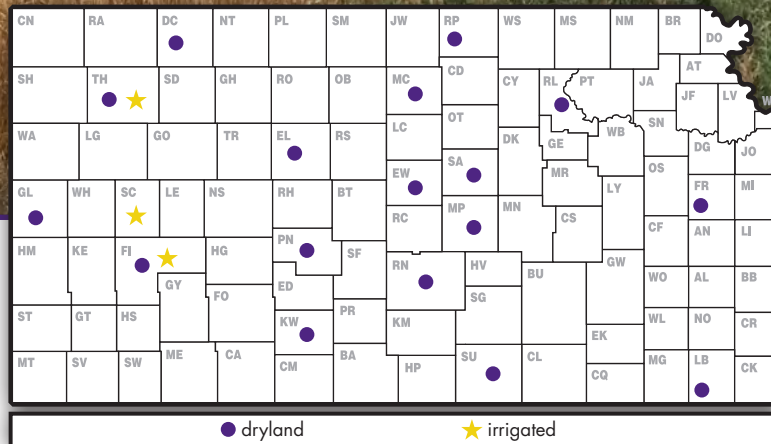


2018 Kansas Performance Tests with

Winter Wheat Varieties



Report of Progress 1143

K-STATE
Research and Extension

KANSAS PERFORMANCE TESTS WITH WINTER WHEAT VARIETIES

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2018 WHEAT CROP REVIEW

Weather and Crop Development

The 2017-18 winter wheat growing season tested the resiliency of the winter wheat crop in Kansas from its start until its end. In fact, the sentence “Wheat has nine lives” was thoroughly put to the test due to different, subsequent, uncontrollable, environmental challenges to which the crop was exposed.

Fall and winter challenges

The growing season started with extremely dry months during August and September, which resulted in lack of soil moisture holding back producers who often plant wheat early. As a consequence, only about 20% of the wheat crop was planted by late September 2017. This dry period was followed by a very wet period during late September and early- to-mid October, when the state received anywhere from 2 to 7 inches of precipitation, with the exception of the far southwest corner of the state which received virtually zero rainfall during the period. The cool temperatures, coupled with excessive rainfall observed during this period, made it challenging for producers to continue their planting operations, resulting in the slowest sowing progress of the Kansas wheat crop since 1994. By October 10, when sowing progress is historically around 75%, only around 35% of the wheat crop had been sown. Thus, the majority of the Kansas wheat crop was planted relatively late. Additionally, the excessive rainfall caused waterlogging in some of the early-sown fields, which resulted in the need for replanting. After the early October rains, the rest of the fall was extremely dry and fields planted too late (for instance, several weeks after the last rainfall event) resulted in scattered stands.

The late sowing of the crop was followed by a quick onset of cold temperatures in late October, which severely limited the fall tillering potential of the 2017-18 wheat crop. The majority of the crop sown after the October rainfall events went into winter dormancy with the main stem and one or two tillers, which decreased the crop's ability to handle cold winter temperatures. There were two extremely cold events during the winter that caused some winterkill in localized parts of the state during January 1 and January 13-15. While some tiller loss and winterkill occurred, this was not nearly as widespread or severe as winterkill experienced in previous years (for example, the temperature drop during November 2014).

One benefit from dry soils during late summer is that volunteer wheat emergence during this period was minimal. In fact, the majority of the volunteer wheat emerged together with the new crop after the early-October precipitation. Late-emerged volunteer wheat acts similar to a planted crop when it comes to hosting diseases and pests, such as the wheat curl mite which transmits wheat streak mosaic virus. Lack of volunteer crop emergence coupled with cool fall temperatures, could be among the reasons why there was low incidence and severity of wheat streak

mosaic virus during the 2017-18 winter wheat growing season.

Spring challenges

The first and foremost challenge experienced by the wheat crop during the spring of 2018 was prolonged and severe drought stress. After the October precipitation, parts of central Kansas did not receive any precipitation until late March; other parts towards mid-to-late April, and many regions of the state, especially southwest Kansas, did not receive measurable precipitation until early to mid-May. These rainfall events were very sparse and spotty across the region, resulting in similar pattern to the wheat crop. The lack of precipitation had direct consequences on crop's response to applied inputs such as nitrogen, as the fertilizer likely did not make it into the root zone until later during crop development.

This prolonged drought was coupled with below-normal temperatures until late April, when temperatures ranged from 5 to 9°F below normal. This combination slowed down crop development, resulting in a crop that was anywhere from two to four weeks behind its normal growth. For instance, while the wheat is typically around the boot stages of development in the northwest part of the state during early May; it was still at the jointing stages this growing season. Similarly, the wheat crop in south central Kansas is typically flowering through early grain fill during this time period, and was still at the boot stage of development during the 2017-18 growing season.

The delayed development of the crop may have helped withstand two freeze events that happened April 7 and April 16, when temperatures as low as 7°F were measured. These freeze events had the potential to cause severe damage to the crop, especially in the southeast, south central, and central parts of the state. Some freeze damage was observed in the entire area spanning the counties in between McPherson County in the northeast corner of the affected area through Barber County in the southwest corner. The signs of freeze damage were not the usual damaged heads: instead, we observed a much denser lower canopy as compared to a thinner upper canopy as a result of tiller abortion due to cold temperature stress. This difference in symptoms likely occurred because the crop was not far along in development when the freeze event occurred.

One of the coldest Aprils on record was followed by one of the warmest Mays on record. Average temperatures during May were 5 to 9°F above normal, which accelerated crop development towards the later phase of the growing season. In fact, the crop went from being 2 to 4 weeks behind in development during early May to being as much as about 5 days ahead of schedule in early June. High temperatures compressed the reproductive phase of the crop, resulting in likely less than 30 days of grain filling

period for the majority of the state. This compares to more than 40 days of grain filling during both 2016 and 2017 harvest years, and helps justify the lower grain yield achieved in 2018. Not only were the entire months of May and June above-normal in temperature, but a couple of extreme heat events also damaged the crop by hastening senescence. The period between May 23 and 28 had as many as 17 hours above 90°F and prematurely decreased the crop's green leaf area, especially in central and north central Kansas. This caused the crop in north central Kansas to be harvested virtually at the same time as the crop in south central Kansas. Later, during June, another extreme heat event accelerated crop development in northwest Kansas.

Grain yield, test weight, and protein

Grain yield was very variable across Kansas due to the high variability in weather conditions. Producers reported anywhere from low teens to upper 70s for dryland production, with the majority of the reports around 25-40 bu/a. Crop rotation had a large effect on grain yield during this growing season. In the western part of the state, the crop following a fallow period had much greater yield potential compared to a crop grown as continuous wheat or in other rotations with a shortened fallow period. Similarly, in central Kansas, yields following a soybean crop were reduced when compared to continuous wheat or following a corn crop. The effects of crop rotation during this growing season were likely greater than usual due to the prolonged drought conditions during fall and spring. Surprisingly, test weights were usually maintained about 60 lbs/bu or above, despite the extreme heat during May. Protein concentration was typically high (above 12-13%), likely due to the decreased yield. (Romulo Lollato, Kansas State University Extension Wheat Specialist, and Mary Knapp, Kansas State University Climatologist.)

Diseases

Diseases had a minor influence on the productivity of the wheat crop in 2018. Dry conditions dominated much of the early growing season and this slowed the development of stripe rust, septoria leaf spot, and tan spot. Leaf rust was present in many locations but arrived late enough in the growing season that yield losses were minimal.

Wheat streak mosaic (WSM) was not a serious production issue for most growers this year. This was a welcome relief after the 2017 WSM epidemic that affected much of western Kansas. The lower levels of WSM can be attributed to control of volunteer wheat and cold temperatures last fall that reduced the activity of the wheat curl mite. (Erick DeWolf, Kansas State University Department of Plant Pathology.)

Insects

In the fall of 2016, extending into the spring of 2017, wheat curl mites advanced significantly eastward in Kansas. Usually, wheat curl mites are most problematic in about the western third of the state and eastern Colorado. However

by spring of 2017, wheat curl mites, and most specifically viruses vectored by these mites which cause wheat streak mosaic, had caused several fields to be plowed under as far east as Dickinson and Marion counties. This created much concern and a reemphasis on controlling volunteer wheat throughout the state. Thus, wheat curl mite infestations were reduced to the extent that no fields were reported destroyed or required plowing in the fall of 2017 or spring of 2018.

A few fields had minor infestations of wheat head army worms as kernels were filling; however, infestations were not significant enough to cause widespread insecticide applications. Hessian fly infestations were also reported from scattered locations around the state. Otherwise, pest problems for the 2017-2018 wheat crop were relatively negligible. (Holly Davis and Jeff Whitworth, Kansas State University Department of Entomology.)

Harvest Statistics

The Kansas Agricultural Statistics' estimate of the 2018 crop was 270 million bushels from 7.3 million acres, up 3% from last year's crop. Yield per harvested acre is expected to average 37 bushels, down 10 bushels from last year's final yield. (June 29, 2018, *Crops Report*, Kansas Agricultural Statistics.)

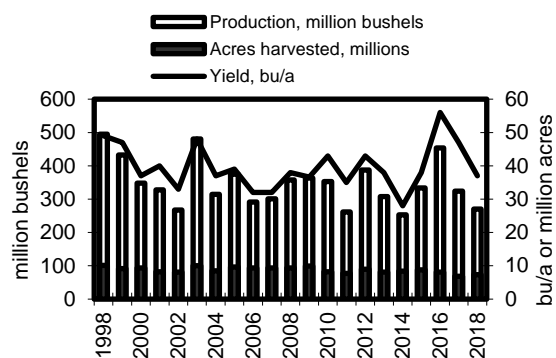


Figure 1. Historical Kansas wheat production

Everest remained the leading variety of wheat seeded in Kansas for the sixth consecutive year. It accounted for 9.3% of the state's wheat. SY Monument overtook T158 as the second most popular variety, accounting for 6.6% and 6.1%, respectively. WB Grainfield moved up into fourth place with 5.5%, while Winterhawk slipped down a spot for the first time in nine years with 4.2% of acres planted. (March 2018, *Wheat Variety*, Kansas Agricultural Statistics.)

Acresage Distribution

| | | |
|--------------------|------------------------|-------------------|
| WB-Grainfield 11.8 | SY Monument 13.1 | Everest 33.5 |
| Byrd 10.9 | Everest 8.3 | 1863 3.1 |
| Winterhawk 10.5 | WB-Grainfield 6.7 | Zenda 3.0 |
| TAM 114 4.9 | Winterhawk 3.8 | 2137 1.9 |
| Denali 4.6 | SY Wolf 3.4 | |
| T158 13.9 | SY Monument 11.3 | Everest 34.8 |
| WB-Grainfield 9.2 | Everest 9.7 | SY Monument 11.3 |
| Byrd 8.3 | WB-Grainfield 6.3 | Zenda 3.3 |
| Joe+ 7.2 | WB4458 5.1 | WB-Cedar 2.8 |
| TAM 112 5.8 | T158 4.0 | WB 4303 2.1 |
| T158 13.9 | Gallagher 12.8 | Everest 60.8 |
| Danby 9.4 | Everest 10.8 | Zenda 6.2 |
| Winterhawk 7.6 | SY Monument 9.2 | Gallagher 2.8 |
| TAM 112 7.3 | LCS Mint 6.0 | Pioneer 25R78 1.2 |
| TAM 111 6.7 | Doublestop CL Plus 3.3 | |

Figure 2. Leading wheat varieties in Kansas; percentage of seeded acres for 2018 crop

2018 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.** For more information please visit: agronomy.ksu.edu/services/crop-performance-tests/index.html.

Varieties

Public varieties are selected for inclusion in the tests on the basis of several criteria. Most represent new or established varieties from Nebraska, Oklahoma, and Colorado 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 voluntarily. Entrants choose both the entries and test sites. The 2018 private entrants are listed in Table 1.

Results and Variety Characterization

Results from Kansas tests are presented in Tables 4 through 12. Yields are reported as bushels per acre (60 lb/bu) and are 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 the 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) least significant difference (LSD) 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.

Electronic Access

To access crop performance testing information electronically, visit the website at: agronomy.ksu.edu/services/crop-performance-tests/index.html.

Research and Duplication Policy

When companies submit entries, permission is given to Kansas State University to test varieties and/or hybrids designated on the entry forms in the manner indicated in the test announcements. Seed submitted for testing should be a true sample of the seed being offered for sale.

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Table 1. Private entrants in the 2018 Kansas wheat performance tests

| | | | |
|---|--|--|--|
| AgriMAXX Wheat Company 7167 Highbanks Road Mascoutah, IL 62258 855-629-9432 | DuPont Pioneer P.O. Box 1000 Johnston, IA 50131 515-535-3200 | Limagrain Cereal Seeds 2040 SE Frontage Road Fort Collins, CO 80525 970-498-2218 | Polansky Seed, Inc 2729 M Street Belleville, KS 66935 785-527-2271 |
| AGSECO P.O. Box 7 Girard, KS 66743 620-724-6223 | Dyna-Gro Seed 117 East Laurel St. Garden City, KS 620-214-9024 | MFA Incorporated 201 Ray Young Dr. Columbia, MO 65201 573-876-5490 | Syngenta-AgriPro 11783 Ascher Rd. Junction City, KS 66441 620-532-6283 |
| Croplan 1080 County Road F West Shoreview, MN 651-375-6220 | Frontier Seed P.O. Box 781 Concordia, MO 64020 (844)2-FRONTIER | Monsanto Company-WestBred 800 North Lindbergh Boulevard St. Louis, MO 63167 314-694-1000 | Watley Seed Company P.O. Box 51 Spearman, TX 79081 806-659-3838 |

Table 3. Wheat performance test site descriptions and management in 2018

| Region location | Soil type previous crop | N | P ₂ O ₅ | K ₂ O | | Plant-harvest seed rate | Conditions |
|---|--------------------------------------|-----|-------------------------------|------------------|------|---------------------------------|---|
| | | | | | | | |
| <u>Northeast Dryland</u> | | | | | | | |
| Ashland Agronomy Farm Manhattan (MA) | Reading silt loam Soybean | 70 | 0 | 0 | Fall | 10/30/2017-6/23/2018 75 lb/a | Dry with timely rains. No disease pressure and no fungicide applied. |
| <u>Southeast Dryland</u> | | | | | | | |
| East Central KS Experiment Field Ottawa (OT) | Woodson silt loam Soybean | 122 | 50 | 17 | Fall | 11/1/2017-6/27/2018 60 lb/a | Dry conditions delayed growth until rains in March before and during heading. No fungicide applied. |
| Southeast Agricultural Research- Extension Center Parsons (PA) | Parsons silt loam Corn | 110 | 46 | 30 | Fall | 11/1/2017-6/15/2018 90 lb/a | Dry with timely rains. No disease pressure and no fungicide applied. |
| <u>Soft Wheat</u> | | | | | | | |
| Southeast Agricultural Research- Extension Center Parson (PA) | Parsons silt loam Corn | 110 | 46 | 30 | Fall | 11/1/2017-6/15/2018 90 lb/a | Dry with timely rains. No disease pressure and no fungicide applied. |
| <u>North Central Dryland</u> | | | | | | | |
| North Central KS Experiment Field Belleville (BE) | Crete silt loam Fallow | 80 | 30 | 0 | Fall | 10/19/2017-6/29/2018 90 lb/a | No fungicide applied. |
| North Central KS Farmer's Field Beloit (BL) | Harney silt loam Wheat | 110 | 40 | 0 | Fall | 10/19/2017-6/28/2018 80 lb/a | No fungicide applied. |
| <u>Central Dryland</u> | | | | | | | |
| Central KS Farmer's Field Gypsum (GY) | Silty clay loam Fallow | 50 | 0 | 0 | Fall | 10/18/2017-6/29/2018 60 lb/a | Dry throughout growing season. No fungicide applied. |
| Central KS Farmer's Field Lorraine (LR) | McCook silt loam Wheat | 60 | 0 | 0 | Fall | 10/17/2017 60 lb/a | Intensive management comparison trial available. No disease and no fungicide applied to standard-input trial. |
| <u>South Central Dryland</u> | | | | | | | |
| South Central KS Farmer's Field McPherson (MC) | Crete silt loam Wheat | 60 | 0 | 0 | Fall | 10/19/2017-6/21/2018 60 lb/a | Intensive management comparison trial available. No disease and no fungicide applied to standard-input trial. |
| South Central KS Experiment Field Hutchinson (HU) | Funmar-Taver loam Soybean | 100 | 0 | 0 | Fall | 10/25/2017-6/18/2018 75 lb/a | Dry periods resulted in poor tillering. No fungicide applied. |
| South Central KS Farmer's Field Conway Springs (CW) | Sandy loam Fallow | 40 | 0 | 0 | Fall | 10/18/2017-6/19/2018 60 lb/a | Intensive management comparison trial available. No disease and no fungicide applied to standard-input trial. |
| <u>Northwest Dryland</u> | | | | | | | |
| Agricultural Research Center Hays (HA) | Harney silt loam Wheat | 60 | 0 | 0 | Fall | 10/3/2017-6/30/2018 60 lb/a | Dry throughout growing season. No fungicide applied. |
| Northwest Research-Extension Center Colby (CO) | Keith silt loam Fallow | 60 | 0 | 0 | Fall | 10/13/2017-7/8/2018 60 lb/a | Dry with some moisture in the spring. No diseases and no fungicide applied. |
| Northwest Research-Extension Center Tribune (TR) | Richfield silt loam Grain Sorghum | 100 | 24 | 0 | Fall | 10/12/17-6/30/2018 60 lb/a | Good establishment but dry for the remainder of the season. No fungicide applied. |
| Northwest KS Farmer's Field Decatur (DC) | Harney clay loam Grain Sorghum | 40 | 0 | 0 | Fall | 10/15/2017-7/11/2018 90 lb/a | Poor tillering in the spring. No fungicide applied. |
| <u>Southwest Dryland</u> | | | | | | | |
| Southwest KS Farmer's Field Larned (LA) | Harney clay loam Grain sorghum | 80 | 40 | 8 | Fall | 10/14/2017-6/28/2018 90 lb/a | Dry with some moisture in the spring. No diseases and no fungicide applied. |
| Southwest KS Farmer's Field Mullinville (MV) | Harney clay loam Grain Sorghum | 100 | 0 | 0 | Fall | 10/11/2017-6/19/2018 90 lb/a | Dry throughout growing season. No fungicide applied. |
| Southwest Research-Extension Center Garden City (GC) | Keith silt loam Wheat | 60 | 0 | 0 | Fall | -- 65 lb/a | Abandoned: uneven stands throughout growing season. |
| <u>Western Irrigated</u> | | | | | | | |
| Northwest Research-Extension Center Colby (CO) | Keith silt loam Fallow | 100 | 0 | 0 | Fall | 10/13/2017-7/8/2018 120 lb/a | Dry with some moisture in the spring. No diseases and no fungicide applied. |
| Southwest Research-Extension Center Garden City (GC) | Keith silt loam Corn | 100 | 0 | 0 | Fall | 10/14/2017-7/9/2018 120 lb/a | Dry throughout growing season. No fungicide applied. |
| Western KS Farmer's Field Healy, Lane County (LN) | Scott silt loam Fallow | 90 | 0 | 0 | Fall | -- 80 lb/a | Abandoned: large hail after heading. |

Table 4. 2018 NORTHEAST Kansas dryland winter wheat performance test

| Brand / Name | MA ¹ | MA | -MA- | |
|-------------------------|-----------------|-------------------|----------------------|------|
| | yield (bu/a) | % of test average | 2 yr | 3 yr |
| | | | multiyear av. (bu/a) | |
| AgriMAXX | | | | |
| AM Eastwood | 38 | 81 | -- | -- |
| AGSECO | | | | |
| AG Gallant | 48 | 104 | 75 | 66 |
| AG Icon | 49 | 106 | 61 | -- |
| AG Robust | 42 | 91 | 64 | 57 |
| Hot Rod | 47 | 102 | 68 | 62 |
| OGI | | | | |
| Gallagher | 47 | 101 | 76 | 63 |
| Iba | 43 | 91 | 71 | 64 |
| Polansky | | | | |
| Paradise | 46 | 100 | 76 | -- |
| Syngenta | | | | |
| Bob Dole | 48 | 103 | 62 | -- |
| SY Benefit | 48 | 104 | 68 | -- |
| SY Flint | 47 | 101 | 71 | -- |
| SY Grit | 50 | 108 | 67 | -- |
| SY Monument | 43 | 93 | 64 | -- |
| SY Wolf | 49 | 105 | 68 | 59 |
| WestBred | | | | |
| WB4269 | 48 | 104 | 66 | -- |
| WB4418 | 45 | 97 | -- | -- |
| WB4515 | 48 | 104 | 63 | -- |
| WB-Grainfield | 50 | 108 | 70 | 62 |
| Wildcat Genetics | | | | |
| 1863 | 44 | 94 | 66 | 60 |
| Everest | 44 | 95 | 70 | 65 |
| Larry | 51 | 109 | -- | 48 |
| Zenda | 45 | 98 | 62 | 58 |
| Experimentals | | | | |
| Croplan EXP 26-16 | 41 | 89 | -- | -- |
| Croplan EXP 69-16 | 46 | 99 | -- | -- |
| Averages | | | | |
| Averages | 47 | 47 | -- | -- |
| CV (%) | 8 | 8 | -- | -- |
| LSD (0.05)* | 5 | 12 | -- | -- |

¹ MA=Manhattan, KS, Ashland Bottoms Research Farm, Riley County.

*Yields must differ by more than the LSD value to be considered statistically different.

Table 5. 2018 SOUTHEAST Kansas dryland winter wheat performance test

| Brand / Name | OT ¹ | | | PA ² | | | -OT- | | | | -PA- | | | | OT | | | PA | | | Av. | | |
|-------------------------|-----------------|----|----|-------------------|-----|-----|------|------|------|------|------|----|-----|----|----|-----|----|----|-----|----|-----|-----|--|
| | yield (bu/a) | | | % of test average | | | 2 yr | 3 yr | 2 yr | 3 yr | OT | PA | Av. | OT | PA | Av. | OT | PA | Av. | OT | PA | Av. | |
| AgriMAXX | | | | | | | | | | | | | | | | | | | | | | | |
| AM Eastwood | 36 | 57 | 46 | 93 | 110 | 101 | 42 | -- | 52 | -- | 64 | 59 | 61 | 1 | 2 | 2 | -- | 26 | 26 | | | | |
| AGSECO | | | | | | | | | | | | | | | | | | | | | | | |
| AG Gallant | 37 | 45 | 41 | 95 | 87 | 91 | 42 | -- | 58 | 57 | 62 | 59 | 61 | -2 | 1 | -1 | -- | 27 | 27 | | | | |
| AG Icon | 38 | 47 | 43 | 100 | 92 | 96 | 40 | -- | 50 | -- | 64 | 57 | 61 | 3 | 3 | 3 | -- | 32 | 32 | | | | |
| AG Robust | 34 | 48 | 41 | 89 | 92 | 90 | 41 | -- | 51 | 53 | 62 | 59 | 61 | -1 | 1 | 0 | -- | 27 | 27 | | | | |
| Hot Rod | 32 | 58 | 45 | 84 | 113 | 98 | 38 | -- | 64 | 68 | 62 | 58 | 60 | 2 | 1 | 1 | -- | 27 | 27 | | | | |
| Dyna-Gro | | | | | | | | | | | | | | | | | | | | | | | |
| Long Branch | 36 | 41 | 39 | 93 | 80 | 87 | 47 | -- | 49 | 51 | 63 | 58 | 60 | 6 | 8 | 7 | -- | 31 | 31 | | | | |
| Limagrain | | | | | | | | | | | | | | | | | | | | | | | |
| LCS Chrome | 42 | 63 | 52 | 109 | 122 | 115 | 46 | -- | 59 | 63 | 65 | 57 | 61 | 7 | 9 | 8 | -- | 32 | 32 | | | | |
| OGI | | | | | | | | | | | | | | | | | | | | | | | |
| Gallagher | 41 | 50 | 45 | 106 | 96 | 101 | -- | -- | -- | -- | 63 | 55 | 59 | 3 | 5 | 4 | -- | 27 | 27 | | | | |
| Ruby Lee | 38 | 57 | 48 | 99 | 110 | 105 | 43 | -- | 58 | 60 | 64 | 59 | 61 | 3 | 3 | 3 | -- | 33 | 33 | | | | |
| Syngenta | | | | | | | | | | | | | | | | | | | | | | | |
| Bob Dole | 44 | 49 | 47 | 116 | 95 | 105 | 41 | -- | 57 | -- | 64 | 57 | 61 | -1 | 2 | 1 | -- | 33 | 33 | | | | |
| SY Benefit | 41 | 45 | 43 | 107 | 88 | 97 | 45 | -- | 51 | -- | 64 | 57 | 61 | 1 | 1 | 1 | -- | 30 | 30 | | | | |
| SY Grit | 44 | 50 | 47 | 116 | 97 | 106 | -- | -- | -- | 56 | 63 | 57 | 60 | 1 | 3 | 2 | -- | 30 | 30 | | | | |
| SY Wolf | 37 | 52 | 45 | 97 | 101 | 99 | -- | -- | -- | -- | 64 | 59 | 62 | 2 | 7 | 4 | -- | 29 | 29 | | | | |
| WestBred | | | | | | | | | | | | | | | | | | | | | | | |
| WB4269 | 39 | 49 | 44 | 101 | 94 | 97 | 43 | -- | 52 | -- | 63 | 59 | 61 | 5 | 2 | 4 | -- | 28 | 28 | | | | |
| WB4515 | 40 | 60 | 50 | 104 | 116 | 110 | 40 | -- | 61 | -- | 65 | 58 | 61 | 6 | 5 | 5 | -- | 29 | 29 | | | | |
| WB-Cedar | 32 | 43 | 38 | 84 | 83 | 84 | 37 | -- | 51 | 57 | 62 | 59 | 60 | 3 | 0 | 1 | -- | 26 | 26 | | | | |
| Wildcat Genetics | | | | | | | | | | | | | | | | | | | | | | | |
| Everest | 36 | 49 | 42 | 94 | 94 | 94 | 39 | -- | 55 | 60 | 64 | 59 | 62 | -1 | 0 | 0 | -- | 28 | 28 | | | | |
| Zenda | 37 | 44 | 40 | 97 | 84 | 91 | 43 | -- | 53 | 57 | 66 | 60 | 63 | 2 | 4 | 3 | -- | 30 | 30 | | | | |
| Experimentals | | | | | | | | | | | | | | | | | | | | | | | |
| AgriMAXX EXP HRW | 33 | 58 | 46 | 87 | 112 | 99 | -- | -- | -- | -- | 63 | 57 | 60 | 0 | 2 | 1 | -- | 30 | 30 | | | | |
| Croplan EXP 26-16 | 41 | 61 | 51 | 107 | 117 | 112 | -- | -- | -- | -- | 64 | 59 | 62 | 5 | 7 | 6 | -- | 33 | 33 | | | | |
| Croplan EXP 69-16 | 42 | 54 | 48 | 109 | 104 | 107 | -- | -- | -- | -- | 64 | 58 | 61 | 7 | 10 | 8 | -- | 29 | 29 | | | | |
| Averages | 38 | 52 | 45 | 38 | 52 | 45 | -- | -- | -- | -- | 64 | 58 | 61 | 2 | 4 | 3 | -- | 29 | 29 | | | | |
| CV (%) | 9 | 9 | 9 | 9 | 9 | 9 | -- | -- | -- | -- | 1 | 2 | 1 | 0 | 0 | 0 | -- | 4 | 4 | | | | |
| LSD (0.05)* | 5 | 6 | 6 | 13 | 12 | 12 | -- | -- | -- | -- | 1 | 1 | 1 | 1 | 0 | 0 | -- | 2 | 2 | | | | |

¹ OT=Ottawa, KS, East Central Experiment Field, Franklin County.

² PA=Parsons, KS, Southeast Agricultural Research Center, Labette County.

*Yields must differ by more than the LSD value to be considered statistically different.

Table 6. 2018 SOUTHEAST Kansas SOFT winter wheat performance test

| Brand / Name | PA | | PA | | PA | PA | PA |
|-------------------------|--------------|-------------------|------------------------------|------|----|----|----|
| | yield (bu/a) | % of test average | 2 yr multiyear av. (bu/a) | 3 yr | | | |
| AgriMAXX | | | | | | | |
| 415 | 57 | 95 | 75 | 77 | 58 | 1 | 29 |
| 444 | 59 | 98 | 69 | 71 | 56 | 4 | 30 |
| 463 | 63 | 104 | 73 | 80 | 55 | 0 | 29 |
| 473 | 65 | 109 | 74 | -- | 58 | 4 | 31 |
| 475 | 56 | 94 | -- | -- | 57 | 1 | 28 |
| Croplan | | | | | | | |
| SRW 8550 | 64 | 107 | -- | -- | 57 | 4 | 31 |
| SRW 9415 | 65 | 108 | -- | 69 | 57 | 5 | 27 |
| SRW 9606 | 56 | 93 | -- | -- | 56 | 2 | 29 |
| DuPont Pioneer | | | | | | | |
| (S) 25R40 | 66 | 110 | 73 | 76 | 57 | 4 | 28 |
| (S) 25R50 | 57 | 95 | -- | -- | 57 | 5 | 29 |
| (S) 25R61 | 62 | 103 | 67 | -- | 58 | 2 | 31 |
| (S) 25R74 | 65 | 109 | 73 | -- | 56 | 1 | 27 |
| (S) 25R77 | 54 | 91 | 69 | 73 | 57 | 0 | 29 |
| Frontier | | | | | | | |
| Magnus 1069 | 61 | 103 | -- | -- | 56 | 1 | 30 |
| MFA | | | | | | | |
| (S) 2449 | 64 | 107 | 65 | 70 | 56 | 4 | 30 |
| (S) 2542 | 63 | 105 | 72 | -- | 59 | 1 | 29 |
| (S) 2622 | 58 | 97 | -- | -- | 58 | 2 | 27 |
| (S) 2633 | 60 | 100 | -- | -- | 57 | 1 | 30 |
| Wildcat Genetics | | | | | | | |
| Zenda HRW Check | 44 | 73 | -- | -- | 60 | 0 | 30 |
| Averages | 60 | 60 | -- | -- | 57 | 2 | 29 |
| CV (%) | 6 | 6 | -- | -- | 3 | 0 | 3 |
| LSD (0.05)* | 5 | 8 | -- | -- | 2 | 0 | 1 |

¹ PA= Parsons, KS, Southeast Agricultural Research Center, Labette County.

* Yields must differ by more than the LSD value to be considered statistically different.

Table 7. 2018 North Central Kansas dryland winter wheat performance test

| Brand / Name | BE ¹ BL ² Av. | | | BE BL Av. | | | -BE- 2 yr 3 yr | | -BL- 2 yr 3 yr | | BE BL Av. | | | BE BL Av. | | |
|---------------------------|-------------------------------------|----|----|-------------------|-----|-----|-----------------------|----|----------------|----|---------------------|----|----|-------------|----|----|
| | yield (bu/a) | | | % of test average | | | multi-year av. (bu/a) | | | | test weight (lb/bu) | | | height (in) | | |
| AgriMAXX | | | | | | | | | | | | | | | | |
| AM Eastwood | 48 | 31 | 40 | 109 | 109 | 109 | 66 | -- | 55 | -- | 65 | 57 | 61 | 23 | 23 | 23 |
| AGSECO | | | | | | | | | | | | | | | | |
| AG Gallant | 43 | 29 | 36 | 96 | 102 | 99 | 66 | 82 | 53 | -- | 60 | 59 | 60 | 24 | 22 | 23 |
| AG Icon | 43 | 30 | 36 | 97 | 102 | 100 | 65 | -- | 55 | -- | 63 | 57 | 60 | 28 | 24 | 26 |
| AG Robust | 51 | 25 | 38 | 115 | 86 | 100 | 78 | 89 | 48 | -- | 57 | 56 | 57 | 24 | 20 | 22 |
| Hot Rod | 51 | 29 | 40 | 116 | 101 | 108 | 65 | 84 | 52 | -- | 63 | 60 | 61 | 23 | 22 | 22 |
| Dyna-Gro | | | | | | | | | | | | | | | | |
| Long Branch | 47 | 27 | 37 | 105 | 92 | 99 | 71 | 71 | 51 | -- | 63 | 56 | 60 | 27 | 25 | 26 |
| Limagrain | | | | | | | | | | | | | | | | |
| LCS Chrome | 43 | 25 | 34 | 97 | 87 | 92 | 69 | 70 | 48 | -- | 63 | 57 | 60 | 26 | 25 | 26 |
| LCS Link | 41 | 24 | 33 | 93 | 83 | 88 | -- | -- | -- | -- | 64 | 57 | 60 | 27 | 24 | 25 |
| LCS Pistol | 44 | 28 | 36 | 98 | 97 | 98 | -- | 50 | -- | -- | 63 | 58 | 61 | 25 | 23 | 24 |
| LCS Mint | 40 | 32 | 36 | 89 | 111 | 100 | 61 | 56 | 50 | -- | 64 | 57 | 61 | 27 | 26 | 26 |
| T158 | 44 | 29 | 37 | 100 | 101 | 101 | 74 | 76 | 50 | -- | 62 | 58 | 60 | 25 | 23 | 24 |
| OGI | | | | | | | | | | | | | | | | |
| Bentley | 42 | 30 | 36 | 94 | 105 | 99 | 68 | 69 | 54 | -- | 66 | 56 | 61 | 27 | 27 | 27 |
| Lonerider | 52 | 32 | 42 | 117 | 112 | 115 | -- | -- | -- | -- | 64 | 53 | 59 | 23 | 22 | 22 |
| PlainsGold | | | | | | | | | | | | | | | | |
| Langin | 43 | 33 | 38 | 96 | 116 | 106 | -- | -- | -- | -- | 63 | 58 | 60 | 25 | 23 | 24 |
| Polansky | | | | | | | | | | | | | | | | |
| Paradise | 42 | 28 | 35 | 93 | 97 | 95 | 71 | -- | 59 | -- | 63 | 58 | 60 | 26 | 23 | 24 |
| Syngenta | | | | | | | | | | | | | | | | |
| Bob Dole | 41 | 31 | 36 | 92 | 108 | 100 | 65 | -- | 51 | -- | 62 | 59 | 61 | 29 | 28 | 29 |
| SY 517 CL2 | 48 | 25 | 36 | 107 | 87 | 97 | 69 | -- | 53 | -- | 65 | 58 | 61 | 26 | 24 | 25 |
| SY Benefit | 52 | 28 | 40 | 117 | 98 | 108 | 73 | -- | 54 | -- | 63 | 58 | 60 | 26 | 24 | 25 |
| SY Flint | 45 | 32 | 38 | 101 | 111 | 106 | 62 | 69 | 51 | -- | 63 | 57 | 60 | 26 | 25 | 25 |
| SY Grit | 47 | 32 | 39 | 105 | 110 | 107 | 69 | 73 | 52 | -- | 63 | 56 | 59 | 27 | 25 | 26 |
| SY Monument | 42 | 30 | 36 | 95 | 103 | 99 | 64 | 70 | 51 | -- | 63 | 56 | 59 | 26 | 26 | 26 |
| SY Rugged | 43 | 33 | 38 | 97 | 113 | 105 | 57 | -- | 50 | -- | 63 | 57 | 60 | 23 | 23 | 23 |
| SY Wolf | 46 | 30 | 38 | 104 | 105 | 104 | 64 | 68 | 45 | -- | 64 | 57 | 61 | 25 | 24 | 25 |
| WestBred | | | | | | | | | | | | | | | | |
| WB4269 | 45 | 27 | 36 | 102 | 95 | 98 | 62 | -- | 53 | -- | 63 | 57 | 60 | 24 | 22 | 23 |
| WB4303 | 43 | 31 | 37 | 98 | 109 | 103 | 61 | 71 | 55 | -- | 62 | 56 | 59 | 25 | 23 | 24 |
| WB4418 | 46 | 27 | 36 | 102 | 93 | 98 | -- | -- | -- | -- | 63 | 57 | 60 | 26 | 24 | 25 |
| WB4458 | 55 | 30 | 42 | 124 | 102 | 113 | 72 | 77 | 55 | -- | 63 | 58 | 60 | 27 | 26 | 26 |
| WB4721 | 49 | 26 | 37 | 110 | 88 | 99 | 70 | 75 | 51 | -- | 64 | 64 | 64 | 26 | 25 | 25 |
| WB-Cedar | 39 | 25 | 32 | 87 | 85 | 86 | 72 | 86 | 51 | -- | 61 | 58 | 60 | 22 | 19 | 21 |
| WB-Grainfield | 42 | 28 | 35 | 94 | 97 | 96 | 68 | 67 | 50 | -- | 63 | 63 | 63 | 26 | 27 | 26 |
| Winterhawk | 37 | 28 | 32 | 84 | 97 | 90 | 64 | 68 | 53 | -- | 64 | 58 | 61 | 29 | 26 | 27 |
| Wildcat Genetics | | | | | | | | | | | | | | | | |
| 1863 | 43 | 25 | 34 | 97 | 87 | 92 | 64 | 65 | 46 | -- | 63 | 61 | 62 | 26 | 26 | 26 |
| Everest | 41 | 29 | 35 | 92 | 99 | 96 | 63 | 66 | 55 | -- | 63 | 58 | 61 | 24 | 23 | 24 |
| Larry | 42 | 34 | 38 | 94 | 117 | 105 | 63 | 72 | 52 | -- | 63 | 56 | 59 | 26 | 24 | 25 |
| Tatanka | 40 | 29 | 34 | 90 | 100 | 95 | 62 | 70 | 55 | -- | 65 | 57 | 61 | 27 | 24 | 25 |
| Zenda | 52 | 29 | 41 | 118 | 100 | 109 | 68 | 84 | 50 | -- | 63 | 57 | 60 | 25 | 25 | 25 |
| Experimentals | | | | | | | | | | | | | | | | |
| AgriMAXX EXP HRW | 40 | 29 | 35 | 91 | 100 | 95 | -- | -- | -- | -- | 63 | 58 | 60 | 25 | 23 | 24 |
| Croplan EXP 26-16 | 40 | 33 | 37 | 90 | 114 | 102 | -- | -- | -- | -- | 63 | 57 | 60 | 28 | 28 | 28 |
| Croplan EXP 69-16 | 42 | 25 | 33 | 94 | 86 | 90 | -- | -- | -- | -- | 63 | 57 | 60 | 25 | 24 | 25 |
| Husker Genetics NE10478-1 | 48 | 31 | 39 | 107 | 106 | 106 | -- | -- | -- | -- | 63 | 60 | 62 | 25 | 25 | 25 |
| Kansas KS14HW106-6-6 | 44 | 29 | 37 | 99 | 102 | 101 | -- | -- | -- | -- | 63 | 63 | 63 | 25 | 24 | 25 |
| Limagrain LCH14-89 | 40 | 30 | 35 | 91 | 105 | 98 | 72 | -- | 50 | -- | 62 | 57 | 60 | 24 | 23 | 23 |
| Plainsgold CO13003C | 40 | 30 | 35 | 89 | 106 | 97 | -- | -- | -- | -- | 63 | 53 | 58 | 28 | 26 | 27 |
| Plainsgold CO13D1783 | 41 | 23 | 32 | 93 | 81 | 87 | -- | -- | -- | -- | 64 | 56 | 60 | 27 | 28 | 27 |
| Averages | 44 | 29 | 37 | 44 | 29 | 37 | -- | -- | -- | -- | 63 | 58 | 60 | 26 | 24 | 25 |
| CV (%) | 10 | 11 | 11 | 10 | 11 | 11 | -- | -- | -- | -- | 3 | 6 | 5 | 5 | 6 | 6 |
| LSD (0.05)* | 7 | 5 | 6 | 15 | 16 | 15 | -- | -- | -- | -- | 3 | 5 | 4 | 2 | 2 | 2 |

¹BE=Belleville, KS, North Central Experiment Field, Republic County.

²BL=Beloit, KS, farmer's field, Mitchell County.

*Yields must differ by more than the LSD value to be considered statistically different.

Table 8. 2018 CENTRAL Kansas dryland winter wheat performance test

| Brand / Name | GY ¹ | LR ² | Av. | GY | LR | Av. | -GY- | | -LR- | | Intensive Management | | |
|---------------------------|-----------------|-----------------|-----|-------------------|-----|-----|----------------------|------|------|------|----------------------|--------------|--------|
| | | | | | | | 2 yr | 3 yr | 2 yr | 3 yr | LRim ³ | LRim | Diff. |
| | yield (bu/a) | | | % of test average | | | multiyear av. (bu/a) | | | | (bu/a) | % of average | (bu/a) |
| AgriMAXX | | | | | | | | | | | | | |
| AM Eastwood | 38 | 65 | 52 | 94 | 98 | 96 | -- | -- | 85 | -- | 67 | 91 | 2 |
| AGSECO | | | | | | | | | | | | | |
| AG Gallant | 41 | 63 | 52 | 99 | 95 | 97 | -- | 57 | 81 | 75 | 74 | 101 | 11 |
| AG Icon | 44 | 63 | 53 | 108 | 95 | 101 | -- | -- | 77 | -- | 71 | 97 | 8 |
| AG Robust | 37 | 57 | 47 | 92 | 87 | 89 | -- | 47 | 69 | 64 | 67 | 92 | 10 |
| Hot Rod | 40 | 66 | 53 | 99 | 99 | 99 | -- | 61 | 77 | 72 | 70 | 96 | 4 |
| Dyna-Gro | | | | | | | | | | | | | |
| Long Branch | 40 | 64 | 52 | 99 | 98 | 98 | -- | 63 | 75 | 68 | 76 | 104 | 11 |
| Limagrain | | | | | | | | | | | | | |
| LCS Chrome | 41 | 65 | 53 | 100 | 98 | 99 | -- | 63 | 80 | 72 | 72 | 98 | 7 |
| LCS Link | 38 | 69 | 54 | 94 | 104 | 99 | -- | -- | -- | -- | 77 | 105 | 8 |
| LCS Pistol | 37 | 64 | 50 | 90 | 97 | 94 | -- | 59 | 74 | 61 | 68 | 93 | 4 |
| LCS Mint | 46 | 72 | 59 | 112 | 109 | 110 | -- | 66 | 79 | 66 | 77 | 106 | 5 |
| T158 | 41 | 61 | 51 | 101 | 92 | 97 | -- | 57 | 73 | 65 | 68 | 93 | 7 |
| OGI | | | | | | | | | | | | | |
| Bentley | 38 | 69 | 54 | 93 | 105 | 99 | -- | 58 | 83 | 73 | 75 | 102 | 5 |
| Doublestop CL Plus | 47 | 60 | 54 | 116 | 91 | 104 | -- | 60 | 72 | 63 | 69 | 95 | 9 |
| Gallagher | 42 | 72 | 57 | 103 | 109 | 106 | -- | -- | -- | -- | 76 | 104 | 4 |
| Iba | 37 | 61 | 49 | 92 | 93 | 92 | -- | -- | -- | -- | 70 | 96 | 9 |
| Lonerider | 43 | 69 | 56 | 106 | 105 | 105 | -- | -- | -- | -- | 76 | 104 | 7 |
| Smith's Gold | 37 | 66 | 52 | 92 | 99 | 95 | -- | -- | -- | -- | 73 | 100 | 7 |
| Spirit Rider | 35 | 66 | 51 | 86 | 100 | 93 | -- | -- | -- | -- | 70 | 96 | 4 |
| PlainsGold | | | | | | | | | | | | | |
| Langin | 43 | 63 | 53 | 106 | 96 | 101 | -- | -- | -- | -- | 67 | 92 | 4 |
| Polansky | | | | | | | | | | | | | |
| Paradise | 39 | 59 | 49 | 94 | 89 | 92 | -- | -- | -- | -- | 70 | 96 | 11 |
| Syngenta | | | | | | | | | | | | | |
| Bob Dole | 44 | 69 | 57 | 109 | 104 | 107 | -- | -- | 75 | -- | 82 | 112 | 13 |
| SY 517 CL2 | 41 | 63 | 52 | 100 | 95 | 98 | -- | -- | 64 | -- | 75 | 102 | 12 |
| SY Achieve CL2 | 37 | 62 | 50 | 92 | 94 | 93 | -- | -- | 74 | -- | 70 | 95 | 7 |
| SY Benefit | 43 | 64 | 54 | 106 | 97 | 101 | -- | -- | 77 | -- | 74 | 101 | 10 |
| SY Flint | 43 | 73 | 58 | 105 | 111 | 108 | -- | 57 | 73 | 66 | 73 | 100 | 0 |
| SY Grit | 43 | 68 | 55 | 104 | 103 | 104 | -- | 62 | 82 | 76 | 73 | 100 | 5 |
| SY Monument | 39 | 74 | 57 | 96 | 112 | 104 | -- | 63 | 83 | 73 | 74 | 101 | -1 |
| SY Rugged | 40 | 64 | 52 | 97 | 97 | 97 | -- | -- | 75 | -- | 69 | 95 | 5 |
| SY Wolf | 42 | 67 | 55 | 103 | 101 | 102 | -- | 61 | 78 | 68 | 77 | 105 | 10 |
| Watley | | | | | | | | | | | | | |
| TAM 204 | 42 | 69 | 56 | 103 | 104 | 104 | -- | -- | -- | -- | 76 | 104 | 7 |
| WestBred | | | | | | | | | | | | | |
| WB4269 | 42 | 72 | 57 | 103 | 108 | 106 | -- | -- | 75 | -- | 79 | 109 | 8 |
| WB4303 | 40 | 65 | 52 | 97 | 98 | 98 | -- | 60 | 84 | 73 | 68 | 94 | 4 |
| WB4418 | 42 | 64 | 53 | 104 | 97 | 100 | -- | -- | -- | -- | 70 | 97 | 6 |
| WB4458 | 39 | 64 | 51 | 96 | 96 | 96 | -- | 55 | 79 | 70 | 71 | 97 | 7 |
| WB-Cedar | 38 | 69 | 53 | 93 | 104 | 99 | -- | 56 | 74 | 66 | 78 | 106 | 9 |
| WB-Grainfield | 41 | 73 | 57 | 101 | 110 | 106 | -- | 65 | 85 | 72 | 75 | 102 | 2 |
| Winterhawk | 43 | 68 | 55 | 104 | 103 | 104 | -- | 62 | 81 | 70 | 77 | 106 | 9 |
| Wildcat Genetics | | | | | | | | | | | | | |
| 1863 | 39 | 59 | 49 | 96 | 90 | 93 | -- | 56 | 69 | 70 | 67 | 91 | 7 |
| Everest | 39 | 64 | 51 | 96 | 96 | 96 | -- | 57 | 77 | 62 | 70 | 96 | 7 |
| Larry | 42 | 61 | 51 | 102 | 92 | 97 | -- | 59 | 76 | 68 | 71 | 98 | 11 |
| Zenda | 42 | 68 | 55 | 104 | 102 | 103 | -- | 59 | 82 | 74 | 71 | 97 | 3 |
| Experimentals | | | | | | | | | | | | | |
| Husker Genetics NE10478-1 | 39 | 66 | 52 | 96 | 99 | 98 | -- | -- | -- | -- | 73 | 100 | 7 |
| Kansas KS14HW106-6-6 | 42 | 64 | 53 | 103 | 97 | 100 | -- | -- | -- | -- | 81 | 111 | 17 |
| OGI OK12716 | 44 | 75 | 59 | 107 | 113 | 110 | -- | -- | 84 | -- | 82 | 113 | 8 |
| Plainsgold CO13003C | 41 | 64 | 53 | 101 | 97 | 99 | -- | -- | -- | -- | 72 | 99 | 8 |
| Plainsgold CO13D1783 | 43 | 79 | 61 | 105 | 120 | 112 | -- | -- | -- | -- | 76 | 104 | -3 |
| Averages | 41 | 66 | 53 | 41 | 66 | 53 | -- | -- | -- | -- | 73 | 73 | 7 |
| CV (%) | 9 | 9 | 9 | 9 | 9 | 9 | -- | -- | -- | -- | 9 | 9 | -- |
| LSD (0.05)* | 5 | 9 | 7 | 13 | 14 | 14 | -- | -- | -- | -- | 10 | 14 | -- |

¹GY=Gypsum, KS, Farmer's Field, Saline County.

²LR=Lorraine, KS, Farmer's Field, Ellsworth County.

³LRim= Lorraine, KS, Farmer's Field, Ellsworth County. Intensive management: + 40 lbs N/ac; 2 fl oz/ac Priaxor fungicide; 9 fl oz/ac Twinline fungicide.

* Yields must differ by more than the LSD value to be considered statistically different.

Table 9. 2018 South Central Kansas dryland winter wheat performance test

| Brand / Name | MC ¹ | HU ² | CW ³ | Av. | MC | HU | CW | Av. | -MC- | | -HU- | | -CW- | | HU | Intensive Management | | | |
|-------------------------|-----------------|-----------------|-----------------|-----|-------------------|-----|-----|-----|-----------------------|------|------|------|------|------|------------|----------------------|------------|-------------------|------------|
| | | | | | | | | | 2 yr | 3 yr | 2 yr | 3 yr | 2 yr | 3 yr | | MCim ⁴ | MCim diff. | CWim ⁵ | CWim diff. |
| | yield (bu/a) | | | | % of test average | | | | multi-year av. (bu/a) | | | | | | tw (lb/bu) | yield (bu/a) | | | |
| AgriMAXX | | | | | | | | | | | | | | | | | | | |
| AM Eastwood | 54 | 26 | 46 | 42 | 97 | 92 | 93 | 94 | 62 | -- | 60 | -- | 55 | -- | 53 | 57 | 3 | 48 | 2 |
| AGSECO | | | | | | | | | | | | | | | | | | | |
| AG Gallant | 57 | 24 | 48 | 43 | 102 | 83 | 98 | 94 | -- | 57 | -- | 43 | -- | 60 | 53 | 53 | -3 | 52 | 4 |
| AG Icon | 56 | 31 | 50 | 46 | 101 | 107 | 103 | 104 | 64 | -- | 68 | -- | 61 | -- | 52 | 53 | -2 | 54 | 3 |
| AG Robust | 52 | 25 | 49 | 42 | 94 | 89 | 99 | 94 | 63 | 64 | 61 | 59 | 59 | 61 | 55 | 51 | -1 | 51 | 3 |
| Hot Rod | 50 | 35 | 49 | 45 | 90 | 123 | 100 | 104 | 62 | 64 | 66 | 61 | 58 | 62 | 53 | 55 | 6 | 51 | 2 |
| Dyna-Gro | | | | | | | | | | | | | | | | | | | |
| Long Branch | 60 | 22 | 54 | 45 | 109 | 76 | 110 | 99 | 62 | 60 | 57 | 57 | 62 | 63 | 50 | 67 | 6 | 53 | -1 |
| Limagrain | | | | | | | | | | | | | | | | | | | |
| LCS Chrome | 63 | 24 | 49 | 45 | 114 | 84 | 99 | 99 | 60 | 63 | 61 | 58 | 53 | 60 | 53 | 60 | -3 | 52 | 3 |
| LCS Mint | 75 | 32 | 54 | 54 | 136 | 113 | 109 | 119 | 69 | 66 | 61 | 62 | 55 | 60 | 53 | 68 | -7 | 54 | 0 |
| LCS Pistol | 58 | 20 | 48 | 42 | 106 | 70 | 98 | 91 | 62 | 58 | 58 | 59 | 61 | 62 | 50 | 57 | -2 | 49 | 1 |
| T158 | 57 | 22 | 50 | 43 | 103 | 76 | 103 | 94 | 55 | 55 | 57 | 54 | 54 | 61 | 52 | 48 | -9 | 51 | 1 |
| OGI | | | | | | | | | | | | | | | | | | | |
| Bentley | 57 | 33 | 54 | 48 | 104 | 116 | 110 | 110 | 65 | 64 | 59 | 58 | 59 | 61 | 55 | 65 | 8 | 58 | 4 |
| Doublestop CL Plus | 54 | 31 | 47 | 44 | 98 | 109 | 95 | 101 | 63 | 65 | 60 | 58 | 57 | 60 | 57 | 57 | 3 | 49 | 3 |
| Gallagher | 53 | 26 | 47 | 42 | 95 | 93 | 96 | 95 | 67 | 68 | 67 | 64 | 63 | 67 | 53 | 48 | -5 | 51 | 4 |
| Iba | 50 | 21 | 49 | 40 | 91 | 75 | 99 | 89 | 67 | 68 | 63 | 58 | 58 | 63 | 54 | 52 | 1 | 54 | 5 |
| Lonerider | 52 | 27 | 48 | 42 | 94 | 96 | 97 | 96 | -- | -- | -- | -- | -- | -- | 51 | 55 | 3 | 53 | 5 |
| Ruby Lee | 49 | 29 | 47 | 42 | 89 | 102 | 97 | 96 | 57 | 57 | 62 | 61 | 58 | 55 | 53 | 55 | 6 | 51 | 3 |
| Smith's Gold | 55 | 27 | 46 | 43 | 99 | 97 | 94 | 97 | 64 | -- | 68 | -- | 54 | -- | 50 | 57 | 3 | 47 | 0 |
| Spirit Rider | 55 | 33 | 47 | 45 | 99 | 114 | 95 | 103 | 66 | -- | 66 | -- | 55 | -- | 54 | 50 | -4 | 49 | 2 |
| (W) Stardust | 53 | 22 | 44 | 40 | 95 | 76 | 90 | 87 | 58 | -- | 61 | -- | 50 | -- | 51 | 54 | 1 | 49 | 4 |
| PlainsGold | | | | | | | | | | | | | | | | | | | |
| Brawl CL Plus | 47 | 26 | 49 | 41 | 85 | 93 | 99 | 92 | -- | -- | -- | -- | -- | -- | 54 | 52 | 5 | 52 | 3 |
| Langin | 49 | 43 | 52 | 48 | 88 | 152 | 107 | 116 | -- | -- | -- | -- | -- | -- | 58 | 51 | 2 | 57 | 4 |
| Polansky | | | | | | | | | | | | | | | | | | | |
| Paradise | 54 | 36 | 49 | 46 | 97 | 126 | 99 | 107 | 68 | -- | 71 | -- | 59 | -- | 52 | 59 | 6 | 54 | 5 |
| Syngenta | | | | | | | | | | | | | | | | | | | |
| Bob Dole | 58 | 35 | 45 | 46 | 106 | 123 | 92 | 107 | 63 | -- | 70 | -- | 53 | -- | 54 | 59 | 1 | 51 | 6 |
| SY Achieve CL2 | 46 | 28 | 43 | 39 | 83 | 99 | 88 | 90 | 56 | -- | 63 | -- | 54 | -- | 52 | 46 | 0 | 46 | 3 |
| SY Benefit | 55 | 21 | 47 | 41 | 100 | 73 | 95 | 89 | 58 | -- | 58 | -- | 57 | -- | 52 | 55 | 0 | 52 | 5 |
| SY Flint | 55 | 26 | 48 | 43 | 100 | 91 | 98 | 96 | 63 | 64 | 57 | 57 | 59 | 65 | 52 | 59 | 4 | 54 | 5 |
| SY Grit | 57 | 33 | 47 | 46 | 103 | 118 | 95 | 105 | 60 | 59 | 68 | 62 | 54 | 59 | 54 | 60 | 3 | 50 | 3 |
| SY Monument | 58 | 27 | 53 | 46 | 105 | 96 | 108 | 103 | 62 | 61 | 65 | 63 | 61 | 65 | 52 | 54 | -4 | 55 | 2 |
| SY Rugged | 48 | 28 | 50 | 42 | 88 | 97 | 103 | 96 | 60 | -- | 60 | -- | 49 | -- | 51 | 55 | 7 | 50 | 0 |
| Watley | | | | | | | | | | | | | | | | | | | |
| TAM 204 | 57 | 27 | 46 | 43 | 103 | 95 | 95 | 97 | -- | 66 | -- | 40 | -- | 62 | 50 | 60 | 3 | 49 | 2 |
| WestBred | | | | | | | | | | | | | | | | | | | |
| WB4269 | 59 | 20 | 53 | 44 | 106 | 71 | 108 | 95 | 67 | -- | 56 | -- | 62 | -- | 55 | 60 | 2 | 57 | 4 |
| WB4303 | 61 | 33 | 48 | 47 | 110 | 116 | 97 | 107 | 67 | 68 | 67 | 63 | 55 | 58 | 51 | 59 | -1 | 47 | -1 |
| WB4418 | 48 | 24 | 47 | 39 | 86 | 84 | 95 | 89 | -- | -- | -- | -- | -- | -- | 52 | 56 | 9 | 51 | 4 |
| WB4458 | 53 | 34 | 45 | 44 | 95 | 118 | 91 | 102 | 62 | 64 | 67 | 64 | 53 | 56 | 53 | 55 | 2 | 50 | 5 |
| WB4515 | 56 | 38 | 51 | 49 | 102 | 135 | 104 | 114 | 63 | -- | 66 | -- | 54 | -- | 55 | 62 | 6 | 55 | 4 |
| WB-Cedar | 48 | 25 | 48 | 40 | 86 | 86 | 97 | 90 | 62 | 57 | 65 | 60 | 54 | 58 | 51 | 47 | 0 | 53 | 5 |
| WB-Grainfield | 54 | 35 | 49 | 46 | 98 | 121 | 99 | 106 | 60 | 61 | 69 | 65 | 60 | 64 | 54 | 55 | 1 | 51 | 2 |
| Winterhawk | 58 | 27 | 49 | 44 | 104 | 94 | 99 | 99 | 62 | 62 | 67 | 65 | 55 | 61 | 59 | 56 | -1 | 53 | 4 |
| Wildcat Genetics | | | | | | | | | | | | | | | | | | | |
| 1863 | 54 | 26 | 46 | 42 | 97 | 90 | 93 | 93 | 62 | 57 | 62 | 62 | 50 | 54 | 56 | 51 | -2 | 48 | 2 |
| Everest | 50 | 28 | 48 | 42 | 91 | 97 | 98 | 95 | 57 | 57 | 62 | 60 | 57 | 61 | 56 | 51 | 1 | 53 | 4 |
| Larry | 55 | 26 | 55 | 45 | 100 | 93 | 111 | 101 | 67 | 69 | 61 | 60 | 61 | 66 | 52 | 54 | -1 | 58 | 4 |
| Zenda | 56 | 26 | 48 | 43 | 102 | 92 | 98 | 97 | 62 | 64 | 59 | 58 | 65 | 69 | 52 | 51 | -5 | 51 | 3 |

Table 9 continued. 2018 South Central Kansas dryland winter wheat performance test

| Brand / Name | MC ¹ | HU ² | CW ³ | Av. | MC | HU | CW | Av. | -MC- | | -HU- | | -CW- | | HU | Intensive Management | | | | |
|---------------------------|-----------------|-----------------|-----------------|-----|-------------------|-----|-----|-----|-----------------------|------|------|------|------|------|------------|----------------------|------------|-------------------|------------|----|
| | | | | | | | | | 2 yr | 3 yr | 2 yr | 3 yr | 2 yr | 3 yr | | MCim ⁴ | MCim diff. | CWim ⁵ | CWim diff. | |
| | yield (bu/a) | | | | % of test average | | | | multi-year av. (bu/a) | | | | | | tw (lb/bu) | yield (bu/a) | | | | |
| Experimentals | | | | | | | | | | | | | | | | | | | | |
| Croplan EXP 26-16 | 58 | 39 | 52 | 50 | 105 | 137 | 105 | 116 | -- | -- | -- | -- | -- | -- | -- | 52 | 59 | 1 | 59 | 7 |
| Croplan EXP 69-16 | 55 | 24 | 45 | 41 | 99 | 86 | 92 | 92 | -- | -- | -- | -- | -- | -- | -- | 57 | 60 | 5 | 49 | 4 |
| Husker Genetics NE10478-1 | 57 | 29 | 50 | 45 | 103 | 103 | 101 | 103 | -- | -- | -- | -- | -- | -- | -- | 51 | 59 | 2 | 53 | 3 |
| Kansas KS13HW92-3 | 48 | 23 | 49 | 40 | 88 | 82 | 100 | 90 | -- | -- | -- | -- | -- | -- | -- | 57 | 53 | 5 | 50 | 0 |
| Kansas KS14HW106-6-6 | 56 | 38 | 53 | 49 | 101 | 135 | 108 | 115 | -- | -- | -- | -- | -- | -- | -- | 52 | 56 | 0 | 56 | 3 |
| OGI OK12716 | 53 | 27 | 53 | 44 | 96 | 94 | 108 | 99 | 63 | -- | 71 | -- | 59 | -- | 51 | 50 | -3 | 55 | 2 | |
| Plainsgold CO13003C | 60 | 31 | 47 | 46 | 108 | 108 | 95 | 104 | -- | -- | -- | -- | -- | -- | -- | 52 | 60 | 0 | 50 | 4 |
| Plainsgold CO13D1783 | 70 | 20 | 54 | 48 | 127 | 69 | 109 | 102 | -- | -- | -- | -- | -- | -- | -- | 50 | 72 | 1 | 57 | 4 |
| Averages | 55 | 28 | 49 | 44 | 55 | 28 | 49 | 44 | -- | -- | -- | -- | -- | -- | -- | 53 | 56 | 1 | 52 | 3 |
| CV (%) | 10 | 9 | 4 | 7 | 10 | 9 | 4 | 7 | -- | -- | -- | -- | -- | -- | -- | 3 | 9 | -- | 5 | -- |
| LSD (0.05)* | 9 | 3 | 4 | 5 | 16 | 12 | 8 | 12 | -- | -- | -- | -- | -- | -- | -- | 2 | 9 | -- | 5 | -- |

¹MC= McPherson, KS, farmer's field, McPherson County.

²HU= Hutchinson, KS, South Central Experiment Field, Reno County.

³CW=Conway Springs, KS, farmer's field, Sumner County.

⁴MCim=Intensive management: + 40 lbs N/a; 2 applications fungicide.

⁵CW=Intensive management: + 40 lbs N/a; 2 applications fungicide.

*Yields must differ by more than the LSD value to be considered statistically different. LSD=Least significant difference.

(W) indicates hard white variety.

Table 10. 2018 NORTHWEST Kansas dryland winter wheat performance test

| Brand / Name | HA ¹ | CO ² | TR ³ | DC ⁴ | Av. | HA | CO | TR | DC | Av. | -CO- | | -TR- | | Av. | Av. | Av. | |
|---------------------------|-----------------|-----------------|-----------------|-----------------|-----|-------------------|-----|-----|-----|-----|----------------------|------|------|------|------------|---------------|---------|--|
| | | | | | | | | | | | 2 yr | 3 yr | 2 yr | 3 yr | | | | |
| | yield (bu/a) | | | | | % of test average | | | | | multiyear av. (bu/a) | | | | tw (lb/bu) | head (+Zenda) | ht (in) | |
| AgriMAXX | | | | | | | | | | | | | | | | | | |
| AM Eastwood | 39 | 42 | 63 | 36 | 45 | 85 | 91 | 97 | 103 | 94 | 58 | -- | 67 | -- | 58 | 2 | 25 | |
| AGSECO | | | | | | | | | | | | | | | | | | |
| AG Gallant | 43 | 44 | 65 | 33 | 46 | 94 | 97 | 101 | 95 | 97 | 65 | -- | 61 | -- | 59 | 3 | 24 | |
| AG Icon | 51 | 51 | 61 | 40 | 51 | 111 | 111 | 94 | 116 | 108 | 58 | -- | 46 | -- | 59 | -2 | 26 | |
| TAM 114 | 52 | 46 | 61 | 38 | 49 | 113 | 102 | 94 | 108 | 104 | 63 | 73 | 45 | 53 | 60 | 1 | 26 | |
| Dyna-Gro | | | | | | | | | | | | | | | | | | |
| Long Branch | 57 | 59 | 62 | 33 | 53 | 126 | 130 | 95 | 94 | 111 | 73 | 77 | 58 | 61 | 58 | -1 | 27 | |
| Limagrain | | | | | | | | | | | | | | | | | | |
| (W) LCS Yeti | 42 | 36 | 63 | 31 | 43 | 92 | 78 | 97 | 90 | 89 | -- | -- | -- | -- | 57 | 1 | 27 | |
| LCS Avenger | 49 | 48 | 53 | 36 | 47 | 107 | 104 | 82 | 105 | 100 | -- | -- | -- | -- | 59 | -1 | 24 | |
| LCS Chrome | 39 | 33 | 61 | 35 | 42 | 86 | 72 | 93 | 100 | 88 | 56 | 65 | 48 | 52 | 57 | -2 | 29 | |
| LCS Mint | 49 | 42 | 66 | 42 | 50 | 106 | 93 | 102 | 121 | 105 | 57 | 60 | 45 | 54 | 61 | -1 | 28 | |
| LCS Pistol | 50 | 57 | 66 | 33 | 52 | 109 | 125 | 102 | 97 | 108 | 71 | 70 | 60 | 65 | 59 | 2 | 26 | |
| T158 | 51 | 53 | 68 | 34 | 51 | 112 | 115 | 104 | 98 | 108 | 68 | 66 | 56 | 58 | 60 | 2 | 26 | |
| OGI | | | | | | | | | | | | | | | | | | |
| Lonerider | 57 | 51 | 71 | 40 | 55 | 125 | 111 | 109 | 117 | 116 | 68 | -- | 64 | -- | 58 | 1 | 24 | |
| Plainsgold | | | | | | | | | | | | | | | | | | |
| Avery | 53 | 56 | 68 | 32 | 52 | 116 | 122 | 105 | 92 | 109 | 63 | 62 | 58 | 63 | 58 | -1 | 29 | |
| Brawl CL Plus | 49 | 51 | 69 | 31 | 50 | 108 | 111 | 106 | 88 | 103 | 59 | 63 | 53 | 58 | 58 | 2 | 28 | |
| Byrd | 40 | 48 | 64 | 27 | 45 | 89 | 104 | 99 | 78 | 93 | 59 | 61 | 57 | 61 | 57 | 1 | 28 | |
| Denali | 54 | 49 | 64 | 35 | 50 | 117 | 108 | 98 | 102 | 106 | 59 | 63 | 46 | 50 | 59 | -3 | 29 | |
| Langin | 37 | 46 | 68 | 35 | 46 | 82 | 101 | 104 | 100 | 97 | 66 | -- | 57 | -- | 58 | 3 | 27 | |
| Polansky | | | | | | | | | | | | | | | | | | |
| Paradise | 40 | 34 | 63 | 30 | 42 | 88 | 74 | 97 | 87 | 86 | -- | -- | -- | -- | 58 | 2 | 26 | |
| Syngenta | | | | | | | | | | | | | | | | | | |
| SY Grit | 38 | 39 | 68 | 37 | 46 | 83 | 86 | 105 | 107 | 95 | 51 | 57 | 52 | 55 | 58 | 2 | 27 | |
| SY Legend CL2 | 37 | 42 | 58 | 39 | 44 | 81 | 91 | 90 | 113 | 94 | -- | -- | -- | -- | 58 | 0 | 27 | |
| SY Monument | 39 | 43 | 62 | 35 | 45 | 86 | 95 | 95 | 102 | 94 | 55 | 64 | 47 | 54 | 57 | -2 | 27 | |
| SY Rugged | 44 | 47 | 71 | 37 | 50 | 95 | 103 | 109 | 106 | 103 | 64 | -- | 56 | -- | 58 | 0 | 25 | |
| SY Sunrise | 42 | 48 | 69 | 35 | 49 | 91 | 105 | 106 | 102 | 101 | 59 | 66 | 55 | 57 | 57 | -3 | 25 | |
| SY Wolf | 35 | 40 | 66 | 35 | 44 | 76 | 87 | 102 | 102 | 92 | 55 | 62 | 47 | 52 | 58 | -2 | 27 | |
| TAM 111 | 41 | 49 | 61 | 38 | 47 | 90 | 108 | 94 | 109 | 100 | 54 | 60 | 54 | 58 | 59 | -1 | 27 | |
| Watley | | | | | | | | | | | | | | | | | | |
| TAM 112 | 47 | 47 | 68 | 35 | 49 | 102 | 104 | 104 | 101 | 103 | -- | 56 | -- | 66 | 59 | 1 | 28 | |
| TAM 204 | 41 | 40 | 58 | 27 | 41 | 90 | 87 | 89 | 78 | 86 | -- | 59 | -- | 62 | 56 | -2 | 26 | |
| WestBred | | | | | | | | | | | | | | | | | | |
| WB4418 | 44 | 43 | 64 | 39 | 47 | 97 | 93 | 98 | 113 | 100 | -- | -- | -- | -- | 57 | 1 | 25 | |
| WB4458 | 39 | 36 | 66 | 31 | 43 | 86 | 78 | 101 | 89 | 89 | 50 | 60 | 50 | 51 | 58 | 0 | 27 | |
| WB4462 | 38 | 40 | 67 | 33 | 44 | 84 | 87 | 103 | 96 | 92 | 61 | -- | 60 | -- | 57 | 1 | 29 | |
| WB4721 | 43 | 47 | 55 | 29 | 44 | 95 | 104 | 85 | 84 | 92 | 65 | 73 | 48 | 55 | 58 | 0 | 26 | |
| WB-Grainfield | 32 | 39 | 68 | 34 | 43 | 69 | 86 | 104 | 99 | 89 | 64 | 71 | 59 | 63 | 57 | 0 | 27 | |
| Winterhawk | 45 | 46 | 63 | 30 | 46 | 98 | 101 | 97 | 88 | 96 | 61 | 67 | 52 | 55 | 59 | 0 | 28 | |
| Wildcat Genetics | | | | | | | | | | | | | | | | | | |
| (W) Joe | 40 | 42 | 62 | 40 | 46 | 89 | 92 | 95 | 117 | 98 | 62 | 72 | 59 | 65 | 59 | 0 | 30 | |
| KanMark | 51 | 37 | 66 | 31 | 46 | 111 | 80 | 101 | 89 | 95 | 53 | 61 | 55 | 58 | 59 | 0 | 24 | |
| Oakley CL | 51 | 50 | 65 | 41 | 52 | 111 | 110 | 101 | 118 | 110 | 70 | 75 | 65 | 66 | 60 | -1 | 27 | |
| Tatanka | 50 | 54 | 72 | 41 | 54 | 109 | 118 | 111 | 120 | 114 | 72 | 77 | 70 | 70 | 59 | 1 | 26 | |
| Zenda | 48 | 44 | 60 | 36 | 47 | 104 | 97 | 93 | 105 | 100 | -- | 59 | -- | 62 | 59 | 0 | 26 | |
| Experimentals | | | | | | | | | | | | | | | | | | |
| AgriMAXX EXP HRW | 42 | 33 | 66 | 28 | 42 | 92 | 73 | 102 | 81 | 87 | -- | -- | -- | -- | 56 | 1 | 27 | |
| Croplan EXP 26-16 | 46 | 38 | 65 | 34 | 46 | 101 | 83 | 100 | 99 | 96 | -- | -- | -- | -- | 57 | 0 | 27 | |
| Croplan EXP 69-16 | 56 | 48 | 67 | 36 | 52 | 122 | 104 | 104 | 105 | 109 | -- | -- | -- | -- | 59 | 0 | 27 | |
| Husker Genetics NE10478-1 | 46 | 44 | 69 | 37 | 49 | 102 | 96 | 106 | 108 | 103 | -- | -- | -- | -- | 59 | 2 | 26 | |
| Kansas (W) KS13HW92-3 | 42 | 45 | 65 | 34 | 46 | 91 | 99 | 99 | 98 | 97 | -- | -- | -- | -- | 59 | -1 | 27 | |
| Kansas KS14H180-4-6 | 58 | 60 | 76 | 37 | 58 | 126 | 132 | 117 | 107 | 121 | -- | -- | -- | -- | 60 | 2 | 28 | |
| Kansas (W) KS14HW106-6-6 | 43 | 37 | 71 | 38 | 47 | 93 | 80 | 110 | 110 | 98 | -- | -- | -- | -- | 60 | 2 | 26 | |
| Limagrain LCH14-89 | 56 | 49 | 63 | 33 | 50 | 123 | 107 | 96 | 95 | 105 | 63 | -- | 59 | -- | 59 | 2 | 26 | |
| Plainsgold CO13003C | 46 | 48 | 66 | 31 | 48 | 101 | 105 | 101 | 91 | 99 | -- | -- | -- | -- | 58 | -1 | 28 | |
| Plainsgold CO13D1783 | 53 | 62 | 68 | 38 | 55 | 117 | 135 | 105 | 110 | 117 | -- | -- | -- | -- | 56 | -4 | 29 | |
| Averages | 46 | 46 | 65 | 35 | 48 | 46 | 46 | 65 | 35 | 48 | -- | -- | -- | -- | 58 | 0 | 27 | |
| CV (%) | 10 | 9 | 8 | 10 | 9 | 10 | 9 | 8 | 10 | 9 | -- | -- | -- | -- | 4 | 0 | 6 | |
| LSD (0.05)* | 6 | 6 | 7 | 5 | 6 | 14 | 12 | 11 | 14 | 13 | -- | -- | -- | -- | 3 | 0 | 2 | |

¹HA= Hays, KS, K-State Agricultural Research Center, Ellis County.

²CO= Colby, KS, Northwest Agricultural Research Center, Thomas County.

³TR= Tribune, KS, Southwest Agricultural Research Center, Greeley County.

⁴DC= Decatur, KS, farmer's field, Decatur County.

(W) indicates hard white wheat.

*Yields must differ by more than the LSD value to be considered statistically different.

Table 11. 2018 SOUTHWEST Kansas dryland winter wheat performance test

| Brand / Name | LA ¹ | MV ² | GC ³ | Av. | LA | MV | GC | Av. | -LA- | | -MV- | | LA | MV | Av. | LA | MV | Av. | |
|--------------------------|-----------------|-----------------|-----------------|-----|-------------------|-----|----|-----|----------------------|----|------|----|------------|----|-----|-------------|----|-----|--|
| | yield (bu/a) | | | | % of test average | | | | multiyear av. (bu/a) | | | | tw (lb/bu) | | | height (in) | | | |
| AgriMAXX | | | | | | | | | | | | | | | | | | | |
| AM Eastwood | 74 | 48 | -- | 61 | 94 | 88 | -- | 91 | 80 | -- | 73 | -- | 61 | 60 | 60 | 27 | 18 | 23 | |
| AGSECO | | | | | | | | | | | | | | | | | | | |
| AG Gallant | 71 | 48 | -- | 60 | 90 | 89 | -- | 90 | -- | -- | -- | -- | 59 | 61 | 60 | 26 | 20 | 23 | |
| AG Icon | 80 | 64 | -- | 72 | 102 | 119 | -- | 110 | 81 | -- | 79 | -- | 59 | 61 | 60 | 30 | 23 | 27 | |
| TAM 114 | 86 | 56 | -- | 71 | 109 | 105 | -- | 107 | 77 | 84 | 83 | 90 | 62 | 62 | 62 | 31 | 22 | 26 | |
| Dyna-Gro | | | | | | | | | | | | | | | | | | | |
| Long Branch | 83 | 54 | -- | 69 | 105 | 100 | -- | 103 | 86 | 84 | 79 | 88 | 57 | 60 | 59 | 32 | 24 | 28 | |
| Limagrain | | | | | | | | | | | | | | | | | | | |
| (W) LCS Yeti | 71 | 50 | -- | 61 | 90 | 94 | -- | 92 | -- | -- | -- | -- | 59 | 61 | 60 | 31 | 22 | 26 | |
| LCS Avenger | 80 | 42 | -- | 61 | 101 | 77 | -- | 89 | -- | -- | -- | -- | 58 | 59 | 58 | 27 | 17 | 22 | |
| LCS Chrome | 72 | 60 | -- | 66 | 91 | 112 | -- | 101 | 69 | 78 | 72 | 83 | 59 | 60 | 59 | 31 | 24 | 27 | |
| LCS Mint | 75 | 69 | -- | 72 | 94 | 129 | -- | 112 | 74 | 76 | 80 | 88 | 60 | 62 | 61 | 32 | 26 | 29 | |
| LCS Pistol | 84 | 54 | -- | 69 | 106 | 100 | -- | 103 | 77 | 78 | 78 | 87 | 58 | 59 | 59 | 29 | 21 | 25 | |
| T158 | 83 | 49 | -- | 66 | 105 | 91 | -- | 98 | 83 | 90 | 76 | 85 | 60 | 60 | 60 | 28 | 21 | 24 | |
| OGI | | | | | | | | | | | | | | | | | | | |
| Gallagher | 76 | 52 | -- | 64 | 96 | 97 | -- | 97 | 81 | 85 | 75 | 77 | 60 | 61 | 60 | 29 | 22 | 25 | |
| Lonerider | 87 | 56 | -- | 71 | 109 | 104 | -- | 107 | 85 | -- | 80 | -- | 57 | 58 | 57 | 25 | 19 | 22 | |
| Plainsgold | | | | | | | | | | | | | | | | | | | |
| Avery | 81 | 61 | -- | 71 | 102 | 113 | -- | 107 | 79 | 74 | 81 | 87 | 57 | 60 | 58 | 33 | 24 | 28 | |
| Brawl CL Plus | 84 | 50 | -- | 67 | 106 | 93 | -- | 100 | 85 | 86 | 70 | 81 | 59 | 61 | 60 | 30 | 21 | 26 | |
| Byrd | 78 | 53 | -- | 65 | 99 | 98 | -- | 98 | 79 | 76 | 78 | 87 | 58 | 59 | 58 | 32 | 23 | 27 | |
| Denali | 81 | 57 | -- | 69 | 103 | 106 | -- | 105 | 80 | -- | 78 | -- | 59 | 62 | 60 | 32 | 25 | 29 | |
| Langin | 84 | 60 | -- | 72 | 106 | 112 | -- | 109 | 77 | -- | 85 | -- | 60 | 60 | 60 | 29 | 21 | 25 | |
| Polansky | | | | | | | | | | | | | | | | | | | |
| Paradise | 74 | 49 | -- | 61 | 93 | 91 | -- | 92 | -- | -- | -- | -- | 58 | 60 | 59 | 28 | 21 | 25 | |
| Syngenta | | | | | | | | | | | | | | | | | | | |
| SY Grit | 78 | 47 | -- | 62 | 98 | 86 | -- | 92 | 75 | 82 | 67 | 70 | 57 | 57 | 57 | 31 | 21 | 26 | |
| SY Monument | 79 | 56 | -- | 68 | 101 | 105 | -- | 103 | 76 | 85 | 77 | 88 | 57 | 60 | 59 | 31 | 22 | 26 | |
| SY Rugged | 82 | 55 | -- | 68 | 104 | 101 | -- | 102 | 72 | -- | 76 | -- | 59 | 59 | 59 | 27 | 21 | 24 | |
| TAM 111 | 76 | 46 | -- | 61 | 95 | 86 | -- | 91 | 76 | 75 | 69 | 77 | 59 | 61 | 60 | 32 | 23 | 27 | |
| Watley | | | | | | | | | | | | | | | | | | | |
| TAM 112 | 75 | 55 | -- | 65 | 94 | 103 | -- | 98 | -- | 73 | -- | 71 | 60 | 63 | 61 | 31 | 23 | 27 | |
| TAM 204 | 70 | 49 | -- | 60 | 89 | 92 | -- | 90 | -- | 91 | -- | 78 | 55 | 58 | 57 | 31 | 22 | 27 | |
| WestBred | | | | | | | | | | | | | | | | | | | |
| WB4418 | 78 | 48 | -- | 63 | 99 | 89 | -- | 94 | -- | -- | -- | -- | 58 | 60 | 59 | 27 | 21 | 24 | |
| WB4458 | 76 | 53 | -- | 65 | 96 | 98 | -- | 97 | 78 | 93 | 74 | 79 | 58 | 61 | 59 | 30 | 24 | 27 | |
| WB4462 | 77 | 52 | -- | 64 | 97 | 96 | -- | 97 | 83 | -- | 76 | -- | 56 | 60 | 58 | 32 | 23 | 27 | |
| WB4721 | 80 | 54 | -- | 67 | 101 | 100 | -- | 101 | 76 | -- | 74 | -- | 61 | 63 | 62 | 31 | 22 | 27 | |
| WB-Grainfield | 81 | 67 | -- | 74 | 102 | 125 | -- | 114 | 83 | 93 | 90 | 96 | 58 | 60 | 59 | 32 | 24 | 28 | |
| Winterhawk | 73 | 47 | -- | 60 | 92 | 87 | -- | 90 | 76 | 87 | 74 | 81 | 62 | 62 | 62 | 32 | 22 | 27 | |
| Wildcat Genetics | | | | | | | | | | | | | | | | | | | |
| (W) Joe | 78 | 60 | -- | 69 | 98 | 112 | -- | 105 | 88 | 90 | 83 | 99 | 59 | 63 | 61 | 33 | 24 | 28 | |
| KanMark | 76 | 47 | -- | 62 | 96 | 87 | -- | 92 | 79 | 84 | 70 | 80 | 59 | 59 | 59 | 26 | 19 | 23 | |
| Larry | 88 | 66 | -- | 77 | 111 | 122 | -- | 116 | 86 | 93 | 83 | 93 | 58 | 60 | 59 | 31 | 23 | 27 | |
| Oakley CL | 88 | 62 | -- | 75 | 111 | 114 | -- | 113 | 83 | 87 | 83 | 93 | 62 | 64 | 63 | 31 | 24 | 28 | |
| Tatanka | 89 | 55 | -- | 72 | 112 | 103 | -- | 107 | 86 | 96 | 83 | 94 | 61 | 61 | 61 | 30 | 21 | 26 | |
| Zenda | 79 | 52 | -- | 65 | 100 | 97 | -- | 98 | -- | 96 | -- | 80 | 60 | 58 | 59 | 29 | 22 | 25 | |
| Experimentals | | | | | | | | | | | | | | | | | | | |
| AgriMAXX EXP HRW | 76 | 46 | -- | 61 | 96 | 85 | -- | 90 | -- | -- | -- | -- | 60 | 61 | 60 | 28 | 21 | 25 | |
| Croplan EXP 26-16 | 80 | 60 | -- | 70 | 101 | 111 | -- | 106 | -- | -- | -- | -- | 57 | 59 | 58 | 32 | 24 | 28 | |
| Croplan EXP 69-16 | 85 | 53 | -- | 69 | 107 | 98 | -- | 103 | -- | -- | -- | -- | 59 | 59 | 59 | 31 | 21 | 26 | |
| Kansas (W) KS13HW92-3 | 76 | 51 | -- | 63 | 96 | 95 | -- | 95 | -- | -- | -- | -- | 60 | 61 | 60 | 31 | 21 | 26 | |
| Kansas KS14H180-4-6 | 82 | 58 | -- | 70 | 104 | 108 | -- | 106 | -- | -- | -- | -- | 59 | 60 | 59 | 30 | 22 | 26 | |
| Kansas (W) KS14HW106-6-6 | 83 | 52 | -- | 67 | 104 | 96 | -- | 100 | -- | -- | -- | -- | 62 | 63 | 62 | 29 | 22 | 25 | |
| Limagrain LCH14-89 | 82 | 43 | -- | 62 | 103 | 79 | -- | 91 | 79 | -- | 69 | -- | 59 | 59 | 59 | 28 | 19 | 24 | |
| Plainsgold CO13003C | 74 | 56 | -- | 65 | 94 | 104 | -- | 99 | -- | -- | -- | -- | 59 | 60 | 60 | 33 | 24 | 28 | |
| Plainsgold CO13D1783 | 76 | 62 | -- | 69 | 96 | 116 | -- | 106 | -- | -- | -- | -- | 55 | 59 | 57 | 34 | 26 | 30 | |
| Averages | 79 | 54 | -- | 66 | 79 | 54 | -- | 66 | -- | -- | -- | -- | 59 | 60 | 60 | 30 | 22 | 26 | |
| CV (%) | 6 | 8 | -- | 7 | 6 | 8 | -- | 7 | -- | -- | -- | -- | 4 | 3 | 3 | 3 | 4 | 4 | |
| LSD (0.05)* | 7 | 6 | -- | 6 | 8 | 11 | -- | 10 | -- | -- | -- | -- | 3 | 3 | 3 | 1 | 1 | 1 | |

¹LA= Larned, KS, Farmer's Field, Pawnee County.

²MV= Mullinville, KS, Farmer's Field, Kiowa County.

³GC= Garden City, KS, Southwest Agricultural Research Center, Finney County. Abandoned: emergence and stand issues.

(W) denotes hard white wheat variety.

*Yields must differ by more than the LSD value to be considered statistically different.

Table 12. 2018 Western Kansas irrigated winter wheat performance test

| Brand / Name | CO ¹ | GC ² | LN ³ | Av. | CO | GC | LN | Av. | -CO- | | -GC- | | -LN- | | CO | GC | Av. |
|--------------------------|-----------------|-----------------|-----------------|------|-------------------|------|------|------|-----------------------|------|------|------|------|------|---------------------|----|-----|
| | yield (bu/a) | | | | % of test average | | | | multi-year av. (bu/a) | | | | | | test weight (lb/bu) | | |
| | 2 yr | 3 yr | 2 yr | 3 yr | 2 yr | 3 yr | 2 yr | 3 yr | 2 yr | 3 yr | 2 yr | 3 yr | 2 yr | 3 yr | CO | GC | Av. |
| AgriMAXX | | | | | | | | | | | | | | | | | |
| AM Eastwood | 99 | 72 | -- | 86 | 99 | 95 | -- | 97 | 95 | -- | 86 | -- | -- | -- | 58 | 58 | 58 |
| AGSECO | | | | | | | | | | | | | | | | | |
| AG Gallant | 110 | 71 | -- | 91 | 110 | 94 | -- | 102 | -- | -- | -- | -- | -- | -- | 62 | 61 | 62 |
| AG Icon | 95 | 79 | -- | 87 | 95 | 104 | -- | 100 | 87 | -- | 84 | -- | -- | -- | 61 | 56 | 59 |
| TAM 114 | 104 | 88 | -- | 96 | 103 | 116 | -- | 110 | 90 | 98 | 93 | 101 | -- | 76 | 62 | 60 | 61 |
| Dyna-Gro | | | | | | | | | | | | | | | | | |
| Long Branch | 103 | 91 | -- | 97 | 102 | 120 | -- | 111 | 91 | 102 | 94 | 105 | -- | 72 | 58 | 59 | 59 |
| Underwood | 95 | 63 | -- | 79 | 95 | 83 | -- | 89 | 91 | 100 | 80 | 89 | -- | 85 | 60 | 60 | 60 |
| Limagrain | | | | | | | | | | | | | | | | | |
| (W) LCS Yeti | 91 | 67 | -- | 79 | 91 | 89 | -- | 90 | -- | -- | -- | -- | -- | -- | 62 | 61 | 62 |
| LCS Avenger | 104 | 82 | -- | 93 | 104 | 108 | -- | 106 | -- | -- | -- | -- | -- | -- | 59 | 56 | 58 |
| LCS Chrome | 88 | 52 | -- | 70 | 88 | 68 | -- | 78 | 85 | 97 | 67 | 86 | -- | 64 | 60 | 62 | 61 |
| LCS Link | 99 | 90 | -- | 95 | 99 | 119 | -- | 109 | -- | -- | -- | -- | -- | -- | 62 | 59 | 61 |
| T158 | 110 | 84 | -- | 97 | 110 | 111 | -- | 111 | 92 | 100 | 91 | 97 | -- | 81 | 62 | 60 | 61 |
| OGI | | | | | | | | | | | | | | | | | |
| Lonerider | 113 | 83 | -- | 98 | 112 | 109 | -- | 111 | 108 | -- | 101 | -- | -- | -- | 59 | 57 | 58 |
| PlainsGold | | | | | | | | | | | | | | | | | |
| Langin | 105 | 64 | -- | 84 | 105 | 84 | -- | 94 | 94 | -- | 80 | -- | -- | -- | 61 | 61 | 61 |
| Polansky | | | | | | | | | | | | | | | | | |
| Paradise | 104 | 65 | -- | 84 | 104 | 85 | -- | 94 | -- | -- | -- | -- | -- | -- | 61 | 60 | 60 |
| Syngenta | | | | | | | | | | | | | | | | | |
| SY Flint | 97 | 80 | -- | 88 | 97 | 105 | -- | 101 | 92 | 101 | 87 | 95 | -- | 80 | 62 | 60 | 61 |
| SY Grit | 100 | 71 | -- | 85 | 100 | 93 | -- | 96 | 79 | 96 | 82 | 92 | -- | 68 | 60 | 59 | 59 |
| SY Monument | 101 | 74 | -- | 87 | 101 | 97 | -- | 99 | 89 | 100 | 85 | 95 | -- | 74 | 60 | 61 | 60 |
| SY Sunrise | 108 | 77 | -- | 93 | 108 | 102 | -- | 105 | 95 | 105 | 86 | 96 | -- | 94 | 60 | 60 | 60 |
| SY Wolf | 100 | 77 | -- | 88 | 100 | 101 | -- | 100 | 81 | 92 | 80 | 92 | -- | 80 | 62 | 61 | 61 |
| TAM 111 | 97 | 84 | -- | 91 | 97 | 111 | -- | 104 | 78 | 93 | 91 | 103 | -- | 79 | 62 | 61 | 61 |
| Watley | | | | | | | | | | | | | | | | | |
| TAM 112 | 80 | 79 | -- | 79 | 79 | 104 | -- | 92 | -- | 94 | -- | 100 | -- | 50 | 60 | 60 | 60 |
| TAM 204 | 95 | 76 | -- | 85 | 95 | 100 | -- | 97 | -- | 109 | -- | 101 | -- | 85 | 59 | 56 | 57 |
| WestBred | | | | | | | | | | | | | | | | | |
| WB4303 | 111 | 74 | -- | 93 | 111 | 98 | -- | 105 | 94 | 103 | 87 | 95 | -- | 89 | 59 | 55 | 57 |
| WB4418 | 102 | 68 | -- | 85 | 102 | 89 | -- | 95 | -- | -- | -- | -- | -- | -- | 60 | 58 | 59 |
| WB4458 | 100 | 69 | -- | 84 | 100 | 91 | -- | 95 | 91 | 102 | 84 | 90 | -- | 100 | 61 | 59 | 60 |
| WB4721 | 101 | 80 | -- | 90 | 100 | 105 | -- | 103 | 106 | -- | 87 | -- | -- | -- | 62 | 61 | 62 |
| WB-Cedar | 110 | 67 | -- | 88 | 110 | 88 | -- | 99 | 98 | -- | 87 | -- | -- | -- | 60 | 59 | 60 |
| WB-Grainfield | 102 | 70 | -- | 86 | 101 | 93 | -- | 97 | 98 | 105 | 84 | 96 | -- | 89 | 60 | 58 | 59 |
| Wildcat Genetics | | | | | | | | | | | | | | | | | |
| (W) Joe | 95 | 70 | -- | 82 | 95 | 92 | -- | 93 | 85 | 99 | 84 | 94 | -- | 79 | 59 | 60 | 59 |
| KanMark | 101 | 81 | -- | 91 | 100 | 106 | -- | 103 | 89 | 100 | 90 | 96 | -- | 85 | 59 | 62 | 61 |
| Oakley CL | 92 | 96 | -- | 94 | 92 | 126 | -- | 109 | -- | 109 | -- | 113 | -- | 78 | 60 | 61 | 61 |
| Zenda | 103 | 79 | -- | 91 | 102 | 104 | -- | 103 | -- | 103 | -- | 100 | -- | 101 | 62 | 60 | 61 |
| Experimentals | | | | | | | | | | | | | | | | | |
| AgriMAXX EXP HRW | 103 | 68 | -- | 86 | 103 | 90 | -- | 97 | -- | -- | -- | -- | -- | -- | 62 | 60 | 61 |
| Croplan EXP 26-16 | 95 | 84 | -- | 90 | 95 | 110 | -- | 103 | -- | -- | -- | -- | -- | -- | 59 | 60 | 59 |
| Croplan EXP 69-16 | 108 | 59 | -- | 83 | 108 | 77 | -- | 92 | -- | -- | -- | -- | -- | -- | 60 | 62 | 61 |
| Kansas (W) KS14HW106-6-6 | 100 | 60 | -- | 80 | 100 | 80 | -- | 90 | -- | -- | -- | -- | -- | -- | 63 | 61 | 62 |
| Limagrain LCH13-32 | 102 | 67 | -- | 84 | 102 | 88 | -- | 95 | -- | -- | -- | -- | -- | -- | 63 | 59 | 61 |
| Limagrain LCH14-89 | 106 | 78 | -- | 92 | 106 | 102 | -- | 104 | 94 | -- | 93 | -- | -- | -- | 61 | 61 | 61 |
| Plainsgold CO13D1783 | 84 | 85 | -- | 84 | 84 | 112 | -- | 98 | -- | -- | -- | -- | -- | -- | 55 | 57 | 56 |
| Averages | 100 | 76 | -- | 88 | 100 | 76 | -- | 88 | -- | -- | -- | -- | -- | -- | 60 | 60 | 60 |
| CV (%) | 3 | 6 | -- | 5 | 3 | 6 | -- | 5 | -- | -- | -- | -- | -- | -- | 3 | 4 | 4 |
| LSD (0.05)* | 5 | 6 | -- | 6 | 5 | 8 | -- | 7 | -- | -- | -- | -- | -- | -- | 3 | 3 | 3 |

¹CO=Colby, KS, Northwest Agricultural Research Center, Thomas County.

²GC=Garden City, KS, Southwest Agricultural Research Center, Finney County.

³LN=Healy, KS, farmer's field, Lane County. Abandoned; hail damage after heading.

(W) indicates hard white wheat.

*Yields must differ by more than the LSD value to be considered statistically different.

To access crop performance testing information electronically, visit our website. The information contained in this publication, plus more, is available for viewing or downloading at:

www.agronomy.k-state.edu/services/crop-performance-tests/index.html

Excerpts from the
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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.

I understand that all results from Kansas Crop Performance Tests belong to the University and the public and shall be controlled by the University so as to produce the greatest benefit to the public. Performance data may be used in the following ways: 1) Tables may be reproduced in their entirety provided the source is referenced and data are not manipulated or reinterpreted; 2) Advertising statements by an individual company about the performance of its entries may be made as long as they are accurate statements about the data as published, with no reference to other companies' names or cultivars. In both cases, the following must be included with the reprint or ad citing the appropriate publication number and title: "See the official Kansas State University Agricultural Experiment Station and Cooperative Extension Service Report of Progress 1143, '2018 Kansas Performance Tests with Winter Wheat Varieties,' or the Kansas Crop Performance Test website, www.agronomy.k-state.edu/services/crop-performance-tests/index.html, for details. Endorsement or recommendation by Kansas State University is not implied."

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