

# 2010 MB Sunflower Post-Registration Trial Data

**The Manitoba Sunflower Post-Registration** variety testing is organized and conducted by the National Sunflower Association of Canada (NSAC) in co-ordination with the Manitoba Agriculture, Food and Rural Initiatives. The Sunflower Post-Registration Trials serve as a tool to provide sunflower growers with regional third-party performance data of varieties that are registered or have interim registration status in Canada OR have been recommended for registration by the Manitoba Sunflower Committee. The varieties that appear in these trials are varieties that Sunflower companies are actively pursuing or marketing in Manitoba.

In 2010, the NSAC conducted the Manitoba Sunflower Post-Registration Variety Trials in four locations around the province. Unfortunately, two trial sites were lost this year

(Beausejour due to the wet spring and Elm Creek lost oilseed trials due to excess moisture), and Minto, due to a contractor error, was pulled. The remaining trials were located in Elm Creek, Morden, Deloraine and Rathwell. These trials and results are made possible with your continued support through the Sunflower check-off levy.

The NSAC appreciates the hard work of the MAFRI Oilseed Specialist, Anastasia Kubinec, who compiled the data for the trials. As well as a big thank-you to Keystone Grain Ltd. for providing seed sizing services and to North Dakota Grain Inspection Services for analyzing the oil data. In addition, we appreciate the hard work of all contractors who plant, monitor and harvest the plots throughout the growing season.

## SUNFLOWERS – Non-Oil Type

<b>Comments:</b>													
<ul style="list-style-type: none"> <li>All sunflower varieties currently available are susceptible to sclerotinia rot. Weather conditions and presence of sclerotinia inoculum play a major role in disease development and severity.</li> </ul>													
1. Reaction indicated is to Races 2, 3 and 4 under controlled indoor conditions.													
2. Reaction indicated is to Race 2.													
<b>Variety Descriptions</b>													
											<b>Disease Resistance to:</b>		
<b>Company</b>	<b>Variety</b>	<b>Herb Type</b>	<b>DMR</b>	<b>Type</b>	<b>Yield (lbs/acre)</b>	<b>Harvest Moisture (%)</b>	<b>Days to Bloom</b>	<b>Days to Maturity</b>	<b>Height (inches)</b>	<b>% over 20/64 inch</b>	<b>Rust 1</b>	<b>Verticillium Wilt</b>	<b>Downey2 Mildew</b>
CROPLAN Genetics	179	-	N	Round	2012	12.0	76	121	80	53	HS	MS	HS
Seeds 2000	6946	-	N	Round	2486	10.3	72	119	71	65	HS	MR	HS
Seeds 2000	6946 DMR	-	Y	Round	2639	10.2	74	116	71	62	HS	MR	R
Seeds 2000	6950	-	N	Round	2981	11.2	73	118	73	52	HS	MR	HS
Seeds 2000	Jaguar	CL	N	Long	2659	10.3	74	119	70	68	S	MS	HS
Seeds 2000	Panther DMR	-	Y	Long	3011	10.5	70	117	72	62	S	MS	R
CHS Sunflower	RH 3126 RT	-	N	XL	2681	14.3	77	125	82	49	R	MR	HS
CHS Sunflower	RH400 CL	CL	N	XL	2343	11.3	74	116	75	72	HS	MS	S
<b>Overall Average</b>					<b>2599</b>	<b>11.3</b>	<b>74</b>	<b>119</b>	<b>74</b>	<b>60</b>			
<b>Site Year</b>					<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>			

## SUNFLOWERS – Oil Type

<b>Variety Descriptions</b>													
											<b>Disease Resistance to:</b>		
<b>Company</b>	<b>Variety</b>	<b>Herb Type</b>	<b>DMR</b>	<b>Oil Type</b>	<b>Yield (lbs/acre)</b>	<b>Harvest Moisture (%)</b>	<b>Days to Bloom</b>	<b>Days to Maturity</b>	<b>Height (inches)</b>	<b>% Oil</b>	<b>Rust 1</b>	<b>Verticillium Wilt</b>	<b>Downey2 Mildew</b>
CROPLAN Genetics	306 DMR NS	-	Y	NS	2508	10.5	74	124	74	40.9	S	MR	R
CROPLAN Genetics	3080 DMR	-	Y	NS	2422	13.7	73	122	74	42.2	HS	MR	R
Pioneer Hi-Bred	63M80	-	Y	NS	2609	14.0	78	128	75	44.1	S	R	R
Pioneer Hi-Bred	63N82	ExSun	Y	NS	2171	15.6	76	122	75	41.9	S	MR	S
CROPLAN Genetics	803 DMR	-	Y	NS	2223	10.1	72	118	68	42.3	MS	MR	R
Seeds 2000	Cobra	ExSun	N	NS	2424	12.2	76	118	72	41.6	S	MR	S
Seeds 2000	Defender Plus DMR	-	Y	NS	2611	11.0	73	118	73	38.9	HS	MR	R
Interstate Seed	IS 29-30 NS/DM	-	Y	NS	2454	11.7	73	121	73	41.2	HS	MR	R
Interstate Seed	IS 3433 NS/DM	-	Y	NS	2305	12.5	76	122	70	41.4	HS	MR	MR
Interstate Seed	IS 3480CL	CL	Y	NS	1973	13.9	79	120	73	40.4	HS	MR	R
Seeds 2000	X 9828	CL	Y	NS	2568	14.8	77	123	73	38.9	S	MR	R
<b>Overall Average</b>					<b>2334</b>	<b>12.7</b>	<b>75.2</b>	<b>121.5</b>	<b>72.9</b>	<b>41.2</b>			
<b>Site Years</b>					<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>			

## ELM CREEK – 2010 Confection Sunflowers

Entry	Yield (lbs/acre)	Harvest Moisture (%)	Days to Bloom	Days to Maturity	Height (inches)	Seed Sizing		
						22/64	20/64	Medium
179	3108	8.8	78	116	77	25	36	34
6946	3354	8.7	74	122	65	43	32	20
6946 DMR	3444	8.7	82	117	66	41	33	18
6950	3436	9.1	78	120	66	30	32	28
Jaguar	3311	8.2	74	120	66	60	19	15
Panther DMR	3871	8.4	74	116	67	48	30	18
RH3126 RT	3178	8.7	78	124	80	26	34	35
RH400 CL	3465	8.3	74	116	68	54	28	12
<b>Grand Mean</b>	<b>3396</b>	<b>8.6</b>	<b>76.4</b>	<b>118.9</b>	<b>70</b>	<b>41</b>	<b>31</b>	<b>23</b>
CV%	13.3							
LSD (lbs/acre)	-							
Sign Diff	No							

## MELITA – 2010 Confection Sunflowers

Entry	Yield (lbs/acre)	Harvest Moisture (%)	Days to Bloom	Days to Maturity	Height (inches)	Seed Sizing		
						22/64	20/64	Medium
179	1211	15.0	72	121	74	10	31	49
6946	1554	11.0	70	116	66	36	24	19
6946 DMR	1638	10.1	68	116	71	40	24	21
6950	1580	12.0	69	116	70	37	26	23
Jaguar	1661	11.3	67	117	61	33	29	26
Panther DMR	1885	11.1	65	116	72	27	36	24
RH3126 RT	NFM	20.0	71	121	78	9	32	40
RH400 CL	1506	13.2	69	117	72	50	29	17
<b>Grand Mean</b>	<b>2198</b>	<b>9.4</b>	<b>76.6</b>	<b>118.8</b>	<b>72</b>	<b>27</b>	<b>33</b>	<b>27</b>
CV%	9.7							
LSD (lbs/acre)	314							
Sign Diff	Yes							

## RATHWELL – 2010 Confection Sunflowers

Entry	Yield (lbs/acre)	Harvest Moisture (%)	Days to Bloom	Days to Maturity	Height (inches)	Seed Sizing		
						22/64	20/64	Medium
179	1753	9.3	78	116	75	16	35	34
6946	2916	9.4	74	122	70	45	30	18
6946 DMR	3249	9.1	74	116	66	19	40	25
6950	4502	9.4	74	120	71	15	31	38
Jaguar	3482	9.0	82	120	71	40	31	17
Panther DMR	3672	9.0	71	116	69	18	40	28
RH3126 RT	3018	11.2	80	124	78	15	30	38
RH400 CL	2185	9.3	80	116	72	44	29	17
<b>Grand Mean</b>	<b>1483</b>	<b>14.0</b>	<b>73.2</b>	<b>120.9</b>	<b>86</b>	<b>17</b>	<b>35</b>	<b>45</b>
CV%	9.8							
LSD (lbs/acre)	215							
Sign Diff	Yes							

## MORDEN – 2010 Confection Sunflowers

Entry	Yield (lbs/acre)	Harvest Moisture (%)	Days to Bloom	Days to Maturity	Height (inches)	Seed Sizing		
						22/64	20/64	Medium
179	1978	15.0	76	131	93	24	33	43
6946	2119	12.3	72	117	81	16	35	47
6946 DMR	2223	13.0	72	117	82	19	33	45
6950	2406	14.2	72	117	84	9	28	54
Jaguar	2180	12.7	73	118	82	20	39	38
Panther DMR	2617	13.4	71	121	81	16	32	48
RH3126 RT	1849	17.3	78	130	93	17	33	43
RH400 CL	2214	14.3	73	117	89	11	44	42
<b>Grand Mean</b>	<b>3097</b>	<b>12.9</b>	<b>68.7</b>	<b>117.3</b>	<b>70</b>	<b>30</b>	<b>29</b>	<b>27</b>
CV%	14.8							
LSD (lbs/acre)	686							
Sign Diff	Yes							

## MELITA – 2010 Oil Sunflowers

Entry	Yield (lbs/acre)	Harvest Moisture (%)	Days to Bloom	Days to Maturity	Height (inches)	Oil Content
306 DMR NS	1301	12.7	72	118	68	37.8
3080 DMR NS	1280	16.3	72	119	68	37.8
63M80	1765	19.0	73	119	71	40.0
63N82	1753	16.2	73	118	71	39.6
803 DMR NS	-	8.1	70	117	64	40.3
Cobra	1833	12.8	74	117	67	39.9
Defender Plus	1780	10.1	73	117	66	37.1
IS 2930 NS DM	1382	12.3	72	117	68	39.3
IS 3433 NS/DM	1356	12.8	73	119	66	39.7
IS 3480 NS CL DM	1338	14.6	73	118	69	37.5
X 9828	1881	16.2	73	118	67	37.7
<b>Grand Mean</b>	<b>1464</b>	<b>13.7</b>	<b>72.3</b>	<b>117.9</b>	<b>67.8</b>	<b>38.8</b>
CV%	15.3					
LSD (lbs/acre)	325					
Sign Diff	Yes					

Oil content results from North Dakota Grains Institute from 2010 composite trial samples.

## MORDEN – Oil Sunflowers

Entry	Yield (lbs/acre)	Harvest Moisture (%)	Days to Bloom	Days to Maturity	Height (inches)	Oil Content
306 DMR NS	2056	10.9	75	131	78	42.2
3080 DMR NS	2351	17.0	74	124	77	45.5
63M80	1913	12.8	77	144	80	45.8
63N82	1542	19.0	74	129	82	42.1
803 DMR NS	1246	15.0	73	122	74	42.0
Cobra	2094	15.9	75	122	73	41.8
Defender Plus	2438	14.9	74	122	80	40.3
IS 2930 NS DM	1901	15.3	75	124	76	42.3
IS 3433 NS/DM	2395	16.5	81	132	76	42.7
IS 3480 NS CL DM	1954	19.0	82	127	78	40.7
X 9828	2363	18.5	77	126	79	40.4
<b>Grand Mean</b>	<b>2023</b>	<b>15.9</b>	<b>75.9</b>	<b>127.6</b>	<b>77.5</b>	<b>42.3</b>
CV%	10.5					
LSD (lbs/acre)	308					
Sign Diff	Yes					

Oil content results from North Dakota Grains Institute from 2010 composite trial samples.

## RATHWELL – Oil Sunflowers

Entry	Yield (lbs/acre)	Harvest Moisture (%)	Days to Bloom	Days to Maturity	Height (inches)	Oil Content
306 DMR NS	4167	7.8	74	122	76	42.7
3080 DMR NS	3634	7.8	74	124	78	43.2
63M80	4151	10.3	84	120	75	46.6
63N82	3217	11.7	80	120	73	43.9
803 DMR NS	3200	7.3	74	116	68	44.5
Cobra	3346	8.0	80	116	74	43.1
Defender Plus	3617	7.8	74	116	72	39.2
IS 2930 NS DM	4079	7.6	74	120	76	42.0
IS 3433 NS/DM	3164	8.1	74	116	69	41.8
IS 3480 NS CL DM	2628	8.2	82	116	73	43.0
X 9828	3460	9.6	82	124	74	38.6
<b>Grand Mean</b>	<b>3515</b>	<b>8.5</b>	<b>77.4</b>	<b>119.1</b>	<b>73.3</b>	<b>42.6</b>
CV%	11.4					
LSD (lbs/acre)	580					
Sign Diff	Yes					

Oil content results from North Dakota Grains Institute from 2010 composite trial samples.



## DISEASE REACTIONS TO THE MANITOBA SUNFLOWER MCVET TRIAL 2010

Hybrids	Mean Rust Index <sup>e</sup>				Verticillium <sup>v</sup> Wilt Index Nursery	% Survivor Sclerotinia With Inoculum <sup>h</sup>	Head Rot Trial	
	Race 3		Race 336				Disease Index <sup>i</sup>	Midge Index <sup>p</sup>
	Score	Class	Score	Class				
<b>Oil Type</b>								
306 DMR NS	5.0	HS	5.0	HS	2.3	10	1.3	5.7
3080 DMR NS	5.0	HS	5.0	HS	2.8	10	2.0	3.2
63M80	5.0	HS	5.0	HS	2.2	34	1.8	3.6
63N82	5.0	HS	5.0	HS	2.5	10	1.2	3.1
803 DMR NS	5.0	HS	5.0	HS	3.0	10	2.2	8.3
2930 NS DM	5.0	HS	5.0	HS	2.5	38	2.0	6.3
3433 DM	4.0	S	2.0	MR	2.6	75	2.0	4.8
3480 NS CL DM	3.0	MS	3.0	MS	2.5	44	2.5	6.9
Cobra	5.0	HS	3.0	MS	2.7	52	2.3	5.7
Defender Plus	5.0	HS	4.0	S	3.4	53	1.9	5.5
X 9828	5.0	HS	5.0	HS	2.8	57	3.1	1.4
<b>Non-Oil Type</b>								
179	5.0	HS	5.0	HS	3.8	12	1.0	4.3
6946	5.0	HS	4.0	S	2.1	43	1.8	5.2
6946 DMR	5.0	HS	4.0	S	2.6	60	1.7	5.0
6950	5.0	HS	4.0	S	2.6	61	1.6	6.9
Jaguar	5.0	HS	3.0	MS	3.7	52	1.7	4.7
Panther DMR	5.0	HS	3.0	MS	3.5	63	1.3	4.5
RH3126 RT	0.0	HR-I	2.0	MR	2.8	53	1.3	7.0
RH400 CL	5.0	HS	5.0	HS	3.4	24	1.5	6.3

e - Reaction to rust races 3 and 336 under growth room controlled conditions.

- Disease index 1-5 based on % leaf area infected; 0-1=highly resistant (0-5%); 2=moderately resistant (5-10%); 3=moderately susceptible (10-30%); 4=susceptible (30-50%); and 5=susceptible (>50%);
- MR=Resistant to Race 2, Susceptible to Race 3; S & HS=Susceptible to both races.

v - Field reaction to Verticillium wilt in naturally infested soil. Indices of 1 (healthy), 2 (mild), 3 (moderate), 4 (severe), and 5 (dead) were assigned; the mean disease index was obtained by multiplying the number of plants in each class by the corresponding index, and the total divided by the total number of plants.

h - Field reaction to early Sclerotinia infection using artificial inoculum at Morden, as a percent of the control; note that most hybrids had treated see d.

t - Field reaction to artificial inoculation using sclerotinia infected ground millet twice (August 11, 2010 and August 24, 2010). Disease index scale 1-10 (1=healthy; 10=100% Head Rot).

p - Field reaction to midge located in the head rot inoculation test. Midge index scale 1-10 (1=healthy; 10=100% severely infected head).

