

## **Saskatchewan Sunflower Regional Trial Report 2015**

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The regional trial was conducted at 4 locations in 2014 and data from 3 locations is available for this report. The locations are Indian Head, Redvers, Swift Current, and Melfort. The check was 63A21. The grain yield ranged from 1300 to 4100 kg ha<sup>-1</sup>. The currently available data is presented for each site Tables 1 to 3. Kernel moisture at harvest is the best indicator we have of earliness and suitability of the hybrid for production in Saskatchewan. The commercially available hybrids are 63A21, 8N270, Talon and Cobalt II. AC Seirra is an open pollinated cultivar and AC60 is an old cultivar that is early enough for most of Saskatchewan. The hybrids X320, Honeycomb NS (X713) and X716 are experimental hybrids developed by Brent Hulke with USDA at Fargo ND. In 2015 the differences in maturity were very apparent with a range from 100 to 118 days. In 2015 the grain yield of Cobalt II was 76% of the check (63A21) while 8N270 was 102% of the check which is above the 6 year average of 90%. Both Cobalt II and 8N270 are later in maturity than 63A21 (Tables 1-3). The open pollinated cultivar, AC Sierra had a grain yield that was 81% of the check. The grain yield of Honeycomb NS (X713) was 116% of the check and the kernel moisture at harvest was 9.5% compared to 16.9 % for 63A21. This indicates that progress is being made in developing suitable sunflower germplasm for Saskatchewan. Honeycomb NS is a public Hybrid and is available for private companies to produce and market. The tables for the varieties of grain crops are shown after Table 3.

**Table 1. Saskatchewan Sunflower Hybrid Trial at Indian Head in 2015**

	Plant Density		First Bloom	HEIGHT	lodging	Maturity	Harv Moisture	Grain yield	Grain Yield	Kernel Weight	Test weight
	/m <sup>2</sup>	/acre									
63A21 (11.1 plan	13 ab	52797 ab	70 de	143 a	1.8 a	112 c	25.4 de	2871 a	2555 a	50.1 a	195 ab
AC Sierra (11.1 p	15.2 a	61606 a	69 e	134 a	2 a	102 f	18.1 ef	1900 ab	1691 ab	50.8 a	206 a
Talon (X4270)											
8N 270CL DM	9.7 b	39146 b	77 b	154 a	2.5 a	120 b	36.8 c	2069 ab	1841 ab	53 a	195 ab
63A21 (8 plants r	11.7 b	47372 b	70 de	137 a	2.3 a	112 cd	28.2 d	2746 a	2444 a	49.6 a	194 ab
AC 60	9.8 b	39846 b	73 cd	144 a	2.3 a	101 f	12 f	2215 ab	1971 ab	51.1 a	198 ab
Cobalt II	5.9 c	23919 c	81 a	152 a	1.3 a	127 a	47.6 b	1489 b	1325 b	53.3 a	185 bc
X320	10.3 b	41829 b	74 c	156 a	3.3 a	109 cde	17.6 ef	2016 ab	1794 ab	47 a	182 cd
Honeycomb NS (	10.7 b	43113 b	71 de	147 a	1.3 a	106 e	11 f	2377 ab	2115 ab	51.8 a	197 ab
X716	10.8 b	43521 b	71 de	144 a	1.3 a	108 de	15.4 f	2759 a	2455 a	54.1 a	197 ab
LSD (P=0.05)	2.65	10738.26	2.4	16.54	1.46	3.54	6.02	586.262	521.773	7.293	0.285
CV	18.63	18.63	2.21	7.84	53.7	2.19	15.06	18.93	18.93	9.39	1.39
Treatment Prob/F	0.0001	0.0001	0.0001	0.1847	0.0813	0.0001	0.0001	0.0005	0.0005	0.0672	0.0001

**Table 2. Saskatchewan Sunflower Hybrid Trial at Swift Current in 2015**

	Plant Density		First Bloom	HEIGHT	lodging	Maturity	Harv Moisture	Grain yield	Grain Yield	Kernel Weight	Test weight
	/m <sup>2</sup>	/acre									
63A21 (11.1 plants m-2)	11.8 a	47795 a	58 de	105 b	1.8 ab	102 bc	21.87 ab	1946 ab	1948 ab	50.1 a	195 ab
AC Sierra (11.1 plants m-2)	9.3 b	37712 b	56 e	84.1 c	2.5 ab	99.3 c	1893 b	1685 b	1685 b	50.8 a	206 a
Talon (X4270)											
8N 270CL DM	5.8 c	23393 c	65 b	127 ab	1.8 ab	104 b	2188 ab	1948 ab	1948 ab	50.1 a	195 ab
63A21 (8 plants m-2)	7.2 bc	29242 bc	58 cde	114 b	1.8 ab	101 bc	2587 ab	2302 ab	2302 ab	49.6 a	194 ab
AC 60	6.7 bc	27023 bc	61 bcd	132 ab	1.3 b	99 c	2526 ab	2248 ab	2248 ab	51.1 a	198 ab
Cobalt II	3.3 d	13512 d	73 a	147 a	3 a	109 a	1329 c	1183 c	1183 c	53.3 a	185 bc
X320	7.4 bc	30048 bc	62 bc	134 ab	1.3 b	102 bc	2430 ab	2162 ab	2162 ab	47 a	182 cd
Honeycomb NS (X713)	6 c	24402 c	62 bcd	121 ab	1.8 ab	98.8 c	2904 a	2585 a	2585 a	51.8 a	197 ab
X716	6.1 c	24805 c	62 bcd	116 b	2 ab	100 c	2310 ab	2056 ab	2056 ab	54.1 a	197 ab
LSD (P=0.05)	2.08	8432.8	3	19.16	1.03	2.45	547.213	487.019	487.019	7.293	0.285
CV	22.41	22.41	3.3	11	35.36	1.65	17.9	17.9	17.9	9.39	1.39
Treatment Prob(F)	0.0001	0.0001	0.0001	0.0001	0.0088	0.0001	0.0001	0.0001	0.0001	0.0672	0.0001

**Table 3. Saskatchewan Sunflower Hybrid Trial at Redvers in 2015**

	Plant Density /m <sup>2</sup>	Plant Density /acre	First Bloom days	HEIGHT cm	Lodging 0-10	Maturity days	Harv/Moisture %	Grain yield kg/ha	Grain Yield Lbs/ac	Kernel Weight g/1000k	Test weight g/0.5 L
63A21 (11.1 pl)	12.3 a	49925 a		143.9 ab	2.8 a		8.48 cd	3077 ab	2738 ab		
AC Sierra (11.1)	9.7 b	39450 b		111.9 b	1.3 a		8.87 cd	2766 b	2462 b		
Talon (X4270)											
8N 270CL DM	7.8 b	31696 b		142.1 ab	2.3 a		12.38 b	4050 a	3604 a		
63A21 (8 pl/ml)	9.1 b	36730 b		129.9 b	1 a		10.22 c	3188 ab	2837 ab		
AC 60	7.7 b	31288 b		143.5 ab	2.5 a		7.54 d	3393 ab	3020 ab		
Cobalt II	4.3 c	17549 c		125.6 b	1.3 a		24.77 a	3360 ab	2991 ab		
X320	7.7 b	31016 b		165.8 a	2.5 a		8.74 cd	3165 b	2817 b		
Honeycomb N:	8.7 b	35233 b		149.3 ab	1.5 a		8.02 cd	4162 a	3705 a		
X716	7.8 b	31696 b		128.8 b	2.3 a		7.74 d	2835 b	2523 b		
LSD (P=05)	1.97	7957.48		23.4	1.66		0.069	905.786	806.149		
CV	18.05	18.05		11.63	59.4		4.55	18.62	18.62		
Treatment Pro	0.0001	0.0001		0.005	0.2676		0.0001	0.0424	0.0424		