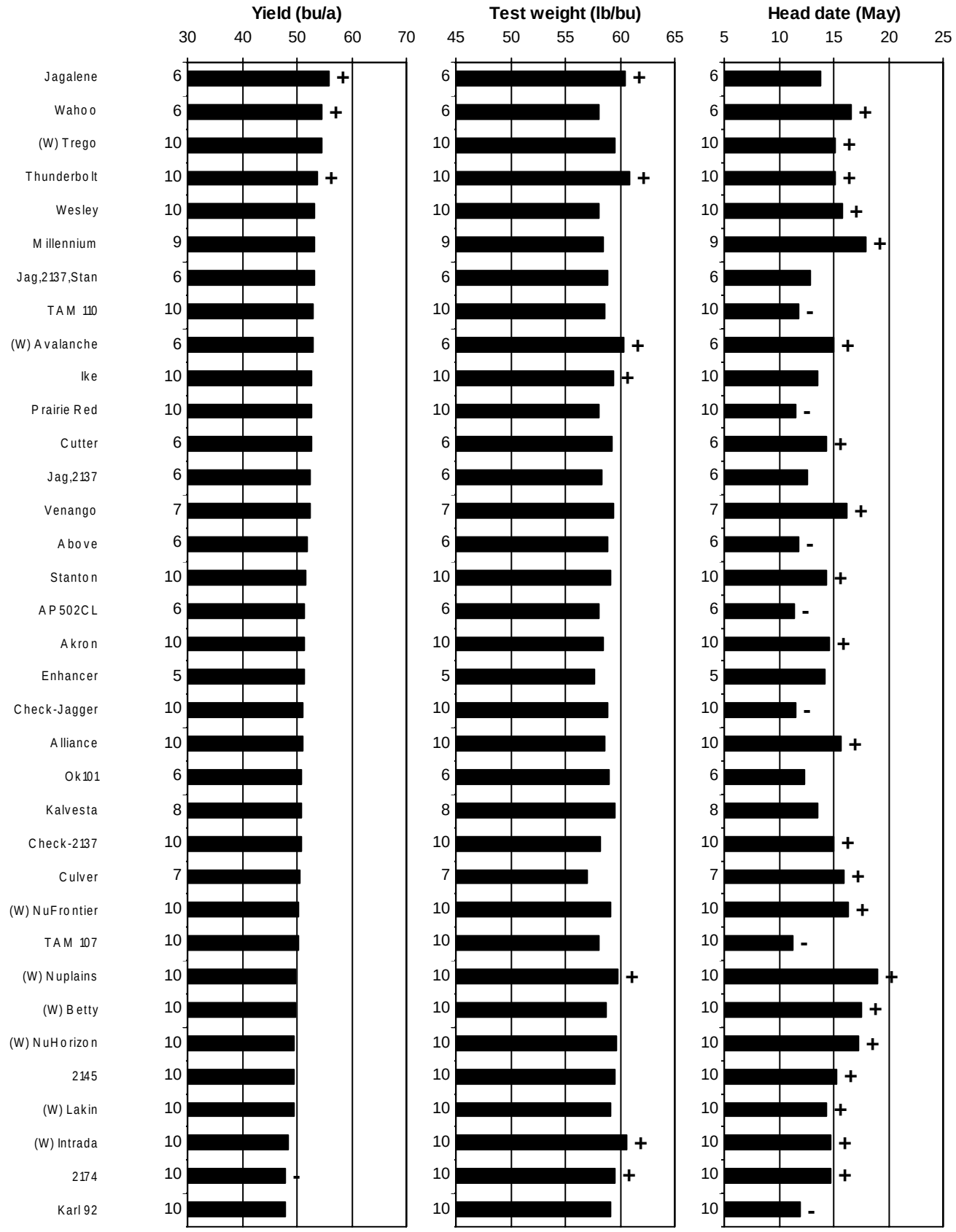
[2] CO = Colby, KS - Northwest Research-Extension Center, Thomas County

[3] TR = Tribune, KS - Southwest Research-Extension Center, Greeley County

(W) = Hard white wheat

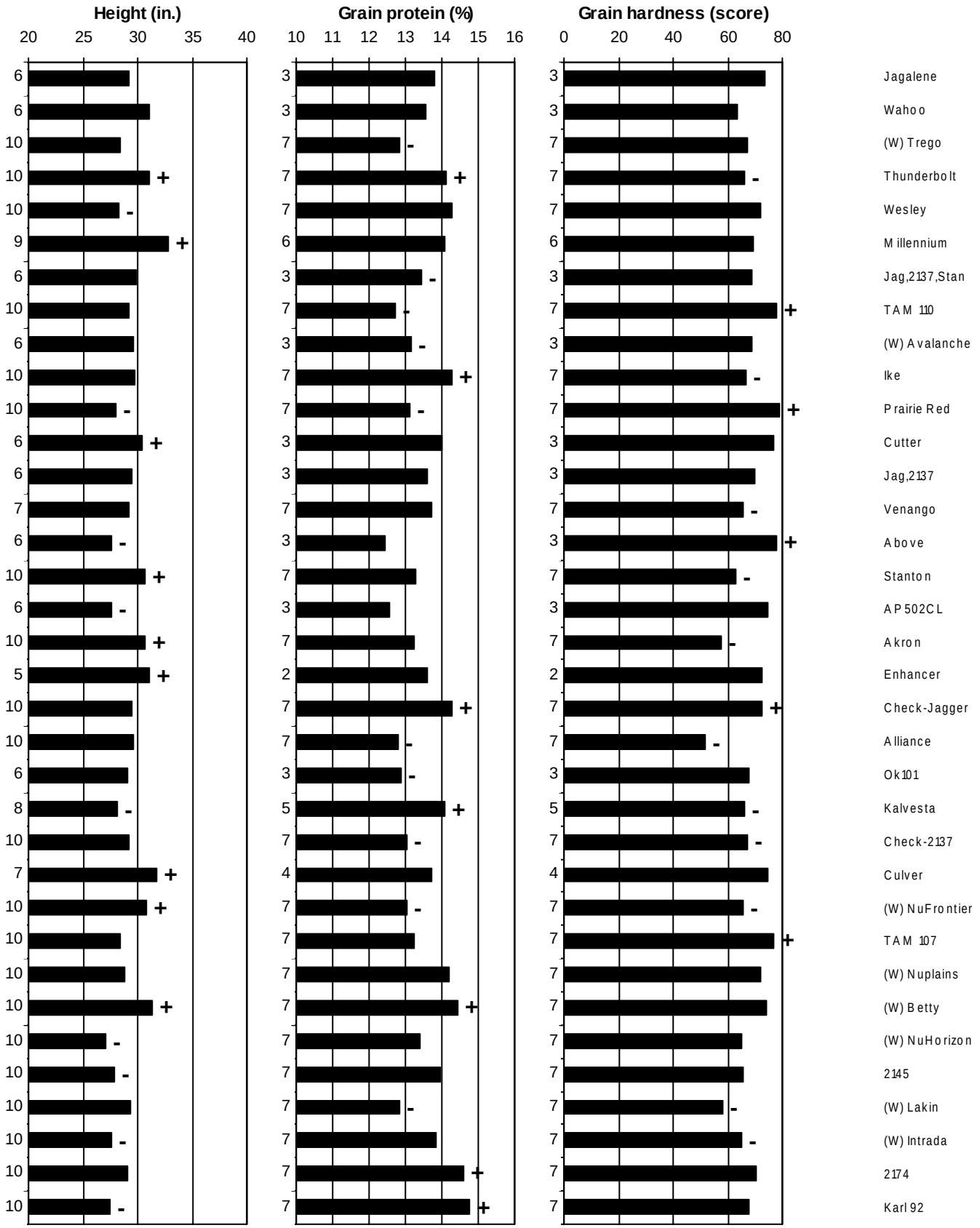
** Least Significant Difference, similar to 'Margin of Error', difference needed to overcome test error.

Figure 9. Wheat variety performance summary, NORTHWEST DRYLAND region, 2000-2003



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Figure 9. NORTHWEST DRYLAND region - continued



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Table 10. 2003 SOUTHWEST DRYLAND Kansas Winter Wheat Performance Tests.

Brand / Name	yield (bu/a)				% of test average				multi-year avg (bu/a)						tw (lb/bu)				head (+/- Jagger)				height (in)			
	SJ [1]	DC [2]	GC [3]	Av.	SJ	DC	GC	Av.	-SJ- 2yr	-SJ- 3yr	-DC- 2yr	-DC- 3yr	-GC- 2yr	-GC- 3yr	SJ	DC	GC	Av.	SJ	DC	GC	Av.	SJ	DC	GC	Av.
AgriPro																										
AP502CL	46	48	38	43	83	87	104	95	--	--	--	--	33	--	59	57	60	59	0	--	1	--	26	--	25	--
Cutter	54	56	35	45	98	100	95	97	61	--	--	--	30	--	62	58	60	59	6	--	3	--	29	--	26	--
Jagalene	62	60	42	51	113	107	114	110	71	--	--	--	36	--	62	60	62	61	3	--	4	--	29	--	25	--
Thunderbolt	60	55	40	47	110	99	107	103	--	--	--	--	33	34	62	60	62	61	5	--	6	--	32	--	25	--
AGSECO																										
TAM 110	64	56	37	47	117	100	100	100	--	--	--	--	33	30	60	58	60	59	0	--	1	--	27	--	24	--
AWWPA																										
(W) Burchett	61	59	36	47	111	105	98	101	--	--	--	--	--	--	62	61	62	61	2	--	3	--	27	--	26	--
DSS																										
T81	53	58	38	48	96	104	102	103	--	--	--	--	33	33	60	58	61	60	6	--	2	--	28	--	26	--
General Mills																										
(W) GM10005	63	54	36	45	114	97	97	97	--	--	--	--	--	--	63	59	61	60	4	--	3	--	29	--	26	--
(W) NuFrontier	73	54	39	47	132	97	105	101	68	--	--	--	32	32	62	58	61	59	7	--	6	--	33	--	26	--
(W) NuHorizon	67	51	39	45	122	91	105	98	65	--	--	--	31	31	62	59	62	60	8	--	7	--	27	--	24	--
Goertzen																										
Cisco	56	60	37	49	102	108	100	104	--	--	--	--	29	--	61	58	60	59	7	--	4	--	27	--	26	--
Enhancer	64	58	39	49	117	104	106	105	--	--	--	--	--	--	61	56	60	58	2	--	2	--	26	--	26	--
Kalvesta	55	55	34	45	100	98	93	95	--	--	--	--	28	27	61	58	60	59	2	--	3	--	25	--	24	--
Public																										
(W) Avalanche	68	59	36	48	124	106	97	102	--	--	--	--	30	--	62	58	61	60	3	--	4	--	29	--	25	--
(W) Betty	26	65	--	--	48	117	--	--	--	--	--	--	--	--	61	57	--	--	8	--	--	--	29	--	--	--
(W) Intrada	62	49	34	41	113	88	92	90	--	--	--	--	26	28	64	59	62	60	3	--	3	--	26	--	24	--
(W) Lakin	42	60	42	51	77	107	114	110	--	--	--	--	34	31	60	58	61	59	1	--	3	--	24	--	26	--
(W) Nuplains	54	40	35	38	98	72	96	84	--	--	--	--	31	28	60	59	62	60	6	--	8	--	30	--	25	--
(W) Trego	57	63	32	48	104	113	87	100	--	--	--	--	29	31	61	60	62	61	4	--	6	--	26	--	24	--
2137	53	56	36	46	97	100	98	99	67	64	--	--	32	30	61	57	60	58	4	--	5	--	26	--	25	--
2145	53	50	38	44	96	89	103	96	59	55	--	--	31	29	60	58	61	59	6	--	4	--	23	--	24	--
2174	53	56	36	46	97	101	98	100	59	55	--	--	29	30	62	59	61	60	2	--	3	--	28	--	26	--
Above	51	53	41	47	93	96	111	103	--	--	--	--	32	--	60	58	61	59	1	--	1	--	27	--	26	--
Akron	48	51	42	46	88	91	112	102	--	--	--	--	34	33	60	57	61	59	5	--	4	--	26	--	26	--
Alliance	64	50	35	43	116	90	96	93	--	--	--	--	31	28	61	58	60	59	8	--	5	--	30	--	25	--
Ankor	67	54	42	48	121	97	114	106	--	--	--	--	--	--	60	57	60	59	7	--	3	--	27	--	26	--
Culver	64	54	43	49	115	96	117	107	--	--	--	--	--	--	59	57	60	59	6	--	7	--	30	--	27	--
Ike	54	60	38	49	97	107	104	106	67	61	--	--	33	29	61	58	60	59	8	--	5	--	28	--	26	--
Jag,2137	57	53	39	46	103	95	105	100	67	--	--	--	31	--	61	58	60	59	1	--	2	--	29	--	26	--
Jag,2137,Stan	35	56	38	47	63	100	103	102	--	--	--	--	32	--	60	58	60	59	2	--	3	--	25	--	25	--
Jagger	56	64	37	51	102	114	101	107	62	57	--	--	29	30	61	59	60	59	0	--	0	--	29	--	26	--
Karl 92	53	55	30	42	96	98	80	89	60	54	--	--	24	28	61	58	59	59	2	--	1	--	23	--	25	--
Ok101	32	60	32	46	58	108	87	97	46	--	--	--	26	--	61	57	61	59	4	--	3	--	25	--	26	--
Overley	55	56	41	48	99	101	110	105	--	--	--	--	--	--	63	58	61	60	0	--	1	--	30	--	26	--
Prairie Red	58	57	35	46	106	102	95	99	--	--	--	--	29	28	60	58	60	59	2	--	1	--	28	--	25	--
Stanton	44	54	37	45	80	96	99	98	--	--	--	--	30	31	60	58	60	59	6	--	4	--	26	--	26	--
TAM 107	37	60	32	46	67	108	86	97	--	--	--	--	27	26	58	57	60	58	1	--	1	--	27	--	25	--
Wesley	69	62	40	51	125	112	107	110	--	--	--	--	--	--	61	56	60	58	7	--	6	--	28	--	25	--
Average	55	56	37	46	55	56	37	46	62	57	--	--	30	29	61	58	61	59	4	--	3	--	27	--	25	--
CV (%)	18	12	7	11	18	12	7	11	--	--	--	--	--	--	2	1	1	1	2	--	1	--	9	--	5	--
LSD (0.05)**	14	9	3	5	26	17	9	11	--	--	--	--	--	--	2	1	1	0	3	--	1	--	3	--	2	--

[1] SJ = St. John, KS - Sandyland Experiment Field, Stafford County; highly variable, use with care, not included in regional averages

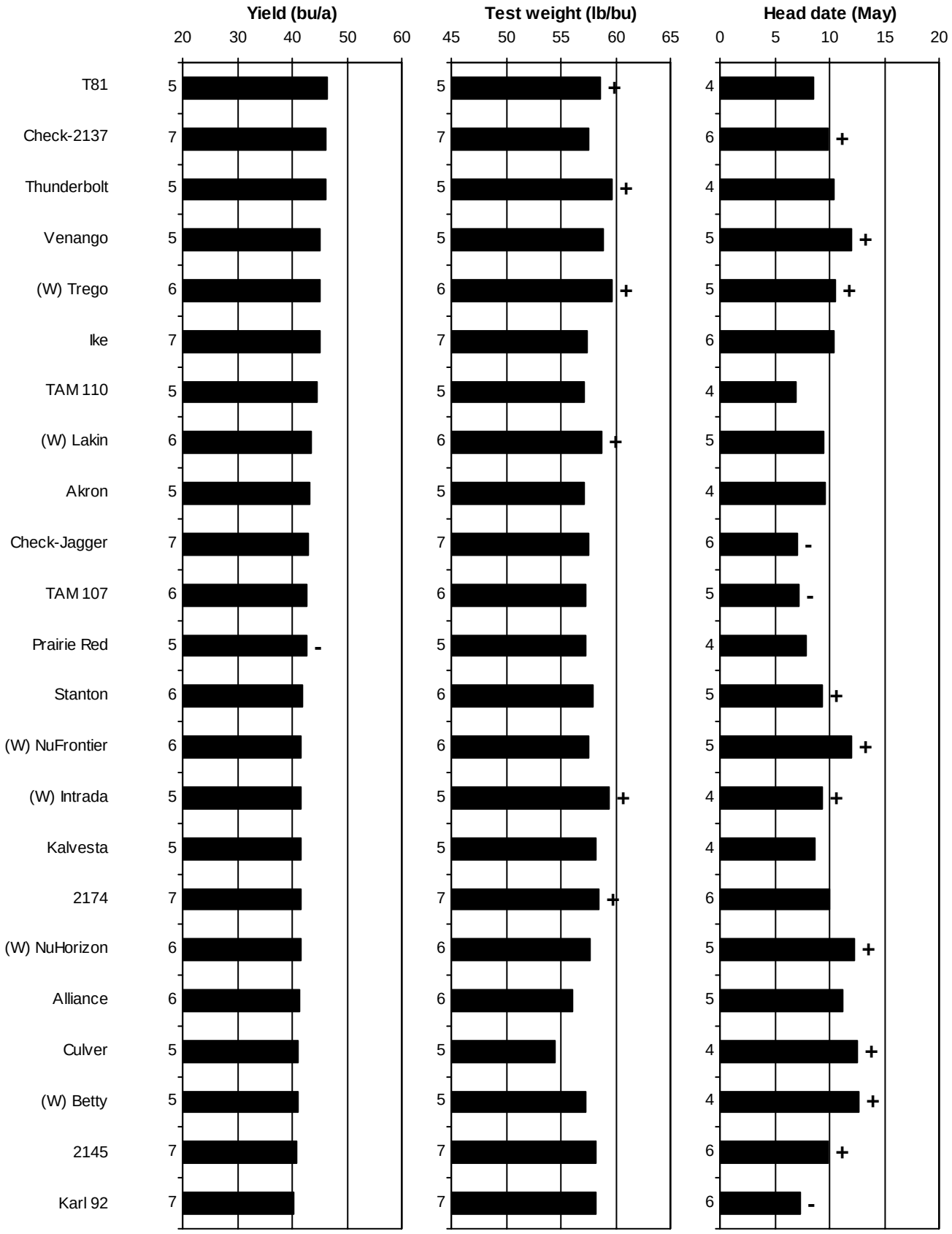
[2] DC = Dodge City, KS, Ford County

[3] GC = Garden City, KS - Southwest Research-Extension Center, Finney County

(W) = Hard white wheat

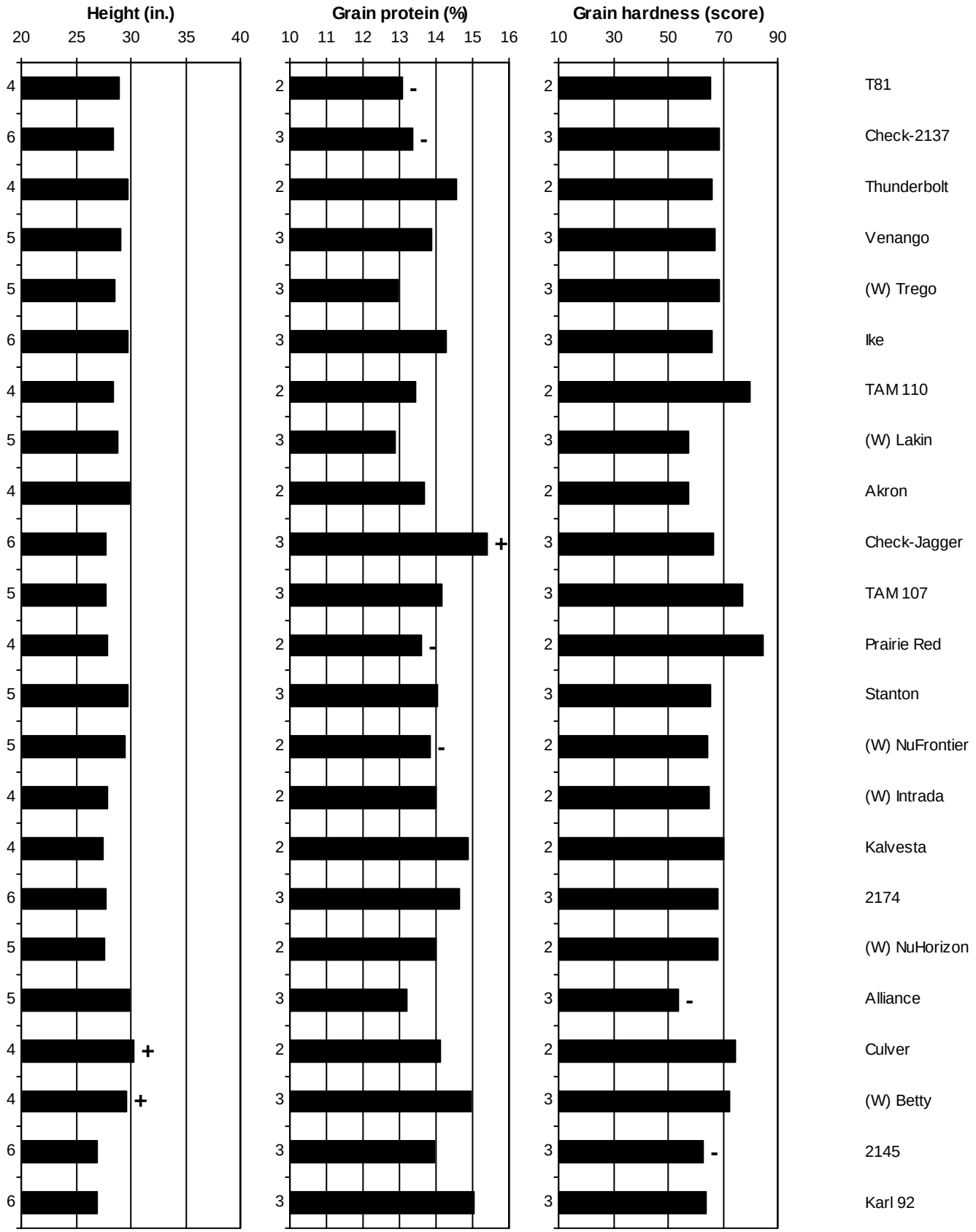
** Least Significant Difference, similar to 'Margin of Error', indicates difference needed to overcome test error.

Figure 10. Wheat variety performance summary, SOUTHWEST DRYLAND region, 2000-2003



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Figure 10. SOUTHWEST DRYLAND region - continued



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Table 11. 2003 IRRIGATED Kansas Winter Wheat Performance Tests.

Brand / Name	yield (bu/a)				% of test average				multi-year avg (bu/a)						tw (lb/bu)				head (+/- Jagger)				height (in)			
	CO[1]	TR[2]	GC[3]	Av.	CO	TR	GC	Av.	-CO- 2yr	-CO- 3yr	-TR- 2yr	-TR- 3yr	-GC- 2yr	-GC- 3yr	CO	TR	GC	Av.	CO	TR	GC	Av.	CO	TR	GC	Av.
AgriPro																										
(W) Platte	81	76	71	76	97	101	101	100	--	--	--	--	--	--	61	58	61	60	5	9	7	7	38	37	37	37
Dumas	81	73	73	75	97	96	104	99	68	--	--	--	65	--	61	61	62	61	4	6	4	5	39	39	37	38
Jagalene	105	77	74	85	125	102	105	111	83	--	--	--	71	--	62	57	61	60	3	4	3	3	41	37	37	38
AGSECO																										
Exp 2047	--	--	73	--	--	--	105	--	--	--	--	--	--	--	--	--	59	--	--	--	4	--	--	--	37	--
TAM 110	92	78	76	82	109	103	109	107	73	--	--	--	73	--	58	55	60	58	0	2	2	1	41	37	38	38
AWWPA																										
(W) Burchett	--	--	70	--	--	--	100	--	--	--	--	--	--	--	--	--	59	--	--	--	4	--	--	--	36	--
(W)Bakers White	--	--	68	--	--	--	98	--	--	--	--	--	--	--	--	--	61	--	--	--	4	--	--	--	36	--
DSS																										
T81	--	--	72	--	--	--	104	--	--	--	--	--	--	--	--	--	60	--	--	--	3	--	--	--	38	--
General Mills																										
(W) GM10005	105	81	76	87	125	107	109	114	--	--	--	--	--	--	62	54	61	59	4	5	5	5	40	35	37	38
(W) NuFrontier	74	83	75	77	87	110	108	102	66	68	--	--	72	63	63	56	59	59	5	7	6	6	43	45	40	42
(W) NuHorizon	86	83	77	82	102	110	111	107	68	68	--	--	68	61	62	55	58	58	5	8	7	7	37	38	38	37
Goertzen																										
(W)G980411W	--	--	71	--	--	--	102	--	--	--	--	--	--	--	--	--	61	--	--	--	3	--	--	--	37	--
Cisco	89	72	67	76	106	96	96	99	--	--	--	--	67	--	60	58	60	59	4	4	4	4	41	39	39	40
Enhancer	78	77	66	73	93	101	94	96	--	--	--	--	--	--	58	52	58	56	4	6	4	4	41	41	38	40
G980039	--	--	76	--	--	--	109	--	--	--	--	--	--	--	--	--	61	--	--	--	1	--	--	--	37	--
G980122	--	--	71	--	--	--	101	--	--	--	--	--	--	--	--	--	61	--	--	--	3	--	--	--	36	--
G982159	--	--	70	--	--	--	101	--	--	--	--	--	--	--	--	--	58	--	--	--	5	--	--	--	35	--
G982163	--	--	66	--	--	--	95	--	--	--	--	--	--	--	--	--	60	--	--	--	--	--	--	--	34	--
G982238	--	--	68	--	--	--	98	--	--	--	--	--	--	--	--	--	61	--	--	--	--	--	--	--	36	--
G982241	--	--	65	--	--	--	93	--	--	--	--	--	--	--	--	--	60	--	--	--	--	--	--	--	35	--
Kalvesta	79	76	67	74	94	101	96	97	68	65	--	--	64	56	59	58	61	59	3	5	3	3	40	37	37	38
Venango	75	71	68	72	90	94	98	94	64	66	--	--	63	56	61	55	60	59	5	8	6	6	40	40	40	40
Star																										
Grazit	--	--	67	--	--	--	97	--	--	--	--	--	--	--	--	--	57	--	--	--	8	--	--	--	41	--
Public																										
(W) Betty	79	66	64	70	94	88	91	91	64	64	--	--	60	51	61	53	58	57	6	10	6	7	42	41	38	40
(W) Intrada	75	77	76	76	89	101	108	100	--	--	--	--	66	58	61	60	63	61	3	6	3	4	40	37	37	38
(W) Lakin	77	78	70	75	91	103	101	98	66	64	--	--	70	61	59	57	60	59	4	5	5	5	41	42	40	41
(W) Nuplains	73	68	59	67	87	90	85	87	--	--	--	--	--	--	59	50	56	55	8	13	9	10	42	38	39	40
(W) Trego	76	80	70	75	90	106	100	98	68	68	--	--	70	63	60	57	61	59	4	6	5	5	40	40	36	38
2137	84	79	66	76	99	104	94	99	69	67	--	--	64	56	60	57	60	59	4	7	6	6	42	39	38	40
2145	86	77	64	76	102	102	92	99	69	67	--	--	61	53	62	57	60	60	5	7	5	5	41	39	37	39
2174	80	83	68	77	95	110	98	101	66	66	--	--	64	56	62	56	58	59	5	7	5	5	41	40	40	40
Jag,2137	94	73	76	81	111	97	109	106	73	--	--	--	67	--	60	57	61	59	1	3	2	2	41	40	37	39
Jag,2137,K92	89	73	73	79	106	97	105	103	72	--	--	--	66	--	60	58	61	60	2	3	1	2	41	39	37	39
Jagger	93	68	73	78	111	90	104	102	72	70	--	--	62	54	59	57	60	59	0	--	--	--	38	38	37	37
Karl 92	82	74	70	75	97	98	100	99	68	68	--	--	62	54	61	59	61	60	1	3	1	2	37	36	37	37
Ok101	--	--	66	--	--	--	94	--	--	--	--	--	--	--	--	--	61	--	--	--	2	--	--	--	38	--
Ok102	--	--	64	--	--	--	91	--	--	--	--	--	--	--	--	--	60	--	--	--	3	--	--	--	37	--
Overley	84	62	67	71	100	82	96	93	--	--	--	--	--	--	60	60	62	61	1	3	0	1	42	39	38	40
Stanton	83	88	75	82	99	117	107	108	72	72	--	--	71	63	61	57	60	59	3	5	5	5	42	45	40	42
TAM 107	88	70	63	74	104	93	90	96	70	67	--	--	64	56	59	55	60	58	0	2	1	1	41	36	36	38
Average	84	76	70	77	84	76	70	77	69	67	--	--	65	57	61	56	60	59	3	5	3	4	40	39	37	39
CV (%)	7	7	5	7	7	7	5	7	--	--	--	--	--	--	2	3	2	2	1	1	1	1	3	3	3	3
LSD (0.05)**	8	7	5	4	9	9	8	6	--	--	--	--	--	--	2	2	2	1	1	1	1	1	2	2	2	1

[1] CO = Colby, KS - Northwest Research-Extension Center, Thomas County

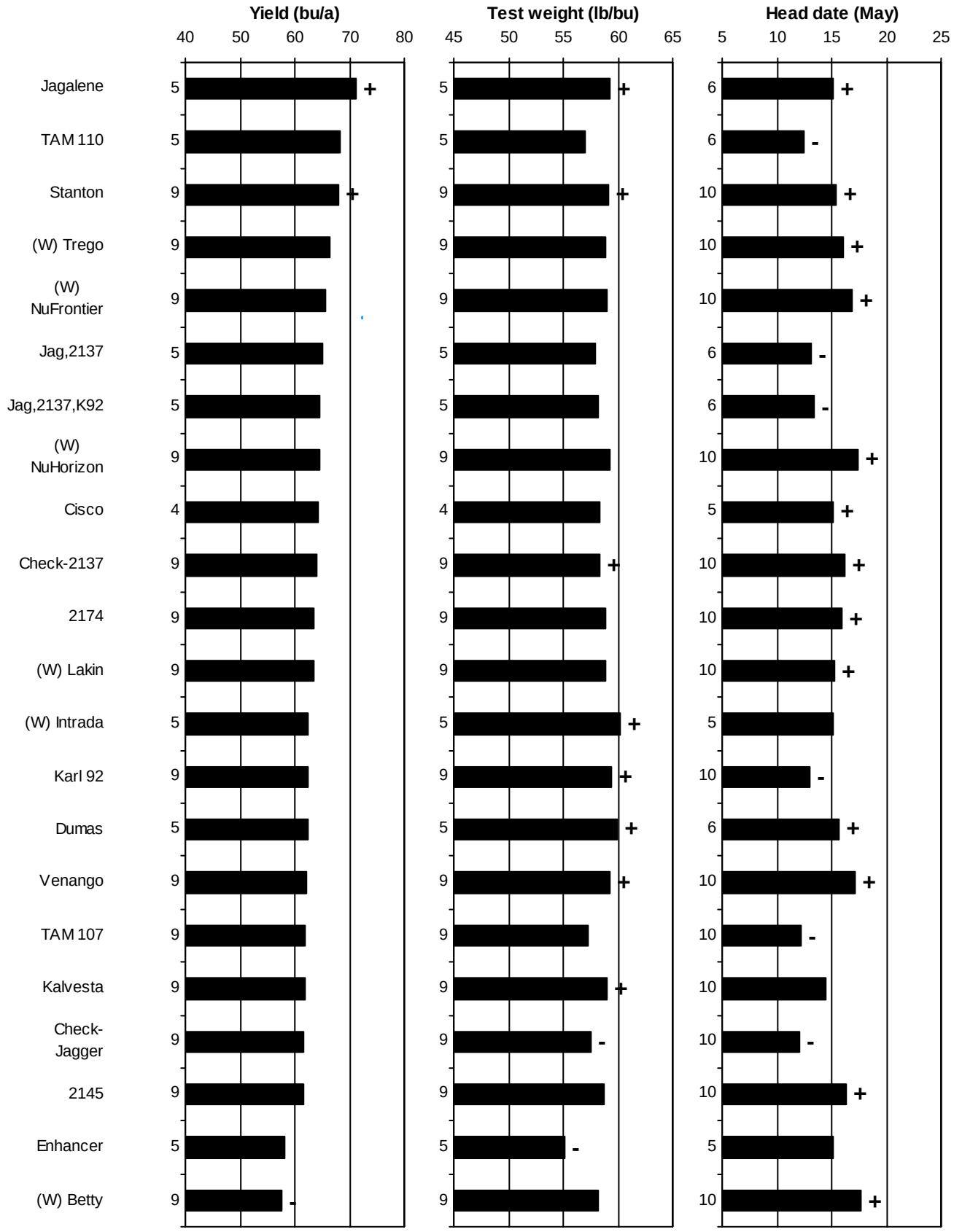
[2] TR = Tribune, KS - Southwest Research-Extension Center, Greeley County

[3] GC = Garden City, KS - Southwest Research-Extension Center, Finney County

(W) = Hard white wheat

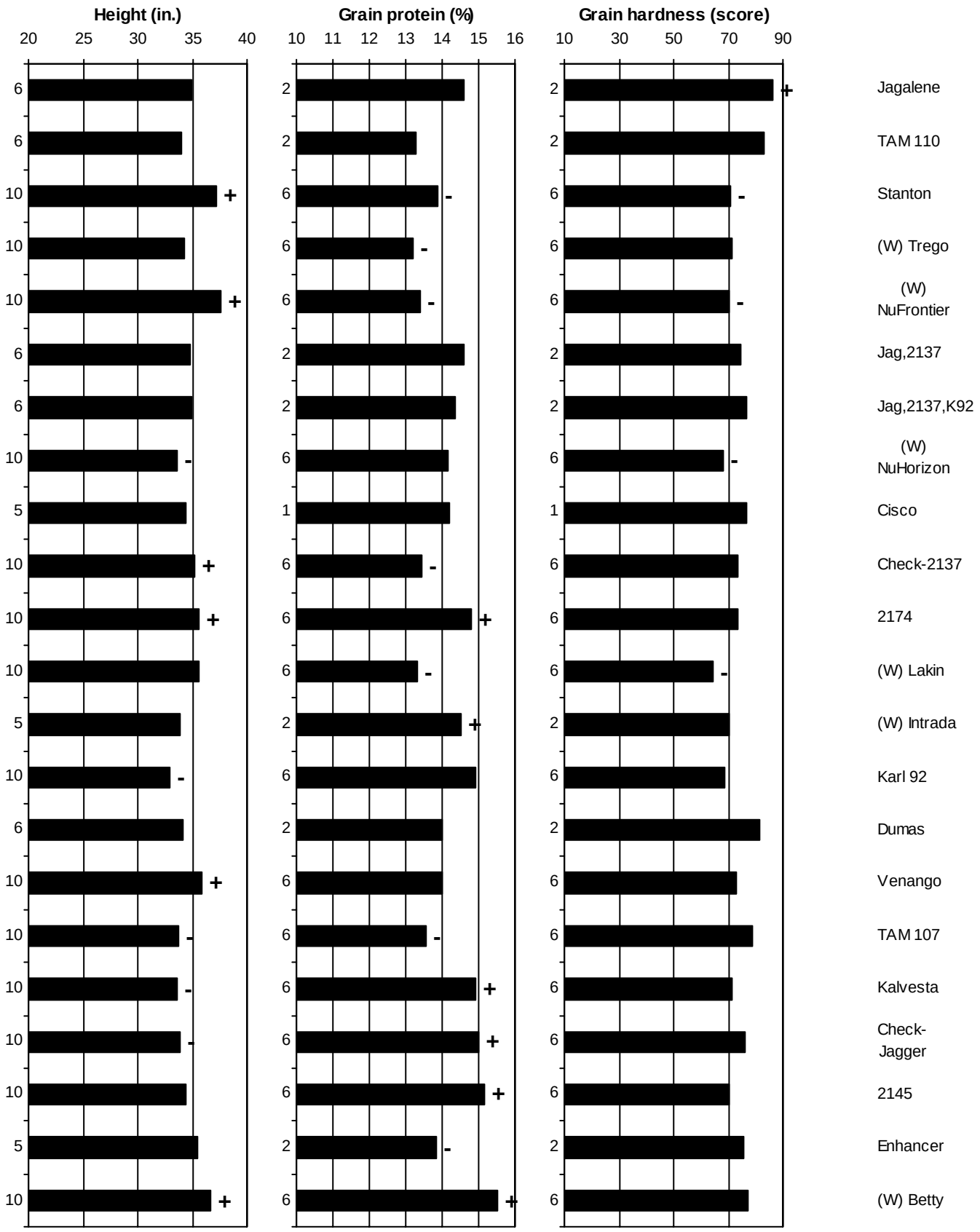
** Least Significant Difference, similar to 'Margin of Error', difference needed to overcome test error.

Figure 11. Wheat variety performance summary, IRRIGATED region, 2000-2003



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Figure 11. IRRIGATED region - continued



+ = significantly greater than the average of the checks; - = significantly less than the average of the checks

Table 12. Shattering and lodging notes from 2003 Kansas Wheat Performance Tests.

	Shattering (%)[1]		Lodging (%) [2]								
Brand / Name	**HA**	**CO**	**PI**	**PA**	**BE**	**HE**	**HU**	**HA**	**CO**	**PI**	**PA**
AgriPro											
(W) Platte	--	--	--	--	--	--	--	--	0	--	--
AP502CL	2	3	--	--	--	--	--	1	--	--	--
Cutter	5	7	60	74	78	3	58	3	--	--	--
Dumas	--	--	--	--	--	--	--	--	1	--	--
Jagalene	5	4	0	5	73	0	31	0	33	--	--
Thunderbolt	6	8	--	--	--	--	--	0	--	--	--
AGS											
(S) 2000	--	--	--	--	--	--	--	--	--	37	28
(S) 485	--	--	--	--	--	--	--	--	--	0	26
AGSECO											
7853	--	--	57	26	--	7	56	--	--	--	--
Exp 2047	--	--	7	29	--	0	14	--	--	--	--
Exp 2139	--	--	--	--	53	--	--	--	--	--	--
Onaga	--	--	0	1	8	0	8	--	--	--	--
TAM 110	2	2	--	--	--	--	--	0	10	--	--
AWWPA											
(W) Burchett	3	2	--	--	--	--	--	0	--	--	--
(W)Bakers White	--	--	--	--	--	--	--	--	--	--	--
(W)PrairieWhite	3	4	--	--	--	--	--	0	--	--	--
DSS											
T81	--	--	--	--	--	--	--	--	--	--	--
General Mills											
(W) GM10005	3	3	0	1	57	0	46	0	18	--	--
(W) NuFrontier	3	2	30	48	43	0	21	0	15	--	--
(W) NuHorizon	2	1	0	0	15	0	21	0	0	--	--
Goertzen											
(W)G980411W	3	3	--	--	--	--	--	0	--	--	--
Cisco	2	1	17	66	77	0	16	0	25	--	--
Enhancer	3	3	57	59	60	1	60	5	68	--	--
G980039	--	--	--	--	--	0	38	--	--	--	--
G980122	2	2	--	--	--	--	--	0	--	--	--
G982159	--	--	--	--	--	0	12	--	--	--	--
G982163	--	--	--	--	--	0	36	--	--	--	--
G982238	--	--	--	--	--	0	35	--	--	--	--
G982241	--	--	--	--	--	1	59	--	--	--	--
Kalvesta	3	4	--	--	60	--	--	0	13	--	--
Venango	--	--	0	0	53	0	28	--	15	--	--
MFA											
(S) 2020	--	--	--	--	--	--	--	--	--	0	13
(S) 766	--	--	--	--	--	--	--	--	--	43	43
M-Pride											
(S)MPG4122SRW	--	--	--	--	--	--	--	--	--	20	74
(S)MPG4664SRW	--	--	--	--	--	--	--	--	--	0	9
NK											
(S)Coker 9663	--	--	--	--	--	--	--	--	--	17	24
Polansky											
Dominator	--	--	--	--	53	0	30	--	--	--	--
Star											
Grazit	--	--	--	--	--	3	70	--	--	--	--
Public											
(S) Kaskaskia	--	--	--	--	--	--	--	--	--	27	35
(S) MO980525	--	--	--	--	--	--	--	--	--	27	3
(S) Pat	--	--	--	--	--	--	--	--	--	0	3
(S) Roane	--	--	--	--	--	--	--	--	--	23	39
(S) Sabbe	--	--	--	--	--	--	--	--	--	0	14
(S)GA931241E16	--	--	--	--	--	--	--	--	--	53	79
(W) Avalanche	3	3	--	--	--	--	--	0	--	--	--
(W) Betty	5	4	--	--	--	--	--	0	15	--	--
(W) Intrada	3	3	--	--	--	--	--	0	50	--	--
(W) Lakin	3	4	--	--	--	--	--	0	8	--	--
(W) Nuplains	3	4	--	--	--	--	--	0	9	--	--
(W) Trego	2	0	--	--	58	--	--	9	28	--	--
2137	5	6	0	6	23	0	21	0	9	0	39
2145	5	8	0	1	58	0	32	0	3	--	--
2174	4	3	0	0	13	0	22	0	0	--	--
Above	2	1	--	--	--	--	--	0	--	--	--
Akron	3	4	--	--	--	--	--	4	--	--	--
Alliance	3	3	--	--	88	--	--	16	--	--	--
Ankor	3	3	--	--	--	--	--	0	--	--	--
Culver	3	1	--	--	67	--	--	0	--	--	--
Goodstreak	5	8	--	--	48	--	--	35	--	--	--
Harry	3	2	--	--	70	--	--	0	--	--	--
Ike	2	2	--	--	63	--	--	3	--	--	--
Jag,2137	5	3	17	21	27	0	18	0	18	--	--
Jag,2137,Dom	--	--	23	43	48	--	--	--	--	--	--
Jag,2137,K92	--	--	--	--	--	0	40	--	36	--	--
Jag,2137,Stan	4	4	--	--	--	--	--	0	--	--	--
Jagger	5	7	40	68	30	0	45	0	48	43	64
Karl 92	2	1	40	53	43	0	43	0	3	--	--
Millennium	5	6	--	--	87	--	--	0	--	--	--
Ok101	3	3	--	--	--	1	22	0	--	--	--
Ok102	--	--	--	--	--	0	6	--	--	--	--
Overley	5	9	30	60	35	0	14	0	8	--	--
Prairie Red	2	1	--	--	--	--	--	0	--	--	--
Stanton	2	1	--	--	30	--	--	0	8	--	--
TAM 107	2	2	--	--	--	--	--	0	13	--	--
Wahoo	3	2	--	--	93	--	--	13	--	--	--
Wesley	2	1	--	--	17	--	--	0	--	--	--
Average	3	3	19	28	51	1	32	2	17	19	33
CV (%)	16	54	82	53	42	217	76	324	99	106	76
LSD (0.05)**	1	3	26	21	35	2	34	9	24	34	35

[1] HA=Hays, CO=Colby

[2] PI=Pittsburg, PA=Parsons, BE=Belleville, HE=Hesston, HU=Hutchinson, HA=Hays, CO = Colby Irrigated

Table 13. Planted seed characteristics, coleoptile lengths, and Hessian fly ratings.

Brand / Name	1000 Seed weight (grams)	Test weight (lb/bu)	Seeds per lb. (1000)	Col. length (1-9) [1]	Hess. fly [2]
AgriPro					
(W) Platte	28.9	61.9	15.7	--	S
AP502CL	32.7	54.0	13.9	5	S
Cutter	28.3	--	16.0	5	S
Dumas	31.1	58.7	14.6	6	S
Jagalene	31.3	57.9	14.5	6	S
Thunderbolt	28.4	54.7	16.0	6	S
AGS					
(S) 2000	37.9	54.7	12.0	4	S
(S) 485	39.2	58.6	11.6	5	S
AGSECO					
7853	32.2	56.4	14.1	7	S
Exp 2047	29.2	54.4	15.6	5	S
Exp 2139	28.8	57.3	15.8	6	S
Onaga	24.8	54.4	18.3	6	R-
TAM 110	39.9	60.5	11.4	5	S
AWWPA					
(W) Burchett	26.4	54.3	17.2	5	--
(W)Bakers White	26.1	51.9	17.4	6	--
(W)PrairieWhite	23.4	51.3	19.4	7	--
DSS					
T81	34.5	57.9	13.2	7	S
General Mills					
(W) GM10005	30.6	57.4	14.8	7	S
(W) NuFrontier	32.8	56.3	13.9	5	H-
(W) NuHorizon	38.2	59.0	11.9	5	S
Goertzen					
(W)G980411W	34.9	54.1	13.0	5	S
Cisco	32.2	57.3	14.1	7	R-
Enhancer	31.6	59.1	14.4	5	S
G980039	32.9	57.0	13.8	5	S
G980122	31.5	57.2	14.4	5	S
G982159	31.4	59.0	14.5	7	S
G982163	33.7	54.8	13.5	7	S
G982238	32.3	56.3	14.1	8	S
G982241	37.5	53.7	12.1	7	S
Kalvesta	29.9	51.7	15.2	7	S
Venango	27.0	53.7	16.8	7	S
MFA					
(S) 2020	34.0	55.9	13.4	--	H
(S) 766	32.4	56.4	14.0	8	S
M-Pride					
(S)MPG4122SRW	39.2	--	11.6	--	H
(S)MPG4664SRW	32.6	--	13.9	--	H
NK					
(S)Coker 9663	37.8	55.4	12.0	3	S
Polansky					
Dominator	28.2	60.0	16.1	8	H+
Star					
Grazit	26.7	53.1	17.0	5	H+
Public					
(S) Kaskaskia	33.9	57.4	13.4	6	S
(S) MO980525	32.1	56.1	14.2	7	S
(S) Pat	35.2	57.8	12.9	8	S
(S) Roane	30.0	59.3	15.2	7	R
(S) Sabbe	37.5	46.9	12.1	4	S
(S)GA931241E16	28.1	48.9	16.1	7	S
(W) Avalanche	40.9	54.1	11.1	7	S
(W) Betty	30.1	53.9	15.1	7	S
(W) Intrada	28.2	56.4	16.1	6	S
(W) Lakin	23.9	52.6	19.0	7	S
(W) Nuplains	25.2	57.1	18.1	7	S
(W) Trego	27.9	53.7	16.3	6	H+
2137	38.5	60.1	11.8	7	H+
2145	32.7	53.9	13.9	6	H+
2174	30.8	57.0	14.8	5	S
Above	37.2	57.0	12.2	5	S
Akron	28.5	50.5	15.9	6	S
Alliance	26.6	52.4	17.0	8	H+
Ankor	36.7	57.1	12.4	5	S
Culver	31.8	53.6	14.3	6	H
Goodstreak	27.1	55.6	16.8	3	H
Harry	25.7	48.2	17.7	8	H-
Ike	32.3	57.4	14.1	7	R-
Jag,2137	34.9	54.5	13.0	--	--
Jag,2137,Dom	32.2	56.7	14.1	8	--
Jag,2137,K92	31.4	57.9	14.5	7	--
Jag,2137,Stan	34.8	59.5	13.1	6	--
Jagger	33.7	60.4	13.5	6	S
Karl 92	29.7	53.6	15.3	7	S
Millennium	30.6	54.8	14.9	7	R
Ok101	33.9	52.9	13.4	8	S
Ok102	28.9	52.1	15.7	--	H
Overley	39.5	57.5	11.5	5	S
Prairie Red	41.9	58.9	10.8	5	S
Stanton	34.6	54.7	13.1	6	H
TAM 107	31.3	54.6	14.5	5	S
Wahoo	27.0	48.3	16.8	6	R
Wesley	27.7	53.5	16.4	7	S
Maximum	41.9	61.9	19.4	8	
Minimum	23.4	46.9	10.8	3	
Average	31.9	55.5	14.5	6	

[1] Coleoptile length measured at 75 degrees F, which is the average soil temperature at 4" in western Kansas on September 1. Coleoptile rating of 3 is long and is equal to about 4.2", a rating of 8 is short and is equal to about 2.4". See discussion of coleoptile length on page 2. Ratings provided by T. Joe Martin, Kansas State University Agricultural Research Center - Hays.

[2] Hessian fly ratings by E. Parker, USDA; S = majority of plants susceptible, H = mixture of susceptible and resistant plants (heterogenous), R = majority of plants resistant. Tested with the Great Plains Hessian fly.

For those interested in accessing crop performance testing information electronically, visit our World Wide Web site. Most of the information contained in this publication is available for viewing or downloading.

The URL is **http://www.ksu.edu/kscpt**.

Excerpts from the UNIVERSITY RESEARCH POLICY AGREEMENT
WITH COOPERATING SEED COMPANIES*

Permission is hereby given to Kansas State University to test varieties and/or hybrids designated on the attached entry forms in the manner indicated in the test announcements. I certify that seed submitted for testing is a true sample of the seed being offered for sale.

I understand that all results from Kansas Crop Performance Tests belong to the University and the public and shall be controlled by the University so as to produce the greatest benefit to the public. Performance data may be used in the following ways: 1) Tables may be reproduced in their entirety provided the source is referenced and data are not manipulated or reinterpreted; 2) Advertising statements by an individual company about the performance of its entries may be made as long as they are accurate statements about the data as published, with no reference to other companies' names or cultivars. In both cases, the following must be included with the reprint or ad citing the appropriate publication number and title: "See the official Kansas State University Agricultural Experiment Station and Cooperative Extension Service Report of Progress 912 '2003 Kansas Performance Tests with Wheat Varieties', or the Kansas Crop Performance Test website, http://www.ksu.edu/kscpt, for details. Endorsement or recommendation by Kansas State University is not implied."

CONTRIBUTORS

MAIN STATION, MANHATTAN

Kraig Roozeboom, Agronomist (Senior Author)
William W. Bockus, State Extension Plant Pathologist
Allan Fritz, KSU Wheat Breeder

RESEARCH CENTERS

Patrick Evans, Colby
James Long, Parsons
T. Joe Martin, Hays
Alan Schlegel, Tribune
Merle Witt, Garden City

EXPERIMENT FIELDS

Mark Claassen, Hesston
W. Barney Gordon, Scandia
William Heer, Hutchinson
Keith Janssen, Ottawa
Victor Martin, St. John

Others providing information for this report:

Elburn Parker, USDA
Brad Seabourn, USDA
Ray Lamond, Agronomy
Robert Bennett, Grain Science & Industry

NOTE: Trade names are used to identify products. No endorsement is intended, nor is any criticism implied of similar products not named.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service, Manhattan 66506
SRP 912 July 2003