

# 2009

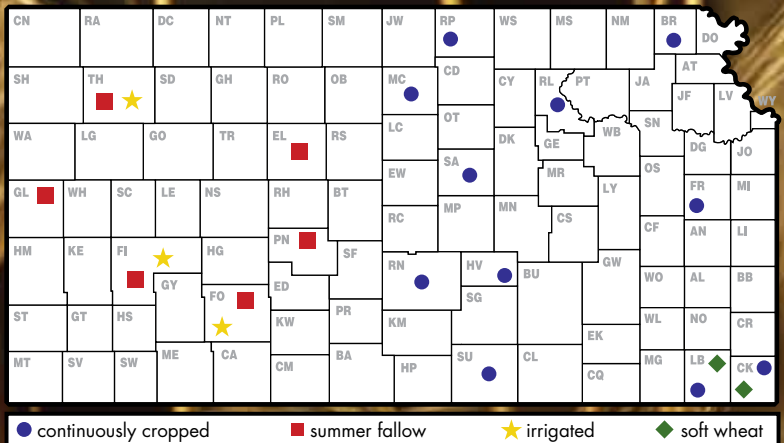
## *Kansas Performance Tests with*

# **Winter Wheat Varieties**

### *Report of Progress 1018*



**Kansas State University  
Agricultural Experiment Station  
and Cooperative Extension Service**



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\*Excerpts from the 2009 National Winter Canola Variety Trial, Report of Progress 1026, Kansas State University Agricultural Experiment Station and Cooperative Extension Service (to be published in winter 2009-2010).

# 2009 WHEAT CROP REVIEW

## Weather and Crop Development

Seeding of wheat acres for the 2008-2009 growing season began the second week of September and was ahead of average until mid-October, when heavy rains arrived statewide. After moderate amounts of snow and freezing rain in December, precipitation was below average for the rest of the winter. Temperatures across the state were below normal in December and above normal in January and February. Spring rains were unevenly distributed throughout the state, and some areas received little to no precipitation in late May; however, most areas enjoyed adequate soil moisture during the grain-filling period. (*Crops* report, Kansas Agricultural Statistics, Topeka)

Severe weather continued to pose a significant threat in 2009, with 763 hail events occurring from Sept. 1, 2008, until July 13, 2009. The worst single day was May 15, 2009, with 64 hail events. (Mary Knapp, K-State Weather Data Library)

Wheat conditions declined during the winter and were rated 50% good to excellent by the end of February. The quality of the wheat crop improved somewhat as the season continued so that 63% was rated good to excellent, 25% was rated fair, and 12% was rated poor to very poor as harvest was nearing completion. (*Crop Weather* report, Kansas Agricultural Statistics)

## Diseases

In general, the disease levels in the 2009 wheat crop were lower than in the previous 2 years; however, some regions of Kansas experienced significant losses. Dry conditions in Texas and Oklahoma slowed the development of leaf rust in March, and yield reductions were largely restricted to parts of south central and central Kansas on varieties known to be susceptible to the disease. Speckled leaf blotch was also common in many fields and likely contributed to the yield reductions experienced in south central Kansas. Stripe rust was detected at low levels in many areas this season but was most common in northwestern Kansas. As with leaf rust, the late arrival of stripe rust relative to crop development minimized the potential for disease-related yield losses. Head scab continues to be a persistent problem in parts of Kansas, and in 2009, the disease was severe in the southeastern portion of the state. The most prevalent viral disease this past year was barley yellow dwarf. The level of barley yellow dwarf observed in many regions was clearly above normal, and the disease likely contributed to the early maturity and low test weights observed in some fields. (Erick DeWolf, K-State Extension Plant Pathologist)

## Insects

The 2009 Kansas wheat crop escaped large, area-wide losses due to insect and mite damage. However, scattered reports of Hessian fly infestations and consequent yield losses once again increased, especially in both south and

north central Kansas. Significant infestations were also noted in some areas of far western Kansas and eastern Colorado, which is somewhat unusual. Aphid populations (both greenbug and bird cherry-oat) again were common throughout the state, but densities never reached treatment levels. Barley yellow dwarf was a concern, however, which indicates these aphids were present at some point, even if populations went undetected, because they are the primary vectors of this viral pathogen. (Jeff Whitworth, K-State Extension Entomologist)

## Harvest Statistics

The Kansas Agricultural Statistics June 10 estimate of the 2009 crop was 340.0 million bushels from 8.5 million acres with a 40 bushel/acre yield average, equal to last year's yield. (June 10, 2009, *Crops* report, Kansas Agricultural Statistics, Topeka)

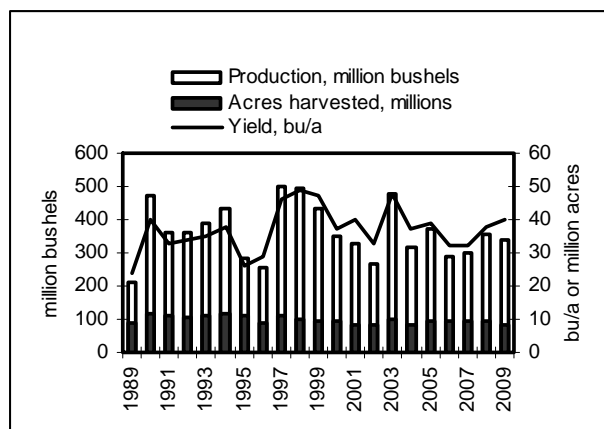


Figure 1. Historical Kansas wheat production

## Acreage Distribution

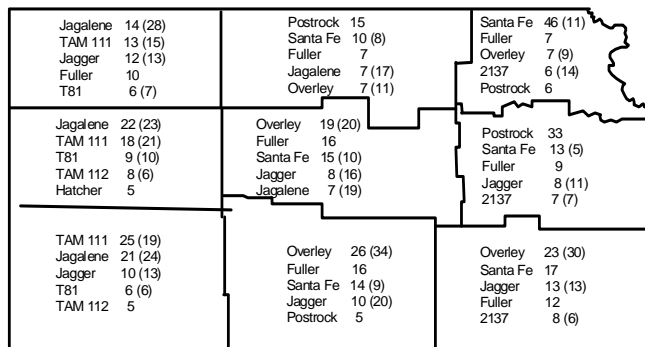


Figure 2. Leading wheat varieties in Kansas

Percentage of seeded acreage for 2009 and (2008) crops  
Overlay became the leading variety of wheat seeded in Kansas, accounting for 14% of the state's wheat, and the most popular variety in three of the nine districts. New to the top ten list and ranking as the second-most-seeded variety was Fuller. Santa Fe and Jagalene occupied the third and fourth spots, respectively. Jagger came in fifth, with 9% of the acreage. (February 13, 2009, *Wheat Variety*, Kansas Agricultural Statistics, Topeka)

## 2009 PERFORMANCE TESTS

The Kansas Agricultural Experiment Station annually compares both new and currently grown varieties in the state's major crop-producing areas. These performance tests generate unbiased performance information designed to help Kansas growers select wheat varieties suited for their area and conditions.

Site descriptions and management practices for each site are summarized in Table 3. One-year or one-location results can be misleading because of the possibility of unusual weather or pest conditions. **Be sure to keep extenuating environmental conditions in mind when examining test results.**

### Varieties

Public varieties are selected for inclusion in the tests on the basis of 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. The 2009 private entrants are listed in Table 1. Twelve entrants provided a total of 39 varieties for testing.

Table 12 describes the characteristics of seed submitted for testing. Seed quality-including factors such 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 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

Leaf rust was reported at several testing locations but in most cases arrived late in the season and did not contribute to yield losses. Head scab due to the frequent rains was reported at many test locations and was a significant problem for the Columbus, KS, test.

## Results and Variety Characterization

Results from Kansas tests are presented in Tables 4 through 11. Yields are reported as bushels per acre (60 lb/bu) 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 1 year.

Additional information, such as test weight, heading date, and plant height, is helpful for fine-tuning variety comparisons. Planting varieties with a range of maturities helps minimize weather risks.

At the bottom of each table is the (0.05) 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 one to be 95% confident that the difference is real. 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.

**Table 1. Private entrants in the 2009 Kansas wheat performance tests**

|  |   |   |  |
|--|---|---|--|
| <b>AgriPro Wheat, Inc.</b><br>AgriPro Wheat, Inc.<br>11783 Ascher Rd.<br>Junction City, KS 66441<br>785-210-0218 | <b>DC Seed/Dodge City Coop</b><br>710 W. Trail<br>Dodge City, KS 67801<br>620-225-4193                      | <b>Horinek Brothers</b><br>HC 2 Box 36<br>Trenton, NE 69044<br>785-626-3608                                 | <b>Scott Seed Company</b><br>Box 1732<br>Hereford, TX 79045<br>806-364-3484              |
| <b>AgriPro Coker</b><br>778 CR 680<br>Bay, AR 72411<br>870-483-7691  | <b>Drussel</b><br>Drussel Seed and Supply<br>2197 W. Parallel Road<br>Garden City, KS 67846<br>620-275-2359 | <b>MFA</b><br>MFA Incorporated<br>201 Ray Young Dr.<br>Columbia, MO 65201<br>573-876-5363                   | <b>Watley</b><br>Watley Seed<br>PO Box 51<br>Spearman, TX 79081<br>806-659-3838          |
| <b>AGSECO, Inc.</b><br>AGSECO, Inc.<br>PO Box 7<br>Girard, KS 66743-0007<br>620-724-6223                         | <b>Ehmke Seed</b><br>74 W. Road 130<br>Healy, KS 67850<br>620-397-2766                                      | <b>Pioneer Brand</b><br>Pioneer Hi-Bred Intl., Inc.<br>8100 South 15th<br>Lincoln, NE 68512<br>800-258-5604 | <b>WestBred</b><br>WestBred LLC<br>14604 S. Haven Rd.<br>Haven, KS 67543<br>620-465-2675 |

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

| Variety <sup>1</sup> | % of Kansas seeded acreage 2009 <sup>1</sup> | Relative <sup>2</sup> |                |          |                     |            |            |                  |                |                  |                              |  | Resistance or tolerance to: <sup>5</sup> |                       |                     |                     |           |           |             |             |              |                |           |             |                                |          |
|----------------------|--|-----------------------|----------------|----------|---------------------|------------|------------|------------------|----------------|------------------|------------------------------|--|--|-----------------------|---------------------|---------------------|-----------|-----------|-------------|-------------|--------------|----------------|-----------|-------------|--------------------------------|----------|
|                      |  | Test weight           | Straw strength | Maturity | Height <sup>3</sup> | Coleoptile |            | Winter hardiness | Acid tolerance | Sprout tolerance | Protein content <sup>3</sup> | Relative milling and baking quality <sup>4</sup> | Soil-borne mosaic                        | Spindle streak mosaic | Wheat streak mosaic | Barley yellow dwarf | Leaf rust | Stem rust | Speckled    |             |              | Powdery mildew | Head scab | Hessian fly | Russ. wheat aphid <sup>6</sup> |          |
|                      |  |                       |                |          |                     | length     | Shattering |                  |                |                  |                              |  |  |                       |                     |                     |           |           | Stripe rust | leaf blotch | Glume blotch |                |           |             |                                | Tan spot |
| Overley              | 13.7   | 3                     | 3              | 1        | 6                   | 5          | 7          | 6                | MT             | 2                | 3                            | EX   | 1  | 4                     | 5                   | 5                   | 8         | 3         | 2           | 5           | --           | 5              | 7         | 9           | 9                              | 9        |
| Fuller               | 10.9   | 5                     | 4              | 2        | 5                   | 5          | 2          | 3                | I              | 3                | 3                            | AC   | 1  | 1                     | 5                   | 6                   | 3         | 7         | 2           | 6           | --           | 6              | 6         | 7           | 9                              | 9        |
| Santa Fe             | 9.5  | 3                     | 3              | 2        | 6                   | 2          | 3          | 3                | MT             | --               | 5                            | AC   | 1  | --                    | 7                   | 6                   | 3         | 4         | 3           | 2           | --           | 5              | 6         | 7           | 9                              | 9        |
| Jagalene             | 9.1  | 3                     | 3              | 2        | 4                   | 6          | 4          | 5                | MT             | 2                | 4                            | EX   | 2  | 3                     | 5                   | 7                   | 9         | 2         | 4           | 4           | --           | 7              | 9         | 8           | 9                              | 9        |
| Jagger               | 8.5  | 4                     | 4              | 1        | 5                   | 6          | 5          | 6                | T              | 3                | 3                            | EX*  | 2  | 4                     | 5                   | 7                   | 9         | 5         | 3           | 3           | 6            | 4              | 7         | 7           | 9                              | 9        |
| TAM 111              | 6.8  | 3                     | 2              | 4        | 6                   | 2          | 2          | 7                | MS             | 2                | 7                            | AC   | 8  | 8                     | 7                   | 7                   | 8         | 1         | 3           | 5           | --           | 5              | 6         | 7           | 7                              | 9        |
| PostRock             | 6.0  | 2                     | 2              | 3        | 5                   | --         | 3          | 3                | MT             | 3                | 6                            | AC   | 2  | 5                     | 7                   | 7                   | 4         | 7         | 3           | 8           | --           | 6              | 8         | 7           | 9                              | 9        |
| 2137                 | 2.9  | 4                     | 1              | 3        | 5                   | 7          | 5          | 3                | T              | 2                | 7                            | AC   | 1  | 5                     | 6                   | 5                   | 7         | 7         | 8           | 5           | 7            | 5              | 4         | 8           | 8                              | 9        |
| T81                  | 2.5  | 4                     | 2              | 2        | 4                   | 7          | 3          | 3                | I              | 2                | 6                            | AC   | 8  | 4                     | 8                   | 6                   | 8         | 3         | 3           | 7           | 7            | 6              | 3         | 5           | 8                              | 9        |
| TAM 112              | 2.0  | 2                     | 4              | 2        | 5                   | 2          | 2          | 5                | T              | --               | 3                            | AC   | 8  | 8                     | 5                   | 6                   | 7         | 3         | 8           | 5           | --           | 6              | 1         | 8           | 9                              | 9        |
| Hatcher              | 1.3  | 5                     | 6              | 3        | 5                   | 2          | 3          | 2                | MS             | --               | 4                            | --   | 7  | 8                     | 8                   | 8                   | 8         | 4         | 4           | 5           | --           | 5              | 5         | 6           | 5                              | 9        |
| Shocker              | 1.0  | 3                     | 2              | 1        | 5                   | 5          | 5          | 6                | MT             | --               | 4                            | --   | 1  | 2                     | 8                   | 7                   | 4         | 4         | 2           | 4           | --           | 6              | 5         | 8           | 9                              | 9        |
| Karl/Karl 92         | 0.8  | 3                     | 4              | 1        | 3                   | 7          | 3          | 3                | S              | 3                | 3                            | EX*  | 1  | 3                     | 9                   | 8                   | 8         | 6         | 5           | 3           | 3            | 4              | 6         | 9           | 9                              | 9        |
| Ike                  | 0.8  | 3                     | 4              | 4        | 6                   | 7          | 2          | 3                | S              | 2                | 3                            | AC   | 1  | 5                     | 9                   | 6                   | 9         | 3         | 6           | 7           | 6            | 8              | 6         | 6           | 3                              | 9        |
| Art                  | 0.8  | --                    | --             | --       | --                  | --         | --         | --               | --             | --               | --                           | --   | 1  | 1                     | 6                   | 8                   | 3         | 2         | 2           | 5           | --           | 6              | 3         | 6           | 9                              | 9        |
| 2174                 | 0.7  | 3                     | 1              | 3        | 4                   | 5          | 3          | 4                | I              | 1                | 3                            | AC   | 1  | 5                     | 8                   | 5                   | 7         | 8         | 7           | 5           | 7            | 5              | 2         | 6           | 9                              | 9        |
| Danby+               | 0.7  | 3                     | 4              | 3        | 6                   | 5          | 2          | 2                | MS             | 4                | 5                            | AC   | 7  | --                    | 5                   | 8                   | 8         | 2         | 2           | 6           | --           | 8              | 7         | 7           | 9                              | 9        |
| T136                 | 0.7  | 4                     | 3              | 1        | 3                   | 7          | 2          | 6                | I              | 3                | --                           | --   | 1  | --                    | --                  | --                  | 8         | 3         | 3           | --          | --           | --             | 7         | --          | --                             | --       |
| TAM107               | 0.6  | --                    | --             | --       | --                  | --         | --         | --               | --             | --               | --                           | --   | 8  | 7                     | 5                   | 8                   | 9         | 3         | 8           | 5           | 6            | 6              | 1         | 7           | 9                              | 9        |
| OK Bullet            | 0.5  | --                    | --             | --       | --                  | --         | --         | --               | --             | --               | --                           | AC   | 4  | 4                     | 6                   | 6                   | 8         | 7         | 3           | 6           | --           | 5              | 8         | 7           | 7                              | 9        |
| Endurance            | 0.4  | --                    | --             | --       | --                  | --         | --         | --               | --             | --               | --                           | --   | 2  | 8                     | 7                   | 5                   | 5         | 7         | 5           | 5           | --           | 7              | 5         | 6           | 8                              | 9        |
| Larned               | 0.4  | 4                     | 5              | 4        | 9                   | 3          | 3          | 3                | S              | 3                | 4                            | AC   | 9  | 8                     | 9                   | 9                   | 8         | 2         | 2           | 8           | 8            | 9              | 5         | 5           | 3                              | 9        |
| Above                | 0.4  | --                    | --             | --       | --                  | --         | --         | --               | --             | --               | --                           | --   | 9  | --                    | 5                   | 7                   | 9         | 3         | 8           | 6           | --           | 7              | 1         | --          | 9                              | 9        |
| Stanton              | 0.4  | 4                     | 3              | 3        | 5                   | 6          | 2          | 2                | --             | 2                | 4                            | AC   | 8  | 5                     | 6                   | 8                   | 2         | 2         | 7           | 7           | --           | 9              | 9         | 7           | 8                              | 9        |
| Smoky Hill           | 0.3  | --                    | --             | --       | --                  | --         | --         | --               | --             | --               | --                           | AC   | 1  | --                    | 8                   | 8                   | 5         | 6         | 1           | 4           | --           | 5              | 5         | 8           | 9                              | 9        |
| Thunderbolt          | 0.3  | 2                     | --             | 3        | 7                   | 6          | 6          | --               | MS             | 2                | 3                            | AC   | 8  | 8                     | 6                   | 7                   | 7         | 8         | 5           | 6           | --           | 7              | 7         | 7           | 9                              | 9        |
| Cutter               | 0.3  | 4                     | 4              | 3        | 5                   | 5          | 5          | 3                | T              | 3                | 4                            | AC   | 3  | 4                     | 6                   | 7                   | 8         | 2         | 3           | 6           | --           | 6              | 7         | 8           | 9                              | 9        |
| Dominator            | 0.3  | 4                     | 3              | 4        | 2                   | 8          | 7          | 3                | I              | 5                | 3                            | AC   | 1  | 4                     | 7                   | 6                   | 9         | 4         | 6           | 5           | 4            | 5              | 4         | 7           | 5                              | 9        |
| Coronado             | 0.2  | --                    | --             | --       | --                  | --         | --         | --               | --             | --               | --                           | --   | 1  | 4                     | 6                   | 6                   | 7         | 5         | 6           | 6           | 6            | 6              | 5         | 9           | 5                              | 9        |
| Hawk                 | 0.2  | --                    | --             | --       | --                  | --         | --         | --               | --             | --               | --                           | --   | --                                       | --                    | --                  | --                  | --        | --        | --          | --          | --           | --             | --        | --          | --                             | --       |
| Keota                | 0.2  | 3                     | 2              | 2        | 7                   | 2          | 3          | 3                | MT             | --               | 6                            | --   | 1  | --                    | 7                   | 8                   | 9         | 7         | 3           | 7           | --           | 6              | 7         | 8           | 9                              | 9        |
| 2145                 | 0.2  | 4                     | 2              | 3        | 3                   | 6          | 6          | 3                | I              | 3                | 3                            | AC   | 1  | --                    | 9                   | 6                   | 8         | 3         | 5           | 5           | --           | 8              | 8         | 8           | 5                              | 9        |
| Protection           | 0.2  | 4                     | 3              | 2        | 7                   | --         | --         | 6                | I              | --               | 5                            | --   | 4  | 3                     | 7                   | 8                   | 9         | 4         | 2           | 6           | --           | 7              | 7         | 8           | 9                              | 9        |
| Scout/S.66           | 0.2  | --                    | --             | --       | --                  | --         | --         | --               | --             | --               | --                           | --   | 9  | 7                     | 7                   | 9                   | 8         | 3         | 1           | 7           | 9            | 9              | 5         | --          | 9                              | 9        |
| Blends               | 10.7   |                       |                |          |                     |            |            |                  |                |                  |                              |  |  |                       |                     |                     |           |           |             |             |              |                |           |             |                                |          |
| Other White          | 0.3  |                       |                |          |                     |            |            |                  |                |                  |                              |  |  |                       |                     |                     |           |           |             |             |              |                |           |             |                                |          |
| Other Red            | 5.1  |                       |                |          |                     |            |            |                  |                |                  |                              |  |  |                       |                     |                     |           |           |             |             |              |                |           |             |                                |          |
| Other Soft           | 0.1  |                       |                |          |                     |            |            |                  |                |                  |                              |  |  |                       |                     |                     |           |           |             |             |              |                |           |             |                                |          |

<sup>1</sup> Hard white variety Scale: 1=Best 1=Best 1=Early 1=Short 1=Long 1=Best 1=Best T=Toler 1=Best 1=Best 9=Poor 9=Poor 9=Late 9=Short 9=Short 9=Poor 9=Poor S=Susc 9=Poor 9=Poor Scale: 1=Most resistant/tolerant 9=Least resistant/tolerant

<sup>1</sup> Varieties and percentage seeded acreage from the Feb. 13, 2009, wheat variety survey, Kansas Agricultural Statistics, Topeka, KS.

<sup>2</sup> 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, and Steve Watson - K-State Agronomy.

<sup>3</sup> Summary of crop performance test results from recent years.

<sup>4</sup> Ratings from Rebecca Miller - K-State Wheat Quality Laboratory, using inputs from the U.S. Grain Marketing and Production Research Center and industry.

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

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

-- = Inadequate information or conflicting data.

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

\*Strong blending wheat; needed for blending with weaker wheats; may not be suitable alone for bread flour.

<sup>5</sup> Ratings by Allan Fritz - Manhattan, Joe Martin - Hays, Erick DeWolf and Bill Bockus - K-State Plant Pathology, Phil Sloderbeck - K-State Entomology.

Final ratings and descriptions of disease and insect pests are available in "Wheat Variety Disease and Insect Ratings 2009," Publication MF991 from Kansas State University.

<sup>6</sup> New Russian wheat aphid biotype is thought to be virulent on all currently available commercial varieties.

**Table 3. Wheat performance test site descriptions and management in 2009**

| <b>Region and location</b>                           | <b>Soil type previous crop</b>       | <b>N</b> | <b>P<sub>2</sub>O<sub>5</sub></b> | <b>K<sub>2</sub>O</b> |      | <b>Plant-harvest seed rate</b>          | <b>Conditions</b>  |
|--|--------------------------------------|----------|-----------------------------------|-----------------------|------|---|--|
| <b><u>Northeast Dryland</u></b>                      |                                      |          |                                   |                       |      |   |  |
| Northeast KS Bunck Seed Farms Everest (EV)           | Grundy silty clay loam               | --       | --                                | --                    | Fall | Abandoned<br>90 lb/a                    | Variable stands.   |
| Ashland Agronomy Farm Manhattan (MA)                 | Reading silt loam<br>Fallow          | 28       | --                                | --                    | Fall | 10/21/2008-6/26/2009<br>75 lb/a         | Planted into excellent moisture.   |
| <b><u>Southeast Dryland</u></b>                      |                                      |          |                                   |                       |      |   |  |
| East Central Kansas Exp. Field Ottawa (OT)           | Woodson silt loam<br>Soybean         | 90       | 32                                | 15                    | Fall | 10/30/2008-6/29/2009<br>1200000 seeds/a | Very good growing conditions this year despite some evidence of barley yellow dwarf and scab.                |
| Southeast Agricultural Research Center Columbus (CL) | Parsons silt loam<br>Sorghum         | 130      | 50                                | 75                    | Fall | 10/21/2008-6/26/2009<br>75 lb/a         | Good fall conditions; very dry in early spring. Rains in the late spring caused problems with scab.          |
| Southeast Agricultural Research Center Parsons (PA)  | Parsons silt loam<br>Soybean         | 70       | 40                                | 30                    | Fall | 10/20/2008-6/22/2009<br>75 lb/a         | Excellent growing conditions all year.   |
| <b><u>Soft Wheat</u></b>                             |                                      |          |                                   |                       |      |   |  |
| Southeast Agricultural Research Center Columbus (CL) | Parsons silt loam<br>Sorghum         | 130      | 50                                | 75                    | Fall | 10/21/2008-6/26/2009<br>75 lb/a         | Good fall conditions; very dry in early spring. Rains in the late spring caused problems with scab.          |
| Southeast Agricultural Research Center Parsons (PA)  | Parsons silt loam<br>Soybean         | 70       | 40                                | 30                    | Fall | 10/20/2008-6/22/2009<br>75 lb/a         | Excellent growing conditions all year.   |
| <b><u>North Central Dryland</u></b>                  |                                      |          |                                   |                       |      |   |  |
| North Central Kansas Exp. Field Belleville (BE)      | Crete silt loam<br>Fallow            | 100      | 30                                | --                    | Fall | 10/1/2008-7/2/2009<br>90 lb/a           | Dry period in May but the wheat never ran short of moisture because of rains during October.                 |
| North Central KS Farmer's Field Beloit (BL)          | Harney silt loam<br>Wheat            | 120      | 30                                | --                    | Fall | 9/29/2008-6/26/2009<br>80 lb/a          | Similar conditions to Belleville, but too little rainfall in April and a very dry May reduced yields.        |
| <b><u>South Central Dryland</u></b>                  |                                      |          |                                   |                       |      |   |  |
| Harvey County Exp. Field Hesston (HE)                | Ladysmith silty clay loam<br>Soybean | 91       | 33                                | --                    | Fall | 10/10/2008-6/24/2009<br>90 lb/a         | Precipitation was below normal during Nov.-Mar. April rains were well above normal and proved to be crucial. |
| South Central Kansas Exp. Field Hutchinson (HU)      | Ost silt loam<br>Canola              | 75       | 40                                | --                    | Fall | 11/1/2008-6/25/2009<br>60 lb/a          | Wet conditions in the fall delayed planting. April, May, and June were also wet and cool.                    |
| South Central KS Farmer's Field Caldwell (CS)        | Sandy loam<br>Wheat                  | 110      | 40                                | --                    | Fall | 10/28/2008-6/25/2009<br>60 lb/a         | Generally good growing conditions; some disease incidence at the end of the season.                          |
| <b><u>Northwest Dryland</u></b>                      |                                      |          |                                   |                       |      |   |  |
| Agricultural Research Center Hays (HA)               | Harney silt loam<br>Fallow           | 32       | --                                | --                    | Fall | 10/1/2008-6/26/2009<br>50 lb/a          | Good moisture at planting; record low precipitation from November through March.                             |
| Northwest Research-Extension Center Colby (CO)       | Keith silt loam<br>Fallow            | 60       | 40                                | --                    | Fall | 9/19/2008-6/30/2009<br>60 lb/a          | Winter and early spring were dry before rains and cooler-than-normal temperatures started in late spring.    |
| Southwest Research-Extension Center Tribune (TR)     | Richfield silt loam<br>Sorghum       | 60       | 25                                | --                    | Fall | 9/16/2008-6/26/2009<br>55 lb/a          | Good moisture at planting; extremely dry for the rest of the growing season. Some BYD present.               |
| <b><u>Southwest Dryland</u></b>                      |                                      |          |                                   |                       |      |   |  |
| Southwest KS Farmer's Field Larned (LA)              | Harney clay loam                     | --       | --                                | --                    | Fall | Abandoned<br>50 lb/a                    | Uneven emergence.  |
| Southwest KS Farmer's Field Dodge City (DC)          | Harney clay loam                     | --       | --                                | --                    | Fall | Abandoned<br>45 lb/a                    | Ruined by hail storm in May.   |
| Southwest Research-Extension Center Garden City (GC) | Keith silt loam<br>Wheat             | 30       | --                                | --                    | Fall | 9/26/2008-6/26/2009<br>65 lb/a          | Good moisture at planting. Very dry through March until rains started in April, then very wet until harvest. |
| <b><u>Irrigated</u></b>                              |                                      |          |                                   |                       |      |   |  |
| Northwest Research-Extension Center Colby (CO)       | Keith silt loam<br>Wheat             | 110      | 45                                | --                    | Fall | 9/22/2008-7/9/2009<br>90 lb/a           | Winter and early spring were dry before rains and cooler-than-normal temperatures started in late spring.    |
| Southwest KS Farmer's Field Dodge City (DC)          |                                      | --       | --                                | --                    | Fall | Abandoned<br>80 lb/a                    | Variable emergence and stands.   |
| Southwest Research-Extension Center Garden City (GC) | Keith silt loam                      | --       | --                                | --                    | Fall | Abandoned<br>75 lb/a                    | Uneven emergence and stands; planted late after soybeans.  |

**Table 4. 2009 NORTHEAST Kansas dryland winter wheat performance tests**

| Brand / Name    | EV <sup>1</sup> MA <sup>2</sup> Av. |    |    | EV MA Av.         |     |     | -EV-<br>2yr 3yr       |    | -MA-<br>2yr 3yr |    | EV MA Av.  |    |                   | EV MA Av. |    |              | EV CA Av. |    |    |    |    |    |
|-----------------|-------------------------------------|----|----|-------------------|-----|-----|-----------------------|----|-----------------|----|------------|----|-------------------|-----------|----|--------------|-----------|----|----|----|----|----|
|                 | yield (bu/a)                        |    |    | % of test average |     |     | multi-year av. (bu/a) |    |                 |    | tw (lb/bu) |    | head (+/- Jagger) |           |    | height (in.) |           |    |    |    |    |    |
| <b>AgriPro</b>  |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |                   |           |    |              |           |    |    |    |    |    |
| Art             | --                                  | 61 | 61 | --                | 110 | 110 | 45                    | -- | --              | -- | --         | 58 | 58                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Hawken          | --                                  | 52 | 52 | --                | 94  | 94  | 40                    | -- | --              | -- | --         | 56 | 56                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Jagalene        | --                                  | 52 | 52 | --                | 93  | 93  | 33                    | 48 | 55              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Postrock        | --                                  | 50 | 50 | --                | 90  | 90  | 41                    | 53 | 51              | -- | --         | 56 | 56                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| RustBuster-N    | --                                  | 49 | 49 | --                | 88  | 88  | --                    | -- | --              | -- | --         | 56 | 56                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| <b>AGSECO</b>   |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |                   |           |    |              |           |    |    |    |    |    |
| Infinity CL     | --                                  | 44 | 44 | --                | 79  | 79  | --                    | -- | 46              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Santa Fe        | --                                  | 69 | 69 | --                | 125 | 125 | 48                    | 58 | 65              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Shocker         | --                                  | 51 | 51 | --                | 93  | 93  | --                    | -- | --              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Smoky Hill      | --                                  | 51 | 51 | --                | 92  | 92  | 33                    | 50 | 53              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| <b>Kansas</b>   |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |                   |           |    |              |           |    |    |    |    |    |
| (W) Danby       | --                                  | 48 | 48 | --                | 86  | 86  | 29                    | 41 | 46              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| 2137            | --                                  | 65 | 65 | --                | 116 | 116 | 43                    | 55 | 58              | -- | --         | 58 | 58                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Everest         | --                                  | 68 | 68 | --                | 123 | 123 | --                    | -- | --              | -- | --         | 59 | 59                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Fuller          | --                                  | 52 | 52 | --                | 94  | 94  | 38                    | 53 | 54              | -- | --         | 55 | 55                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Jagger          | --                                  | 51 | 51 | --                | 92  | 92  | 36                    | 50 | 50              | -- | --         | 55 | 55                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Overlay         | --                                  | 55 | 55 | --                | 99  | 99  | 35                    | 47 | 57              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| <b>Nebraska</b> |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |                   |           |    |              |           |    |    |    |    |    |
| Overland        | --                                  | 51 | 51 | --                | 91  | 91  | 46                    | -- | --              | -- | --         | 59 | 59                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Wesley          | --                                  | 45 | 45 | --                | 81  | 81  | 39                    | 53 | 51              | -- | --         | 55 | 55                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| <b>WestBred</b> |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |                   |           |    |              |           |    |    |    |    |    |
| Armour          | --                                  | 59 | 59 | --                | 106 | 106 | --                    | -- | --              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Hitch           | --                                  | 65 | 65 | --                | 116 | 116 | --                    | -- | --              | -- | --         | 56 | 56                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| HV9W03-539R     | --                                  | 56 | 56 | --                | 100 | 100 | --                    | -- | --              | -- | --         | 53 | 53                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| HV9W03-696R-2   | --                                  | 66 | 66 | --                | 119 | 119 | --                    | -- | --              | -- | --         | 58 | 58                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| HV9W96-1383R    | --                                  | 66 | 66 | --                | 119 | 119 | --                    | -- | --              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Winterhawk      | --                                  | 53 | 53 | --                | 95  | 95  | 42                    | -- | --              | -- | --         | 58 | 58                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| Averages        | --                                  | 56 | 56 | --                | 56  | 56  | --                    | -- | --              | -- | --         | 57 | 57                | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| CV (%)          | --                                  | 10 | 10 | --                | 10  | 9.8 | --                    | -- | --              | -- | --         | 2  | 2                 | --        | -- | --           | --        | -- | -- | -- | -- | -- |
| LSD (0.05)*     | --                                  | 8  | 8  | --                | 14  | 14  | --                    | -- | --              | -- | --         | 1  | 1                 | --        | -- | --           | --        | -- | -- | -- | -- | -- |

<sup>1</sup> EV = Everest, KS, Bunck Seed Farm, Brown County. Abandoned; uneven stands.

<sup>2</sup> 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.

**Table 5. 2009 SOUTHEAST Kansas dryland winter wheat performance tests**

| Brand / Name      | <sup>1</sup> OT <sup>2</sup> CL <sup>3</sup> PA Av. |    |    |    | -OT- -CL- -PA-    |     |     |     | OT CL PA Av.          |    |    |    | OT CL PA Av. |    |    |    |                   |    |    |    |              |    |    |    |    |    |
|-------------------|---|----|----|----|-------------------|-----|-----|-----|-----------------------|----|----|----|--------------|----|----|----|-------------------|----|----|----|--------------|----|----|----|----|----|
|                   | yield (bu/a)  |    |    |    | % of test average |     |     |     | multi-year av. (bu/a) |    |    |    | tw (lb/bu)   |    |    |    | head (+/- Jagger) |    |    |    | height (in.) |    |    |    |    |    |
| <b>AgriPro</b>    |   |    |    |    |                   |     |     |     |                       |    |    |    |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |
| Art               | 67  | 38 | 46 | 50 | 98                | 120 | 96  | 105 | 49                    | -- | 51 | -- | 46           | -- | 58 | 57 | 54                | 57 | 3  | 1  | 3            | 2  | -- | 30 | 34 | 32 |
| JackPot           | 70  | 35 | 51 | 52 | 102               | 110 | 107 | 106 | --                    | -- | -- | -- | --           | -- | 57 | 57 | 53                | 56 | 2  | 1  | 2            | 1  | -- | 31 | 34 | 32 |
| Jagalene          | 66  | 29 | 40 | 45 | 96                | 92  | 84  | 90  | 40                    | 34 | 42 | 32 | 44           | 44 | 57 | 57 | 53                | 56 | 4  | 3  | 3            | 3  | -- | 30 | 34 | 32 |
| <b>AGSECO</b>     |   |    |    |    |                   |     |     |     |                       |    |    |    |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |
| Santa Fe          | 70  | 34 | 41 | 48 | 102               | 108 | 86  | 99  | 46                    | 40 | 50 | 40 | 48           | 44 | 58 | 57 | 53                | 56 | 2  | 1  | -1           | 0  | -- | 32 | 33 | 32 |
| Shocker           | 60  | 29 | 49 | 46 | 88                | 92  | 103 | 94  | 39                    | 31 | 50 | 38 | 49           | 46 | 58 | 58 | 55                | 57 | 2  | 1  | 1            | 1  | -- | 29 | 33 | 31 |
| <b>Kansas</b>     |   |    |    |    |                   |     |     |     |                       |    |    |    |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |
| (W) Danby         | 68  | 18 | 44 | 43 | 99                | 57  | 93  | 83  | 41                    | 37 | 38 | 31 | 45           | 44 | 56 | 57 | 54                | 56 | 3  | 3  | 3            | 3  | -- | 31 | 36 | 33 |
| 2137              | 67  | 29 | 50 | 48 | 98                | 89  | 104 | 97  | 50                    | 43 | 47 | 40 | 52           | 47 | 58 | 57 | 53                | 56 | 4  | 2  | 2            | 2  | -- | 29 | 35 | 32 |
| Everest           | 72  | 47 | 59 | 59 | 106               | 147 | 124 | 125 | --                    | -- | -- | -- | --           | -- | 59 | 57 | 59                | 58 | 1  | -1 | -4           | -3 | -- | 31 | 34 | 33 |
| Fuller            | 66  | 33 | 52 | 50 | 96                | 104 | 108 | 103 | 47                    | 37 | 50 | 39 | 50           | 48 | 58 | 57 | 54                | 56 | 3  | 0  | 0            | 0  | -- | 30 | 34 | 32 |
| Jagger            | 67  | 33 | 42 | 47 | 98                | 103 | 88  | 97  | 46                    | 36 | 49 | 38 | 43           | 43 | 59 | 57 | 53                | 56 | 0  | 0  | 0            | 0  | -- | 32 | 35 | 33 |
| Overley           | 59  | 14 | 47 | 40 | 86                | 45  | 99  | 77  | 43                    | 34 | 40 | 32 | 44           | 45 | 57 | 57 | 53                | 56 | 0  | 0  | -2           | -1 | -- | 31 | 34 | 33 |
| <b>Oklahoma</b>   |   |    |    |    |                   |     |     |     |                       |    |    |    |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |
| Duster            | 68  | 25 | 45 | 46 | 100               | 79  | 93  | 91  | 44                    | 37 | 42 | 33 | 50           | -- | 57 | 57 | 52                | 55 | 4  | 3  | 3            | 3  | -- | 31 | 33 | 32 |
| Endurance         | 70  | 32 | 47 | 50 | 103               | 101 | 98  | 101 | --                    | -- | -- | -- | --           | -- | 56 | 57 | 54                | 56 | 2  | 2  | 1            | 2  | -- | 31 | 35 | 33 |
| <b>Scott Seed</b> |   |    |    |    |                   |     |     |     |                       |    |    |    |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |
| TAM 304           | 71  | 21 | 45 | 46 | 103               | 67  | 93  | 88  | 49                    | -- | 43 | -- | 52           | -- | 56 | 58 | 52                | 55 | 2  | 0  | -3           | -1 | -- | 30 | 32 | 31 |
| <b>WestBred</b>   |   |    |    |    |                   |     |     |     |                       |    |    |    |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |
| Armour            | 69  | 35 | 46 | 50 | 102               | 110 | 96  | 102 | 51                    | -- | 50 | -- | 48           | -- | 56 | 57 | 54                | 56 | 3  | 1  | 0            | 1  | -- | 30 | 32 | 31 |
| Hitch             | 70  | 45 | 55 | 57 | 103               | 141 | 115 | 120 | 58                    | -- | 57 | -- | 60           | -- | 57 | 57 | 54                | 56 | 4  | 2  | 2            | 2  | -- | 31 | 32 | 32 |
| HV9W03-539R       | 67  | 32 | 51 | 50 | 99                | 100 | 107 | 102 | --                    | -- | -- | -- | --           | -- | 55 | 57 | 54                | 55 | 3  | 3  | 3            | 3  | -- | 30 | 34 | 32 |
| HV9W03-696R-2     | 69  | 34 | 52 | 52 | 101               | 107 | 108 | 105 | --                    | -- | -- | -- | --           | -- | 59 | 57 | 54                | 57 | 1  | 0  | -2           | -1 | -- | 30 | 34 | 32 |
| HV9W96-1383R      | 76  | 35 | 49 | 53 | 111               | 109 | 102 | 108 | --                    | -- | -- | -- | --           | -- | 57 | 57 | 56                | 57 | 0  | -1 | -4           | -2 | -- | 29 | 31 | 30 |
| Winterhawk        | 74  | 38 | 46 | 53 | 108               | 120 | 96  | 108 | 58                    | 48 | 53 | 40 | 51           | -- | 58 | 57 | 55                | 56 | 2  | 3  | 3            | 3  | -- | 30 | 35 | 32 |
| Averages          | 68  | 32 | 48 | 49 | 68                | 32  | 48  | 49  | --                    | -- | -- | -- | --           | -- | 57 | 57 | 54                | 56 | 2  | 1  | 1            | 1  | -- | 30 | 34 | 32 |
| CV (%)            | 5   | 9  | 9  | 8  | 5                 | 9   | 9   | 8   | --                    | -- | -- | -- | --           | -- | 1  | 0  | 3                 | 1  | -- | -- | --           | -- | -- | 8  | 4  | 6  |
| LSD (0.05)*       | 5   | 4  | 6  | 5  | 7                 | 13  | 13  | 11  | --                    | -- | -- | -- | --           | -- | 1  | 0  | 2                 | 1  | -- | -- | --           | -- | -- | 3  | 2  | 3  |

<sup>1</sup> OT = Ottawa, KS, East Central Experiment Field, Franklin County

<sup>2</sup> CL = Columbus, KS, Cherokee County.

<sup>3</sup> 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.

**Table 6. 2009 SOUTHEAST Kansas SOFT winter wheat performance tests**

| Brand / Name         | CL <sup>1</sup> PA <sup>2</sup> Av. |    |    | CL PA Av.         |     |     | -CL-<br>2yr 3yr       |    | -PA-<br>2yr 3yr |    | CL PA Av.  |    |    | CL PA Av.         |    |    | CL PA Av.    |    |    |
|----------------------|-------------------------------------|----|----|-------------------|-----|-----|-----------------------|----|-----------------|----|------------|----|----|-------------------|----|----|--------------|----|----|
|                      | yield (bu/a)                        |    |    | % of test average |     |     | multi-year av. (bu/a) |    |                 |    | tw (lb/bu) |    |    | head (+/- Jagger) |    |    | height (in.) |    |    |
| <b>AgriPro</b>       |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |    |                   |    |    |              |    |    |
| Art                  | 37                                  | 47 | 42 | 88                | 78  | 83  | --                    | -- | --              | -- | 57         | 53 | 55 | 1                 | 0  | 1  | 29           | 34 | 31 |
| JackPot              | 36                                  | 50 | 43 | 86                | 84  | 85  | --                    | -- | --              | -- | 58         | 53 | 55 | 1                 | -2 | -1 | 32           | 34 | 33 |
| Jagalene             | 30                                  | 41 | 36 | 73                | 68  | 71  | 51                    | -- | 48              | -- | 58         | 51 | 54 | 3                 | 0  | 1  | 29           | 34 | 32 |
| <b>AgriPro COKER</b> |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |    |                   |    |    |              |    |    |
| (S) BO30543          | 49                                  | 59 | 54 | 117               | 98  | 107 | --                    | -- | --              | -- | 57         | 57 | 57 | 3                 | -2 | 0  | 30           | 34 | 32 |
| (S) Coker 9553       | 36                                  | 64 | 50 | 86                | 108 | 97  | 56                    | -- | 64              | -- | 58         | 55 | 56 | 1                 | 1  | 1  | 30           | 36 | 33 |
| <b>Dyna-Gro</b>      |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |    |                   |    |    |              |    |    |
| Baldwin              | 52                                  | 56 | 54 | 124               | 93  | 109 | --                    | -- | --              | -- | 57         | 57 | 57 | 4                 | 2  | 3  | 35           | 38 | 37 |
| <b>Georgia</b>       |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |    |                   |    |    |              |    |    |
| (S) 991209-6E33      | 39                                  | 71 | 55 | 92                | 118 | 105 | --                    | -- | --              | -- | 58         | 55 | 56 | 0                 | -2 | -1 | 35           | 35 | 35 |
| (S) 991336-6E9       | 35                                  | 58 | 46 | 84                | 97  | 90  | --                    | -- | --              | -- | 58         | 53 | 55 | 2                 | 0  | 1  | 31           | 33 | 32 |
| (S) 991371-6E12      | 34                                  | 64 | 49 | 82                | 107 | 94  | --                    | -- | --              | -- | 58         | 53 | 55 | 2                 | 0  | 1  | 30           | 34 | 32 |
| <b>Kansas</b>        |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |    |                   |    |    |              |    |    |
| 2137                 | 28                                  | 50 | 39 | 66                | 84  | 75  | 49                    | -- | 56              | -- | 58         | 53 | 55 | 3                 | -2 | 1  | 31           | 35 | 33 |
| Jagger               | 33                                  | 41 | 37 | 80                | 68  | 74  | 56                    | -- | 46              | -- | 58         | 53 | 55 | 0                 | 0  | 0  | 30           | 35 | 32 |
| <b>MFA</b>           |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |    |                   |    |    |              |    |    |
| (S) 2525             | 52                                  | 59 | 55 | 123               | 99  | 111 | --                    | -- | --              | -- | 57         | 55 | 56 | 4                 | 0  | 2  | 33           | 40 | 36 |
| (S) 2609             | 45                                  | 68 | 56 | 107               | 113 | 110 | 60                    | -- | 66              | -- | 57         | 55 | 56 | 2                 | 0  | 1  | 33           | 37 | 35 |
| <b>Pioneer</b>       |                                     |    |    |                   |     |     |                       |    |                 |    |            |    |    |                   |    |    |              |    |    |
| (S) 25R47            | 56                                  | 80 | 68 | 134               | 133 | 134 | 63                    | -- | 72              | -- | 57         | 54 | 56 | 2                 | -2 | 0  | 29           | 34 | 31 |
| (S) 25R62            | 59                                  | 72 | 65 | 140               | 121 | 130 | 67                    | -- | 62              | -- | 58         | 51 | 54 | 3                 | -1 | 1  | 30           | 35 | 33 |
| (S) 25R78            | 49                                  | 78 | 63 | 117               | 130 | 124 | --                    | -- | --              | -- | 58         | 55 | 56 | 2                 | -2 | 0  | 32           | 33 | 32 |
| Averages             | 42                                  | 60 | 51 | 42                | 60  | 51  | --                    | -- | --              | -- | 58         | 54 | 56 | 2                 | -1 | 1  | 31           | 35 | 33 |
| CV (%)               | 10                                  | 7  | 8  | 10                | 7   | 8   | --                    | -- | --              | -- | 0          | 2  | 1  | --                | -- |    | 6            | 4  | 5  |
| LSD (0.05)*          | 6                                   | 6  | 6  | 14                | 9   | 12  | --                    | -- | --              | -- | 0          | 1  | 1  | --                | -- |    | 3            | 2  | 2  |

<sup>1</sup> CL = Columbus, KS, Cherokee County.

<sup>2</sup> 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.

**Table 7. 2009 NORTH CENTRAL Kansas dryland winter wheat performance tests**

| Brand / Name    | BE <sup>1</sup> BL <sup>2</sup> Av. |    |     | BE BL Av.         |     |     | -BE-<br>2yr 3yr       |    | -BL-<br>2yr 3yr |    | BE BL Av.  |    |    | BE BL        |    | BE BL Av.    |    |    |
|-----------------|-------------------------------------|----|-----|-------------------|-----|-----|-----------------------|----|-----------------|----|------------|----|----|--------------|----|--------------|----|----|
|                 | yield (bu/a)                        |    |     | % of test average |     |     | multi-year av. (bu/a) |    |                 |    | tw (lb/bu) |    |    | (+/- Jagger) |    | height (in.) |    |    |
| <b>AgriPro</b>  |                                     |    |     |                   |     |     |                       |    |                 |    |            |    |    |              |    |              |    |    |
| Art             | 116                                 | 91 | 104 | 111               | 117 | 114 | 100                   | 93 | 80              | 68 | 60         | 60 | 60 | 1            | -- | 36           | 33 | 34 |
| Hawken          | 103                                 | 69 | 86  | 98                | 89  | 94  | 88                    | 84 | 71              | 63 | 59         | 59 | 59 | 2            | -- | 34           | 30 | 32 |
| Jagalene        | 102                                 | 79 | 90  | 97                | 101 | 99  | 84                    | 75 | 71              | 62 | 59         | 60 | 60 | 0            | -- | 36           | 33 | 34 |
| Postrock        | 108                                 | 87 | 97  | 102               | 112 | 107 | 93                    | 85 | 81              | 70 | 60         | 60 | 60 | 0            | -- | 36           | 32 | 34 |
| RustBuster-N    | 108                                 | 66 | 87  | 103               | 85  | 94  | 92                    | -- | 69              | -- | 59         | 60 | 60 | 1            | -- | 35           | 34 | 35 |
| <b>AGSECO</b>   |                                     |    |     |                   |     |     |                       |    |                 |    |            |    |    |              |    |              |    |    |
| Infinity CL     | 96                                  | 76 | 86  | 91                | 98  | 95  | --                    | -- | --              | -- | 59         | 60 | 59 | --           | -- | 38           | 33 | 35 |
| Protection CL   | 92                                  | 74 | 83  | 88                | 95  | 91  | 81                    | 75 | 72              | 62 | 59         | 57 | 58 | 0            | -- | 35           | 33 | 34 |
| Santa Fe        | 108                                 | 72 | 90  | 102               | 93  | 98  | 93                    | 92 | 72              | 64 | 59         | 59 | 59 | 2            | -- | 34           | 30 | 32 |
| Shocker         | 97                                  | 75 | 86  | 92                | 96  | 94  | 84                    | -- | 70              | -- | 59         | 60 | 59 | 2            | -- | 36           | 32 | 34 |
| Smoky Hill      | 111                                 | 83 | 97  | 105               | 107 | 106 | 95                    | 89 | 76              | 66 | 60         | 60 | 60 | 2            | -- | 36           | 34 | 35 |
| <b>Kansas</b>   |                                     |    |     |                   |     |     |                       |    |                 |    |            |    |    |              |    |              |    |    |
| (W) Danby       | 103                                 | 71 | 87  | 98                | 91  | 94  | 86                    | 79 | 72              | 59 | 61         | 59 | 60 | 1            | -- | 35           | 34 | 35 |
| 2137            | 108                                 | 90 | 99  | 102               | 116 | 109 | 90                    | 87 | 82              | 72 | 59         | 59 | 59 | 1            | -- | 35           | 30 | 32 |
| Everest         | 111                                 | 77 | 94  | 106               | 99  | 102 | --                    | -- | --              | -- | 60         | 61 | 61 | --           | -- | 33           | 30 | 32 |
| Fuller          | 110                                 | 74 | 92  | 105               | 95  | 100 | 96                    | 87 | 75              | 64 | 59         | 60 | 60 | 2            | -- | 35           | 31 | 33 |
| Jagger          | 96                                  | 71 | 83  | 91                | 91  | 91  | 82                    | 71 | 69              | 58 | 59         | 59 | 59 | --           | -- | 35           | 31 | 33 |
| Karl 92         | 101                                 | 73 | 87  | 96                | 94  | 95  | --                    | -- | --              | -- | 59         | 60 | 59 | 3            | -- | 32           | 27 | 30 |
| Overley         | 106                                 | 83 | 95  | 101               | 107 | 104 | 85                    | 79 | 81              | 69 | 59         | 59 | 59 | 1            | -- | 37           | 34 | 35 |
| <b>Nebraska</b> |                                     |    |     |                   |     |     |                       |    |                 |    |            |    |    |              |    |              |    |    |
| Overland        | 111                                 | 81 | 96  | 106               | 104 | 105 | 96                    | 89 | 78              | 66 | 59         | 60 | 60 | 2            | -- | 38           | 36 | 37 |
| Wesley          | 103                                 | 76 | 89  | 98                | 98  | 98  | 92                    | 84 | 76              | 66 | 59         | 58 | 59 | 1            | -- | 34           | 30 | 32 |
| <b>WestBred</b> |                                     |    |     |                   |     |     |                       |    |                 |    |            |    |    |              |    |              |    |    |
| Armour          | 106                                 | 74 | 90  | 101               | 95  | 98  | 94                    | -- | 72              | -- | 60         | 59 | 60 | 1            | -- | 34           | 30 | 32 |
| Hitch           | 110                                 | 83 | 96  | 104               | 107 | 106 | 95                    | -- | 77              | -- | 59         | 60 | 60 | 1            | -- | 35           | 32 | 33 |
| HV9W03-539R     | 105                                 | 76 | 90  | 99                | 98  | 99  | --                    | -- | --              | -- | 59         | 59 | 59 | 1            | -- | 36           | 32 | 34 |
| HV9W03-696R-2   | 106                                 | 74 | 90  | 101               | 95  | 98  | --                    | -- | --              | -- | 59         | 59 | 59 | --           | -- | 35           | 31 | 33 |
| HV9W96-1383R    | 107                                 | 83 | 95  | 102               | 107 | 104 | --                    | -- | --              | -- | 59         | 59 | 59 | 0            | -- | 34           | 31 | 32 |
| Winterhawk      | 105                                 | 85 | 95  | 100               | 109 | 105 | 86                    | 79 | 76              | 65 | 60         | 60 | 60 | 0            | -- | 34           | 31 | 33 |
| Averages        | 105                                 | 78 | 91  | 105               | 78  | 91  | --                    | -- | --              | -- | 59         | 59 | 59 | 0            | -- | 35           | 32 | 33 |
| CV (%)          | 3                                   | 4  | 3   | 3                 | 4   | 3   | --                    | -- | --              | -- | 0          | 0  | 0  | --           | -- | 4            | 4  | 4  |
| LSD (0.05)*     | 4                                   | 5  | 5   | 4                 | 7   | 5   | --                    | -- | --              | -- | 0          | 0  | 0  | --           | -- | 2            | 2  | 2  |

<sup>1</sup> BE = Belleville, KS, North Central Experiment Field, Republic County.

<sup>2</sup> BL = Beloit, KS, Mitchell County.

(W) = Hard white wheat.

\* Least significant difference, similar to margin of error, indicates difference needed to overcome test error.

**Table 8. 2009 SOUTH CENTRAL Kansas dryland winter wheat performance tests**

| Brand / Name    | <sup>1</sup> <sup>2</sup> <sup>3</sup> |    |    |     |              |     |     |     | -HE-                  |     | -HU- |     | -CW-       |     |    |    |                   |     |    |    |              |     |    |    |    |     |
|-----------------|--|----|----|-----|--------------|-----|-----|-----|-----------------------|-----|------|-----|------------|-----|----|----|-------------------|-----|----|----|--------------|-----|----|----|----|-----|
|                 | HE                                     | HU | CW | Av. | HE           | HU  | CW  | Av. | 2yr                   | 3yr | 2yr  | 3yr | 2yr        | 3yr | HE | HU | CW                | Av. | HE | HU | CW           | Av. | HE | HU | CW | Av. |
|                 | yield (bu/a) (lb/a)                    |    |    |     | % of average |     |     |     | multi-year av. (bu/a) |     |      |     | tw (lb/bu) |     |    |    | head (+/- Jagger) |     |    |    | height (in.) |     |    |    |    |     |
| <b>AgriPro</b>  |  |    |    |     |              |     |     |     |                       |     |      |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |
| Art             | 59                                     | 64 | 54 | 59  | 108          | 108 | 110 | 109 | 57                    | --  | 52   | --  | 52         | --  | 59 | 58 | 57                | 58  | 1  | 4  | --           | 2   | 33 | 36 | -- | 35  |
| Hawken          | 53                                     | 62 | 45 | 53  | 99           | 90  | 105 | 98  | --                    | --  | --   | --  | --         | --  | 60 | 57 | 58                | 58  | 3  | 5  | --           | 4   | 33 | 37 | -- | 35  |
| Jagalene        | 51                                     | 57 | 30 | 46  | 95           | 60  | 97  | 84  | 41                    | --  | 30   | --  | 43         | --  | 60 | 55 | 56                | 57  | 2  | 4  | --           | 3   | 33 | 37 | -- | 35  |
| Postrock        | 50                                     | 60 | 41 | 50  | 92           | 83  | 103 | 93  | 48                    | --  | 38   | --  | 50         | --  | 60 | 58 | 56                | 58  | 3  | 4  | --           | 3   | 33 | 35 | -- | 34  |
| RustBuster-S    | 58                                     | 65 | 54 | 59  | 107          | 109 | 110 | 109 | 57                    | --  | 51   | --  | 52         | --  | 59 | 58 | 56                | 58  | 1  | 4  | --           | 2   | 34 | 37 | -- | 35  |
| <b>AGSECO</b>   |  |    |    |     |              |     |     |     |                       |     |      |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |
| Protection CL   | 54                                     | 50 | 40 | 48  | 100          | 81  | 86  | 89  | 47                    | --  | 37   | --  | 39         | --  | 57 | 54 | 53                | 55  | 0  | 0  | --           | 0   | 36 | 39 | -- | 37  |
| Santa Fe        | 57                                     | 65 | 52 | 58  | 105          | 104 | 112 | 107 | 53                    | --  | 49   | --  | 52         | --  | 59 | 57 | 57                | 58  | 1  | 3  | --           | 2   | 33 | 35 | -- | 34  |
| Shocker         | 53                                     | 57 | 52 | 54  | 98           | 105 | 98  | 100 | 49                    | --  | 50   | --  | 49         | --  | 59 | 57 | 56                | 57  | 1  | 2  | --           | 2   | 33 | 35 | -- | 34  |
| <b>Kansas</b>   |  |    |    |     |              |     |     |     |                       |     |      |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |
| (W) Danby       | 42                                     | 63 | 45 | 50  | 78           | 90  | 107 | 92  | 42                    | --  | 41   | --  | 52         | --  | 61 | 57 | 57                | 58  | 7  | 4  | --           | 6   | 32 | 40 | -- | 36  |
| 2137            | 52                                     | 63 | 49 | 55  | 96           | 98  | 107 | 101 | 49                    | --  | 49   | --  | 59         | --  | 60 | 58 | 56                | 58  | 3  | 2  | --           | 3   | 33 | 37 | -- | 35  |
| Everest         | 57                                     | 59 | 68 | 61  | 105          | 137 | 101 | 114 | --                    | --  | --   | --  | --         | --  | 61 | 60 | 57                | 60  | 1  | -3 | --           | -1  | 32 | 36 | -- | 34  |
| Fuller          | 53                                     | 55 | 51 | 53  | 97           | 103 | 93  | 98  | 53                    | --  | 50   | --  | 47         | --  | 60 | 58 | 58                | 58  | 1  | 1  | --           | 1   | 32 | 35 | -- | 33  |
| Jagger          | 50                                     | 58 | 38 | 49  | 93           | 77  | 98  | 89  | 43                    | --  | 34   | --  | 43         | --  | 59 | 54 | 56                | 56  | 0  | 0  | --           | 0   | 33 | 36 | -- | 34  |
| Overley         | 58                                     | 55 | 42 | 52  | 107          | 84  | 95  | 95  | 50                    | --  | 40   | --  | 46         | --  | 59 | 56 | 55                | 57  | -2 | 0  | --           | -1  | 36 | 38 | -- | 37  |
| <b>Oklahoma</b> |  |    |    |     |              |     |     |     |                       |     |      |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |
| Duster          | 60                                     | 52 | 58 | 57  | 112          | 116 | 89  | 106 | 51                    | --  | 51   | --  | 49         | --  | 61 | 58 | 55                | 58  | 2  | 3  | --           | 2   | 33 | 36 | -- | 35  |
| Endurance       | 59                                     | 64 | 60 | 61  | 110          | 121 | 110 | 114 | --                    | --  | --   | --  | --         | --  | 60 | 58 | 56                | 58  | 1  | -3 | --           | -1  | 35 | 38 | -- | 36  |
| OK Bullet       | 44                                     | 49 | 29 | 41  | 82           | 58  | 84  | 75  | 41                    | --  | 32   | --  | 41         | --  | 60 | 56 | 56                | 57  | 3  | 4  | --           | 4   | 35 | 39 | -- | 37  |
| <b>WestBred</b> |  |    |    |     |              |     |     |     |                       |     |      |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |
| Armour          | 57                                     | 56 | 53 | 55  | 105          | 106 | 96  | 102 | 58                    | --  | 53   | --  | 43         | --  | 58 | 57 | 54                | 56  | 0  | 3  | --           | 1   | 31 | 34 | -- | 32  |
| Hitch           | 53                                     | 63 | 52 | 56  | 98           | 105 | 108 | 104 | 54                    | --  | 52   | --  | 52         | --  | 60 | 58 | 55                | 57  | 3  | 5  | --           | 4   | 31 | 35 | -- | 33  |
| HV9W03-539R     | 61                                     | 57 | 52 | 57  | 113          | 104 | 97  | 105 | --                    | --  | --   | --  | --         | --  | 58 | 56 | 53                | 55  | 1  | 4  | --           | 2   | 34 | 36 | -- | 35  |
| HV9W03-696R-2   | 58                                     | 58 | 62 | 59  | 107          | 125 | 99  | 110 | --                    | --  | --   | --  | --         | --  | 59 | 58 | 56                | 58  | -1 | -3 | --           | -2  | 32 | 34 | -- | 33  |
| HV9W96-1383R    | 50                                     | 55 | 67 | 57  | 93           | 135 | 94  | 107 | --                    | --  | --   | --  | --         | --  | 59 | 57 | 54                | 57  | 1  | -3 | --           | -1  | 29 | 32 | -- | 30  |
| Averages        | 54                                     | 58 | 50 | 54  | 54           | 50  | 58  | 54  | --                    | --  | --   | --  | --         | --  | 59 | 57 | 56                | 57  | 1  | 2  | --           | 2   | 33 | 36 | -- | 35  |
| CV (%)          | 5                                      | 7  | 10 | 7   | 5            | 10  | 7   | 7   | --                    | --  | --   | --  | --         | --  | 1  | 1  | 1                 | 1   | -- | -- | --           | --  | 2  | 2  | -- | 2   |
| LSD (0.05)*     | 4                                      | 6  | 7  | 6   | 7            | 14  | 11  | 10  | --                    | --  | --   | --  | --         | --  | 1  | 1  | 1                 | 1   | -- | -- | --           | --  | 1  | 1  | -- | 1   |

<sup>1</sup> HE = Hesston, KS, Harvey County Experiment Field, Harvey County.

<sup>2</sup> HU = Hutchinson, KS, South Central Experiment Field, Reno County.

<sup>3</sup> CW = Caldwell, KS, Sumner County.

(W) = Hard white wheat.

\* Least significant difference, similar to margin of error, indicates difference needed to overcome test error.

**Table 9. 2009 NORTHWEST Kansas dryland winter wheat performance tests**

| Brand / Name         | 1 2 3        |    |    |     | -HA-              |     |     |     | -CO-                  |     |     |     | -TR-       |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
|----------------------|--------------|----|----|-----|-------------------|-----|-----|-----|-----------------------|-----|-----|-----|------------|-----|----|----|-------------------|-----|----|----|--------------|-----|----|----|----|-----|--|
|                      | HA           | CO | TR | Av. | HA                | CO  | TR  | Av. | 2yr                   | 3yr | 2yr | 3yr | 2yr        | 3yr | HA | CO | TR                | Av. | HA | CO | TR           | Av. | HA | CO | TR | Av. |  |
|                      | yield (bu/a) |    |    |     | % of test average |     |     |     | multi-year av. (bu/a) |     |     |     | tw (lb/bu) |     |    |    | head (+/- Jagger) |     |    |    | height (in.) |     |    |    |    |     |  |
| <b>AgriPro</b>       |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| (W) NuDakota         | 59           | 86 | 21 | 55  | 92                | 106 | 95  | 98  | 61                    | 57  | 76  | 77  | 42         | 43  | 60 | -- | 48                | 54  | 6  | 4  | --           | 5   | 27 | 35 | -- | 31  |  |
| Art                  | 65           | 77 | 20 | 54  | 102               | 95  | 90  | 96  | 62                    | --  | 70  | 74  | 35         | 42  | 62 | -- | 52                | 57  | 2  | 2  | --           | 2   | 30 | 34 | -- | 32  |  |
| Hawken               | 62           | 76 | 19 | 52  | 97                | 94  | 83  | 92  | 63                    | --  | 68  | 71  | 35         | 40  | 62 | -- | 50                | 56  | 2  | 1  | --           | 2   | 27 | 35 | -- | 31  |  |
| Jagalene             | 61           | 75 | 19 | 52  | 96                | 93  | 86  | 92  | 61                    | 55  | 69  | 70  | 36         | 37  | 62 | -- | 53                | 58  | 4  | 3  | --           | 4   | 27 | 36 | -- | 31  |  |
| Postrock             | 62           | 80 | 22 | 54  | 98                | 99  | 96  | 97  | 61                    | 55  | 73  | 76  | 38         | 43  | 63 | -- | 50                | 56  | 3  | 2  | --           | 2   | 27 | 34 | -- | 31  |  |
| TAM 111              | 70           | 86 | 23 | 60  | 111               | 107 | 104 | 107 | 66                    | 58  | 75  | 77  | 39         | 46  | 63 | -- | 52                | 57  | 3  | 4  | --           | 3   | 31 | 37 | -- | 34  |  |
| <b>AGSECO</b>        |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| Keota                | 63           | 79 | 20 | 54  | 99                | 98  | 89  | 95  | 56                    | 51  | 69  | 72  | 35         | 38  | 63 | -- | 52                | 57  | 3  | 4  | --           | 3   | 31 | 37 | -- | 34  |  |
| Protection CL        | 65           | 81 | 23 | 56  | 102               | 101 | 104 | 102 | 59                    | 56  | 72  | 74  | 36         | 39  | 60 | -- | 49                | 54  | 2  | 0  | --           | 1   | 31 | 36 | -- | 34  |  |
| Smoky Hill           | 72           | 97 | 22 | 63  | 113               | 120 | 97  | 110 | 66                    | 57  | 80  | 80  | 39         | 40  | 62 | -- | 52                | 57  | 5  | 4  | --           | 4   | 31 | 37 | -- | 34  |  |
| <b>Colorado</b>      |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| Bill Brown           | 59           | 70 | 17 | 49  | 93                | 87  | 78  | 86  | 61                    | --  | 70  | --  | 39         | --  | 62 | -- | 51                | 56  | 1  | 3  | --           | 2   | 28 | 35 | -- | 31  |  |
| Bond CL              | 63           | -- | -- |     | 99                | --  | --  |     | 60                    | 55  | --  | --  | --         | --  | 61 | -- | --                |     | 3  | -- | --           |     | 32 | -- | -- |     |  |
| Hatcher              | 64           | 71 | 26 | 54  | 101               | 88  | 116 | 102 | 64                    | 57  | 70  | 75  | 44         | 48  | 63 | -- | 53                | 58  | 2  | 3  | --           | 3   | 27 | 35 | -- | 31  |  |
| Ripper               | 67           | 80 | 25 | 58  | 106               | 99  | 113 | 106 | 64                    | --  | 72  | 72  | 42         | 46  | 61 | -- | 51                | 56  | 4  | 2  | --           | 3   | 29 | 37 | -- | 33  |  |
| <b>DC Seed</b>       |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| T-151                | 63           | 75 | 24 | 54  | 100               | 93  | 107 | 100 | --                    | --  | --  | --  | --         | --  | 63 | -- | 53                | 58  | 2  | 1  | --           | 1   | 29 | 35 | -- | 32  |  |
| <b>Drussel</b>       |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| T81                  | 62           | 83 | 25 | 57  | 98                | 102 | 111 | 104 | 62                    | 56  | 70  | 71  | 41         | 42  | 63 | -- | 51                | 57  | 3  | 1  | --           | 2   | 30 | 38 | -- | 34  |  |
| <b>Ehmke Seed</b>    |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| Ike                  | 57           | 78 | 25 | 53  | 90                | 97  | 110 | 99  | --                    | --  | --  | --  | --         | --  | 63 | -- | 52                | 57  | 2  | 1  | --           | 2   | 31 | 36 | -- | 34  |  |
| <b>Kansas</b>        |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| (W) Danby            | 65           | 87 | 30 | 61  | 102               | 108 | 135 | 115 | 66                    | 61  | 78  | 76  | 44         | 45  | 64 | -- | 58                | 61  | 4  | 4  | --           | 4   | 29 | 37 | -- | 33  |  |
| 2137                 | 62           | 75 | 26 | 54  | 97                | 93  | 115 | 102 | 62                    | 55  | 66  | 69  | 39         | 45  | 63 | -- | 51                | 57  | 2  | 5  | --           | 3   | 29 | 36 | -- | 32  |  |
| Fuller               | 61           | 80 | 18 | 53  | 97                | 99  | 80  | 92  | 60                    | 54  | 72  | 74  | 38         | 42  | 63 | -- | 50                | 56  | 2  | 0  | --           | 1   | 29 | 35 | -- | 32  |  |
| Jagger               | 59           | 78 | 21 | 53  | 93                | 97  | 94  | 95  | 55                    | 51  | 70  | 73  | 37         | 38  | 62 | -- | 51                | 56  | 0  | 0  | --           | 0   | 29 | 35 | -- | 32  |  |
| KS05HW136-3          | 66           | 88 | 17 | 57  | 104               | 109 | 76  | 97  | --                    | --  | --  | --  | --         | --  | 62 | -- | 51                | 56  | 3  | 4  | --           | 3   | 27 | 33 | -- | 30  |  |
| Overley              | 60           | 75 | 19 | 51  | 94                | 93  | 83  | 90  | 57                    | 53  | 69  | 73  | 34         | 41  | 63 | -- | 51                | 57  | 2  | 0  | --           | 1   | 30 | 37 | -- | 33  |  |
| <b>Nebraska</b>      |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| Overland             | 66           | 79 | 23 | 56  | 104               | 98  | 102 | 101 | 67                    | --  | 71  | 75  | 41         | 47  | 62 | -- | 49                | 56  | 5  | 5  | --           | 5   | 32 | 39 | -- | 35  |  |
| Wesley               | 68           | 80 | 21 | 56  | 107               | 99  | 95  | 100 | 67                    | 58  | 68  | 69  | 39         | 42  | 61 | -- | 49                | 55  | 5  | 4  | --           | 5   | 30 | 36 | -- | 33  |  |
| <b>Trio-Research</b> |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| T-140                | 64           | 76 | 21 | 54  | 101               | 94  | 96  | 97  | 61                    | --  | 71  | --  | 33         | --  | 61 | -- | 51                | 56  | 2  | 2  | --           | 2   | 32 | 37 | -- | 35  |  |
| <b>Watley</b>        |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| TAM 112              | 66           | 87 | 30 | 61  | 104               | 108 | 133 | 115 | 66                    | 63  | 81  | 81  | 45         | 51  | 63 | -- | 56                | 59  | 1  | 1  | --           | 1   | 30 | 37 | -- | 33  |  |
| <b>WestBred</b>      |              |    |    |     |                   |     |     |     |                       |     |     |     |            |     |    |    |                   |     |    |    |              |     |    |    |    |     |  |
| Armour               | 66           | 85 | 19 | 57  | 104               | 105 | 85  | 98  | 69                    | --  | 74  | --  | 34         | --  | 62 | -- | 48                | 55  | 0  | 2  | --           | 1   | 26 | 36 | -- | 31  |  |
| Aspen                | 64           | 82 | 29 | 58  | 100               | 102 | 131 | 111 | 64                    | --  | 72  | 75  | 40         | 46  | 62 | -- | 51                | 57  | 2  | 2  | --           | 2   | 25 | 33 | -- | 29  |  |
| Hitch                | 60           | 84 | 23 | 56  | 94                | 104 | 104 | 101 | 61                    | --  | 72  | --  | 37         | --  | 62 | -- | 50                | 56  | 4  | 4  | --           | 4   | 27 | 33 | -- | 30  |  |
| HV9W03-539R          | 66           | 79 | 20 | 55  | 103               | 98  | 92  | 98  | --                    | --  | --  | --  | --         | --  | 61 | -- | 48                | 55  | 1  | 1  | --           | 1   | 30 | 35 | -- | 32  |  |
| HV9W96-1383R         | 59           | 89 | 23 | 57  | 93                | 110 | 105 | 103 | --                    | --  | --  | --  | --         | --  | 62 | -- | 51                | 57  | 0  | 0  | --           | 0   | 26 | 34 | -- | 30  |  |
| Winterhawk           | 67           | 84 | 21 | 57  | 105               | 104 | 95  | 102 | 63                    | --  | 75  | --  | 39         | --  | 62 | -- | 51                | 57  | 2  | 3  | --           | 2   | 31 | 38 | -- | 34  |  |
| Averages             | 64           | 81 | 22 | 56  | 64                | 81  | 22  | 56  | --                    | --  | --  | --  | --         | --  | 62 | -- | 51                | 57  | 2  | 2  | --           | 2   | 29 | 36 | -- | 32  |  |
| CV (%)               | 10           | 6  | 12 | 9   | 10                | 6   | 12  | 9   | --                    | --  | --  | --  | --         | --  | 1  | -- | 2                 | 1   | -- | -- | --           |     | 4  | 3  | -- | 4   |  |
| LSD (0.05)*          | 9            | 7  | 4  | 7   | 14                | 9   | 17  | 13  | --                    | --  | --  | --  | --         | --  | 1  | -- | 1                 | 1   | -- | -- | --           |     | 2  | 2  | 4  | 2   |  |

<sup>1</sup> HA = Hays, KS, K-State Agricultural Research Center - Hays, Ellis County.

<sup>2</sup> CO = Colby, KS, Northwest Research-Extension Center, Thomas County.

<sup>3</sup> 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.

**Table 10. 2009 SOUTHWEST Kansas dryland winter wheat performance tests**

| Brand / Name      | 1            |    |    |     | 2                 |    |     |     | 3                     |    |    |     | -LA-       |    |    |     | -DC-              |    |    |     | -GC-         |    |    |     |    |    |    |    |
|-------------------|--------------|----|----|-----|-------------------|----|-----|-----|-----------------------|----|----|-----|------------|----|----|-----|-------------------|----|----|-----|--------------|----|----|-----|----|----|----|----|
|                   | LA           | DC | GC | Av. | LA                | DC | GC  | Av. | LA                    | DC | GC | Av. | LA         | DC | GC | Av. | LA                | DC | GC | Av. | LA           | DC | GC | Av. |    |    |    |    |
| <b>AgriPro</b>    | yield (bu/a) |    |    |     | % of test average |    |     |     | multi-year av. (bu/a) |    |    |     | tw (lb/bu) |    |    |     | head (+/- Jagger) |    |    |     | height (in.) |    |    |     |    |    |    |    |
| (W) NuDakota      | --           | -- | 51 | 51  | --                | -- | 100 | 100 | --                    | -- | -- | --  | --         | -- | -- | --  | --                | -- | 54 | 54  | --           | -- | -- | --  | -- | -- | 32 | 32 |
| Art               | --           | -- | 50 | 50  | --                | -- | 100 | 100 | --                    | -- | -- | 49  | --         | -- | -- | --  | --                | -- | 56 | 56  | --           | -- | -- | --  | -- | -- | 33 | 33 |
| Hawken            | --           | -- | 48 | 48  | --                | -- | 96  | 96  | --                    | -- | 52 | --  | --         | -- | -- | --  | --                | -- | 56 | 56  | --           | -- | -- | --  | -- | -- | 32 | 32 |
| Jagalene          | --           | -- | 50 | 50  | --                | -- | 100 | 100 | 33                    | -- | 49 | --  | 46         | 38 | -- | --  | 59                | 59 | -- | --  | --           | -- | -- | --  | 33 | 33 |    |    |
| Postrock          | --           | -- | 51 | 51  | --                | -- | 101 | 101 | 28                    | -- | 53 | --  | 50         | 42 | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 32 | 32 |    |    |
| TAM 111           | --           | -- | 53 | 53  | --                | -- | 104 | 104 | 27                    | -- | 52 | --  | 50         | 43 | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 36 | 36 |    |    |
| <b>AGSECO</b>     |              |    |    |     |                   |    |     |     |                       |    |    |     |            |    |    |     |                   |    |    |     |              |    |    |     |    |    |    |    |
| Keota             | --           | -- | 48 | 48  | --                | -- | 95  | 95  | 30                    | -- | 50 | --  | 48         | 40 | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 35 | 35 |    |    |
| Protection CL     | --           | -- | 51 | 51  | --                | -- | 100 | 100 | 29                    | -- | 46 | --  | 46         | 39 | -- | --  | 55                | 55 | -- | --  | --           | -- | -- | --  | 34 | 34 |    |    |
| Shocker           | --           | -- | 48 | 48  | --                | -- | 94  | 94  | 30                    | -- | 45 | --  | 49         | 39 | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 33 | 33 |    |    |
| TAM 110           | --           | -- | 50 | 50  | --                | -- | 98  | 98  | 31                    | -- | 50 | --  | 45         | 38 | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 34 | 34 |    |    |
| <b>Colorado</b>   |              |    |    |     |                   |    |     |     |                       |    |    |     |            |    |    |     |                   |    |    |     |              |    |    |     |    |    |    |    |
| Bill Brown        | --           | -- | 52 | 52  | --                | -- | 102 | 102 | --                    | -- | 56 | --  | --         | -- | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 33 | 33 |    |    |
| Bond CL           | --           | -- | 48 | 48  | --                | -- | 95  | 95  | --                    | -- | -- | --  | --         | -- | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 35 | 35 |    |    |
| Hatcher           | --           | -- | 60 | 60  | --                | -- | 118 | 118 | 35                    | -- | 57 | --  | 52         | 44 | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 35 | 35 |    |    |
| Ripper            | --           | -- | 52 | 52  | --                | -- | 102 | 102 | --                    | -- | 54 | --  | 43         | -- | -- | --  | 56                | 56 | -- | --  | --           | -- | -- | --  | 33 | 33 |    |    |
| <b>DC Seed</b>    |              |    |    |     |                   |    |     |     |                       |    |    |     |            |    |    |     |                   |    |    |     |              |    |    |     |    |    |    |    |
| T-136             | --           | -- | 48 | 48  | --                | -- | 96  | 96  | --                    | -- | -- | --  | --         | -- | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 33 | 33 |    |    |
| T-151             | --           | -- | 49 | 49  | --                | -- | 97  | 97  | --                    | -- | -- | --  | --         | -- | -- | --  | 56                | 56 | -- | --  | --           | -- | -- | --  | 34 | 34 |    |    |
| <b>Drussel</b>    |              |    |    |     |                   |    |     |     |                       |    |    |     |            |    |    |     |                   |    |    |     |              |    |    |     |    |    |    |    |
| T81               | --           | -- | 50 | 50  | --                | -- | 99  | 99  | 31                    | -- | 49 | --  | 43         | 37 | -- | --  | 56                | 56 | -- | --  | --           | -- | -- | --  | 35 | 35 |    |    |
| <b>Ehmke Seed</b> |              |    |    |     |                   |    |     |     |                       |    |    |     |            |    |    |     |                   |    |    |     |              |    |    |     |    |    |    |    |
| Ike               | --           | -- | 54 | 54  | --                | -- | 108 | 108 | 27                    | -- | -- | --  | 47         | 39 | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 36 | 36 |    |    |
| <b>Kansas</b>     |              |    |    |     |                   |    |     |     |                       |    |    |     |            |    |    |     |                   |    |    |     |              |    |    |     |    |    |    |    |
| (W) Danby         | --           | -- | 51 | 51  | --                | -- | 102 | 102 | 36                    | -- | 61 | --  | 49         | 41 | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 35 | 35 |    |    |
| 2137              | --           | -- | 50 | 50  | --                | -- | 99  | 99  | 33                    | -- | 49 | --  | 49         | 41 | -- | --  | 56                | 56 | -- | --  | --           | -- | -- | --  | 34 | 34 |    |    |
| Fuller            | --           | -- | 45 | 45  | --                | -- | 89  | 89  | 30                    | -- | 57 | --  | 45         | 37 | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 32 | 32 |    |    |
| Jagger            | --           | -- | 49 | 49  | --                | -- | 97  | 97  | 24                    | -- | 50 | --  | 44         | 37 | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 33 | 33 |    |    |
| KS05HW136-3       | --           | -- | 50 | 50  | --                | -- | 98  | 98  | --                    | -- | -- | --  | --         | -- | -- | --  | 59                | 59 | -- | --  | --           | -- | -- | --  | 31 | 31 |    |    |
| Overley           | --           | -- | 49 | 49  | --                | -- | 98  | 98  | 26                    | -- | 49 | --  | 47         | 38 | -- | --  | 59                | 59 | -- | --  | --           | -- | -- | --  | 34 | 34 |    |    |
| <b>Oklahoma</b>   |              |    |    |     |                   |    |     |     |                       |    |    |     |            |    |    |     |                   |    |    |     |              |    |    |     |    |    |    |    |
| Duster            | --           | -- | 50 | 50  | --                | -- | 99  | 99  | --                    | -- | 48 | --  | 46         | -- | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 34 | 34 |    |    |
| Endurance         | --           | -- | 51 | 51  | --                | -- | 101 | 101 | 36                    | -- | -- | --  | 54         | 44 | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 35 | 35 |    |    |
| OK Bullet         | --           | -- | 53 | 53  | --                | -- | 104 | 104 | 32                    | -- | 54 | --  | 45         | 38 | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 36 | 36 |    |    |
| <b>Watley</b>     |              |    |    |     |                   |    |     |     |                       |    |    |     |            |    |    |     |                   |    |    |     |              |    |    |     |    |    |    |    |
| TAM 112           | --           | -- | 54 | 54  | --                | -- | 106 | 106 | 40                    | -- | 62 | --  | 46         | 41 | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 35 | 35 |    |    |
| <b>WestBred</b>   |              |    |    |     |                   |    |     |     |                       |    |    |     |            |    |    |     |                   |    |    |     |              |    |    |     |    |    |    |    |
| Armour            | --           | -- | 49 | 49  | --                | -- | 96  | 96  | --                    | -- | 51 | --  | --         | -- | -- | --  | 56                | 56 | -- | --  | --           | -- | -- | --  | 32 | 32 |    |    |
| Aspen             | --           | -- | 51 | 51  | --                | -- | 101 | 101 | --                    | -- | 49 | --  | 51         | -- | -- | --  | 56                | 56 | -- | --  | --           | -- | -- | --  | 32 | 32 |    |    |
| Hitch             | --           | -- | 49 | 49  | --                | -- | 97  | 97  | --                    | -- | 58 | --  | --         | -- | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 32 | 32 |    |    |
| HV9W03-539R       | --           | -- | 51 | 51  | --                | -- | 102 | 102 | --                    | -- | -- | --  | --         | -- | -- | --  | 53                | 53 | -- | --  | --           | -- | -- | --  | 33 | 33 |    |    |
| HV9W96-1383R      | --           | -- | 51 | 51  | --                | -- | 102 | 102 | --                    | -- | -- | --  | --         | -- | -- | --  | 59                | 59 | -- | --  | --           | -- | -- | --  | 32 | 32 |    |    |
| Winterhawk        | --           | -- | 52 | 52  | --                | -- | 103 | 103 | --                    | -- | 48 | --  | --         | -- | -- | --  | 58                | 58 | -- | --  | --           | -- | -- | --  | 35 | 35 |    |    |
| Averages          | --           | -- | 50 | 50  | --                | -- | 50  | 50  | --                    | -- | -- | --  | --         | -- | -- | --  | 57                | 57 | -- | --  | --           | -- | -- | --  | 34 | 34 |    |    |
| CV (%)            | --           | -- | 9  | 9   | --                | -- | 9   | 9   | --                    | -- | -- | --  | --         | -- | -- | --  | 3                 | 3  | -- | --  | --           | -- | -- | --  | 3  | 3  |    |    |
| LSD (0.05)*       | --           | -- | 6  | 6   | --                | -- | 13  | 13  | --                    | -- | -- | --  | --         | -- | -- | --  | 2                 | 2  | -- | --  | --           | -- | -- | --  | 1  | 1  |    |    |

<sup>1</sup> LA = Larned, KS, Pawnee County. Abandoned; poor emergence and stands.

<sup>2</sup> DC = Dodge City, KS, Ford County. Abandoned; hailstorm on 5/15/2009.

<sup>3</sup> GC = Garden City, KS, Finney County.

(W) = Hard white wheat.

\* Least significant difference, similar to margin of error, indicates difference needed to overcome test error.

**Table 11. 2009 IRRIGATED Kansas winter wheat performance tests**

| Brand / Name      | <sup>1</sup> CO <sup>2</sup> DC <sup>3</sup> GC Av. |    |    |    | -CO- -DC- -GC-        |    |    |     | CO DC GC Av. |    |    |    | CO DC GC Av.      |    |    |    |              |    |    |    |    |    |    |    |
|-------------------|---|----|----|----|-----------------------|----|----|-----|--------------|----|----|----|-------------------|----|----|----|--------------|----|----|----|----|----|----|----|
|                   | yield (bu/a)  |    |    |    | multi-year av. (bu/a) |    |    |     | tw (lb/bu)   |    |    |    | head (+/- Jagger) |    |    |    | height (in.) |    |    |    |    |    |    |    |
| <b>AgriPro</b>    |   |    |    |    |                       |    |    |     |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |    |    |
| Jagalene          | 73  | -- | -- | 73 | 96                    | -- | -- | 96  | 88           | 87 | -- | -- | 56                | -- | -- | 56 | 2            | -- | -- | 2  | 40 | -- | -- | 40 |
| TAM 111           | 80  | -- | -- | 80 | 106                   | -- | -- | 106 | --           | -- | -- | -- | 58                | -- | -- | 58 | 2            | -- | -- | 2  | 39 | -- | -- | 39 |
| <b>AGSECO</b>     |   |    |    |    |                       |    |    |     |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |    |    |
| Santa Fe          | 77  | -- | -- | 77 | 101                   | -- | -- | 101 | --           | -- | -- | -- | 56                | -- | -- | 56 | 1            | -- | -- | 1  | 35 | -- | -- | 35 |
| Smoky Hill        | 77  | -- | -- | 77 | 102                   | -- | -- | 102 | --           | -- | -- | -- | 55                | -- | -- | 55 | 2            | -- | -- | 2  | 36 | -- | -- | 36 |
| TAM 110           | 71  | -- | -- | 71 | 93                    | -- | -- | 93  | 86           | 84 | -- | -- | 55                | -- | -- | 55 | -1           | -- | -- | -1 | 36 | -- | -- | 36 |
| <b>Colorado</b>   |   |    |    |    |                       |    |    |     |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |    |    |
| Bill Brown        | 62  | -- | -- | 62 | 81                    | -- | -- | 81  | 76           | -- | -- | -- | 56                | -- | -- | 56 | 2            | -- | -- | 2  | 37 | -- | -- | 37 |
| Bond CL           | 70  | -- | -- | 70 | 92                    | -- | -- | 92  | 85           | 88 | -- | -- | 59                | -- | -- | 59 | 1            | -- | -- | 1  | 37 | -- | -- | 37 |
| Hatcher           | 61  | -- | -- | 61 | 80                    | -- | -- | 80  | 74           | 82 | -- | -- | 59                | -- | -- | 59 | 2            | -- | -- | 2  | 35 | -- | -- | 35 |
| <b>Drussel</b>    |   |    |    |    |                       |    |    |     |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |    |    |
| T81               | 78  | -- | -- | 78 | 102                   | -- | -- | 102 | 86           | 86 | -- | -- | 59                | -- | -- | 59 | 0            | -- | -- | 0  | 37 | -- | -- | 37 |
| <b>Kansas</b>     |   |    |    |    |                       |    |    |     |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |    |    |
| (W) Danby         | 73  | -- | -- | 73 | 96                    | -- | -- | 96  | 89           | 91 | -- | -- | 60                | -- | -- | 60 | 2            | -- | -- | 2  | 37 | -- | -- | 37 |
| 2137              | 69  | -- | -- | 69 | 91                    | -- | -- | 91  | 83           | 85 | -- | -- | 59                | -- | -- | 59 | 2            | -- | -- | 2  | 38 | -- | -- | 38 |
| Fuller            | 73  | -- | -- | 73 | 96                    | -- | -- | 96  | 84           | 90 | -- | -- | 59                | -- | -- | 59 | 1            | -- | -- | 1  | 34 | -- | -- | 34 |
| Jagger            | 64  | -- | -- | 64 | 84                    | -- | -- | 84  | 78           | 82 | -- | -- | 57                | -- | -- | 57 | 0            | -- | -- | 0  | 35 | -- | -- | 35 |
| KS05HW136-3       | 59  | -- | -- | 59 | 78                    | -- | -- | 78  | --           | -- | -- | -- | 58                | -- | -- | 58 | 3            | -- | -- | 3  | 36 | -- | -- | 36 |
| Overley           | 73  | -- | -- | 73 | 96                    | -- | -- | 96  | 88           | 91 | -- | -- | 55                | -- | -- | 55 | -1           | -- | -- | -1 | 37 | -- | -- | 37 |
| <b>Oklahoma</b>   |   |    |    |    |                       |    |    |     |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |    |    |
| OK Bullet         | 78  | -- | -- | 78 | 103                   | -- | -- | 103 | 87           | 90 | -- | -- | 58                | -- | -- | 58 | 1            | -- | -- | 1  | 40 | -- | -- | 40 |
| <b>Scott Seed</b> |   |    |    |    |                       |    |    |     |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |    |    |
| TAM 304           | 93  | -- | -- | 93 | 122                   | -- | -- | 122 | 98           | -- | -- | -- | 56                | -- | -- | 56 | 1            | -- | -- | 1  | 35 | -- | -- | 35 |
| <b>Watley</b>     |   |    |    |    |                       |    |    |     |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |    |    |
| TAM 112           | 67  | -- | -- | 67 | 89                    | -- | -- | 89  | 84           | 88 | -- | -- | 60                | -- | -- | 60 | -1           | -- | -- | -1 | 38 | -- | -- | 38 |
| <b>WestBred</b>   |   |    |    |    |                       |    |    |     |              |    |    |    |                   |    |    |    |              |    |    |    |    |    |    |    |
| Armour            | 90  | -- | -- | 90 | 118                   | -- | -- | 118 | 96           | -- | -- | -- | 60                | -- | -- | 60 | 0            | -- | -- | 0  | 35 | -- | -- | 35 |
| Aspen             | 98  | -- | -- | 98 | 129                   | -- | -- | 129 | 104          | 04 | -- | -- | 56                | -- | -- | 56 | 1            | -- | -- | 1  | 36 | -- | -- | 36 |
| Hitch             | 95  | -- | -- | 95 | 125                   | -- | -- | 125 | 98           | -- | -- | -- | 57                | -- | -- | 57 | 2            | -- | -- | 2  | 37 | -- | -- | 37 |
| HV9W03-539R       | 74  | -- | -- | 74 | 98                    | -- | -- | 98  | --           | -- | -- | -- | 57                | -- | -- | 57 | 0            | -- | -- | 0  | 34 | -- | -- | 34 |
| HV9W96-1383R      | 95  | -- | -- | 95 | 125                   | -- | -- | 125 | --           | -- | -- | -- | 59                | -- | -- | 59 | 0            | -- | -- | 0  | 35 | -- | -- | 35 |
| Winterhawk        | 75  | -- | -- | 75 | 99                    | -- | -- | 99  | 86           | 91 | -- | -- | 57                | -- | -- | 57 | 2            | -- | -- | 2  | 37 | -- | -- | 37 |
| Averages          | 76  | -- | -- | 76 | 76                    | -- | -- | 76  | --           | -- | -- | -- | 58                | -- | -- | 58 | 1            | -- | -- | 1  | 36 | -- | -- | 36 |
| CV (%)            | 8   | -- | -- | 8  | 8                     | -- | -- | 8   | --           | -- | -- | -- | 1                 | -- | -- | 1  | --           | -- | -- | -- | 5  | -- | -- | 5  |
| LSD (0.05)*       | 9   | -- | -- | 9  | 12                    | -- | -- | 12  | --           | -- | -- | -- | 1                 | -- | -- | 1  | --           | -- | -- | -- | 2  | -- | -- | 2  |

<sup>1</sup> CO = Colby, KS, Northwest Research-Extension Center, Thomas County.

<sup>2</sup> DC = Dodge City, KS, Ford County. Abandoned; extreme variation

<sup>3</sup> GC = Garden City, KS, Finney County. Abandoned; poor emergence and stands.

(W) = Hard white wheat.

\* Least significant difference, similar to margin of error, difference needed to overcome test error.

**Table 12. 2009 Planted seed characteristics and Hessian fly ratings**

| Brand / Name         | 1000 Seed weight | Test weight | Seeds per lb | Hess. fly <sup>1</sup> | Brand / Name         | 1000 Seed weight | Test weight | Seeds per lb | Hess. fly <sup>1</sup> |
|----------------------|------------------|-------------|--------------|------------------------|----------------------|------------------|-------------|--------------|------------------------|
|                      | (grams)          | (lb/bu)     | (1000)       | (rating)               |                      | (grams)          | (lb/bu)     | (1000)       | (rating)               |
| <b>AgriPro</b>       |                  |             |              |                        | <b>MFA</b>           |                  |             |              |                        |
| (W) NuDakota         | 29.0             | 52.9        | 15.6         | S                      | (S) 2525             | 39.5             | 58.4        | 11.5         | MR                     |
| Art                  | 25.5             | 61.0        | 17.8         | S                      | (S) 2609             | 33.0             | 60.5        | 13.8         | MR                     |
| Hawken               | 28.0             | 60.1        | 16.2         | S                      | <b>Nebraska</b>      |                  |             |              |                        |
| JackPot              | 37.5             | 61.7        | 12.1         | S                      | Overland             | 32.0             | 60.7        | 14.2         | MR                     |
| Jagalene             | 32.0             | 60.8        | 14.2         | S                      | Wesley               | 31.5             | 60.4        | 14.4         | S                      |
| Postrock             | 36.0             | 62.9        | 12.6         | S                      | <b>Oklahoma</b>      |                  |             |              |                        |
| RustBuster-N         | 29.0             | 60.6        | 15.6         | S                      | Duster               | 27.5             | 59.3        | 16.5         | R                      |
| RustBuster-S         | 26.5             | 60.1        | 17.1         | S                      | Endurance            | 30.5             | 60.9        | 14.9         | S                      |
| TAM 111              | 31.5             | 61.2        | 14.4         | S                      | OK Bullet            | 34.0             | 60.0        | 13.3         | S                      |
| <b>AgriPro COKER</b> |                  |             |              |                        | <b>Pioneer</b>       |                  |             |              |                        |
| (S) BO30543          | 23.5             | 58.4        | 19.3         | S                      | (S) 25R47            | 36.5             | 56.4        | 12.4         | S                      |
| (S) Coker 9553       | 34.0             | 58.9        | 13.3         | S                      | (S) 25R62            | 30.5             | 57.2        | 14.9         | S                      |
| <b>AGSECO</b>        |                  |             |              |                        | (S) 25R78            | 36.0             | 60.7        | 12.6         | MR                     |
| Infinity CL          | 33.5             | 62.9        | 13.5         | S                      | <b>Scott Seed</b>    |                  |             |              |                        |
| Keota                | 37.0             | 62.7        | 12.3         | S                      | TAM 304              | 31.5             | 61.1        | 14.4         | S                      |
| Protection CL        | 38.0             | 61.7        | 11.9         | S                      | <b>Trio-Research</b> |                  |             |              |                        |
| Santa Fe             | 33.5             | 56.9        | 13.5         | S                      | T-140                | 32.0             | 61.4        | 14.2         | S                      |
| Shocker              | 29.0             | 55.6        | 15.6         | S                      | <b>Watley</b>        |                  |             |              |                        |
| Smoky Hill           | 33.0             | 55.9        | 13.8         | S                      | TAM 112              | 31.0             | 58.9        | 14.6         | S                      |
| TAM 110              | 32.5             | 62.5        | 14.0         | S                      | <b>WestBred</b>      |                  |             |              |                        |
| <b>Colorado</b>      |                  |             |              |                        | Armour               | 41.0             | 62.3        | 11.1         | S                      |
| Bill Brown           | 38.5             | 64.9        | 11.8         | S                      | Aspen                | 31.0             | 60.5        | 14.6         | S                      |
| Bond CL              | 37.5             | 59.5        | 12.1         | S                      | Hitch                | 35.5             | 62.9        | 12.8         | S                      |
| Hatcher              | 41.0             | 64.1        | 11.1         | MS                     | HV9W03-539R          | 30.0             | 53.4        | 15.1         | S                      |
| Ripper               | 38.0             | 59.3        | 11.9         | S                      | HV9W03-696R-2        | 34.5             | 64.5        | 13.2         | MR                     |
| <b>DC Seed</b>       |                  |             |              |                        | HV9W96-1383R         | 42.5             | 61.8        | 10.7         | S                      |
| T-136                | 25.5             | 57.0        | 17.8         | S                      | Winterhawk           | 34.0             | 63.9        | 13.3         | S                      |
| T-151                | 32.5             | 62.9        | 14.0         | S                      | Maximum              | 47.5             | 64.9        | 19.3         |                        |
| <b>Drussel</b>       |                  |             |              |                        | Minimum              | 23.5             | 52.9        | 9.6          |                        |
| T81                  | 35.5             | 63.3        | 12.8         | S                      | Average              | 33.7             | 60.3        | 13.8         |                        |
| <b>Dyna-Gro</b>      |                  |             |              |                        |                      |                  |             |              |                        |
| Baldwin              | 46.0             | 63.6        | 9.9          | S                      |                      |                  |             |              |                        |
| <b>Ehmke Seed</b>    |                  |             |              |                        |                      |                  |             |              |                        |
| Ike                  | 26.5             | 58.1        | 17.1         | MR                     |                      |                  |             |              |                        |
| <b>Georgia</b>       |                  |             |              |                        |                      |                  |             |              |                        |
| (S) 991209-6E33      | 47.5             | 64.0        | 9.6          | S                      |                      |                  |             |              |                        |
| (S) 991336-6E9       | 46.5             | 62.9        | 9.8          | S                      |                      |                  |             |              |                        |
| (S) 991371-6E12      | 44.0             | 62.7        | 10.3         | S                      |                      |                  |             |              |                        |
| <b>Kansas</b>        |                  |             |              |                        |                      |                  |             |              |                        |
| (W) Danby            | 29.0             | 62.2        | 15.6         | S                      |                      |                  |             |              |                        |
| 2137                 | 29.5             | 57.7        | 15.4         | S                      |                      |                  |             |              |                        |
| Everest              | 30.0             | 58.1        | 15.1         | S                      |                      |                  |             |              |                        |
| Fuller               | 31.5             | 56.7        | 14.4         | S                      |                      |                  |             |              |                        |
| Jagger               | 34.0             | 57.8        | 13.3         | S                      |                      |                  |             |              |                        |
| Karl 92              | 34.5             | 61.5        | 13.2         | S                      |                      |                  |             |              |                        |
| KS05HW136-3          | 25.5             | 57.1        | 17.8         | R                      |                      |                  |             |              |                        |
| Overley              | 40.5             | 60.3        | 11.2         | S                      |                      |                  |             |              |                        |

<sup>1</sup> Hessian fly ratings by Shauna Dendy, USDA, with inputs from Erick DeWolf, K-State Plant Pathology, and Phil Sloderbeck, K-State Entomology; S = majority of plants susceptible, MS/MR= moderately susceptible/resistant, R = majority of plants resistant. Tested with recent collection of Great Plains Hessian fly.

(W) = Hard white wheat. (S) = Soft red wheat.

# 2009 National Winter Canola Variety Trial

Michael J. Stamm, NWCVT Coordinator and Senior Author

Winter canola production is a good fit for small-grains cropping systems because both use the same equipment. Canola is an excellent crop to rotate with winter wheat because it is a broadleaf, allowing use of more effective herbicides to control grassy winter annual weeds. Canola and wheat have no major diseases in common, so growing canola breaks disease cycles. Because canola is an oilseed, its commodity price is not tied to prices of cereal grains, which spreads economic risk over more than one commodity class.

## Objectives

Objectives of the National Winter Canola Variety Trial (NWCVT) are to evaluate germplasm over a wide range of environments, determine where released and experimental varieties are best adapted, and increase visibility of winter canola across the nation. Information obtained from these trials aids producers with variety selection. The trial is planted at locations in the Great Plains, Midwest, Northern Plains, and Southeast. The wide diversity of environments has improved our knowledge and understanding of winter canola variety performance.

## Procedures

The 2008-2009 NWCVT was distributed to 65 locations in 26 states. The trial included 26 released and 28 experimental varieties from 11 participating seed suppliers. All entries were treated with either Helix Xtra or Prosper FX seed treatment to control insects and diseases during winter months.

Management guidelines were supplied to cooperators, but previous experience at the location influenced final management decisions. Agronomic information, site descriptions, and growing conditions are described for each location. All trials were planted in small research plots (approximately 100 ft<sup>2</sup>) and replicated three times. Yield results are grouped by brand.

Of the 10 NWCVT sites planted in Kansas and Oklahoma, six were harvested. Four sites were negatively affected by drought, winterkill, severe storms, and insects. The four included in this report are Clearwater, Hutchinson, and Manhattan, KS, and Enid, OK.

## 2008-2009 Growing Conditions

Temperature and precipitation data are plotted at the top of the page for each location. Thick black lines on the temperature graphs represent long-term average high and low temperatures (°F) for the location. The upper thin line represents actual daily high temperatures, and the lower thin line represents actual daily low temperatures. On the precipitation graph, the line labeled "normal" represents long-term average precipitation, and the line labeled "08-09" represents actual precipitation.

Overall, the 2008-2009 growing season produced better than average yields. Adequate fall stands were recorded at most locations, and plants compensated where stands were thin. Winter canola showed a tremendous capacity to recover following a drought period over the winter and a hard spring freeze at flowering.

## Acknowledgments

Assistant Scientist Cynthia La Barge assisted with planting, care, harvest, and data preparation. Special thanks are extended to K-State South Central Experiment Field Agronomist William Heer, K-State Alternative Crops Agronomist Victor Martin, Sedgwick County ANR Agent Gary Cramer, OSU North Central Research Station Manager Raymond Sidwell, Johnston's Seeds, and canola producer Shane O'Daniel for their management of trials at off-station sites.

**Table 1. Seed sources for entries in the 2008-2009 National Winter Canola Variety Trial**

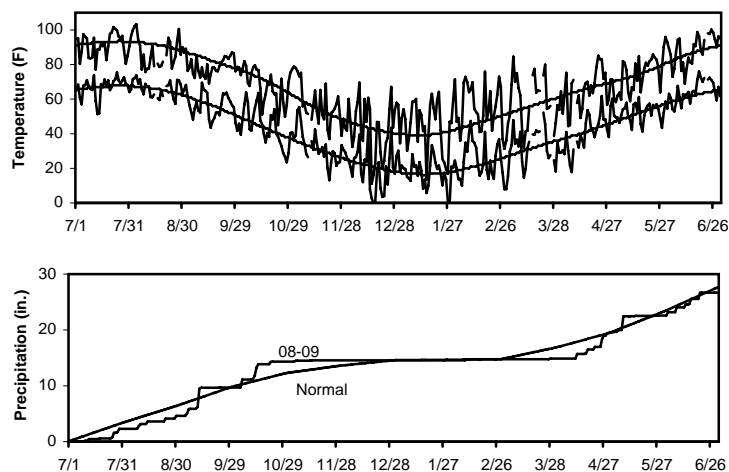
| Brand/Name  | Type <sup>1</sup> | Trait <sup>2</sup> | Release date | Sd trt <sup>3</sup> | Brand/Name  | Type <sup>1</sup> | Trait <sup>2</sup> | Release date | Sd trt <sup>3</sup> |
|---|-------------------|--------------------|--------------|---------------------|---|-------------------|--------------------|--------------|---------------------|
| Kansas State University/Oklahoma State University<br>Canola Breeding Program<br>2004 Throckmorton, Manhattan KS 66506<br>Michael J. Stamm (mjstamm@ksu.edu) |                   |                    |              |                     | Pioneer Hi-Bred<br>Cole Randol (cole.randol@pioneer.com)  |                   |                    |              |                     |
| KS3074  | OP                | ---                | ---          | H                   | 46W14   | Hyb               | ---                | ---          | H                   |
| KS3077  | OP                | ---                | ---          | H                   | 46W99   | Hyb               | RR                 | ---          | H                   |
| KS3132  | OP                | ---                | ---          | H                   | 45D03   | Hyb               | ---                | ---          | H                   |
| KS3254  | OP                | ---                | ---          | H                   | University of Arkansas<br>Dr. Jim Kelly (jkelly@uark.edu)   |                   |                    |              |                     |
| KS3302  | OP                | ---                | ---          | H                   | ARC2189-2   | OP                | ---                | ---          | H                   |
| KS4022  | OP                | ---                | ---          | H                   | ARC00004-2  | OP                | ---                | ---          | H                   |
| KS4085  | OP                | ---                | ---          | H                   | ARC00005-2  | OP                | ---                | ---          | H                   |
| KS4158  | OP                | ---                | ---          | H                   | ARC00024-2  | OP                | ---                | ---          | H                   |
| KS9135  | OP                | ---                | ---          | H                   | Winfield Solutions / Croplan Genetics<br>Jay Bjerke (jimberke@landolakes.com)   |                   |                    |              |                     |
| Sumner  | OP                | SU                 | 2003         | H                   | HyClass 107W  | OP                | RR                 | 2007         | P                   |
| Wichita   | OP                | ---                | 1999         | H                   | HyClass 110W  | OP                | RR                 | 2008         | P                   |
| DL Seeds Inc.<br>Kevin McCallum (kevin.mccallum@dlseeds.ca)   |                   |                    |              |                     | HyClass 115W  | OP                | RR/SURT            | 2008         | P                   |
| Baldur  | Hyb               | ---                | 2004         | H                   | HyClass 154W  | Hyb               | RR                 | 2008         | H                   |
| Dimension   | Hyb               | ---                | 2008         | H                   | Monsanto Company<br>Robert Ihrig (robert.a.ihrig@monsanto.com)  |                   |                    |              |                     |
| Flash   | Hyb               | ---                | 2007         | H                   | CWH095D   | Hyb               | ---                | ---          | P                   |
| Hornet  | Hyb               | ---                | 2007         | H                   | CWH101D   | Hyb               | ---                | ---          | P                   |
| Kronos  | Hyb               | ---                | 2003         | H                   | CWH111  | Hyb               | ---                | ---          | P                   |
| NPZ0604   | Hyb               | ---                | ---          | H                   | CWH633  | OP                | RR/SURT            | ---          | P                   |
| Safran  | Hyb               | ---                | 2008         | H                   | DKW41-10  | OP                | RR                 | 2008         | P                   |
| Sitro   | Hyb               | ---                | 2007         | H                   | DKW45-10  | OP                | RR                 | 2008         | P                   |
| Visby   | Hyb               | ---                | 2008         | H                   | DKW46-15  | OP                | RR/SURT            | 2008         | P                   |
| Blue Sun Biodiesel<br>Dr. Charlie Rife (charlie@gobluesun.com)  |                   |                    |              |                     | DKW47-15  | OP                | RR/SURT            | 2008         | P                   |
| BSX-501   | OP                | IMI                | ---          | H                   | Technology Crops International<br>Neal Boughton (nboughton@techcrops.com)   |                   |                    |              |                     |
| BSX-6131  | OP                | ---                | ---          | H                   | Hearty  | OP                | HEAR <sup>4</sup>  | 2007         | H                   |
| BSX-6242  | OP                | ---                | ---          | H                   | Rossini   | OP                | HEAR               | 2008         | H                   |
| BSX-6271  | OP                | ---                | ---          | H                   | Virginia State University Agricultural Experiment Station<br>Dr. Harbans Bhardwaj (hbhardwj@vsu.edu)  |                   |                    |              |                     |
| BSX-6406  | OP                | ---                | ---          | H                   | Virginia  | OP                | ---                | 2003         | H                   |
| MOMONT, France<br>Dr. Thierry Momont (tmomont@momont.com)   |                   |                    |              |                     | <sup>1</sup> OP = open pollinated, Hyb = hybrid.  |                   |                    |              |                     |
| Hybrigold   | Hyb               | ---                | 2008         | H                   | <sup>2</sup> RR = Roundup Ready, IMI = imidazolinone resistant.<br>SU/SURT = sulfonyleurea carryover tolerant.  |                   |                    |              |                     |
| Hybristar   | Hyb               | ---                | 2006         | H                   | <sup>3</sup> Sd trt = Seed treatment (H = Helix Xtra, P = Prosper FX).  |                   |                    |              |                     |
| Hybrisurf   | Hyb               | ---                | 2008         | H                   | <sup>4</sup> HEAR = High erucic acid rapeseed. Contains greater than 2% erucic acid in the processed oil. Can be used only for industrial purposes. HEAR is not canola. |                   |                    |              |                     |
| Hybrilux  | Hyb               | ---                | 2008         | H                   |   |                   |                    |              |                     |
| Kadore  | OP                | ---                | 2007         | H                   |   |                   |                    |              |                     |
| Alabama A&M University<br>Dr. Ernst Cebert (ernst.cebert@aamu.edu)  |                   |                    |              |                     |   |                   |                    |              |                     |
| AAMU-18-07  | OP                | ---                | ---          | H                   |   |                   |                    |              |                     |
| AAMU-33-07  | OP                | ---                | ---          | H                   |   |                   |                    |              |                     |

### HUTCHINSON, Kansas

Cooperator:  
William Heer  
South Central Experiment Field  
Redd Foundation Field  
Kansas State University

Planted: 9/22/2008 at 5 lb/a in 9-in. rows  
Swathed: 6/15/2009  
Harvested: 6/23/2009  
Herbicides: Trifluralin 1.0 qt/a  
Insecticides: None  
Fertility: 50-0-0 lb N-P-K fertilizer in the fall  
75-0-0 lb N-P-K fertilizer in the spring

Previous crop: Wheat  
Soil type: Loam  
Elevation: 1611  
Latitude: 37°58'N



**Comments:** Adequate soil moisture at planting resulted in vigorous fall stands. There was no winterkill observed. The hard spring freeze in April caused moderate freeze damage to the earliest varieties and hybrids. Because of periodic wet weather, the plot was swathed at the end of the optimum swathing window. This resulted in slight shattering of the ripest plots. A heavy thunderstorm prior to harvest resulted in additional shatter and yield loss. Average shattering loss ranged from 25% to 50% across the field. In addition, moderate feeding by lygus bugs and diamondback moth larvae at full bloom reduced yield potential.

**Table 2. Results of the 2009 National Winter Canola Variety Trial at Hutchinson, KS**

| Name        | Brand              | Fall   | Vigor <sup>a</sup> | Freeze              | Plant  | Test     |             |             |             |             | Yield rank |  |
|-------------|--------------------|--------|--------------------|---------------------|--------|----------|-------------|-------------|-------------|-------------|------------|--|
|             |                    | stand  | (1-5)              | damage <sup>b</sup> | height | Moisture | weight      | Yield       | Yield       | Yield       |            |  |
|             |                    | (0-10) |                    | (1-5)               | (in.)  | (%)      | (lb/bu)     | (lb/a)      | (bu/a)      | (% of mean) |            |  |
| AAMU-18-07  | Alabama A&M        | 7.3    | 4.3                | 5.0                 | 34     | 5.9      | 43.7        | 692         | 13.8        | 63.8        | 49         |  |
| AAMU-33-07  | Alabama A&M        | 4.7    | 4.0                | 2.3                 | 39     | 5.7      | <b>50.0</b> | 1082        | 21.6        | 99.8        | 26         |  |
| BSX-501     | Blue Sun Biodiesel | 5.0    | 3.7                | 2.3                 | 43     | 5.6      | <b>49.1</b> | <b>1318</b> | <b>26.4</b> | 121.5       | 10         |  |
| BSX-6131    | Blue Sun Biodiesel | 6.0    | 4.3                | 2.0                 | 43     | 6.0      | <b>48.1</b> | <b>1312</b> | <b>26.2</b> | 121.1       | 12         |  |
| BSX-6242    | Blue Sun Biodiesel | 6.7    | 3.7                | 2.7                 | 41     | 5.9      | <b>48.1</b> | 938         | 18.8        | 86.5        | 34         |  |
| BSX-6271    | Blue Sun Biodiesel | 5.7    | 4.0                | 3.0                 | 41     | 5.7      | <b>49.0</b> | <b>1259</b> | <b>25.2</b> | 116.1       | 17         |  |
| BSX-6406    | Blue Sun Biodiesel | 7.0    | 4.3                | 2.7                 | 40     | 5.8      | <b>49.6</b> | <b>1270</b> | <b>25.4</b> | 117.2       | 15         |  |
| HyClass107W | Croplan Genetics   | 4.0    | 3.0                | 2.0                 | 41     | 5.7      | 46.9        | 782         | 15.6        | 72.1        | 43         |  |
| HyClass110W | Croplan Genetics   | 5.3    | 3.0                | 5.0                 | 35     | 5.7      | 47.6        | 794         | 15.9        | 73.2        | 42         |  |
| HyClass115W | Croplan Genetics   | 2.3    | 2.7                | 3.0                 | 38     | 5.7      | 47.0        | 609         | 12.2        | 56.2        | 50         |  |
| HyClass154W | Croplan Genetics   | 5.3    | 4.0                | 1.0                 | 43     | 6.0      | <b>49.4</b> | <b>1251</b> | <b>25.0</b> | 115.4       | 18         |  |
| CWH095D     | DEKALB/Monsanto    | 6.3    | 4.7                | 2.0                 | 39     | 5.7      | 48.0        | <b>1616</b> | <b>32.3</b> | 149.1       | 1          |  |
| CWH101D     | DEKALB/Monsanto    | 6.7    | 4.0                | 3.3                 | 36     | 5.6      | 47.3        | <b>1192</b> | <b>23.8</b> | 109.9       | 21         |  |
| CWH111      | DEKALB/Monsanto    | 6.0    | 4.7                | 5.0                 | 35     | 5.8      | <b>48.6</b> | 916         | 18.3        | 84.5        | 36         |  |
| CWH633      | DEKALB/Monsanto    | 5.0    | 3.3                | 2.7                 | 39     | 5.6      | 47.6        | 1013        | 20.3        | 93.5        | 30         |  |
| DKW41-10    | DEKALB/Monsanto    | 6.3    | 3.3                | 4.7                 | 37     | 5.7      | 47.5        | 580         | 11.6        | 53.5        | 51         |  |
| DKW45-10    | DEKALB/Monsanto    | 5.3    | 3.0                | 4.3                 | 35     | 5.9      | 46.3        | 718         | 14.4        | 66.2        | 47         |  |
| DKW46-15    | DEKALB/Monsanto    | 5.0    | 3.0                | 2.0                 | 38     | 5.5      | 47.1        | 1050        | 21.0        | 96.8        | 28         |  |
| DKW47-15    | DEKALB/Monsanto    | 5.7    | 3.3                | 2.3                 | 39     | 5.6      | 47.2        | 782         | 15.6        | 72.1        | 44         |  |
| Baldur      | DL Seeds           | 5.0    | 4.3                | 1.7                 | 42     | 6.0      | <b>50.0</b> | <b>1394</b> | <b>27.9</b> | 128.6       | 7          |  |
| Dimension   | DL Seeds           | 5.7    | 4.7                | 3.0                 | 40     | 5.9      | <b>48.1</b> | 697         | 13.9        | 64.3        | 48         |  |
| Flash       | DL Seeds           | 6.3    | 4.7                | 2.3                 | 41     | 5.7      | <b>48.7</b> | <b>1366</b> | <b>27.3</b> | 126.0       | 9          |  |
| Hornet      | DL Seeds           | 5.0    | 4.3                | 3.0                 | 41     | 5.8      | <b>49.1</b> | 1137        | 22.7        | 104.9       | 23         |  |
| Kronos      | DL Seeds           | 4.0    | 3.7                | 1.7                 | 44     | 5.9      | <b>49.5</b> | <b>1260</b> | <b>25.2</b> | 116.2       | 16         |  |
| NPZ0604     | DL Seeds           | 5.3    | 4.0                | 4.0                 | 38     | 5.5      | 47.7        | 953         | 19.1        | 87.9        | 32         |  |
| Safran      | DL Seeds           | 5.3    | 4.0                | 1.7                 | 39     | 5.5      | <b>49.4</b> | <b>1513</b> | <b>30.3</b> | 139.5       | 3          |  |
| Sitro       | DL Seeds           | 5.7    | 4.3                | 3.3                 | 38     | 5.9      | <b>49.2</b> | <b>1388</b> | <b>27.8</b> | 128.0       | 8          |  |
| Visby       | DL Seeds           | 4.3    | 4.0                | 3.7                 | 37     | 5.9      | <b>49.7</b> | <b>1274</b> | <b>25.5</b> | 117.5       | 14         |  |
| Sumner      | KSU                | 2.3    | 3.0                | 3.0                 | 38     | 5.6      | <b>48.6</b> | 946         | 18.9        | 87.3        | 33         |  |
| Wichita     | KSU                | 4.3    | 3.3                | 2.0                 | 40     | 5.9      | <b>49.1</b> | <b>1238</b> | <b>24.8</b> | 114.2       | 19         |  |
| KS3074      | KSU/OSU            | 5.7    | 3.3                | 2.0                 | 41     | 5.6      | 47.3        | 1035        | 20.7        | 95.5        | 29         |  |
| KS3077      | KSU/OSU            | 6.0    | 3.0                | 2.0                 | 42     | 5.7      | <b>48.4</b> | <b>1196</b> | <b>23.9</b> | 110.3       | 20         |  |
| KS3132      | KSU/OSU            | 5.7    | 3.3                | 1.3                 | 43     | 5.8      | <b>49.4</b> | <b>1530</b> | <b>30.6</b> | 141.2       | 2          |  |
| KS3254      | KSU/OSU            | 6.0    | 3.7                | 1.0                 | 44     | 5.7      | <b>48.9</b> | <b>1317</b> | <b>26.3</b> | 121.4       | 11         |  |
| KS4022      | KSU/OSU            | 5.7    | 3.3                | 1.7                 | 42     | 5.7      | <b>48.4</b> | 1097        | 21.9        | 101.2       | 25         |  |
| KS4085      | KSU/OSU            | 7.0    | 4.0                | 2.3                 | 44     | 5.6      | <b>49.0</b> | <b>1278</b> | <b>25.6</b> | 117.9       | 13         |  |
| KS4158      | KSU/OSU            | 5.7    | 3.3                | 1.7                 | 41     | 5.6      | <b>49.2</b> | <b>1479</b> | <b>29.6</b> | 136.4       | 4          |  |

**Table 2 continued. Results of the 2009 National Winter Canola Variety Trial at Hutchinson, KS**

| Name              | Brand            | Fall   | Vigor <sup>a</sup> | Freeze              | Plant  | Moisture | Test        |             |             |             | Yield rank |
|-------------------|------------------|--------|--------------------|---------------------|--------|----------|-------------|-------------|-------------|-------------|------------|
|                   |                  | stand  | (1-5)              | damage <sup>b</sup> | height |          | weight      | Yield       | Yield       | Yield       |            |
|                   |                  | (0-10) | (1-5)              | (1-5)               | (in.)  | (%)      | (lb/bu)     | (lb/a)      | (bu/a)      | (% of mean) |            |
| KS9135            | KSU/OSU          | 6.0    | 4.0                | 2.7                 | 43     | 6.0      | 47.9        | 1120        | 22.4        | 103.3       | 24         |
| Hybrigold         | Momont           | 5.3    | 4.3                | 2.7                 | 39     | 6.0      | <b>48.2</b> | 968         | 19.4        | 89.3        | 31         |
| Hybrilux          | Momont           | 5.3    | 4.0                | 3.0                 | 43     | 6.0      | 47.1        | 739         | 14.8        | 68.1        | 46         |
| Hybristar         | Momont           | 6.7    | 5.0                | 3.0                 | 39     | 5.7      | <b>48.4</b> | 869         | 17.4        | 80.1        | 40         |
| Hybrisurf         | Momont           | 6.0    | 4.3                | 2.3                 | 40     | 5.9      | 47.9        | 777         | 15.5        | 71.7        | 45         |
| Kadore            | Momont           | 3.7    | 3.3                | 1.0                 | 39     | 5.9      | <b>48.5</b> | <b>1465</b> | <b>29.3</b> | 135.1       | 5          |
| 45D03             | Pioneer Hi-Bred  | 6.0    | 4.3                | 2.0                 | 39     | 5.5      | <b>48.1</b> | <b>1396</b> | <b>27.9</b> | 128.8       | 6          |
| 46W14             | Pioneer Hi-Bred  | 6.0    | 4.7                | 2.7                 | 39     | 5.9      | <b>48.7</b> | 1080        | 21.6        | 99.6        | 27         |
| 46W99             | Pioneer Hi-Bred  | 3.7    | 4.3                | 2.7                 | 39     | 5.7      | <b>49.0</b> | 875         | 17.5        | 80.7        | 39         |
| ARC00004-2        | Univ of Arkansas | 6.3    | 5.0                | 2.3                 | 47     | 5.7      | <b>49.2</b> | 906         | 18.1        | 83.6        | 37         |
| ARC00005-2        | Univ of Arkansas | 6.7    | 4.3                | 2.3                 | 40     | 6.1      | <b>48.4</b> | 864         | 17.3        | 79.7        | 41         |
| ARC00024-2        | Univ of Arkansas | 6.0    | 4.3                | 2.7                 | 44     | 5.9      | <b>48.7</b> | 936         | 18.7        | 86.3        | 35         |
| ARC2189-2         | Univ of Arkansas | 4.7    | 4.0                | 2.3                 | 46     | 5.8      | 48.0        | 1148        | 23.0        | 105.9       | 22         |
| Virginia          | Virginia State   | 5.7    | 4.0                | 2.7                 | 36     | 5.9      | 47.7        | 876         | 17.5        | 80.8        | 38         |
| <b>Mean</b>       |                  | 5.5    | 3.9                | 2.6                 | 40     | 5.8      | 48.3        | 1084        | 21.7        | ---         | ---        |
| <b>CV</b>         |                  | 19.6   | 15.0               | 19.2                | 4      | 4.6      | 2.4         | 25          | 24.6        | ---         | ---        |
| <b>LSD (0.05)</b> |                  | 1.7    | 0.9                | 0.8                 | 3      | NS       | 1.9         | 433         | 8.7         | ---         | ---        |

**Bold** - Superior LSD Group - Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other. <sup>a</sup>Vigor is rated on a scale of 1=least and 5=most. <sup>b</sup>Freeze damage is rated 1=slight and 5=severe.

**CLEARWATER, Kansas**

Cooperators:

Gary Cramer, K-State Research and Extension

Victor Martin, K-State Alternative Crops Agronomist

Planted: 9/23/2008 at 5 lb/a

Harvested: 7/8/2009

Previous crop: Wheat

Soil type: Loam

Herbicide: Fusion

**Comments:** Seeding was delayed because of wet soils; however, fall stand establishment was excellent. Soil moisture remained adequate throughout the winter, and no winterkill was observed. Moderate diamondback moth larvae and lygus bug feeding was reported at full bloom. Slight to moderate freeze damage occurred in the early maturing varieties, and recovery was excellent.

**Table 3. Results of the 2009 National Winter Canola Variety Trial at Clearwater, KS**

| Name              | Brand            | Fall   | Vigor | Freeze | Plant  | Moisture | Test                |        |        |             | Yield rank |
|-------------------|------------------|--------|-------|--------|--------|----------|---------------------|--------|--------|-------------|------------|
|                   |                  | stand  | (1-5) | damage | height |          | weight <sup>a</sup> | Yield  | Yield  | Yield       |            |
|                   |                  | (0-10) | (1-5) | (1-5)  | (in.)  | (%)      | (lb/bu)             | (lb/a) | (bu/a) | (% of mean) |            |
| HyClass107W       | Croplan Genetics | ---    | ---   | ---    | ---    | 9.9      | 38.9                | 2077   | 41.5   | 146.2       | 2          |
| HyClass110W       | Croplan Genetics | ---    | ---   | ---    | ---    | 10.1     | 38.7                | 1423   | 28.5   | 100.1       | 7          |
| HyClass115W       | Croplan Genetics | ---    | ---   | ---    | ---    | 9.6      | 35.5                | 1253   | 25.1   | 88.2        | 9          |
| DKW41-10          | DEKALB/Monsanto  | ---    | ---   | ---    | ---    | 11.0     | 34.7                | 1170   | 23.4   | 82.3        | 12         |
| DKW45-10          | DEKALB/Monsanto  | ---    | ---   | ---    | ---    | 10.3     | 34.5                | 1051   | 21.0   | 74.0        | 13         |
| DKW46-15          | DEKALB/Monsanto  | ---    | ---   | ---    | ---    | 10.1     | 38.4                | 1175   | 23.5   | 82.7        | 11         |
| DKW47-15          | DEKALB/Monsanto  | ---    | ---   | ---    | ---    | 9.8      | 36.5                | 1625   | 32.5   | 114.4       | 4          |
| Baldur            | DL Seeds         | ---    | ---   | ---    | ---    | 10.2     | 36.0                | 1279   | 25.6   | 90.0        | 8          |
| Dimension         | DL Seeds         | ---    | ---   | ---    | ---    | 10.1     | 35.9                | 1448   | 29.0   | 101.9       | 5          |
| Flash             | DL Seeds         | ---    | ---   | ---    | ---    | 11.1     | 38.6                | 2298   | 46.0   | 161.8       | 1          |
| Sumner            | K-State          | ---    | ---   | ---    | ---    | 9.9      | 35.0                | 1441   | 28.8   | 101.4       | 6          |
| Wichita           | K-State          | ---    | ---   | ---    | ---    | 10.1     | 34.4                | 1012   | 20.2   | 71.2        | 14         |
| Hybrigold         | Momont           | ---    | ---   | ---    | ---    | 10.1     | 35.9                | 1193   | 23.9   | 83.9        | 10         |
| Hybrisurf         | Momont           | ---    | ---   | ---    | ---    | 11.4     | 36.3                | 1871   | 37.4   | 131.7       | 3          |
| Virginia          | Virginia State   | ---    | ---   | ---    | ---    | 11.2     | 34.6                | 996    | 19.9   | 70.1        | 15         |
| <b>Mean</b>       |                  | ---    | ---   | ---    | ---    | 10.3     | 36.3                | 1421   | 28.4   | ---         | ---        |
| <b>CV</b>         |                  | ---    | ---   | ---    | ---    | 11.2     | 10.5                | 29     | 29.4   | ---         | ---        |
| <b>LSD (0.05)</b> |                  | ---    | ---   | ---    | ---    | NS       | NS                  | 699    | 14.0   | ---         | ---        |

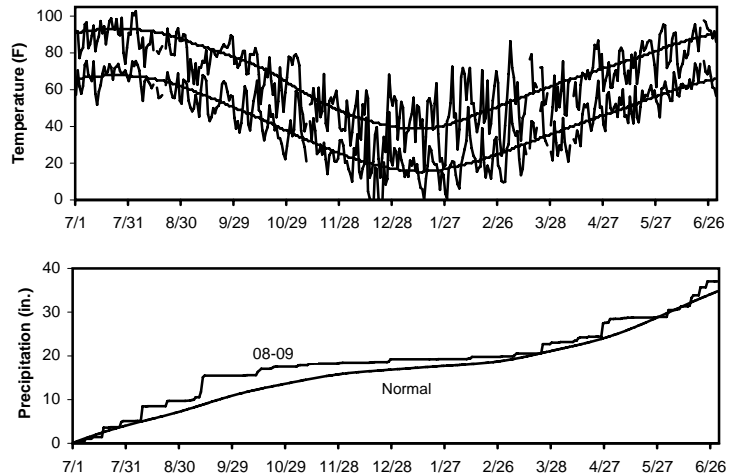
<sup>a</sup>Low test weights are a result of immature seed at harvest.

Cooperator:  
 Mike Stamm  
 Kansas State University  
 Oklahoma State University

Planted: 9/18/2008 at 5 lb/a in 9-in. rows  
 Swathed: 6/19/2009  
 Harvested: 6/29/2009  
 Herbicides: Trifluralin 1.5 pt/a  
 Insecticides: None  
 Fertility: 20-10-0 lb N-P-K fertilizer in the fall  
 70-0-0 lb N-P-K fertilizer in the spring

Previous crop: Soybean  
 Soil type: Sandy loam  
 Elevation: 1064 ft  
 Latitude: 39°12'N

MANHATTAN, Kansas



**Comments:** Fall stands were poor because seeds were planted deeper than optimum. Winterkill was significant at this location. Bare, thin plots had an overgrowth of weeds. This site was swathed on the later side of optimum. Minor shattering was noted in some of the earliest varieties. Seed moisture was very low, which contributed to cracked seed in the harvested samples. Because of cool and moist growing conditions, there was considerable black mold on the ripening seed pods. Some mold was observed in seed pods, resulting in seed loss and very poor test weights.

Table 4. Results of the 2009 National Winter Canola Variety Trial at Manhattan, KS

| Name        | Brand              | Fall   | Winter     | Plant  | Test     |         |             | Yield rank  |             |    |
|-------------|--------------------|--------|------------|--------|----------|---------|-------------|-------------|-------------|----|
|             |                    | stand  | survival   | height | Moisture | weight  | Yield       |             |             |    |
|             |                    | (0-10) | (1-10)     | (in.)  | (%)      | (lb/bu) | (lb/a)      | (bu/a)      | (% of mean) |    |
| AAMU-18-07  | Alabama A&M        | 4.7    | 6.3        | 35     | 6.4      | 35.9    | 226         | 4.5         | 26.3        | 50 |
| AAMU-33-07  | Alabama A&M        | 4.0    | 8.0        | 40     | 5.8      | 38.0    | 974         | 19.5        | 113.2       | 20 |
| BSX-501     | Blue Sun Biodiesel | 3.0    | <b>9.0</b> | 40     | 5.7      | 31.8    | 532         | 10.6        | 61.8        | 42 |
| BSX-6131    | Blue Sun Biodiesel | 3.0    | <b>8.7</b> | 43     | 7.5      | 35.2    | 665         | 13.3        | 77.3        | 38 |
| BSX-6242    | Blue Sun Biodiesel | 5.0    | <b>9.0</b> | 43     | 5.5      | 40.5    | <b>1249</b> | <b>25.0</b> | 145.1       | 6  |
| BSX-6271    | Blue Sun Biodiesel | 3.3    | <b>9.0</b> | 42     | 5.8      | 40.7    | <b>1248</b> | <b>25.0</b> | 145.0       | 7  |
| BSX-6406    | Blue Sun Biodiesel | 4.0    | <b>9.0</b> | 43     | 5.7      | 42.2    | <b>1177</b> | <b>23.5</b> | 136.7       | 10 |
| HyClass107W | Croplan Genetics   | 3.0    | 7.3        | 40     | 5.6      | 40.7    | 879         | 17.6        | 102.2       | 27 |
| HyClass110W | Croplan Genetics   | 3.0    | 5.7        | 32     | 6.2      | 37.1    | 149         | 3.0         | 17.4        | 51 |
| HyClass115W | Croplan Genetics   | 1.0    | 5.3        | 37     | 5.9      | 39.6    | 332         | 6.6         | 38.6        | 49 |
| HyClass154W | Croplan Genetics   | 3.0    | <b>8.3</b> | 43     | 5.8      | 37.6    | 976         | 19.5        | 113.4       | 19 |
| CWH095D     | DEKALB/Monsanto    | 4.0    | <b>9.3</b> | 39     | 5.6      | 41.7    | <b>1533</b> | <b>30.7</b> | 178.1       | 1  |
| CWH101D     | DEKALB/Monsanto    | 3.7    | <b>9.0</b> | 39     | 5.5      | 40.3    | <b>1229</b> | <b>24.6</b> | 142.7       | 8  |
| CWH111      | DEKALB/Monsanto    | 2.7    | 8.0        | 35     | 6.1      | 36.1    | 449         | 9.0         | 52.1        | 47 |
| CWH633      | DEKALB/Monsanto    | 3.3    | 7.0        | 37     | 5.9      | 39.3    | 550         | 11.0        | 63.9        | 41 |
| DKW41-10    | DEKALB/Monsanto    | 3.7    | <b>8.3</b> | 34     | 6.1      | 35.7    | 697         | 13.9        | 81.0        | 33 |
| DKW45-10    | DEKALB/Monsanto    | 1.7    | 7.7        | 35     | 6.0      | 41.7    | 498         | 10.0        | 57.9        | 44 |
| DKW46-15    | DEKALB/Monsanto    | 2.0    | <b>9.0</b> | 35     | 5.4      | 34.3    | 557         | 11.1        | 64.7        | 40 |
| DKW47-15    | DEKALB/Monsanto    | 3.0    | 8.0        | 38     | 5.6      | 39.9    | 688         | 13.8        | 80.0        | 34 |
| Baldur      | DL Seeds           | 3.0    | 8.0        | 42     | 6.3      | 42.1    | <b>1089</b> | <b>21.8</b> | 126.5       | 15 |
| Dimension   | DL Seeds           | 4.7    | 7.7        | 39     | 5.9      | 40.6    | 970         | 19.4        | 112.7       | 24 |
| Flash       | DL Seeds           | 3.3    | 7.7        | 42     | 5.9      | 39.8    | <b>1045</b> | <b>20.9</b> | 121.4       | 16 |
| Hornet      | DL Seeds           | 3.0    | <b>9.0</b> | 41     | 5.5      | 43.6    | <b>1363</b> | <b>27.3</b> | 158.3       | 3  |
| Kronos      | DL Seeds           | 1.7    | 7.3        | 40     | 6.2      | 41.3    | 811         | 16.2        | 94.3        | 28 |
| NPZ0604     | DL Seeds           | 4.3    | <b>9.0</b> | 41     | 5.6      | 40.0    | 761         | 15.2        | 88.4        | 29 |
| Safran      | DL Seeds           | 3.3    | 7.0        | 41     | 6.1      | 41.2    | <b>1144</b> | <b>22.9</b> | 132.9       | 12 |
| Sitro       | DL Seeds           | 4.3    | <b>8.7</b> | 41     | 5.7      | 41.5    | <b>1424</b> | <b>28.5</b> | 165.5       | 2  |
| Visby       | DL Seeds           | 1.7    | <b>8.3</b> | 38     | 5.9      | 38.8    | 688         | 13.8        | 79.9        | 34 |
| Sumner      | KSU                | 1.3    | 7.7        | 35     | 5.5      | 43.8    | 479         | 9.6         | 55.6        | 46 |
| Wichita     | KSU                | 3.7    | 8.0        | 39     | 6.0      | 36.8    | 970         | 19.4        | 112.7       | 24 |
| KS3074      | KSU/OSU            | 3.3    | <b>8.7</b> | 43     | 5.5      | 42.0    | <b>1105</b> | <b>22.1</b> | 128.4       | 13 |
| KS3077      | KSU/OSU            | 3.3    | 7.3        | 39     | 5.9      | 33.9    | 490         | 9.8         | 56.9        | 45 |
| KS3132      | KSU/OSU            | 3.3    | <b>8.7</b> | 42     | 5.5      | 40.1    | <b>1278</b> | <b>25.6</b> | 148.5       | 5  |
| KS3254      | KSU/OSU            | 3.0    | <b>8.7</b> | 43     | 6.1      | 41.4    | <b>1103</b> | <b>22.1</b> | 128.2       | 14 |
| KS4022      | KSU/OSU            | 3.0    | <b>9.7</b> | 43     | 6.3      | 41.9    | <b>1176</b> | <b>23.5</b> | 136.7       | 11 |
| KS4085      | KSU/OSU            | 4.0    | <b>9.0</b> | 45     | 6.3      | 43.3    | <b>1207</b> | <b>24.1</b> | 140.3       | 9  |
| KS4158      | KSU/OSU            | 4.3    | <b>8.3</b> | 40     | 5.9      | 43.0    | <b>1353</b> | <b>27.1</b> | 157.2       | 4  |

**Table 4 continued. Results of the 2009 National Winter Canola Variety Trial at Manhattan, KS**

| Name              | Brand            | Fall   | Winter     | Plant  | Test     |         |             | Yield rank  |             |       |
|-------------------|------------------|--------|------------|--------|----------|---------|-------------|-------------|-------------|-------|
|                   |                  | stand  | survival   | height | Moisture | weight  | Yield       |             | Yield       | Yield |
|                   |                  | (0-10) | (1-10)     | (in.)  | (%)      | (lb/bu) | (lb/a)      | (bu/a)      | (% of mean) |       |
| KS9135            | KSU/OSU          | 3.7    | <b>9.0</b> | 44     | 5.8      | 39.8    | 971         | 19.4        | 112.8       | 23    |
| Hybrigold         | Momont           | 3.0    | 6.0        | 39     | 6.3      | 37.4    | 423         | 8.5         | 49.1        | 48    |
| Hybrilux          | Momont           | 3.3    | 7.3        | 40     | 5.9      | 40.8    | 509         | 10.2        | 59.1        | 43    |
| Hybristar         | Momont           | 4.3    | 6.7        | 37     | 5.8      | 36.6    | 666         | 13.3        | 77.3        | 37    |
| Hybrisurf         | Momont           | 3.3    | 7.7        | 37     | 6.1      | 36.0    | 680         | 13.6        | 79.0        | 36    |
| Kadore            | Momont           | 2.3    | 8.0        | 37     | 6.4      | 39.1    | 923         | 18.5        | 107.2       | 26    |
| 45D03             | Pioneer Hi-Bred  | 3.7    | 7.3        | 39     | 6.1      | 39.3    | 974         | 19.5        | 113.2       | 20    |
| 46W14             | Pioneer Hi-Bred  | 4.0    | 5.3        | 37     | 6.3      | 38.5    | 712         | 14.2        | 82.7        | 32    |
| 46W99             | Pioneer Hi-Bred  | 2.7    | 6.0        | 36     | 6.4      | 39.8    | 565         | 11.3        | 65.7        | 39    |
| ARC00004-2        | Univ of Arkansas | 3.7    | 7.3        | 43     | 6.4      | 33.4    | 717         | 14.3        | 83.4        | 31    |
| ARC00005-2        | Univ of Arkansas | 4.0    | 8.0        | 45     | 6.4      | 41.0    | 974         | 19.5        | 113.2       | 20    |
| ARC00024-2        | Univ of Arkansas | 5.3    | <b>8.3</b> | 45     | 5.7      | 40.5    | 984         | 19.7        | 114.3       | 18    |
| ARC2189-2         | Univ of Arkansas | 3.3    | 8.0        | 43     | 6.1      | 38.3    | <b>1017</b> | <b>20.3</b> | 118.1       | 17    |
| Virginia          | Virginia State   | 4.7    | 7.7        | 40     | 5.8      | 38.7    | 718         | 14.4        | 83.5        | 30    |
| <b>Mean</b>       |                  | 3.4    | 7.9        | 40     | 6.0      | 39.3    | 861         | 17.2        | ---         | ---   |
| <b>CV</b>         |                  | 28.9   | 12.8       | 5      | 8.3      | 10.5    | 37          | 37.2        | ---         | ---   |
| <b>LSD (0.05)</b> |                  | 1.6    | 1.6        | 3      | 0.8      | NS      | 519         | 10.4        | ---         | ---   |

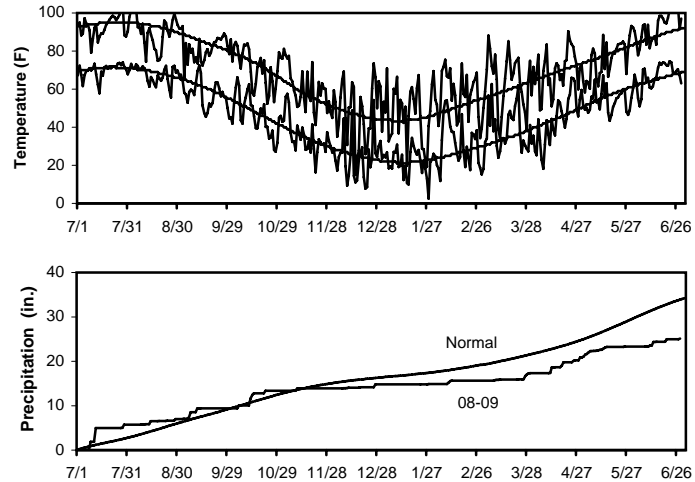
**Bold** - Superior LSD Group - Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

Cooperator:  
Gene McVey and John Lamle  
Johnston Seed Company

Planted: 9/23/2008 at 5 lb/a in 9-in. rows  
Swathed: 6/1/2009  
Harvested: 6/9/2009  
Herbicides: Trifluralin 1.5 pt/a  
Insecticides: None  
Fertility: 100-0-0 lb N-P-K fertilizer in the fall  
50-0-0 lb N-P-K fertilizer in the spring

Previous crop: Canola  
Soil type: Silt loam  
Elevation: 1227 ft  
Latitude: 36°26'N

ENID, Oklahoma



**Comments:** Plant stands averaged 60% in the fall. There was minimal winterkill. The late hard freeze caused only slight to moderate damage to the earliest maturities. Swathing occurred at 30%-80% seed color change. Windrows had zero shatter losses. Ideal conditions allowed for optimum dry down. Sclerotinia stem rot was observed in some plots prior to swathing, but infection was not widespread. Overall, the site had little weed pressure.

**Table 5. Results of the 2009 National Winter Canola Variety Trial at Enid, OK**

| Name        | Brand            | Plant                     |                 | Test            |                   | Yield <sup>b</sup><br>(lb/a) | Yield <sup>b</sup><br>(bu/a) | Yield<br>(% of mean) | Yield<br>rank |
|-------------|------------------|---------------------------|-----------------|-----------------|-------------------|------------------------------|------------------------------|----------------------|---------------|
|             |                  | Bloom <sup>a</sup><br>(%) | height<br>(in.) | Moisture<br>(%) | weight<br>(lb/bu) |                              |                              |                      |               |
| AAMU-18-07  | Alabama A&M      | 92                        | 31              | 9.3             | 49.0              | 1710                         | 34.2                         | 73                   | 51            |
| AAMU-33-07  | Alabama A&M      | 88                        | 38              | 10.1            | 51.0              | <b>2488</b>                  | <b>49.8</b>                  | 107                  | 19            |
| BSX-501     | Blue Sun         | 25                        | 43              | 9.6             | <b>52.3</b>       | <b>2587</b>                  | <b>51.7</b>                  | 111                  | 8             |
| BSX-6131    | Blue Sun         | 72                        | 40              | 9.2             | 51.1              | 2216                         | 44.3                         | 95                   | 35            |
| BSX-6242    | Blue Sun         | 75                        | 40              | 9.0             | <b>52.2</b>       | <b>2427</b>                  | <b>48.5</b>                  | 104                  | 24            |
| BSX-6271    | Blue Sun         | 80                        | 41              | 9.3             | 51.3              | <b>2532</b>                  | <b>50.6</b>                  | 109                  | 14            |
| BSX-6406    | Blue Sun         | 82                        | 42              | 9.5             | 51.7              | 2242                         | 44.8                         | 96                   | 33            |
| HyClass107W | Croplan Genetics | 68                        | 40              | 8.9             | 51.5              | <b>2408</b>                  | <b>48.2</b>                  | 103                  | 25            |
| HyClass110W | Croplan Genetics | 90                        | 35              | 8.7             | 50.3              | 2153                         | 43.1                         | 92                   | 40            |
| HyClass115W | Croplan Genetics | 78                        | 36              | 9.5             | 50.4              | 1861                         | 37.2                         | 80                   | 47            |
| HyClass154W | Croplan Genetics | 63                        | 40              | 9.9             | 51.7              | 2198                         | 44.0                         | 94                   | 37            |
| CWH095D     | DeKalb/Monsanto  | 82                        | 35              | 9.4             | <b>52.2</b>       | 2159                         | 43.2                         | 93                   | 39            |
| CWH101D     | DeKalb/Monsanto  | 93                        | 37              | 9.3             | 51.7              | <b>2709</b>                  | <b>54.2</b>                  | 116                  | 3             |
| CWH111      | DeKalb/Monsanto  | 93                        | 35              | 8.9             | <b>52.0</b>       | 2109                         | 42.2                         | 90                   | 42            |
| CWH633      | DeKalb/Monsanto  | 80                        | 35              | 9.8             | 50.8              | 1954                         | 39.1                         | 84                   | 44            |
| DKW41-10    | DeKalb/Monsanto  | 92                        | 32              | 9.1             | 50.4              | 1835                         | 36.7                         | 79                   | 49            |
| DKW45-10    | DeKalb/Monsanto  | 87                        | 35              | 8.7             | 51.0              | 2179                         | 43.6                         | 94                   | 38            |
| DKW46-15    | DeKalb/Monsanto  | 78                        | 35              | 9.2             | 50.6              | 2126                         | 42.5                         | 91                   | 41            |
| DKW47-15    | DeKalb/Monsanto  | 80                        | 37              | 9.1             | 50.9              | 1933                         | 38.7                         | 83                   | 45            |
| Baldur      | DL Seeds         | 75                        | 40              | 9.8             | <b>53.0</b>       | <b>2697</b>                  | <b>53.9</b>                  | 116                  | 5             |
| Dimension   | DL Seeds         | 58                        | 39              | 9.6             | <b>52.3</b>       | <b>2651</b>                  | <b>53.0</b>                  | 114                  | 6             |
| Flash       | DL Seeds         | 47                        | 41              | 9.6             | 51.6              | <b>2517</b>                  | <b>50.3</b>                  | 108                  | 15            |
| Hornet      | DL Seeds         | 83                        | 37              | 9.0             | <b>52.0</b>       | 2085                         | 41.7                         | 89                   | 43            |
| Kronos      | DL Seeds         | 80                        | 39              | 9.6             | <b>52.5</b>       | <b>2391</b>                  | <b>47.8</b>                  | 103                  | 27            |
| NPZ0604     | DL Seeds         | 85                        | 36              | 8.9             | <b>51.9</b>       | 2320                         | 46.4                         | 100                  | 29            |
| Safran      | DL Seeds         | 65                        | 39              | 9.7             | <b>53.2</b>       | <b>2731</b>                  | <b>54.6</b>                  | 117                  | 2             |
| Sitro       | DL Seeds         | 70                        | 37              | 9.7             | 51.2              | 1907                         | 38.1                         | 82                   | 46            |
| Visby       | DL Seeds         | 77                        | 38              | 9.3             | <b>52.2</b>       | <b>2447</b>                  | <b>48.9</b>                  | 105                  | 23            |
| Sumner      | KSU              | 80                        | 38              | 9.1             | 51.1              | <b>2465</b>                  | <b>49.3</b>                  | 106                  | 21            |
| Wichita     | KSU              | 75                        | 39              | 9.4             | <b>52.0</b>       | <b>2547</b>                  | <b>50.9</b>                  | 109                  | 13            |
| KS3074      | KSU/OSU          | 77                        | 42              | 9.4             | <b>52.2</b>       | <b>2556</b>                  | <b>51.1</b>                  | 110                  | 11            |
| KS3077      | KSU/OSU          | 72                        | 39              | 9.6             | <b>52.5</b>       | <b>2448</b>                  | <b>49.0</b>                  | 105                  | 22            |
| KS3132      | KSU/OSU          | 82                        | 40              | 9.4             | <b>51.9</b>       | <b>2578</b>                  | <b>51.6</b>                  | 111                  | 9             |
| KS3254      | KSU/OSU          | 57                        | 43              | 10.3            | <b>52.2</b>       | <b>2490</b>                  | <b>49.8</b>                  | 107                  | 18            |
| KS4022      | KSU/OSU          | 75                        | 39              | 9.7             | 51.0              | 2256                         | 45.1                         | 97                   | 30            |
| KS4085      | KSU/OSU          | 80                        | 43              | 9.4             | 51.5              | <b>2394</b>                  | <b>47.9</b>                  | 103                  | 26            |
| KS4158      | KSU/OSU          | 73                        | 41              | 9.7             | 51.6              | <b>2698</b>                  | <b>54.0</b>                  | 116                  | 4             |
| KS9135      | KSU/OSU          | 60                        | 43              | 9.4             | <b>52.2</b>       | 2211                         | 44.2                         | 95                   | 36            |

**Table 5 continued. Results of the 2009 National Winter Canola Variety Trial at Enid, OK**

| Name              | Brand            | Plant                     |                 | Test            |                   |                              | Yield       | Yield rank |                              |
|-------------------|------------------|---------------------------|-----------------|-----------------|-------------------|------------------------------|-------------|------------|------------------------------|
|                   |                  | Bloom <sup>a</sup><br>(%) | height<br>(in.) | Moisture<br>(%) | weight<br>(lb/bu) | Yield <sup>b</sup><br>(lb/a) |             |            | Yield <sup>b</sup><br>(bu/a) |
| Hybrigold         | Momont           | 60                        | 37              | 9.3             | <b>52.7</b>       | 2229                         | 44.6        | 96         | 34                           |
| Hybrilux          | Momont           | 70                        | 41              | 8.8             | 51.4              | 2342                         | 46.8        | 100        | 28                           |
| Hybristar         | Momont           | 63                        | 35              | 9.9             | <b>52.1</b>       | 1792                         | 35.8        | 77         | 50                           |
| Hybrisurf         | Momont           | 57                        | 39              | 10.1            | 51.0              | 1835                         | 36.7        | 79         | 48                           |
| Kadore            | Momont           | 83                        | 35              | 9.8             | 51.8              | <b>2503</b>                  | <b>50.1</b> | 107        | 16                           |
| 45D03             | Pioneer Hi-Bred  | 82                        | 37              | 9.3             | <b>52.7</b>       | <b>2759</b>                  | <b>55.2</b> | 118        | 1                            |
| 46W14             | Pioneer Hi-Bred  | 77                        | 36              | 9.8             | <b>51.9</b>       | <b>2498</b>                  | <b>50.0</b> | 107        | 17                           |
| 46W99             | Pioneer Hi-Bred  | 78                        | 37              | 9.0             | <b>51.9</b>       | 2248                         | 45.0        | 96         | 32                           |
| ARC00004-2        | Univ of Arkansas | 8                         | 46              | 9.8             | <b>52.3</b>       | <b>2571</b>                  | <b>51.4</b> | 110        | 10                           |
| ARC00005-2        | Univ of Arkansas | 77                        | 43              | 9.4             | <b>52.7</b>       | <b>2592</b>                  | <b>51.8</b> | 111        | 7                            |
| ARC00024-2        | Univ of Arkansas | 5                         | 46              | 9.9             | <b>52.3</b>       | 2254                         | 45.1        | 97         | 31                           |
| ARC2189-2         | Univ of Arkansas | 50                        | 43              | 9.4             | 51.6              | <b>2551</b>                  | <b>51.0</b> | 109        | 12                           |
| Virginia          | Virginia State   | 85                        | 35              | 8.7             | 50.8              | 2470                         | 49.4        | 106        | 20                           |
| <b>Mean</b>       |                  | 72                        | 39              | 9.4             | 51.7              | 2330                         | 46.6        | ---        | ---                          |
| <b>CV</b>         |                  | 11                        | 5               | 6.5             | 1.5               | 10                           | 10.5        | ---        | ---                          |
| <b>LSD (0.05)</b> |                  | 13                        | 3               | NS              | 1.3               | 395                          | 7.9         | ---        | ---                          |

**Bold** - Superior LSD Group - Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other. <sup>a</sup>Bloom is recorded as percentage of open buds on Apr.15, 2009. <sup>b</sup>Yields adjusted to 9% moisture.

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Permission is hereby given to Kansas State University (KSU) 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.

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