



## 2023 HARVEST REPORT



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PRELIMINARY VERSION

## Phillips Seed Farms 2023 Harvest Report – Preliminary version

Welcome to Phillips Seed Farms 2023 Harvest Report, a data supplement to help evaluate product and positioning decisions. Again in 2023, weather patterns varied widely from area to area, and drought was persistent in many places, too. Given the environmental fluctuation we all experience, it's recommended to look at yield trend data over multiple years and locations. Your own field and yield history tells an important story, too. One proven agronomic practice is to plant three to four hybrids, maybe even more. We just can't predict with certainty how shifting growing conditions will affect a given seed product from year to year. We know every product has a sweet spot, but also an Achilles heel. Pinpointing what that is may not be as easy as we would hope. The good news is there is more genetic material to consider today than any time in history. Our job as seedsmen is to sift through it by testing, selecting and licensing the very best material available today. As a result, Phillips Seed Farms offers genetic diversity and performance. That is our mission and we hope you experience that for your operations too.

**Thank you for your business!**

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*A "final" version of this report will be released provided the remaining plots are harvested on a timely basis.*

**A special Thank You to our plot cooperators!**

# How did the 2023 crop yield?

4054E3S soybeans pictured. Pic was taken at a Richardson Co Nebraska plot in August 2023.



**"There is more genetic material available today than any other time in history. Our job as seedsmen is to sift through the germplasm maize for the highest performing combinations that work on our grower's farms. It is our mission."**

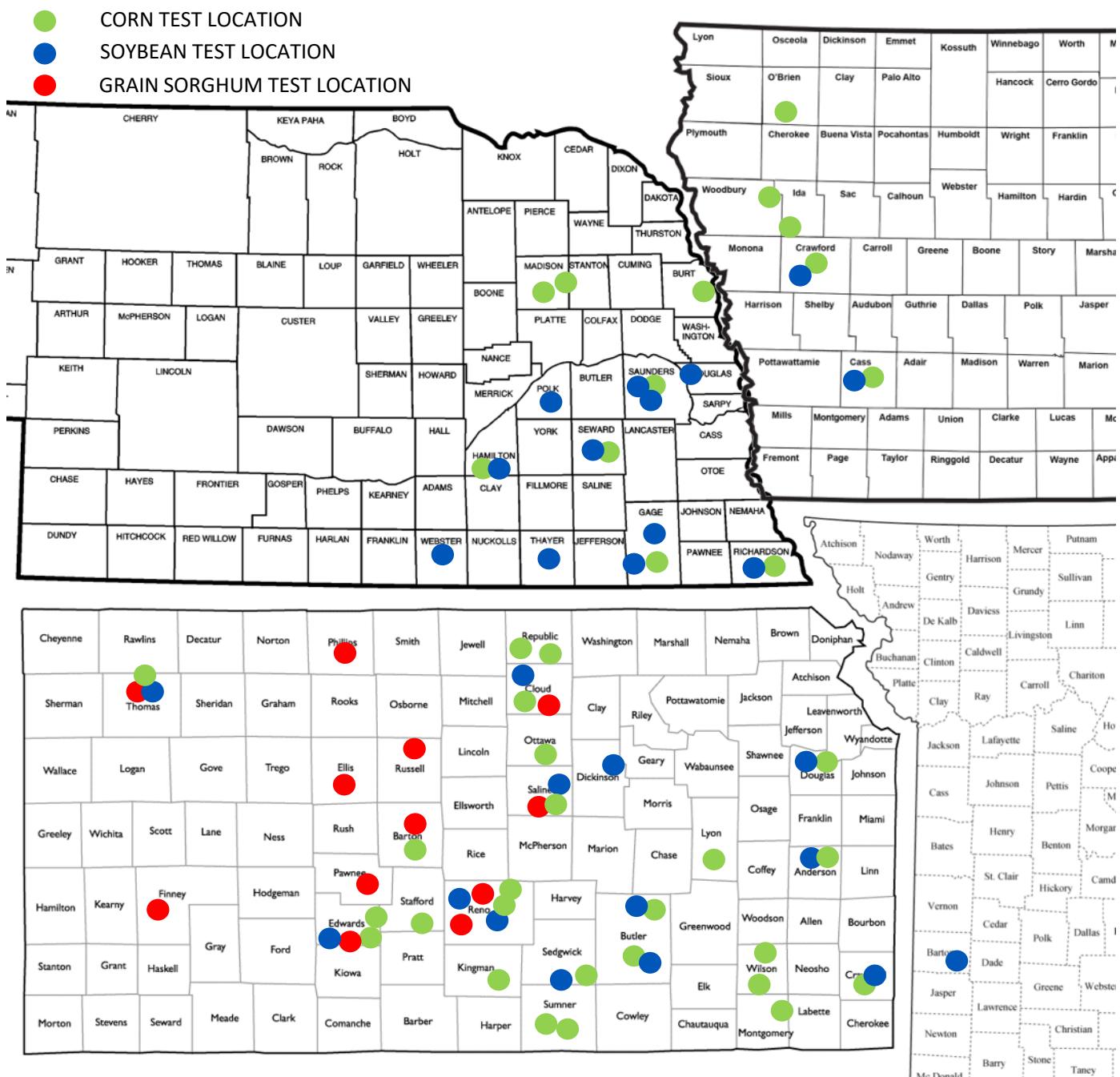
## 2023 Testing – All Types

Phillips Research & Development



# SCOPE OF TESTING - 2023

Crop Type Tested	Testing Locations (All: Rep + Strip)	No. of Genetic Sources	Experimental Hybrids or Varieties #	PSF + Comp. Commercial Varieties	Total Hybrids or Varieties Tested
CORN	38	8	40	30	70
SOYBEAN	27	4	15	25	40
GRAIN SORGHUM	12	5	18	11	29



## So, what causes hybrid performance variance from location-to-location?

Making sense of data from location-to-location can be a bit of a chore, but it's an important one. Products can be unduly heralded, or worse, dismissed for causes unrelated to genetic expression. In other words, each plot location represents an uneven playing field and then each hybrid entry has only 2 to 4 rows at 20' lengths, or 40' lengths to show what it can do. So, it adds to the weight of the overall trend data over a 2 to 3 year period to gain enough understanding to narrow the field. Hundreds of factors effect trial performance and provide an indication of future commercial benefit, or lack thereof. Here are a few of the common ones...



Hail Damage



Herbicide Injury



Fertilizer Injury – Ex:  
UAN Injury



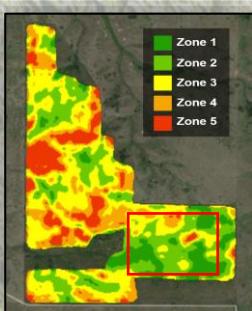
Disease Onset –  
Ex: Goss's Wilt



Pivot Track  
Damage



Weed Escapes – Ex:  
Pigweed



Soil Type Variance



Ponding Areas or  
Other Soil Variance



Pest Damage –  
Ex: Earworm



Drought Injury



Equipment or  
Operator Damage



Excess or Lack of  
Rainfall



# Is there such thing as NORMAL weather?

"Normal", as the term is defined here is a 30-year average.

## Tracking Growing Degree Units (Cumulative)

APR 15, 2023 - OCT 4, 2023

Listed in Order of Highest to Lowest GDU Accumulation in 2023	2023	Dep. from Normal	2022	Dep. from Normal	2021	Dep. from Normal	Normal
<b>Enid, OK</b>	<b>3982</b>	(8)	<b>4219</b>	229	<b>3937</b>	(53)	<b>3990</b>
<b>El Dorado, KS</b>	<b>3907</b>	171	<b>3886</b>	150	<b>3724</b>	(12)	<b>3736</b>
<b>Lawrence, KS</b>	<b>3841</b>	297	<b>3676</b>	132	<b>3709</b>	165	<b>3544</b>
<b>Bolivar, MO</b>	<b>3759</b>	194	<b>3706</b>	141	<b>3660</b>	95	<b>3565</b>
<b>Salina, KS</b>	<b>3715</b>	166	<b>3682</b>	133	<b>3613</b>	64	<b>3549</b>
<b>Concordia, KS</b>	<b>3692</b>	338	<b>3570</b>	216	<b>3540</b>	186	<b>3354</b>
<b>Chapman, KS</b>	<b>3678</b>	139	<b>3663</b>	124	<b>3543</b>	4	<b>3539</b>
<b>Beatrice, NE</b>	<b>3479</b>	213	<b>3410</b>	144	<b>3380</b>	114	<b>3266</b>
<b>GB-Kinsley, KS</b>	<b>3478</b>	(42)	<b>3533</b>	13	<b>3475</b>	(45)	<b>3520</b>
<b>Atlantic, IA</b>	<b>3174</b>	192	<b>3121</b>	139	<b>3173</b>	191	<b>2982</b>
<b>Colby, KS</b>	<b>3173</b>	107	<b>3300</b>	234	<b>3202</b>	136	<b>3066</b>
<b>Grand Island, NE</b>	<b>3172</b>	142	<b>3187</b>	157	<b>3146</b>	116	<b>3030</b>
<b>Sioux City, IA</b>	<b>3162</b>	197	<b>3104</b>	139	<b>3123</b>	158	<b>2965</b>
<b>Norfolk-ST, NE</b>	<b>3088</b>	208	<b>3101</b>	221	<b>3061</b>	181	<b>2880</b>
<b>Sioux Falls, SD</b>	<b>2963</b>	242	<b>2817</b>	96	<b>2895</b>	174	<b>2721</b>

Of all factors that can impact yield, it's sometimes hard to fully grasp the impact of GDUs (or GDDs) on plant health and speed to hybrid development in Days to Silk (flower), or Days to Black Layer (physiological maturity). We really see this comparing plots in southern areas to those in the north. Even more important is the amount of natural rainfall received. Irrigation helps fill the gap considerably, but it's not easy to replace natural rain. The economic and agronomic benefits are obvious, but all is required to meet demand.

**Table 2 (at right): Precipitation** is essential for making yield. The crops grown in the Midwest require from 20 – 40 inches. As the table shows, weather doesn't always cooperate, but for a fortunate few, irrigation water is available. That just isn't the case everywhere, so the impact is direct on multiple stages of a crop's development. Corn requires approximately 25" per acre, per year, to reach normal yields. Soybeans require about 19" per year. Grain sorghum requires about 20-22" per year. Wheat about 12-15" per growing season, and alfalfa about 18-36" per year. In short, we can't reach suitable yields without rainfall. Note the area variances from year to year, and most areas listed are still in drought conditions.

**Table 1 (at left): Growing Degree Units or Days (GDUs or GDDs)** provides a measure of daily and growing season extremes (high & low temps) to determine how quickly plants will reach stages of maturity. It is calculated by adding the high and low daily temps, then dividing that by two, and then subtracting that by 50. Most use base temperatures of 86F on the high side and 50F on the low side, as the plant doesn't progress when temps go outside of those base temps. Since our growers are further south and west in the corn belt, the growing environments are typically harsher and hotter than our more northern neighbors. The genetics must be bred to withstand higher stress. Here's an example using the basic GDD formula...

$$GDD = \frac{84 (H) + 60 (L)}{2} - 50$$

72 – 50 = **22** Growing Degree Days

## Rainfall (in inches) Cumulative

JAN 1, 2023 - OCT 4, 2023

Listed in Order of Highest to Lowest Rainfall Accumulation in 2023	2023	Dep. from Normal	2022	Dep. from Normal	2021	Dep. from Normal	Normal
<b>Enid, OK</b>	<b>28.13</b>	0.78	<b>16.87</b>	(10.48)	<b>25.41</b>	(1.94)	<b>27.35</b>
<b>El Dorado, KS</b>	<b>15.65</b>	(17.06)	<b>24.70</b>	(8.01)	<b>35.52</b>	2.81	<b>32.71</b>
<b>Lawrence, KS</b>	<b>22.59</b>	(7.22)	<b>22.32</b>	(7.49)	<b>39.16</b>	9.35	<b>29.81</b>
<b>Bolivar, MO</b>	<b>31.40</b>	(5.48)	<b>50.17</b>	13.29	<b>37.80</b>	0.92	<b>36.88</b>
<b>Salina, KS</b>	<b>19.32</b>	(6.15)	<b>24.72</b>	(0.75)	<b>23.95</b>	(1.52)	<b>25.47</b>
<b>Concordia, KS</b>	<b>21.07</b>	(3.40)	<b>18.57</b>	(5.90)	<b>19.84</b>	(4.63)	<b>24.47</b>
<b>Chapman, KS</b>	<b>22.84</b>	(6.16)	<b>28.68</b>	(0.32)	<b>28.42</b>	(0.58)	<b>29.00</b>
<b>Beatrice, NE</b>	<b>19.41</b>	(7.57)	<b>21.70</b>	(5.28)	<b>21.80</b>	(5.18)	<b>26.98</b>
<b>GB-Kinsley, KS</b>	<b>24.95</b>	1.40	<b>14.43</b>	(9.12)	<b>23.96</b>	0.41	<b>23.55</b>
<b>Atlantic, IA</b>	<b>23.65</b>	(7.78)	<b>20.64</b>	(10.79)	<b>22.66</b>	(8.77)	<b>31.43</b>
<b>Colby, KS</b>	<b>19.88</b>	2.02	<b>11.51</b>	(6.35)	<b>16.12</b>	(1.74)	<b>17.86</b>
<b>Grand Island, NE</b>	<b>14.22</b>	(8.71)	<b>14.00</b>	(8.93)	<b>25.80</b>	2.87	<b>22.93</b>
<b>Sioux City, IA</b>	<b>21.95</b>	(3.17)	<b>12.30</b>	(12.82)	<b>19.34</b>	(5.78)	<b>25.12</b>
<b>Norfolk-ST, NE</b>	<b>19.68</b>	(3.41)	<b>11.65</b>	(11.44)	<b>22.98</b>	(0.11)	<b>23.09</b>
<b>Sioux Falls, SD</b>	<b>15.12</b>	(8.63)	<b>21.12</b>	(2.63)	<b>23.79</b>	0.04	<b>23.75</b>



# Summarizing Corn Yield & Environmental Data for 2023 REPLICATED TRIAL DATA

**Table 3: Corn Replicated Trial & Key Weather Data Summary – 2023**

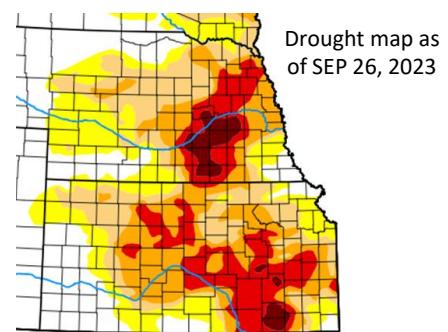
Replicated Plot Location Data	GDUs 4/15 to 10/4/23 (Dep. from Normal)	Precipitation 1/1 to 10/4/23 (Dep. from Normal)	Days to Harvest	Location Harvest H2O% Mn	Location Yield Mn (bu./ac.)	High Yield / Low Yield at Location
Cherryvale, KS (DRY)	3765 (+46)	19.82 (-10.78)	130	11.98	85.11	122.5/65.8
Pittsburg, KS (DRY)	3765 (+46)	19.82 (-10.78)	134	14.08	125.43	159.4/93.4
Hutchinson, KS (DRY)	3781 (+192)	20.05 (-4.00)	139	11.81	108.51	130.1/78.7
Lawrence, KS (DRY)	3841 (+297)	22.59 (-7.22)	140	16.48	212.93	262.8/162.1
Kinsley, KS (IRR)	3478 (-42)	24.95 (+1.40)	143	16.18	190.42	239.1/134.3
Assaria, KS (IRR)	3715 (+166)	19.32 (-6.15)	144	17.31	205.24	259.3/136.1
Hutchinson, KS (IRR)	3781 (+192)	20.05 (-4.00)	148	15.69	234.41	281.6/171.3
Colby, KS (IRR)	3173 (+107)	19.88 (+2.02)	153	21.79	218.96	265.3/136.7
Griswold, IA (DRY)	3174 (+192)	23.65 (-7.78)	159	17.12	220.98	245.3/163.9
Tekamah, NE (IRR)	3191 (+134)	22.49 (-4.50)	166	16.63	243.83	277.1/175.1
Great Bend KS (IRR)	3464 (-56)	25.47 (+1.86)	173	14.77	206.45	287.4/128.1
Aurora NE (IRR)	3225 (+135)	17.22 (-9.74)	175	15.10	244.52	318.3/172.5
Wahoo NE (IRR)	3313 (+239)	23.48 (-7.29)	178	14.56	247.02	301.1/196.9
Norfolk(Stn) NE (IRR)	3088 (+242)	19.68 (-3.41)	184	18.35	252.22	284.8/194.2
Scandia (Con) KS (IRR)	3692 (+338)	21.07 (-3.40)				
Garnett KS DRY	3745 (+233)	23.75 (-10.05)				<b>Harvest Data yet to be received</b>
Beaver Crossing NE (IRR)	3263 (+127)	15.28 (-9.63)	171	15.45	239.54	297.9/104.3

**Table 4 (below): Replicated Corn Trial Yield Mean 3-Year Summary**

There are many factors that can impact yield, so controlling what we can is always the goal. Yield is the ultimate measuring stick and the most critical factor impacting a given field's bottom line. Phillips Seed Farms is always engaged in our mission to find the very best high yielding solutions for all your growing situations.

**Replicated Corn Yield Mean By Location, By Year**

Not listed in any particular order	2023 Plot Mn	Dep. from 3-Yr Avg	2022 Plot Mn	Dep. from 3-Yr Avg	2021 Plot Mn	Dep. from 3-Yr Avg	3-Yr Avg
*Salina, KS - IRR	205.2 (24.2)	224.2 (5.2)	258.7	29.3	229.4		
Atlantic, IA - RF	220.9	23.8	143.5 (53.6)	226.8	29.7	197.1	
Lawrence, KS - RF	212.9 (8.1)	208.4 (12.6)	241.7	20.7	221.0		
<sup>1</sup> Concordia, KS - IRR	(132.1)	111.5 (20.6)	152.6	20.6	132.1		
Norfolk-ST, NE - IRR	245.0 (5.4)	251.9	1.5	254.2	3.8	250.4	
Hutch, KS - IRR	234.4 (5.9)	220.8 (19.5)	265.6	25.4	240.3		
Hutch, KS - RF	108.5	20.4	60.5 (27.6)	95.3	7.2	88.1	
<sup>2</sup> GB-Kinsley, KS - IRR	190.4 (28.2)	187.2 (31.4)	278.1	59.5	218.6		
Colby, KS - IRR	220.0	24.0	228.0	32.0	140.0 (56.0)	196.0	



\*Salina, KS - Different location and irrigation system in 2021

<sup>1</sup>Concordia, KS - Different locations all three years

<sup>2</sup>GB-Kinsley, KS - Different locations all three years

## CORN - Replicated Trial Data

The two general plot types PSF deploys are Replicated Trials, tested through independent 3<sup>rd</sup> party testing services and Strip Trials, which are planted in cooperation with PSF Dealers or Customers. There are advantages with both as well as some disadvantages. From the standpoint of getting “rounded” sources of data, they both work together to serve that purpose. The first section will focus on the Replicated Trial data and then transition into the Cooperator Strip Trial data. Again, the variance experienced from year to year can be significant.

The table (below) provides a summary of 16 (of 18) Replicated Trials and compares the PSF entries, plus a competitive check hybrid by yield and % of trial mean. The trials are located in KS, MO, IA and NE, and are on rainfed (RF) or dryland acres, and irrigated acres. This table below shows how key PSF hybrid selections fared in the 2023. Given the variance, anything above 90% can be considered in the ball park, competitively.

2023 Replicated (only)		All Dryland (RF)		All Irrigated (IRR)	
PSF Hybrids Tested	Yield Summary	Yield (BPA)	% of Mn	Yield (BPA)	% of Mn
PS0770 VPR	107	142.76	95.25%	213.29	93.73%
PS0844 V32	108	151.56	96.97%	231.26	100.18%
PS0897 V32	108	146.58	98.39%	236.30	103.64%
PS0943 V32	109	152.21	101.92%	227.46	100.00%
PS1091 V32	110	148.29	94.95%	225.68	98.35%
PS1177 GBL	111	161.70	109.91%	215.45	95.79%
PS1199 VPR	111	154.28	103.37%	224.77	99.28%
PS1366 VPR	113	147.37	97.71%	217.67	94.06%
PS1372 TRE	113	150.68	99.14%	242.83	106.49%
PSF148 VPR	114	147.97	102.70%	218.02	95.98%
Check-P1366	113	132.18	100.92%	190.47	90.87%



Photo taken at a Strip Plot in Gage Co Nebraska on August 14, 2023

## CORN – Individual Replicated Trial Results (KS)

The growing season of 2023 showed considerable variance from location to location. Even beyond climate conditions, some of that variance can be attributed to weed escapes, herbicide drift, pivot irrigation system wheel tracks and a host of other yield robbing factors. As you review the data, it won't take too long to pick up on some of those anomalies. It always takes some effort and agronomic insight to gain a proper perspective on overall hybrid and yield performance in a normal year...maybe more this year.

RT - Great Bend KS - IRR - CORN				
Plant Date	5/5/23	H2O Mn	14.77	Rep Trial
Hvst. Date	10/25/23	T.W. Mn	59.07	# Entries
Days-Hvst	173	Yield Mn	206.45	51
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	11.0	61.7	227.90	110.39%
<a href="#">PS0844 V32</a>	15.7	57.6	185.00	89.61%
<a href="#">PS0897 V32</a>	14.1	58.8	205.10	99.34%
<a href="#">PS0943 V32</a>	12.8	59.2	221.30	107.19%
<a href="#">PS1091 V32</a>	13.9	58.3	211.00	102.20%
<a href="#">PS1177 GBL</a>	14.1	60.1	213.50	103.41%
<a href="#">PS1199 VPR</a>	15.3	59.7	260.70	126.28%
<a href="#">PS1366 VPR</a>	13.8	60.0	179.30	86.85%
<a href="#">PS1372 TRE</a>	15.0	59.0	265.10	128.41%
<a href="#">PSF148 VPR</a>	13.2	61.8	221.30	107.19%
Check-P1366	13.0	60.5	212.80	103.07%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XB14H-V31	15.4	60.5	287.40	139.21%
XP1134PCE	16.6	58.1	264.60	128.16%
XB08C-VPR	13.1	60.4	263.40	127.58%
High Yield	287.4			
Low Yield	64.2	Variance	223.2	

RT - Lawrence KS - DRY - CORN				
Plant Date	4/26/23	H2O Mn	16.48	Rep Trial
Hvst. Date	9/13/23	T.W. Mn	57.98	# Entries
Days-Hvst	140	Yield Mn	212.93	51
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	15.2	59.8	209.99	98.62%
<a href="#">PS0844 V32</a>	16.5	56.3	208.15	97.75%
<a href="#">PS0897 V32</a>	15.6	61.8	195.79	91.95%
<a href="#">PS0943 V32</a>	15.0	58.6	216.04	101.46%
<a href="#">PS1091 V32</a>	17.3	57.3	206.08	96.78%
<a href="#">PS1177 GBL</a>	17.5	57.6	218.57	102.65%
<a href="#">PS1199 VPR</a>	18.5	55.2	219.30	102.99%
<a href="#">PS1366 VPR</a>	18.7	56.9	224.37	105.37%
<a href="#">PS1372 TRE</a>	17.5	58.0	211.81	99.47%
<a href="#">PSF148 VPR</a>	18.1	55.8	195.27	91.70%
Check-P1366	16.8	58.9	208.25	97.80%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XP1134PCE	17.0	58.4	262.83	123.43%
XB094PCE	15.4	58.3	247.03	116.01%
XP1154PCE	16.0	59.2	238.32	111.92%
High Yield	262.8			
Low Yield	162.1	Variance	100.8	

RT - Cherryvale KS - DRY - CORN				
Plant Date	4/24/23	H2O Mn	11.98	Rep Trial
Hvst. Date	9/1/23	T.W. Mn	56.28	# Entries
Days-Hvst	130	Yield Mn	85.45	50
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	11.90	57.7	86.37	101.48%
<a href="#">PS0844 V32</a>	11.30	54.3	90.47	106.30%
<a href="#">PS0897 V32</a>	11.50	54.3	95.81	112.57%
<a href="#">PS0943 V32</a>	11.50	55.5	98.41	115.63%
<a href="#">PS1091 V32</a>	11.60	53.9	75.35	88.54%
<a href="#">PS1177 GBL</a>	12.40	57.2	93.68	110.08%
<a href="#">PS1199 VPR</a>	11.90	56.4	83.68	98.33%
<a href="#">PS1366 VPR</a>	12.10	58.3	92.97	109.24%
<a href="#">PS1372 TRE</a>	11.70	55.5	80.47	94.55%
<a href="#">PSF148 VPR</a>	12.80	58.7	115.27	135.44%
Check-P1366	12.30	59.4	102.12	119.99%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XS094TRE	11.70	57.6	122.33	143.74%
PX005BH-VPR	11.20	54.9	108.55	127.55%
XS144VPR	11.80	56.8	106.77	125.45%
High Yield	122.3			
Low Yield	65.8	Variance	56.5	

RT - Hutchinson KS - DRY - CORN				
Plant Date	4/19/23	H2O Mn	11.81	Rep Trial
Hvst. Date	9/5/23	T.W. Mn	58.59	# Entries
Days-Hvst	139	Yield Mn	108.51	47
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	12.3	61.8	105.43	97.16%
<a href="#">PS0844 V32</a>	10.8	58.8	95.99	88.46%
<a href="#">PS0897 V32</a>	12.1	56.7	92.97	85.68%
<a href="#">PS0943 V32</a>	9.7	60.6	86.77	79.96%
<a href="#">PS1091 V32</a>	11.2	57.8	114.60	105.61%
<a href="#">PS1177 GBL</a>	10.9	59.8	123.68	113.98%
<a href="#">PS1199 VPR</a>	12.8	61.3	126.99	117.02%
<a href="#">PS1366 VPR</a>	11.7	61.4	106.48	98.13%
<a href="#">PS1372 TRE</a>	11.0	59.3	104.13	95.96%
<a href="#">PSF148 VPR</a>	13.5	55.1	80.34	74.04%
Check-P1366	10.8	58.8	98.78	91.03%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XG1134V	11.7	55.2	130.13	119.92%
XB124PCE	10.6	60.9	128.79	118.69%
XP1084PCE	11.2	59.0	128.25	118.19%
High Yield	130.1			
Low Yield	78.7	Variance	51.4	

## CORN – Individual Replicated Trial Results (NE)

### 2023 Replicated Trial Information

- 51 different genetic and trait combinations tested in 18 locations (one location lost due to hail)
- Genetic material tested comes from eight disparate sources
- Ten of the top selling PSF hybrids were tested, but PSF has multiple niche hybrids not tested here bred for specific areas and growing situations...ask a PSF rep for more information
- The testing locations range approximately 400 miles from east to west, and 400 miles from north to south.
- The locations vary in latitude, elevation, pH, O.M%, rainfall, GDUs, soils and other relevant conditions

RT - Wahoo NE - IRR - CORN				
Plant Date	5/3/23	H2O Mn	14.56	Rep Trial
Hvst. Date	10/28/23	T.W. Mn	57.90	# Entries
Days-Hvst	178	Yield Mn	247.02	49
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	14.2	58.3	235.05	95.16%
<a href="#">PS0844 V32</a>	13.9	56.8	225.46	91.27%
<a href="#">PS0897 V32</a>	14.8	58.1	252.05	102.04%
<a href="#">PS0943 V32</a>	15.0	59.0	256.56	103.86%
<a href="#">PS1091 V32</a>	13.1	57.8	253.97	102.82%
<a href="#">PS1177 GBL</a>	13.2	57.7	275.23	111.42%
<a href="#">PS1199 VPR</a>	13.9	57.2	226.63	91.75%
<a href="#">PS1366 VPR</a>	13.6	57.6	207.24	83.90%
<a href="#">PS1372 TRE</a>	15.1	58.2	235.00	95.14%
<a href="#">PSF148 VPR</a>	15.3	57.6	240.95	97.54%
Check-P1366	13.0	60.5	212.80	103.07%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XB13G-VPR	14.4	56.9	301.14	121.91%
XA124D-VPR	15.2	58.0	296.37	119.98%
XP1134V	15.0	55.2	272.03	110.13%
High Yield	301.14			
Low Yield	196.97	BPA Variance	104.17	

RT - Aurora NE - IRR - CORN				
Plant Date	5/8/23	H2O Mn	15.10	Rep Trial
Hvst. Date	10/30/23	T.W. Mn	60.91	# Entries
Days-Hvst	175	Yield Mn	244.52	50
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	15.4	63.1	256.95	105.08%
<a href="#">PS0844 V32</a>	15.2	62.0	257.56	105.33%
<a href="#">PS0897 V32</a>	15.6	61.0	216.83	88.67%
<a href="#">PS0943 V32</a>	13.4	58.9	261.02	106.75%
<a href="#">PS1091 V32</a>	13.0	62.5	196.88	80.52%
<a href="#">PS1177 GBL</a>	15.2	60.2	222.94	91.17%
<a href="#">PS1199 VPR</a>	15.6	61.3	302.96	123.90%
<a href="#">PS1366 VPR</a>	14.6	62.4	228.30	93.37%
<a href="#">PS1372 TRE</a>	14.5	60.4	273.99	112.05%
<a href="#">PSF148 VPR</a>	14.4	60.9	255.31	104.41%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XB134PCE	14.8	58.7	318.33	130.18%
XG1164V	15.0	60.3	309.32	2
XA124C-VPR	15.3	60.5	291.74	119.31%
High Yield	318.3			
Low Yield	172.6	Variance	145.8	

RT - Stanton (Nflk) NE - IRR - CORN				
Plant Date	4/19/23	H2O Mn	18.35	Rep Trial
Hvst. Date	10/20/23	T.W. Mn	61.75	# Entries
Days-Hvst	184	Yield Mn	252.22	39
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	17.9	62.1	241.92	95.92%
<a href="#">PS0844 V32</a>	18.7	61.3	249.52	98.93%
<a href="#">PS0897 V32</a>	19.4	60.7	245.66	97.40%
<a href="#">PS0943 V32</a>	19.7	60.3	252.51	100.11%
<a href="#">PS1091 V32</a>	17.5	62.2	226.70	89.88%
<a href="#">PS1177 GBL</a>	18.4	61.7	243.38	96.49%
<a href="#">PS1199 VPR</a>	18.6	61.5	260.31	103.21%
<a href="#">PS1366 VPR</a>	18.2	61.9	261.22	103.57%
<a href="#">PS1372 TRE</a>	17.5	62.6	245.91	97.50%
<a href="#">PSF148 VPR</a>	18.4	62.0	245.78	97.45%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XB11E-TRE	18.5	61.6	284.79	112.91%
XA124E-VPR	19.8	60.5	279.14	110.67%
XP1114PCE	18.2	61.8	272.44	108.02%
High Yield	284.8			
Low Yield	194.2	Variance	90.6	

RT - Tekamah NE - IRR - CORN				
Plant Date	4/27/23	H2O Mn	16.63	Rep Trial
Hvst. Date	10/10/23	T.W. Mn	63.40	# Entries
Days-Hvst	166	Yield Mn	243.83	38
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	16.6	63.5	225.52	92.49%
<a href="#">PS0844 V32</a>	16.2	63.6	255.12	104.63%
<a href="#">PS0897 V32</a>	16.8	63.4	228.93	93.89%
<a href="#">PS0943 V32</a>	16.0	64.2	175.14	71.83%
<a href="#">PS1091 V32</a>	16.7	62.8	235.56	96.61%
<a href="#">PS1177 GBL</a>	17.4	62.8	244.23	100.16%
<a href="#">PS1199 VPR</a>	16.7	63.3	234.53	96.19%
<a href="#">PS1366 VPR</a>	15.6	64.3	220.81	90.56%
<a href="#">PS1372 TRE</a>	16.1	64.1	234.34	96.11%
<a href="#">PSF148 VPR</a>				
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XB11E-TRE	15.2	64.3	277.12	113.65%
XA124D-VPR	16.9	63.4	276.96	113.59%
XA10B-VPR	16.3	63.8	271.14	111.20%
High Yield	277.1			
Low Yield	143.3	Variance	133.8	

## CORN - Individual Replicated Trial Results (KS)

RT - Hutchinson KS - IRR - CORN				
Plant Date	5/2/23	H2O Mn	15.69	Rep Trial
Hvst. Date	9/27/23	T.W. Mn	58.59	# Entries
Days-Hvst	148	Yield Mn	234.41	51
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<b>PS0770 VPR</b>	13.40	59.60	218.83	93.35%
<b>PS0844 V32</b>	14.50	58.80	254.22	108.45%
<b>PS0897 V32</b>	14.20	58.70	268.70	114.63%
<b>PS0943 V32</b>	15.40	59.10	260.27	111.03%
<b>PS1091 V32</b>	16.40	57.10	238.81	101.87%
<b>PS1177 GBL</b>	14.70	58.00	248.21	105.88%
<b>PS1199 VPR</b>	17.00	57.40	238.08	101.56%
<b>PS1366 VPR</b>	15.60	59.60	217.39	92.74%
<b>PS1372 TRE</b>	16.90	59.70	254.66	108.64%
<b>PSF148 VPR</b>	15.70	59.60	217.44	92.76%
Check-P1366	12.90	59.00	205.66	87.73%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XS144VPR	18.00	58.00	281.64	120.15%
XA10B-VPR	14.30	60.70	276.51	117.96%
XB12F-VPR	16.20	60.40	265.75	113.37%
High Yield	281.6			
Low Yield	171.3	Variance	110.4	

RT - Assaria (Salina) KS - IRR - CORN				
Plant Date	5/1/23	H2O Mn	17.31	Rep Trial
Hvst. Date	9/22/23	T.W. Mn	58.45	# Entries
Days-Hvst	144	Yield Mn	205.24	51
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<b>PS0770 VPR</b>	17.8	59.2	185.16	90.22%
<b>PS0844 V32</b>	19.0	58.2	223.17	108.74%
<b>PS0897 V32</b>	16.2	56.7	258.50	125.95%
<b>PS0943 V32</b>	16.0	57.7	214.97	104.74%
<b>PS1091 V32</b>	16.0	56.7	240.10	116.99%
<b>PS1177 GBL</b>				
<b>PS1199 VPR</b>	16.6	57.4	208.59	101.64%
<b>PS1366 VPR</b>	17.0	59.3	237.01	115.48%
<b>PS1372 TRE</b>	18.6	59.0	248.48	121.07%
<b>PSF148 VPR</b>	18.7	58.9	200.35	97.62%
Check-P1366	15.1	58.6	169.83	82.75%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XP1134PCE	18.3	58.4	259.25	126.32%
XA10B-VPR	17.1	60.8	249.77	121.70%
XB1093-VPR	16.2	58.6	242.61	118.21%
High Yield	259.3			
Low Yield	136.7	Variance	122.5	

RT - Kinsley KS - IRR - CORN				
Plant Date	4/17/23	H2O Mn	16.15	Rep Trial
Hvst. Date	9/7/23	T.W. Mn	57.00	# Entries
Days-Hvst	143	Yield Mn	190.93	51
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<b>PS0770 VPR</b>	13.5	59.3	176.85	92.88%
<b>PS0844 V32</b>	14.5	56.9	205.03	107.67%
<b>PS0897 V32</b>	15.3	57.6	186.35	97.86%
<b>PS0943 V32</b>	12.8	58.0	191.20	100.41%
<b>PS1091 V32</b>	12.7	58.0	194.96	102.39%
<b>PS1177 GBL</b>	13.7	58.0	191.54	100.59%
<b>PS1199 VPR</b>	12.8	58.0	175.87	92.36%
<b>PS1366 VPR</b>	12.5	58.0	172.53	90.61%
<b>PS1372 TRE</b>	13.8	58.9	151.88	79.76%
<b>PSF148 VPR</b>	17.2	56.6	153.51	80.62%
Check-P1366	15.0	58.3	216.43	113.66%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XB094TRE	17.2	56.0	239.11	125.57%
XS094TRE	18.9	56.2	235.17	123.50%
XB134PCE	16.3	57.7	230.69	121.15%
High Yield	239.1			
Low Yield	134.3	Variance	104.8	

RT - Colby KS - IRR - CORN				
Plant Date	5/10/23	H2O Mn	21.79	Rep Trial
Hvst. Date	10/10/23	T.W. Mn	55.54	# Entries
Days-Hvst	153	Yield Mn	218.96	51
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<b>PS0770 VPR</b>	20.2	57.1	147.36	67.30%
<b>PS0844 V32</b>	22.6	54.0	192.38	87.86%
<b>PS0897 V32</b>	22.0	53.4	246.29	112.48%
<b>PS0943 V32</b>	21.5	55.1	227.27	103.80%
<b>PS1091 V32</b>	22.2	54.1	199.68	91.19%
<b>PS1177 GBL</b>	23.3	53.3	241.97	110.51%
<b>PS1199 VPR</b>	22.7	54.7	155.63	71.08%
<b>PS1366 VPR</b>	23.4	53.8	161.27	73.65%
<b>PS1372 TRE</b>	23.0	54.9	250.51	114.41%
<b>PSF148 VPR</b>	22.3	55.5	201.85	92.19%
Check-P1366	20.2	57.1	147.66	67.44%
<i>Top 3 Experimental Hybrids at Testing Location</i>				
XP1084PCE	21.8	55.5	265.28	121.15%
XS144VPR	22.4	53.8	263.17	120.19%
XB124PCE	21.2	56.0	262.31	119.80%
High Yield	265.3			
Low Yield	136.7	Variance	128.5	

## CORN – Individual Replicated Trial Results (KS, IA)

RT - Pittsburg KS - DRY - CORN				
Plant Date	4/24/23	H2O Mn	14.08	Rep Trial
Hvst. Date	9/5/2023	T.W. Mn	57.13	# Entries
Days-Hvst	134	Yield Mn	125.43	40
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	12.4	58.1	110.88	88.40%
<a href="#">PS0844 V32</a>				
<a href="#">PS0897 V32</a>	13.9	57.3	129.27	103.06%
<a href="#">PS0943 V32</a>	12.8	57.7	145.53	116.02%
<a href="#">PS1091 V32</a>				
<a href="#">PS1177 GBL</a>	15.2	57.6	158.70	126.52%
<a href="#">PS1199 VPR</a>	12.5	56.6	128.71	102.62%
<a href="#">PS1366 VPR</a>	13.5	57.9	100.41	80.05%
<a href="#">PS1372 TRE</a>	12.2	56.9	129.24	103.03%
<a href="#">PSF148 VPR</a>	15.7	58.3	159.39	127.08%
Check-P1366	14.7	58.7	119.59	95.34%
<b>Top 3 Experimental Hybrids at Testing Location</b>				
XA124E-VPR	15.8	58.3	149.36	119.08%
PX005BH-VPR	12.0	54.5	149.13	118.90%
XB08C-VPR	14.4	57.5	148.77	118.61%
High Yield	159.4			
Low Yield	93.4	Variance	66.0	

RT - Griswold IA - IRR - CORN				
Plant Date	4/19/23	H2O Mn	17.12	Rep Trial
Hvst. Date	9/25/23	T.W. Mn	61.28	# Entries
Days-Hvst	159	Yield Mn	220.98	39
Hybrid	H2O%	Test Wt.	Yield	% of Mn
<a href="#">PS0770 VPR</a>	14.8	63.5	201.13	91.02%
<a href="#">PS0844 V32</a>	18.5	59.5	211.64	95.77%
<a href="#">PS0897 V32</a>	18.0	60.3	219.06	99.13%
<a href="#">PS0943 V32</a>	19.3	59.1	214.28	96.97%
<a href="#">PS1091 V32</a>	20.2	55.4	197.12	89.20%
<a href="#">PS1177 GBL</a>	19.1	59.6	213.85	96.77%
<a href="#">PS1199 VPR</a>	17.3	61.0	212.74	96.27%
<a href="#">PS1366 VPR</a>	15.4	62.9	212.61	96.21%
<a href="#">PS1372 TRE</a>	16.7	61.9	227.74	103.06%
<a href="#">PSF148 VPR</a>	19.0	59.7	189.58	85.79%
<b>Top 3 Experimental Hybrids at Testing Location</b>				
XP1134PCE	20.6	58.2	245.29	111.00%
XP1114PCE	16.3	62.0	239.78	108.51%
XP1154PCE	17.9	60.7	238.67	108.01%
High Yield	259.3			
Low Yield	136.7	Variance	122.5	



Picture of PS1372 TRE taken in August in a Gage Co NE field.

## CORN – Cooperator Strip Trial Results

Sumner Co KS - 1 Corn			
Planting Date:	5/2/23	Coop:	F-JV
Harvest Date:	8/27/23	IRR or RF:	RF
Days to Hvst:	117	PPA:	24,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	12.0	57.6	119.00
<b>PS1366 VPR</b>	13.8	58.1	144.02
<b>PS1372 TRE</b>	13.4	57.1	138.02
<b>PSF148 VPR</b>	13.7	58.0	124.76
		# Hybrid	Yld Avg
	Company	Entries	Entries/Co
	PSF	4	131.4
	Comp's	15	128.0
	All	19	129.7
(Doesn't include 2nd check)			

Sumner Co KS - 2 Corn			
Planting Date:	4/4/23	Coop:	F-MB
Harvest Date:	8/25/23	IRR or RF:	RF
Days to Hvst:	143	PPA:	24,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	11.4	57.6	63.08
<b>PS1366 VPR</b>	13.7	57.9	68.14
<b>PS1372 TRE</b>	13.0	55.8	65.24
<b>PSF148 VPR</b>	14.1	58.8	81.00
		# Hybrid	Yld Avg
	Company	Entries	Entries/Co
	PSF	4	69.4
	Comp's	15	64.7
	All	19	67.0
(Doesn't include check)			

Ottawa Co KS Corn			
Planting Date:	4/4/23	Coop:	KB
Harvest Date:	8/25/23	IRR or RF:	RF
Days to Hvst:	143	PPA:	24,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	12.8	58.0	151.69
<b>PS1366 VPR</b>	14.1	57.7	145.00
<b>PS1372 TRE</b>	13.4	57.0	150.61
LG62C22VTP	12.7	58.1	142.90
LG62C35VT2	14.0	57.0	145.22
G13N18-3111	11.6	53.5	140.13
G14B65-DV	12.5	56.4	138.70
G17A81-V	13.8	54.8	149.97
		# Hybrid	Yld Avg
	Company	Entries	Entries/Co
	PSF	3	149.1
	Comp's	5	143.4
	All	8	145.5
(No check hybrid used)			

Richardson Co NE Corn			
Planting Date:	4/8/23	Coop:	DB
Harvest Date:	9/21/23	IRR or RF:	RF
Days to Hvst:	166	PPA:	26,100
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	16.3	62.0	194.45
<b>PS1366 VPR</b>	15.5	59.0	185.94
<b>PS1372 TRE</b>	15.8	61.0	195.11
<b>PS1177 GBL</b>	16.2	61.0	179.66
<b>PSF138 SSR</b>	15.8	60.0	202.75
<b>PS1199 VPR</b>	16.1	60.0	187.17
<b>PSF133 DGR</b>	16.3	61.0	189.69
		# Hybrid	Yld Avg
	Company	Entries	Entries/Co
	PSF	7	190.7
	All	7	190.7
(No check hybrid used)			

## CORN – Cooperator Strip Trial Results

Cherokee Co IA Corn			
Planting Date:	5/2/23	Coop:	BB
Harvest Date:	10/10/23	IRR or RF:	RF
Days to Hvst:	161	PPA:	32,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	17.4	53.9	133.11
<b>PS1372 TRE</b>	17.6	55.6	133.13
<b>PS1177 GBL</b>	16.8	53.3	114.48
<b>PS1199 VPR</b>	20.2	52.8	119.96
<b>PSF138 VPR</b>	18.5	54.5	135.51
<b>PS0844 V32</b>	16.5	53.8	116.36
<b>PS0943 V32</b>	17.9	54.0	119.54
<b>PS0711 D51</b>	17.1	53.9	114.19
<b>PS0535 V32</b>	17.3	54.4	122.70
# Hybrid		Yld Avg	
Company	Entries	Entries/Co	
PSF	9	123.2	
All	9	123.2	
(No check hybrid used)			

Crawford Co IA Corn			
Planting Date:	5/5/23	Coop:	VF
Harvest Date:	10/18/23	IRR or RF:	RF
Days to Hvst:	166	PPA:	32,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	16.9	59.0	177.33
<b>PS1372 TRE</b>	16.9	60.0	208.57
<b>PS1199 VPR</b>	17.0	59.0	171.99
<b>PS0844 V32</b>	17.0	59.0	162.59
<b>PS0943 V32</b>	16.8	60.0	173.63
<b>PS0711 D51</b>	17.0	59.0	185.47
# Hybrid		Yld Avg	
Company	Entries	Entries/Co	
PSF	6	179.9	
All	6	179.9	
(No check hybrid used)			

Wilson Co KS Corn			
Planting Date:	4/4/23	Coop:	F-MN
Harvest Date:	9/7/23	IRR or RF:	RF
Days to Hvst:	156	PPA:	32,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	15.0	59.6	134.17
<b>PS1372 TRE</b>	14.8	59.2	145.52
<b>PSF148 VPR</b>	14.8	59.7	134.49
# Hybrid		Yld Avg	
Company	Entries	Entries/Co	
PSF	3	138.1	
Comp's	34	113.2	
All	37	115.2	
(No check hybrid used)			

Anderson Co KS Corn			
Planting Date:	4/7/23	Coop:	F-CC
Harvest Date:	9/8/23	IRR or RF:	RF
Days to Hvst:	154	PPA:	24,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	10.3	54.8	64.92
<b>PS1372 TRE</b>	10.1	51.2	39.19
<b>PSF148 VPR</b>	10.1	53.1	29.32
# Hybrid		Yld Avg	
Company	Entries	Entries/Co	
PSF	3	44.5	
Comp's	13	45.3	
All	16	44.9	
(No check hybrid used)			

CORN – Cooperator Strip Trial Results

<b>Edwards Co KS Corn</b>			
Planting Date:	5/8/23	Coop:	F-DD
Harvest Date:	10/26/23	IRR or RF:	IRR
Days to Hvst:	171	PPA:	30,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1372 TRE</b>	13.2	60.9	226.27
NK 1661	13.1	62.1	212.09
NK 1701	13.4	57.9	208.75
NK 1755	14.4	59.8	220.41
NK 1838	14.7	59.6	175.21
		# Hybrid	Yld Avg
Company	Entries	Entries/Co	
PSF	1	226.3	
Comp's	7	214.1	
All	8	220.0	
(Does not include the check)			

<b>Sumner Co KS Corn</b>			
Planting Date:	5/2/23	Coop:	F-JN
Harvest Date:	10/26/23	IRR or RF:	IRR
Days to Hvst:	177	PPA:	30,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	12.0	57.6	118.30
<b>PS1372 TRE</b>	13.4	57.1	137.20
<b>PSF148 VPR</b>	13.8	58.0	124.02
<b>PS1366 VPR</b>	13.8	58.1	143.17
NK 0922	11.3	56.9	131.26
AG 645-22	15.7	57.5	121.77
		# Hybrid	Yld Avg
Company	Entries	Entries/Co	
PSF	4	130.7	
Comp's	14	124.7	
All	18	126.0	
(Does not include the check)			

<b>Kingman Co KS Corn</b>			
Planting Date:	5/2/23	Coop:	F-S
Harvest Date:	9/8/23	IRR or RF:	RF
Days to Hvst:	129	PPA:	18,000
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	9.5	54.6	61.62
<b>PS1372 TRE</b>	9.7	55.5	87.77
<b>PSF148 VPR</b>	10.2	58.5	67.10
<b>PS1366 VPR</b>	9.9	57.1	74.28
NK 0922	9.4	52.2	59.73
AG 645-22	9.9	55.9	64.04
		# Hybrid	Yld Avg
Company	Entries	Entries/Co	
PSF	4	72.7	
Comp's	14	66.7	
All	18	68.0	
(No check hybrid used)			

<b>Wilson Co KS Corn</b>			
Planting Date:	5/15/23	Coop:	F-WF
Harvest Date:	10/3/23	IRR or RF:	RF
Days to Hvst:	141	PPA:	26,500
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1063 VPR</b>	12.8	57.0	180.79
DK 65-95	13.3	58.4	171.44
DK 68-35	12.7	59.2	152.37
AG 637-55	12.5	56.8	154.09
NK 0922	12.2	56.3	177.51
AG 642-76	13.1	56.3	174.44
		# Hybrid	Yld Avg
Company	Entries	Entries/Co	
PSF	1	180.8	
Comp's	11	155.9	
All	12	158.0	
(No check hybrid used)			

## CORN – Cooperator Strip Trial Results

Butler Co KS Corn			
Planting Date:	4/11/23	Coop:	F-ED
Harvest Date:	9/2/23	IRR or RF:	RF
Days to Hvst:	144	PPA:	26,500
Hybrid Name	H2O%	Test Wt.	Yield
<b>PS1372 TRE</b>	10.0	51.2	53.82
<b>PS1372 TRE-2</b>	10.0	51.2	52.09
AG 643-37	9.1	47.3	48.55
Pio 12904	9.8	51.5	40.24
NK 0922	9.8	51.1	49.70
AG 642-76	10.1	53.1	47.15
		# Hybrid	Yld Avg
Company	Entries	Entries/Co	
PSF	1	53.0	
Comp's	15	45.0	
All	16	46.0	
(PS1372 TRE x 2 entries)			



Picture of the PSF display at Fleming Field Day, Lewis, KS



# Summarizing SOYBEAN Yield & Environmental Data for 2023 REPLICATED TRIAL DATA

**Table 6: Soybean Replicated Trial & Key Weather Data Summary – 2023**

Replicated Plot Location Data	GDUs 4/15 to 10/4/23 (Dep. from Normal)	Precipitation 1/1 to 10/4/23 (Dep. from Normal)	Days to Harvest	Location H2O% Mn	Location Yield Mean (bu./ac.)
Hutchinson KS IRR	3781 (+192)	20.05 (-4.00)	132	10.31	69.54
Pittsburg KS DRY	3765 (+46)	19.82 (-10.78)	136	13.49	49.67
Garnett KS DRY	3765 (+46)	23.75 (-10.05)	136	10.14	19.19
Griswold IA DRY	3174 (+192)	23.65 (-7.78)	138	9.18	44.97
Colby KS IRR	3173 (+107)	19.88 (+2.02)	141	6.57	42.15
Nevada MO DRY	4053 (+347)	22.13 (-15.61)	142	10.00	11.51
Kinsley KS IRR	3478 (-42)	24.95 (+1.40)	144	14.95	45.93
Elkhorn NE IRR	3383 (+243)	20.09 (-6.99)	147	10.49	74.00
Aurora NE IRR	3173 (+107)	19.88 (+2.02)	147	13.63	52.49
Wahoo NE IRR	3313 (+239)	23.48 (-7.29)	152	14.31	78.23
Stromsburg NE IRR	3379 (+320)	15.24 (-8.56)	154	11.19	42.95
Lawrence KS DRY	3841 (+297)	22.59 (-7.22)	154	10.87	58.74
Beaver Crossing NE IRR	3263 (+127)	15.28 (-9.63)	156	11.08	73.35
Beatrice NE IRR	3479 (+213)	19.41 (-7.57)	161	11.75	59.96
Byron NE IRR				Plot data has not been received for these locations yet	
Blue Hill NE IRR					
Abilene KS DRY	3678 (+139)	22.84 (-6.16)			



Above picture is of Dale Bandow, ASM (L), and Dave Bauman, plot cooperator, inspecting soybean variety 3863XFE at Dave's Richardson Co NE plot location.

## SOYBEAN – Individual Replicated Trial Results

### 2023 Soybean Replicated Trial Information

- 29 different genetic and trait combinations tested in 18 locations Genetic material tested comes from several disparate sources
- Sixteen PSF varieties were tested from Maturity Group II to Maturity Group V
- Most late MG III soybeans up to the MG V contain the STS or SR gene. This is preferred in Kansas, Oklahoma, and some places in Missouri where double-cropping is a cultural practice
- The testing locations range approximately 400 miles from east to west, and 400 miles from north to south.
- The locations vary from latitude, elevation, pH, O.M%, rainfall, GDUs, soils and other relevant conditions
- The data in 2023 shows multiple departures from what's considered "normal". Some plots actually recorded respectable yields, but harvest moisture, and in some cases, test weights, were significantly reduced
- Bean size in 2023 appears to be smaller than what's considered "normal". This is another direct impact of extreme heat and stress levels
- Lastly, the data varies considerably from one area or location and the next. Again, this is indicative of the effects of the conditions for each plot location, and in some cases, from variety location to variety location

Griswold IA - DRY - Soybean			
Pltg Date	5/17/23	H2O Mn	9.18
Hvst Date	10/2/23	Yield Mn	44.97
Days-Hvst	138	Entries	7
Variety	H2O%	Yield/Acre	% of Mn
<b>2444E3</b>	9.26	51.16	113.77%
PX2623XF	9.08	49.18	109.35%
PX263BXFS	9.02	48.79	108.50%
<b>2864E3</b>	9.12	48.51	107.87%
<b>2903XF</b>	10.40	30.48	67.77%
<b>3324E3</b>	8.80	43.73	97.25%
<b>3313XF</b>	8.55	42.94	95.48%

Elkhorn NE - IRR - Soybean			
Pltg Date	5/17/23	H2O Mn	10.49
Hvst Date	10/11/23	Yield Mn	74.00
Days-Hvst	147	Entries	7
Variety	H2O%	Yield/Acre	% of Mn
<b>2444E3</b>	11.10	78.06	105.48%
PX2623XF	10.10	73.43	99.22%
PX263BXFS	10.80	80.04	108.15%
<b>2864E3</b>	11.50	70.40	95.13%
<b>2903XF</b>	9.78	68.34	92.35%
<b>3324E3</b>	9.85	75.51	102.04%
<b>3313XF</b>	10.30	72.25	97.63%

Beaver Crossing NE - IRR - Soybean			
Pltg Date	5/6/23	H2O Mn	11.08
Hvst Date	10/9/23	Yield Mn	73.35
Days-Hvst	156	Entries	11
Variety	H2O%	Yield/Acre	% of Mn
<b>2444E3</b>	11.55	85.03	115.92%
PX2623XF	11.01	60.09	81.92%
PX263BXFS	11.44	75.59	103.05%
<b>2864E3</b>	11.75	81.64	111.30%
<b>2903XF</b>	10.95	62.76	85.56%
<b>3324E3</b>	11.03	92.40	125.97%
<b>3313XF</b>	10.61	64.11	87.40%
<b>3874E3</b>	11.11	89.52	122.04%
<b>3863XFE</b>	9.39	49.86	67.98%
<b>4054E3S</b>	11.50	84.40	115.06%
<b>4003XFSE</b>	11.49	61.45	83.78%

Wahoo NE - IRR - Soybean			
Pltg Date	5/24/23	H2O Mn	14.31
Hvst Date	10/23/23	Yield Mn	78.23
Days-Hvst	152	Entries	7
Variety	H2O%	Yield/Acre	% of Mn
<b>2444E3</b>	16.80	61.65	78.80%
PX2623XF	15.10	75.95	97.08%
PX263BXFS	13.70	83.13	106.26%
<b>2864E3</b>	13.80	82.70	105.71%
<b>2903XF</b>	13.60	73.83	94.37%
<b>3324E3</b>	13.70	97.45	124.56%
<b>3313XF</b>	13.50	72.93	93.22%

## SOYBEAN – Individual Replicated Trial Results

Aurora NE - IRR - Soybean			
Pltg Date	5/16/23	H2O Mn	13.63
Hvst Date	10/10/23	Yield Mn	52.49
Days-Hvst	147	Entries	9
Variety	H2O%	Yield/Acre	% of Mn
<b>2444E3</b>	13.80	54.83	104.45%
PX2623XF	13.70	51.77	98.62%
PX263BXFS	13.80	47.76	90.98%
<b>2864E3</b>	13.70	52.10	99.25%
<b>2903XF</b>	13.60	54.22	103.29%
<b>3324E3</b>	13.50	61.46	117.08%
<b>3313XF</b>	13.80	53.76	102.42%
<b>3874E3</b>	13.20	44.45	84.68%
<b>3863XFE</b>	13.60	52.08	99.21%

Beatrice NE - IRR - Soybean			
Pltg Date	5/13/23	H2O Mn	11.75
Hvst Date	10/21/23	Yield Mn	59.96
Days-Hvst	161	Entries	12
Variety	H2O%	Yield/Acre	% of Mn
<b>2444E3</b>	10.10	55.40	92.40%
PX2623XF	11.70	54.00	90.06%
PX263BXFS	12.00	61.90	103.24%
<b>2864E3</b>	12.20	54.20	90.40%
<b>2903XF</b>	11.70	62.70	104.57%
<b>3324E3</b>	11.70	62.70	104.57%
<b>3313XF</b>	11.80	63.00	105.07%
<b>3874E3</b>	11.80	66.40	110.74%
<b>3863XFE</b>	11.80	55.60	92.73%
<b>4054E3S</b>	12.10	68.00	113.41%
<b>4003XFSE</b>	11.90	60.60	101.07%
P38A54E	12.20	55.00	91.73%

Stromsburg NE - IRR - Soybean			
Pltg Date	5/21/23	H2O Mn	11.19
Hvst Date	10/22/23	Yield Mn	42.95
Days-Hvst	154	Entries	8
Variety	H2O%	Yield/Acre	% of Mn
<b>2444E3</b>	11.10	44.60	103.78%
PX2623XF	10.80	49.60	115.42%
PX263BXFS	11.10	42.20	98.20%
<b>2864E3</b>	11.10	48.40	112.62%
<b>2903XF</b>	10.60	36.20	84.24%
<b>3324E3</b>	12.90	46.00	107.04%
<b>3313XF</b>	11.00	40.90	95.17%
P38A54E	10.90	35.90	83.54%

Nevada MO - DRY - Soybean			
Pltg Date	5/24/23	H2O Mn	10.00
Hvst Date	10/13/23	Yield Mn	11.51
Days-Hvst	142	Entries	14
Variety	H2O%	Yield/Acre	% of Mn
<b>4054E3S</b>	10.00	9.65	83.87%
<b>4003XFSE</b>	10.00	7.80	67.74%
PX4123XFS	10.00	11.43	99.35%
<b>4224XFSE</b>	10.00	11.21	97.42%
<b>4374E3S</b>	10.00	10.84	94.19%
<b>442XFS</b>	10.00	12.70	110.33%
PX4523XFS	10.00	11.88	103.23%
<b>460E3SE</b>	10.00	9.58	83.23%
<b>461XFS</b>	10.00	12.62	109.68%
<b>4623XFSE</b>	10.00	16.71	145.16%
PXD4723R	10.00	8.46	73.55%
<b>482E3S</b>	10.00	7.95	69.04%
P38A54E	10.00	14.11	122.58%
KS43-13XF	10.00	16.19	140.64%

Lawrence KS - DRY - Soybean			
Pltg Date	5/18/23	H2O Mn	10.87
Hvst Date	10/19/23	Yield Mn	58.74
Days-Hvst	154	Entries	15
Variety	H2O%	Yield/Acre	% of Mn
<b>3874E3</b>	12.90	53.86	91.69%
<b>3863XFE</b>	11.90	53.23	90.61%
<b>4054E3S</b>	13.70	42.25	71.93%
<b>4003XFSE</b>	13.90	62.29	106.04%
PX4123XFS	8.28	63.49	108.08%
<b>4224XFSE</b>	8.40	65.47	111.45%
<b>4374E3S</b>	13.30	63.14	107.48%
<b>442XFS</b>	12.50	61.65	104.95%
PX4523XFS	7.61	58.97	100.38%
<b>460E3SE</b>	8.03	53.82	91.62%
<b>461XFS</b>	14.60	59.60	101.46%
<b>4623XFSE</b>	15.00	66.81	113.73%
PX4623BXFS	7.66	58.41	99.44%
P38A54E	7.26	59.81	101.81%
KS43-13XF	8.04	58.35	99.32%

## SOYBEAN – Individual Replicated Trial Results

Pittsburgh KS - DRY - Soybean			
Pltg Date	6/2/23	H2O Mn	13.49
Hvst Date	10/16/23	Yield Mn	49.67
Days-Hvst	136	Entries	15
Variety	H2O%	Yield/Acre	% of Mn
<b>4054E3S</b>	15.20	45.75	92.12%
<b>4003XFSE</b>	13.20	52.49	105.68%
PX4123XFS	14.30	49.35	99.36%
<b>4224XFSE</b>	13.70	51.33	103.35%
<b>4374E3S</b>	13.70	51.05	102.78%
<b>442XFS</b>	13.00	48.88	98.41%
PX4523XFS	12.80	53.24	107.18%
<b>460E3SE</b>	13.90	47.73	96.11%
<b>461XFS</b>	12.80	54.17	109.07%
<b>4623XFSE</b>	14.80	50.47	101.61%
PXD4723R	13.90	47.73	96.11%
<b>482E3S</b>	12.40	49.79	100.26%
P38A54E	11.90	44.12	88.83%
KS43-13XF	14.00	46.97	94.57%
PX5123XFS	12.70	51.93	104.55%

Garnett KS - DRY - Soybean			
Pltg Date	6/2/23	H2O Mn	10.14
Hvst Date	10/16/23	Yield Mn	19.19
Days-Hvst	136	Entries	14
Variety	H2O%	Yield/Acre	% of Mn
<b>4054E3S</b>	10.00	22.57	112.94%
<b>4003XFSE</b>	10.00	20.34	101.80%
PX4123XFS	10.00	19.45	97.34%
<b>4224XFSE</b>	10.00	21.01	105.14%
<b>4374E3S</b>	10.00	19.31	96.60%
<b>442XFS</b>	10.00	19.97	99.94%
PX4523XFS	10.00	21.38	107.00%
<b>460E3SE</b>	12.00	21.18	105.98%
<b>461XFS</b>	10.00	23.24	116.29%
<b>4623XFSE</b>	10.00	20.12	100.68%
PXD4723R	10.00	14.33	71.70%
<b>482E3S</b>	10.00	22.35	111.83%
P38A54E	10.00	16.26	81.37%
KS43-13XF	10.00	18.27	91.39%

Hutchinson KS - IRR - Soybean			
Pltg Date	5/31/23	H2O Mn	10.31
Hvst Date	10/10/23	Yield Mn	69.54
Days-Hvst	132	Entries	17
Variety	H2O%	Yield/Acre	% of Mn
<b>3874E3</b>	10.30	75.33	108.33%
<b>3863XFE</b>	10.10	60.67	87.24%
<b>4054E3S</b>	10.20	73.57	105.78%
<b>4003XFSE</b>	10.30	67.56	97.15%
PX4123XFS	10.50	81.44	117.11%
<b>4224XFSE</b>	9.96	66.19	95.17%
<b>4374E3S</b>	10.80	82.35	118.41%
<b>442XFS</b>	10.20	67.20	96.62%
PX4523XFS	10.30	72.30	103.96%
<b>460E3SE</b>	10.40	65.20	93.75%
<b>461XFS</b>	10.30	70.23	100.98%
<b>4623XFSE</b>	10.60	68.59	98.63%
PXD4723R	10.30	72.62	104.42%
<b>482E3S</b>	10.50	69.26	99.59%
P38A54E	10.20	65.79	94.60%
KS43-13XF	10.60	66.53	95.66%
PX5123XFS	9.72	57.43	82.57%

Kinsley KS - IRR - Soybean			
Pltg Date	6/6/23	H2O Mn	14.95
Hvst Date	10/28/23	Yield Mn	45.93
Days-Hvst	144	Entries	19
Variety	H2O%	Yield/Acre	% of Mn
<b>3324E3</b>	16.20	50.81	110.64%
<b>3313XF</b>	14.70	44.69	97.30%
<b>3874E3</b>	14.90	49.36	107.46%
<b>3863XFE</b>	14.50	42.68	92.92%
<b>4054E3S</b>	16.20	44.66	97.24%
<b>4003XFSE</b>	16.30	58.10	126.50%
PX4123XFS	14.70	45.11	98.22%
<b>4224XFSE</b>	15.90	43.09	93.81%
<b>4374E3S</b>	16.00	53.43	116.33%
<b>442XFS</b>	14.10	44.93	97.83%
PX4523XFS	14.90	49.08	106.85%
<b>460E3SE</b>	14.90	47.04	102.42%
<b>461XFS</b>	15.90	42.46	92.45%
<b>4623XFSE</b>	14.40	46.12	100.41%
PX4623BXFS	13.30	45.56	99.21%
PXD4723R	13.80	46.01	100.18%
<b>482E3S</b>	15.80	42.86	93.32%
P38A54E	14.30	36.62	79.74%
KS43-13XF	13.20	40.03	87.16%

SOYBEAN – Individual Replicated Trial Results

Colby KS - IRR - Soybean			
Pltg Date	5/23/23	H2O Mn	6.74
Hvst Date	10/11/23	Yield Mn	42.15
Days-Hvst	141	Entries	8
Variety	H2O%	Yield/Acre	% of Mn
PX2623XF	8.12	43.59	112.53%
PX263BXFS	5.24	36.43	94.06%
<b>2864E3</b>	5.24	33.77	87.20%
<b>2903XF</b>	5.24	33.77	87.20%
<b>3324E3</b>	5.24	34.24	88.41%
<b>3313XF</b>	8.27	56.20	145.10%
<b>3874E3</b>	8.53	56.37	145.54%
P38A54E	8.03	42.79	110.49%

SOYBEAN – Cooperator Strip Trial Results

Soybean	Richardson Co, NE		
Planting Date:	5/4/23	Coop:	DB
Harvest Date:	10/20/23	IRR or RF:	RF
Days to Hvst:	169	PPA:	150,000
Variety Name	H2O%	Test Wt.	Yield
<b>2903XF</b>	9.6	59.0	36.91
<b>3313XF</b>	9.6	60.0	44.73
<b>3324E3</b>	10.0	60.0	42.76
<b>361E3</b>	11.5	61.0	38.42
<b>3863XFE</b>	11.5	59.0	41.51
<b>4003XFSE</b>	10.0	59.0	46.51
<b>4054E3S</b>	11.0	59.0	39.20
# SB Var.		Yld Avg	
Company	Entries	Entries/Co	
PSF	7	41.43	
Comp's	0		
All	7	41.43	

## 4003XFSE

4.0 XtendFlex® Variety with  
STS™ or SR™ Tolerance & the  
Excluder Gene.

Pictured at a Gage Co NE dryland field.



# Summarizing GRAIN SORGHUM Yield & Environmental Data for 2023 REPLICATED TRIAL DATA

**Table 7: Grain Sorghum Replicated Trial & Key Weather Data Summary – 2023**

Replicated Plot Location Data	GDUs 4/15 to 10/4/23 (Dep. from Normal)	Precipitation 1/1 to 10/4/23 (Dep. from Normal)	Days to Harvest	Location H2O% Mn	Yield Mean (bu./ac.) by location	High to Low Yield Variance (bu/acre)
Hutchinson KS DRY	<b>3781 (+192)</b>	<b>20.05 (-4.00)</b>	<b>115</b>	<b>13.75</b>	<b>97.30</b>	<b>71.32</b>
Hutchinson KS IRR	<b>3781 (+192)</b>	<b>20.05 (-4.00)</b>		Harvest data not yet received		
Great Bend KS IRR	<b>3464 (-56)</b>	<b>25.47 (+1.86)</b>	<b>126</b>	<b>14.08</b>	<b>73.15</b>	<b>81.80</b>
Phillipsburg KS DRY	<b>3645 (+87)</b>	<b>24.76 (+2.95)</b>	<b>128</b>	<b>13.97</b>	<b>142.87</b>	<b>77.14</b>
Larned KS DRY	<b>3645 (+87)</b>	<b>21.23 (-2.27)</b>	<b>135</b>	<b>13.78</b>	<b>141.99</b>	<b>71.45</b>
Concordia KS DRY	<b>3692 ((+338)</b>	<b>21.07 (-3.40)</b>	<b>139</b>	<b>11.67</b>	<b>122.98</b>	<b>127.64</b>
Colby KS DRY	<b>3173 (+107)</b>	<b>19.88 (+2.02)</b>		Harvest data not yet received		
Assaria KS DRY	<b>3715 ((+166)</b>	<b>19.32 (-6.15)</b>		Harvest data not yet received		
Garden City KS IRR				Harvest data not yet received		



Picture taken at sorghum plot in north central Kansas. PSF experimental grain sorghum PXA44E is shown in the middle four rows. It is a 64-day to mid-bloom with bronze grain. It is one of many hopefuls in testing in 2023.

## GRAIN SORGHUM – Replicated Trial Results

Concordia KS - DRY - Grain Sorghum			
Plant Date	6/8/23	H2O Mn	11.67
Hvst Date	10/25/23	Yield Mn	122.98
Days-Hvst	139	Entries	25
Hybrid	H2O%	Yield	% of Mn
<b>637</b>	11.70	117.07	95.19%
<b>6423B</b>	11.60	110.87	90.15%
<b>6711R</b>	11.80	129.75	105.51%
<b>5883C</b>	11.30	148.17	120.48%
<i>Top 3 Experimental Hybrids at Location</i>			
PXA44E	11.50	169.61	137.92%
PXS4762-D	11.10	160.13	130.21%
PXS4366	11.10	159.86	129.99%

Larned KS - DRY - Grain Sorghum			
Plant Date	6/14/23	H2O Mn	13.78
Hvst Date	10/27/23	Yield Mn	141.99
Days-Hvst	135	Entries	25
Hybrid	H2O%	Yield	% of Mn
<b>637</b>	13.70	135.15	95.18%
<b>530</b>	14.60	170.21	119.87%
<b>6423B</b>	13.85	140.75	99.13%
<b>6711R</b>	13.45	127.85	90.04%
<b>5883C</b>	13.25	112.27	79.06%
<i>Top 3 Experimental Hybrids at Location</i>			
PXA44E	11.50	169.61	137.92%
PXS4762-D	11.10	160.13	130.21%
PXS4366	11.10	159.86	129.99%

Phillipsburg KS - DRY - Grain Sorghum			
Plant Date	6/12/23	H2O Mn	13.97
Hvst Date	10/18/23	Yield Mn	142.87
Days-Hvst	128	Entries	25
Hybrid	H2O%	Yield	% of Mn
<b>637</b>	14.25	131.05	91.73%
<b>530</b>	13.05	149.07	104.34%
<b>6423B</b>	12.60	115.77	81.03%
<b>6711R</b>	14.65	183.40	128.36%
<b>5883C</b>	15.55	142.87	99.99%
<i>Top 3 Experimental Hybrids at Location</i>			
PXA44E	11.50	169.61	137.92%
PXS4762-D	11.10	160.13	130.21%
PXS4366	11.10	159.86	129.99%

Hutchinson KS - DRY - Grain Sorghum			
Plant Date	6/13/23	H2O Mn	13.75
Hvst Date	10/6/23	Yield Mn	97.30
Days-Hvst	115	Entries	24
Hybrid	H2O%	Yield	% of Mn
<b>637</b>	12.70	102.96	105.82%
<b>530</b>	13.90	77.86	80.02%
<b>6423B</b>	14.00	122.77	126.17%
<b>6711R</b>	14.60	87.33	89.76%
<b>5883C</b>	13.70	62.45	64.18%
<i>Top 3 Experimental Hybrids at Location</i>			
PXS4659-D	13.00	133.77	137.48%
PXS4762-D	12.70	121.18	124.54%
PR4162W	12.70	116.56	119.79%

Great Bend KS - IRR - Grain Sorghum			
Plant Date	6/12/23	H2O Mn	14.73
Hvst Date	10/16/23	Yield Mn	73.15
Days-Hvst	126	Entries	15
Hybrid	H2O%	Yield	% of Mn
<b>637</b>	13.50	91.50	125.09%
<b>6423B</b>	15.90	95.20	130.15%
<b>6711R</b>	16.80	115.70	158.18%
<b>5883C</b>	14.60	79.90	109.23%
<i>Top 3 Experimental Hybrids at Location</i>			
PXA44E	14.80	94.90	129.74%
PX1A6	16.20	91.90	125.64%
PGX0A1	12.60	78.90	107.87%



Picture taken in central Kansas near Assaria.

## Grain Sorghum – Cooperator Strip Trial Results

ST - Edwards Co KS - IRR - Grain Sorghum			
Plant Date	5/31/23	H2O Mn	14.00
Hvst Date	11/2/23	Yield Mn	18.00
Days-Hvst	155	Entries	24
Hybrid	H2O%	Yield	% of Mn
A 2168 IG	13.50	123.61	90.67%
A 5911	13.10	118.43	86.87%
<b>6423B</b>	11.60	110.87	96.70%
<b>6711R</b>	11.80	129.75	108.62%
<i>Plot Averages</i>			
<b>PSF (2)</b>	13.40	139.96	
<b>Comp. (6)</b>	13.37	135.13	
<b>Tot. (8)</b>	13.38	136.34	



Picture of 637 grain sorghum hybrid transitioning from soft dough to hard dough stage. Taken near Hutchinson KS.



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## **2023 HARVEST REPORT**

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