

SASKATCHEWAN SUNFLOWER COMMITTEE

CO-OPERATIVE TRIALS

2007

TEST RESULTS

For Further Information Contact:

**Cliff Powlowski
Agriculture and Agri-Food Canada
Saskatoon Research Centre
107 Science Place
Saskatoon, Saskatchewan
Canada S7N 0X2
Ph. (306) 956-2857
Fax. (306) 956-2882
Email; PowlowskiC@agr.gc.ca**

Note: Not for publication. Data cannot be used whole or in part without the permission of The Saskatchewan Sunflower Committee

**SASKATCHEWAN SUNFLOWER COMMITTEE CO-OPERATIVE TRIALS
2007**

APPENDIX

TABLE OF CONTENTS	TABLE	PAGE
Test summary and list of co-operators		1
Entries in the 2007 Saskatchewan Trials		2
Performance of Varieties and Strains in Saskatchewan	1	3
Comparison of multi-year entries	2	4
Seed yield (kg/ha)	3	5
Oil content	4	6
Test weight (kg/hl)	5	7
1000 seed weight (gm)	6	8
Days to maturity	7	9
Days to first bloom	8	10
Plant height (cm)	9	11

SASKATCHEWAN SUNFLOWER COMMITTEE CO-OPERATIVE TRIALS

The Saskatchewan Sunflower Committee is organized under the authority of the Non-Profit Corporations Act of the Province of Saskatchewan. The Committee is voluntary and not organized for financial gain and declares no dividends.

The Saskatchewan Sunflower Committee was formed in 1983 to test varieties that may be suitable for growing conditions in the Province. Official Saskatchewan Sunflower Committee Trials can be used for registration purposes.

The Committee publishes an annual summary of test results. Varieties that are registered for production in Canada and that are tested in Saskatchewan Sunflower Committee Trials are entered in the Varieties of Grain Crops for Saskatchewan annual publication.

The Committee conducted all tests with funds provided by testing fees paid by companies submitting entries.

All sites were arranged in randomized complete block designs.

Oil content was done by Nuclear Magnetic Resonance (Bruker minispec) on samples that were dried to less than 4 per cent moisture.

The Committee tests later maturing, tall stature hybrids (LMTS) as well as early maturing, shorter stature cultivars (EMSS).

In 2007 the entries were grown in a single trial with a plant population of 50,000 plants per hectare. The EMSS variety AC Sierra was grown at 115,000 plants per hectare.

Agriculture & Agri-Food Canada Research Centre, Saskatoon coordinated all tests. The Committee would like to thank Gerald Serblowski for oil determination and Trent Sloan for statistical analyses.

CO-OPERATORS

Steve Dueck	Scott
Cecil Vera	Melfort
Bryan Nybo	Swift Current
Terry Hogg	Outlook*
Cliff Powlowski	Saskatoon
Kim Stonehouse	Canora

*** irrigated site**

Entries in the 2007 Saskatchewan Sunflower Committee Trials

Variety (LMTS)

Origin

63M40

Pioneer Hi-Bred

63M80

Defender HO

Seeds 2000

Defender Plus

X4239 HO-DMR

SF 270

Dow AgroSciences

AC Sierra *

AAFC

*** emss**

Table 1: Performance of Varieties and Strains in Saskatchewan

Entry	Years in Test	Seed Yield (kg/ha)	Days to First Bloom	Days To Maturity	Oil %	Test Weight (kg/hl)	Bushel Weight (pounds)	1000 Seed Weight (gm)	Plant Height (cm)
63M40	1	4052	72	129	44.3	42.2	33.5	55.8	146
AC Sierra	1	1882	63	104	47.7	43.3	34.4	51.1	113
63M80	1	4404	74	123	50.2	43.7	34.7	61.5	150
Defender HO	1	3901	73	120	43.3	43.3	34.4	50.0	155
X4239 HO-DMR	1	3552	76	129	48.5	40.5	32.2	41.9	144
Defender Plus	1	3551	74	120	45.2	43.2	34.3	52.0	151
SF270	1	3944	72	129	47.6	44.1	35.0	54.8	136

	Oil %
	**
63M40	41.9
AC Sierra	45.1
63M80	47.4
Defender HO	40.9
X4239 HO-DMR	45.8
Defender Plus	42.7
SF270	45.0

**** 10 % moisture**

Table 2:**Seed Yield (kg/ha)****Page 4**

<u>Entry</u>	<u>Saskatoon</u>	<u>Outlook</u> **	<u>Swift</u> <u>Current</u>	<u>Melfort</u>	<u>Scott</u>	<u>Mean</u>
63M40	2477	3090		6590	2887	4052
AC Sierra*	1042	1256		3347	1095	1882
63M80	2741	3759		6713	2127	4404
Defender HO	2180	3256		6268	2508	3901
X4239 HO- DMR	2081	2850		5726	2854	3552
Defender Plus	1975	2802		5875	2410	3551
SF270	2224	3625		5982	2145	3944
<u>Average</u>	2103	2948		5786	2304	
<u>C of V%</u>	17.3	11.9		9.6	37.2	
<u>LSD 5%</u>	342.3	329.5		52.1	805.45	

* emss

** irrigated

Scott not included in mean due to high CV.

Table 3:**Oil (%)****Page 5**

<u>Entry</u>	<u>Saskatoon</u>	<u>Outlook **</u>	<u>Swift Current</u>	<u>Melfort</u>	<u>Scott</u>	<u>Mean</u>
63M40	47.0	39.9		45.5	44.8	44.3
AC Sierra	48.5	41.9		52.4	48.0	47.7
63M80	53.5	46.4		51.1	49.8	50.2
Defender HO	44.8	41.6		43.2	43.53	43.3
X4239	50.5	44.5		50.2	48.6	48.5
HO-DMR Defender Plus	47.0	43.3		44.3	46.0	45.2
SF270	51.0	44.1		47.6	47.7	47.6
<u>Average</u>	48.9	43.1		47.8	47.0	
<u>C of V%</u>	2.2	3.6		2.2	4.0	
<u>LSD 5%</u>	1.0	1.5		1.0	1.8	

* emss

**irrigated

Table 4:**Test Weight (kg/hl)****Page 6**

<u>Entry</u>	<u>Saskatoon</u>	<u>Outlook **</u>	<u>Swift Current</u>	<u>Melfort</u>	<u>Scott</u>	<u>Mean</u>
63M40	43.2	39.4		40.9	45.1	42.2
AC Sierra	41.9	39.3		47.0	45.0	43.3
63M80	44.8	42.0		41.6	46.3	43.7
Defender	44.9	39.0		42.6	46.8	43.3
HO						
X4239	42.3	37.3		40.1	42.1	40.5
HO-DMR						
Defender	44.9	40.0		41.7	46.2	43.2
Plus						
SF270	44.1	41.3		44.8	46.0	44.1
<u>Average</u>	43.7	39.4		42.7	45.3	
<u>C of V%</u>	2.9	3.5		2.5	1.9	
<u>LSD 5%</u>	1.2	1.3		1.0	0.8	

* emss

** irrigated

Table 5:**1000 Seed Weight (gm)****Page 7**

<u>Entry</u>	<u>Saskatoon</u>	<u>Outlook</u> **	<u>Swift</u> <u>Current</u>	<u>Melfort</u>	<u>Scott</u>	<u>Mean</u>
63M40	50.0	70.1		56.4	46.7	55.8
AC Sierra	45.0	64.8		49.3	45.4	51.1
63M80	58.4	70.5		66.4	50.8	61.5
Defender HO	50.2	54.1		51.2	44.5	50.0
X4239 HO- DMR	36.5	49.5		47.5	34.1	41.9
Defender Plus	50.5	56.5		61.0	40.1	52.0
SF270	48.3	66.1		62.1	42.5	54.8
<u>Average</u>	48.4	61.7		56.3	43.3	
<u>C of V%</u>	9.4	7.6		4.8	8.3	
<u>LSD 5%</u>	4.3	4.4		2.5	3.4	

* emss

** irrigated

Table 6.

Days to Maturity

Page 8.

<u>Entry</u>	<u>Saskatoon</u>	<u>Outlook **</u>	<u>Swift Current</u>	<u>Melfort</u>	<u>Scott</u>	<u>Mean</u>
63M40	131	frost		122	134	129
AC Sierra	96	116		107	110	104
63M80	121	frost		119	130	123
Defender HO	114	119		118	128	120
X4239 HO- DMR	132	frost		123	133	129
Defender Plus	113	frost		119	128	120
SF270	112	119		116	127	129
<u>Average</u>	117			118	127	
<u>C of V%</u>	3.0			1.5	0.8	
<u>LSD 5%</u>	3.3			0.6	0.8	

* emss

** irrigated

Table 7.**Days to First Bloom**

<u>Entry</u>	<u>Saskatoon</u>	<u>Outlook **</u>	<u>Swift Current</u>	<u>Melfort</u>	<u>Scott</u>	<u>Mean</u>
63M40	66	76		71	76	72
AC Sierra	66	64		58	62	63
63M80	76	76		69	74	74
Defender HO	75	75		67	73	73
X4239 HO- DMR	79	77		71	76	76
Defender Plus	78	75		69	75	74
SF270	74	73		66	74	72
<u>Average</u>	73	74		67	73	
<u>C of V%</u>	12.7	1.3		1.3	0.8	
<u>LSD 5%</u>	8.8	0.9		0.8	0.5	

** irrigated

Table 8:**Plant Height (cm)****Page 10**

<u>Entry</u>	<u>Saskatoon</u>	<u>Outlook **</u>	<u>Swift Current</u>	<u>Melfort</u>	<u>Scott</u>	<u>Mean</u>
63M40	146	138		159	140	146
AC Sierra*	113	93		132	115	113
63M80	146	150		162	143	150
Defender	150	152		165	154	155
HO						
X4239 HO- DMR	141	132		156	146	144
Defender Plus	138	147		159	158	151
SF270	136	123		146	138	136
<u>Average</u>	139	133		154	142	
<u>C of V%</u>	2.8	6.6		5.5	10.2	
<u>LSD 5%</u>	3.7	8.3		8.0	13.6	

* emss

** irrigated