Nebraska Wheat Varieties

Hard Red Winter Wheat Top Varieties

Variety	% 50# Units Sold
SY Monument	18.00%
Husker Genetics: Ruth	11.40%
Husker Genetics: Settler CL	10.60%
Brawl CL Plus	7.70%
LCS Link	5.60%
Husker Genetics: Robidoux	5.10%
AP503 CL2	3.90%
Husker Genetics: Freeman	3.80%
Pronghorn	3.80%
Langin	3.60%
SY Wolf	3.50%
LCS Fusion AX	3.30%
SY Grit	3.00%
Husker Genetics: Overland	2.60%
Avery	1.80%
Infinity CL	1.50%
Doublestop CL Plus	1.40%
Paradise	1.40%
Goodstreak	1.20%
SY Rugged	1.20%
SY Wolverine	1.00%

Variety sales reported but comprising less than 1% include: SY 517 CL2, Denali, LCS Chrome, T158, Byrd, Spur, SY Sunrise, LCS Mint, Camelot, Panhandle, Cresent AX, LongBranch, SY Benefit.

Compiled by the Nebraska Wheat Board with data on certified seed sales provided by Nebraska Crop Improvement Association. For additional information on specific varieties, contact NCIA at 402.472.1444

Nebraska Varieties

In 2019, Nebraska wheat producers planted:

- 890,000 acres of Hard Red Winter (HRW) wheat
- 30,000 acres of Hard White Winter (HWW) wheat
- Total winter wheat acres planted: 920,000

2020 projected spring wheat planted acres in Nebraska:

- 14,000 acres of Hard Red Spring (HRS) wheat

In the fall of 2019, Nebraska recorded the lowest number of wheat planted acres since 1919 when the data first began being recorded. There were only 920,000 winter wheat acres planted last fall, down from 1.07 million acres in 2018.

Hard White Winter wheat is down about 25% from last years' production. The top three varieties sold were:

- WestBred: Aspen
- PlainsGold: Breck
- PlainsGold: Snowmass 2.0

Aspen is a hard white wheat variety with good yield potential and good straw strength. It has early maturity with a good disease package and good sprout tolerance. It is susceptible to Hessian Fly and Barley Yellow Dwarf, and resistant to Soil-Borne Mosaic.

Origin: WestBred PVP Status: P-94 Available from 1 certified seed grower in NE.

Over the past couple of years, Nebraska has seen increasing numbers in spring wheat being grown. In 2020, it is projected that seed dealers have sold 14,000 acres worth of Hard Red Spring wheat to be planted. Some of the top varieties sold were:

- WestBred 9719
- WestBred 9590
- Lima Grain: LCS10

Nebraska is currently running trials on a two gene clearfield, Soft Red Winter (SRW) wheat (NHH144913-3). This wheat has a very broad adaptation to the Northern Great Plains and will be used in a niche market for a higher protein soft wheat similar to those that are needed in cracker products. It is resistant to Soil-Borne Mosaic Virus, moderately resistant to stem and rust stripe, moderately susceptible to leaf rust and susceptible to Hessian Fly, wheat streak mosaic virus and to wheat stem sawfly. It is moderately susceptible to Fusarium head blight but superior to very susceptible to Fusarium head blight lines such as Overly, however it is inferior to moderately resistant to Fusarium head blight lines such as Overland. It is genetically lower in test weight. Today, there are not any acres of SRW wheat grown in Nebraska but it can be expected to take root in the near future.

**If you would like the milling and cracker baking results for NHH144913-3, please contact Dr. Stephen Baenziger at pbaenziger1@unl.edu. Results can also be found at http://www.wheatqualitycouncil.org.*

SY Monument is broadly adapted with good yields across the area of adaptation. It has white chaff and is a medium-late maturing variety. It is moderately resistant to leaf and stripe rust and is a high tillering wheat with good head size, excellent acid soil tolerance, Soil-Borne Wheat Mosaic Virus resistance, good winter hardiness, and very good test weight patterns. SY Monument can only be sold as a class of certified wheat.

Origin: AgriPro PVP Status: P-94 Available from 10 certified seed growers in NE.

Agronomic Characteristics

Maturaty: medium late
Winter hardiness: very good
Straw strength: good
Plant height: medium short
Coleoptile length: medium
Bushel weight: very good
Protein content: data N/A
**Actual results may vary with season, location, and production conditions.*

Reaction

Hessian fly: susceptible
Leaf rust: moderately resist
Stem rust: moderately resist
Stripe rust: moderately resist
Soil born mosaic: mod. resist
Wheat streak mosiac: mod. resist

Wheat Data

Test weight: 61.4 lb/bu
1000 kernel weight: 33.2 gm
Wheat protein (12% mb): 12.3
Wheat ash (12% mb): 1.63

Milling and Flour Quality Data

Flour yld Miag Multomat Mill: 77.8
Flour yld Quadrumat Sr. Mill: 70.7
Flour moisture (%): 12.8
Flour protein (14% mb): 11.1
Flour ash (14% mb): 0.58
Peak time (min): 6.1
Peak viscosity (RVU): 220.9
Breakdown (RVU): 80.7
Final viscosity at 13 min (RVU): 255.8
Minolta color meter L: 91.06
Minolta color meter a: -1.20
Minolta color meter b: 9.25
PPO: 0.233
Falling number (sec): 395
Damaged starch (AI%): 97.7
Damaged starch (AACC76-31): 7.6

Milling and Flour Quality Data Cont.

Mixograph

Flour abs (%as-is): 64.2
Flour abs (14% mb): 62.8
Mix time (min): 7.3
Mix tolerance (0-6): 5

Farinograph

Flour abs (%as-is): 62.8
Flour abs (14% mb): 61.4
Peak time (min): 2.2
Mix stability (min): 4.9
Mix tolerance index (FU): 41
Breakdown time (min): 4.3

Alveograph

P(mm) Tenacity: 114
L(mm) Extensibility: 51
G(mm) Swelling index: 15.9
W(10^4 J) Stength (curve area): 247
P/L Curve configuration ratio: 2.23
le(P_{200}/P) Elasticity index: 64.1

Extensigraph

Resist (BU at 45/90.135 min): 507/787/805
Extensibility (mm at 45/90/135 min): 133/120/103
Energy (cm^2 at 45/90/135 min): 121/150/112
Resist $_{max}$ (BU at 45/90/135 min): 754/1046/952
Ratio (at 45/90/135 min): 3.8/6.6/7.8

Protein Analysis

HMW-GS Composition: 2*,7+9,5+10
TMP/TPP: 0.99

Sedimentation Test

Volume (ml): 46.9

**Milling and Baking data is provided by the 2018 Milling and Baking Test Results for Hard Winter Wheat by the Wheat Quality Council. This information indicates end-use quality typically expected. Results are variable upon the environmental conditions, geographic location and management of the farm where the testing sample originated from.*

Husker Genetics: Ruth is an awned, tan glumed cultivar that is moderately late in maturity. It is a semi-dwarf variety that is approximately 33 inches in height. It has moderate straw strength and good winter hardiness. It is susceptible to barley yellow dwarf viurs and wheat streak mosaic virus. It was developed cooperatively by the Nebraska Agricultural Experiment Station and the USDA-ARS. It can only be sold as a class of certified seed.

Origin: Husker Genetics PVP Status: Not protected Available from 13 certified seed growers in NE.

Agronomic Characteristics

Maturaty: medium late
Winter hardiness: good
Straw strength: good
Plant height: medium
Coleoptile length: data N/A
Bushel weight: good
Protein content: good
**Actual results may vary with season, location, and production conditions.*

Reaction

Hessian fly: mod. sus. - mod. resist
Leaf rust: moderately susceptible
Stem rust: moderately resist
Stripe rust: susceptible
Soil born mosaic: resistant
Wheat streak mosiac: susceptible

Wheat Data

Test weight: 58.3 lb/bu
1000 kernel weight: 29.0 gm
Wheat protein (12% mb): 11.5
Wheat ash (12% mb): 1.64

Milling and Flour Quality Data

Flour yld Miag Multomat Mill: 74.7
Flour yld Quadrumat Sr. Mill: 68.0
Flour moisture (%): 13.0
Flour protein (14% mb): 10.2
Flour ash (14% mb): 0.53
Peak time (min): 6.2
Peak viscosity (RVU): 218.7
Breakdown (RVU): 82.8
Final viscosity at 13 min (RVU): 244.9
Minolta color meter L: 91.23
Minolta color meter a: -1.23
Minolta color meter b: 8.43
PPO: 0.626
Falling number (sec): 464
Damaged starch (AI%): 95.21
Damaged starch (AACC76-31): 5.67

Milling and Flour Quality Data Cont.

Mixograph

Flour abs (%as-is): 60.6
Flour abs (14% mb): 59.4
Mix time (min): 3.9
Mix tolerance (0-6): 4

Farinograph

Flour abs (%as-is): 56.9
Flour abs (14% mb): 55.7
Development time (min): 6.9
Mix stability (min): 9.3
Mix tolerance index (FU): 33
Breakdown time (min): 11.0

Alveograph

P(mm) Tenacity: 73
L(mm) Extensibility: 91
G(mm) Swelling index: 21.2
W(10^4 J) Stength (curve area): 228
P/L Curve configuration ratio: 0.80
le(P_{200}/P) Elasticity index: 57.3

Extensigraph

Resist (BU at 45/90.135 min): 313/387/389
Extensibility (mm at 45/90/135 min): 147/154/144
Energy (cm^2 at 45/90/135 min): 83/112/98
Resist $_{max}$ (BU at 45/90/135 min): 425/556/515
Ratio (at 45/90/135 min): 2.14/2.51/2.71

Protein Analysis

HMW-GS Composition: 2*,1,7+9,5+10
TMP/TPP: 0.82

Sedimentation Test

Volume (ml): 39.5

**Milling and Baking data is provided by the 2015 Milling and Baking Test Results for Hard Winter Wheat by the Wheat Quality Council. This information indicates end-use quality typically expected. Results are variable upon the environmental conditions, geographic location and management of the farm where the testing sample originated from.*

Husker Genetics: Settler CL is a moderately late maturing, semi-dwarf Hard Red Winter wheat. It is an awned, ivory-glumed cultivar with moderate straw strength. The winter hardiness is good to very good. Settler CL is moderately resistant to stem rust and wheat Soil-Borne Mosaic Virus. It is slightly less susceptible to Fusargium head blight than many widely grown lines. Settler CL is available from NuPride Genetics Network Affiliates. It can only be sold as a class of certified seed.

Origin: Husker Genetics PVP Status: P-94 Available from 7 certified seed growers in NE.

Agronomic Characteristics

Maturaty: medium
Winter hardiness: good
Straw strength: good
Plant height: short
Coleoptile length: medium
Bushel weight: good
Protein content: good
**Actual results may vary with season, location, and production conditions.*

Reaction

Hessian fly: susceptible
Leaf rust: mod. sus. - mod. resist
Stem rust: moderately resist
Stripe rust: mod. sus. - mod. resist
Soil born mosaic: resistant
Wheat streak mosiac: mod. sus. - mod. resist

Wheat Data

Test weight: 58.9 lb/bu
1000 kernel weight: 28.8 gm
Wheat protein (12% mb): 12.2
Wheat ash (12% mb): 1.63

Milling and Flour Quality Data

Flour yld Miag Multomat Mill: 69.9
Flour yld Quadrumat Sr. Mill: 72.6
Flour moisture (%): 11.4
Flour protein (14% mb): 11.03
Flour ash (14% mb): 0.44
Wet gluten (%): 25.9
Dry gluten (%): 9.5
Gluten index: 98.8
Minolta color meter L: 92.33
Minolta color meter a: -1.47
Minolta color meter b: 8.53
Falling number (sec): 592

Milling and Flour Quality Data Cont.

Mixograph

Flour abs (%as-is): 60.3
Mix time (min): 4.1
Mix tolerance (0-6): 3

Farinograph

Flour abs (%as-is): 55.9
Peak time (min): 6.5
Mix stability (min): 18.5

Alveograph

P(mm) Tenacity: 60
L(mm) Extensibility: 79
P/L Curve configuration ratio: 0.76

**Milling and Baking data is provided by the 2008 Milling and Baking Test Results for Hard Winter Wheat by the Wheat Quality Council. This information indicates end-use quality typically expected. Results are variable upon the environmental conditions, geographic location and management of the farm where the testing sample originated from.*

Brawl CL Plus is an awned, white glumed, Hard Red Winter wheat. It is medium-tall, early maturing and has excellent straw strength. It has a medium-long coleoptile and excellent test weight and baking and milling qualities. The non-transgenic herbicide tolerance in Brawl CL Plus was developed by BASF. It is a wheat to be used as a component of the BASF CLEARFIELD Production System. Brawl can only be sold as a class of cerified seed.

Origin: Colorado Wheat PVP Status: P-94 Available from 16 certified seed growers in NE.

Agronomic Characteristics

Maturaty: early
Winter hardiness: good
Straw strength: very good
Plant height: medium tall
Coleoptile length: medium long
Bushel weight: very good
Protein content: good
**Actual results may vary with season, location, and production conditions.*

Reaction

Hessian fly: susceptible
Leaf rust: moderately susceptible
Stem rust: moderately susceptible
Stripe rust: susceptible
Soil born mosaic: mod. resistant
Wheat streak mosiac: mod. sus.

Wheat Data

Test weight: 60.2 lb/bu
1000 kernel weight: 25.4 gm
Wheat protein (12% mb): 13.0
Wheat ash (12% mb): 1.48

Milling and Flour Quality Data

Flour yld Miag Multomat Mill: 76.5
Flour yld Quadrumat Sr. Mill: 71.7
Flour moisture (%): 10.7
Flour protein (14% mb): 11.8
Flour ash (14% mb): 0.44
Peak time (min): 6.3
Peak viscosity (RVU): 240.6
Breakdown (RVU): 70.4
Final viscosity at 13 min (RVU): 297.7
Minolta color meter L: 92.4
Minolta color meter a: -2.04
Minolta color meter b: 10.4
Falling number (sec): 468
Damaged starch (AI%): 94.87
Damaged starch (AACC76-31): 5.43

Milling and Flour Quality Data Cont.

Mixograph

Flour abs (%as-is): 65.4
Flour abs (14% mb): 61.7
Mix time (min): 4.63
Mix tolerance (0-6): 4

Farinograph

Flour abs (%as-is): 59.8
Flour abs (14% mb): 56.1
Development time (min): 7.2
Mix stability (min): 23.8
Mix tolerance index (FU): 10
Breakdown time (min): 20.5

Alveograph

P(mm) Tenacity: 69
L(mm) Extensibility: 107
G(mm) Swelling index: 23.0
W(10^4 J) Stength (curve area): 272
P/L Curve configuration ratio: 0.64
le(P_{200}/P) Elasticity index: 65.1

Extensigraph

Resist (BU at 45/90.135 min): 460/902/992
Extensibility (mm at 45/90/135 min): 130/112/92
Energy (cm^2 at 45/90/135 min): 157/160/130
Resist $_{max}$ (BU at 45/90/135 min): 977/985/997
Ratio (at 45/90/135 min): 5.4/8.8/10.9

Protein Analysis

HMW-GS Composition: 2*,7+8,5+10

Sedimentation Test

Volume (ml): 63.6

**Milling and Baking data is provided by the 2011 Milling and Baking Test Results for Hard Winter Wheat by the Wheat Quality Council. This information indicates end-use quality typically expected. Results are variable upon the environmental conditions, geographic location and management of the farm where the testing sample originated from.*

LCS Link was bred in collaboration with Dr. Baenziger's wheat breeding program at the University of Nebraska - Lincoln. LCS Link has excellent straw strength and winter-hardiness. It is a late maturity variety and is resistant to stem rust and Soil-Borne Mosaic. This variety has shown initial adaptation to the I-70 corridor and north. It can only be sold as a class of certified seed.

Origin: Limagrain PVP Status: P-94 Available from 4 certified seed growers in NE.

Agronomic Characteristics

Maturaty: late
Winter hardiness: very good
Straw strength: very good
Plant height: medium tall
Coleoptile length: medium
Bushel weight: data N/A
Protein content: data N/A
**Actual results may vary with season, location, and production conditions.*

Reaction

Hessian fly: data N/A
Leaf rust: resistant
Stem rust: resistant
Stripe rust: mod. sus. - mod. res.
Soil born mosaic: resistant
Wheat streak mosiac: mod. sus.

Wheat Data

Test weight: 59.5 lb/bu
1000 kernel weight: 33.1 gm
Wheat protein (12% mb): 14.1
Wheat ash (12% mb): 1.53

Milling and Flour Quality Data

Flour yld Miag Multomat Mill: 78.0
Flour yld Quadrumat Sr. Mill: 70.7
Flour moisture (%): 13.4
Flour protein (14% mb): 13.2
Flour ash (14% mb): 0.58
Peak time (min): 6.3
Peak viscosity (RVU): 240.7
Breakdown (RVU): 93.1
Final viscosity at 13 min (RVU): 256.9
Minolta color meter L: 91.46
Minolta color meter a: -0.87
Minolta color meter b: 7.62
PPO: 0.643
Falling number (sec): 427
Damaged starch (AI%): 97.0
Damaged starch (AACC76-31): 7.0

Milling and Flour Quality Data Cont.

Mixograph

Flour abs (%as-is): 67.1
Flour abs (14% mb): 66.6
Mix time (min): 4.5
Mix tolerance (0-6): 4

Farinograph

Flour abs (%as-is): 62.3
Flour abs (14% mb): 61.8
Peak time (min): 16.0
Mix stability (min): 23.9
Mix tolerance index (FU): 12
Breakdown time (min): 26.8

Alveograph

P(mm) Tenacity: 94
L(mm) Extensibility: 103
G(mm) Swelling index: 22.6
W(10^4 J) Stength (curve area): 370
P/L Curve configuration ratio: 0.91
le(P_{200}/P) Elasticity index: 67.0

Extensigraph

Resist (BU at 45/90.135 min): 455/756/751
Extensibility (mm at 45/90/135 min): 150/140/126
Energy (cm^2 at 45/90/135 min): 125/140/126
Resist $_{max}$ (BU at 45/90/135 min): 656/1181/1066
Ratio (at 45/90/135 min): 3.0/5.4/6.0

Protein Analysis

HMW-GS Composition: 2*,7+8.5+10
TMP/TPP: 0.87

Sedimentation Test

Volume (ml): 59.7

**Milling and Baking data is provided by the 2018 Milling and Baking Test Results for Hard Winter Wheat by the Wheat Quality Council. This information indicates end-use quality typically expected. Results are variable upon the environmental conditions, geographic location and management of the farm where the testing sample originated from.*

Husker Genetics: Robidoux was co-developed by the University of Nebraska and the USDA-ARS. It is moderately late in maturity and is best adapted to western rainfed areas where drought is common and irrigated production sites. It is moderately resistant to stripe rust and moderately resistant to moderately susceptible to stem rust. Non-complementary varieties include Millenium and Wahoo. It can only be sold as a class of certified seed.

Origin: Husker Genetics PVP Status: P-94 Available from 7 certified seed growers in NE.

Agronomic Characteristics

Maturaty: medium early
Winter hardiness: goood
Straw strength: good
Plant height: medium
Coleoptile length: medium
Bushel weight: good
Protein content: good
**Actual results may vary with season, location, and production conditions.*

Reaction

Hessian fly: susceptible
Leaf rust: mod. susceptible
Stem rust: moderately resist
Stripe rust: moderately resist
Soil born mosaic: resistant
Wheat streak mosiac: susceptible

Wheat Data

Test weight: 58.0 lb/bu
1000 kernel weight: 28.2 gm
Wheat protein (12% mb): 11.9
Wheat ash (12% mb): 1.63

Milling and Flour Quality Data

Flour yld Miag Multomat Mill: 69.4
Flour yld Quadrumat Sr. Mill: 67.6
Flour moisture (%): 12.8
Flour protein (14% mb): 10.5
Flour ash (14% mb): 0.46
Peak time (min): 6.3
Peak viscosity (RVU): 195.2
Breakdown (RVU): 59.0
Final viscosity at 13 min (RVU): 257.2
Minolta color meter L: 92.71
Minolta color meter a: -1.79
Minolta color meter b: 9.47
Falling number (sec): 362
Damaged starch (AI%): 85.96
Damaged starch (AACC76-31): 6.25

Milling and Flour Quality Data Cont.

Mixograph

Flour abs (%as-is): 61.9
Flour abs (14% mb): 60.5
Mix time (min): 4.25
Mix tolerance (0-6): 4

Farinograph

Flour abs (%as-is): 56.9
Flour abs (14% mb): 55.5
Development time (min): 2.4
Mix stability (min): 9.9
Mix tolerance index (FU): 34
Breakdown time (min): 6.0

Alveograph

P(mm) Tenacity: 75
L(mm) Extensibility: 110
G(mm) Swelling index: 23.3
W(10^4 J) Stength (curve area): 290
P/L Curve configuration ratio: 0.68
le(P_{200}/P) Elasticity index: 62.4

Extensigraph

Resist (BU at 45/90.135 min): 390/523/577
Extensibility (mm at 45/90/135 min): 152/135/134
Energy (cm^2 at 45/90/135 min): 110/125/134
Resist $_{max}$ (BU at 45/90/135 min): 566/734/803
Ratio (at 45/90/135 min): 2.6/3.9/4.3

Protein Analysis

HMW-GS Composition: 2*,5+7+8/7+9,5+10

Sedimentation Test

Volume (ml): 52.3

**Milling and Baking data is provided by the 2010 Milling and Baking Test Results for Hard Winter Wheat by the Wheat Quality Council. This information indicates end-use quality typically expected. Results are variable upon the environmental conditions, geographic location and management of the farm where the testing sample originated from.*

Variety Survey Methodology

Results of this survey are based on certified seed sales of Hard Red Winter wheat reported for the state of Nebraska. Data included in these pages is provided by the Nebraska Crop Improvement Association, Husker Genetics and the Wheat Quality Council. Milling and Flour Quality Data is based upon samples sent in to the Wheat Quality Council. Not every variety of seed is tested each year, therefore, data can be dated back to earlier years. Results are always variable based upon the environmental conditions, geographic location and management of the wheat product.

Nebraska Wheat Board

The Nebraska Wheat Board (NWB) was formed in 1955 after the Nebraska Wheat Resources Act was passed. All NWB policies are established by a seven-member board of directors composed of wheat producers from Nebraska who are appointed by the Governor. Each bushel of wheat marketed in the state is assessed an excise tax of four-tenths of one percent (0.4%) of net value at the point of first sale. These monies are deposited into the State Treasury and are used by the NWB to advance Nebraska's wheat industry.