

## 21<sup>st</sup> Century Genetics Hard Red Spring Wheat (HRS) Trials In 2017

2017 was a year of contrasts with low or no yields due to severe drought in the western areas and some record yields in the northeastern areas, much on the strength of stored moisture from 2016, and fortuitous thunderstorms. The HRS varieties region wide were shortened in 2017, lodging was not a big issue. The HRS varietal performance from the TCG trials is summarized in Table 1, note that all 6 environments listed are in the eastern growing area, so they do not reflect the extreme effects of the drought impacted western environments.

For the 4<sup>th</sup> year in a row TCG-Spitfire showed outstanding yielding ability across environments, with moderate protein, for fields of very high yield (90 bu/a -115 bu/a). Supplemental post anthesis nitrogen maybe necessary to achieve 14 % protein. MN Shelly also had outstanding yield performance across environments, with a bit lower protein. TCG-Cornerstone performed much like TCG-Spitfire, with lower yield, but about a percent higher protein, a good balance of yield and protein. Medium tall TCG-Wildfire continues as a big yielding variety on alkali ground in central ND, and on beet ground in the Red River Valley area.

New for 2017, TCG-Climax yielded well across locations but with much higher protein than TCG-Spitfire. New variety TCG-Glenville (2018) is an extremely short, early variety with excellent standability. It is envisioned as a variety for the Canadian border, and other environments where earliness is advantageous. While it did not yield well in replicated trials, this is often the case for short, early varieties. But production fields have yielded in the 80 bu/a - 90 bu/a range with protein similar to WB-Mayville.

**Table 1. 2017 TCG HRS Wheat Results in 6 Environments**

Entry	SITE YIELD bu/a						6 SITE AVERAGES					
	Casselton ND	Crookston MN	Crystal ND	Fisher MN treated	Fisher MN untreated	Thompson ND	Yield -bu/a-	Protein -%-	Test Weight -lbs/bu-	Lodging score*	Heading -dap-	Height -in-
<b>TCG-Spitfire</b>	109.0	89.1	110.0	96.2	92.4	102.9	99.9	13.7	61.3	1.0	59.3	34.3
<b>Shelly</b>	90.7	99.8	91.0	114.6	105.2	96.8	99.7	13.5	61.5	1.4	58.4	32.8
<b>Granite</b>	101.3	89.6	98.6	101.6	92.1	96.2	96.6	14.9	63.6	1.0	59.8	34.7
<b>Prosper</b>	95.9	101.4	101.9	100.7	98.3	81.1	96.5	13.7	60.6	3.3	57.4	37.1
<b>Samson</b>	92.5	97.5	102.9	104.6	90.1	86.0	95.6	13.4	59.9	1.1	57.7	33.0
<b>TCG-Wildfire</b>	104.5	93.5	86.9	93.5	90.1	97.0	94.3	13.9	60.9	2.0	58.2	36.8
<b>TCG-Climax</b>	104.1	86.7	89.4	99.3	91.4	94.2	94.2	15.5	63.6	1.0	61.4	35.7
<b>SY Valda</b>	101.8	92.7	81.3	95.3	86.5	98.6	92.7	14.2	61.3	2.7	56.9	34.5
<b>WB-Mayville</b>	91.7	85.8	88.7	101.4	91.8	96.8	92.7	14.8	61.9	1.0	56.3	31.9
<b>Vantage</b>	96.7	87.7	86.9	94.0	96.2	89.1	91.8	15.2	63.3	1.0	60.7	35.1
<b>SY Soren</b>	97.2	96.3	84.8	97.2	87.5	85.9	91.5	14.4	60.9	1.0	57.2	32.7
<b>SY Ingmar</b>	96.4	85.4	86.6	97.4	89.5	92.1	91.2	14.9	62.2	1.0	58.1	34.3
<b>Linkert</b>	85.3	91.3	93.3	96.6	82.6	84.6	88.9	15.1	61.0	1.0	57.2	31.7
<b>TCG-Cornerstone</b>	80.6	82.5	90.7	97.4	84.0	95.5	88.4	14.7	61.8	1.0	58.0	32.4
<b>Barlow</b>	101.9	81.0	85.5	92.0	84.9	67.6	85.5	15.3	62.2	3.6	55.2	37.3
<b>TCG-Glennville</b>	91.0	72.5	82.9	93.2	83.6	76.6	83.3	15.2	61.9	1.0	55.5	31.3

\*Score: 1=least, 9=most.