Feature

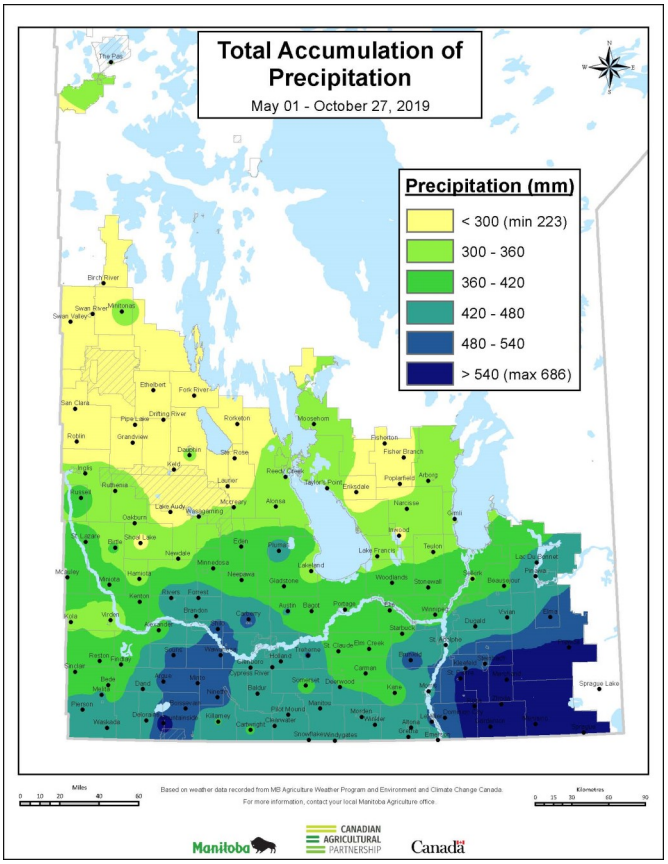
2019 Sunflower Variety Performance

The Manitoba Sunflower Variety Performance Trials (VPT) is organized and conducted by the National Sunflower Association of Canada (NSAC) in co-ordination with Manitoba Agriculture and Resource Development. 2019 was the 13th year that the NSAC has coordinated the trials, which continue to serve as an important tool for sunflower growers with regional third-party performance data on various varieties. The hybrids tested in the trials are actively being pursued by sunflower breeding companies in Manitoba and may be in the experimental stage or registered under the Canadian Food Inspection Agency. In 2019, the NSAC coordinated the VPT at four locations across the province: Melita, Carberry, Dakota Plains and Stonewall.

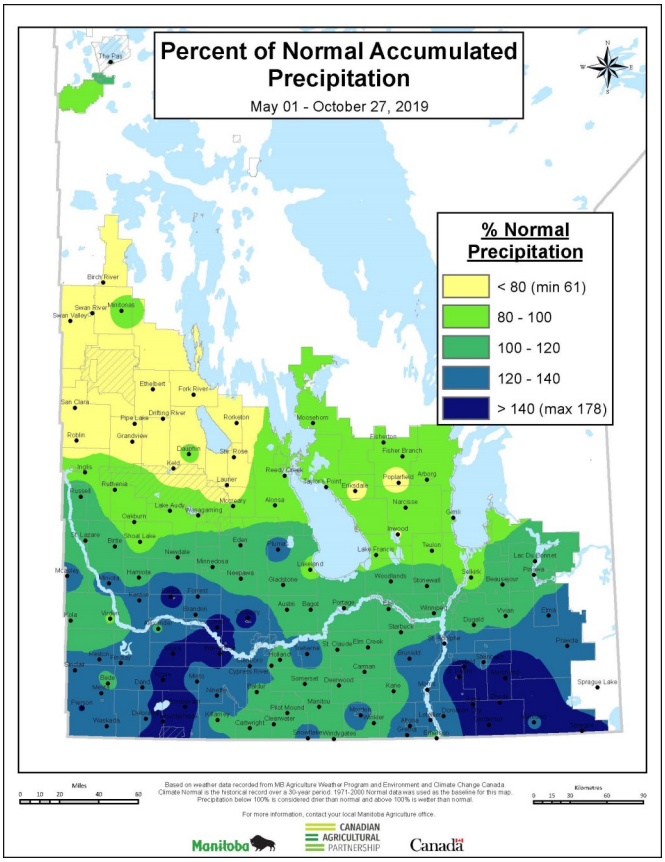
The 2019 growing season started off very dry resulting in delayed or difficult sunflower emergence. Dry conditions continued during July and August with below average rainfall until mid September. Disease was lower than normal, a consequence of the drier conditions early on. Late rains in September and an early snowstorm in October delayed harvest. Harvest had begun in September but continued into early November. Sunflower yields ranged across the province, rainfall dependent, with yields between 1800-3200 lbs. per acre reported with average to good quality. Much of the crop was harvested tough and needed to be dried.

These trials and results are made possible with your continued support through the sunflower check-off levy. NSAC would like to acknowledge the producers who allow for the trials to be tested on their land.

Precipitation Data for 2019 (mm)



Precipitation Data for 2019 (% of Normal)



SUNFLOWERS - NON-OIL TYPE

Comments:

These varieties were tested and data donated by the National Sunflower Association of Canada Inc. (NSAC)
All sunflowers varieties listed are susceptible to sclerotinia and sunflower rust strains present in Manitoba.
Genetic resistance to verticillium wilt is rated as moderately susceptible to moderately resistant for all sunflower varieties presented.

Summary Table

Company	Hybrid	Genetic Traits [1]	Site Years	Yield % Check	Maturity (days to R9)	Height (inches)	2019 Seed Sizing (%) [2] >22/64	>20/64	<20/64
NuSeed America	6946 DMR	DM	25	100	0	0	41	30	26
NuSeed America	Panther DMR	DM	33	100	1	-3	55	26	14
Experimental lines being tested/proposed for registration in Canada									
NSAC	EX 43400	ExSun	2	82	-1	3	47	32	22
NSAC	EX 88647	ExSun	2	91	-3	3	70	23	7
	CHECK CHARACTERISTICS								
	6946 DMR		25 site years	3195 lb/ac	121 days	68 inches			

1 Genetic traits include CL = Clearfield tolerance; ExSun = Express tolerance; DM = Downy Mildew Resistance.
2 Totals may not add to 100% due to rounding

Site Comparisons

	Carberry					
Hybrid	Yield (lb/ac)	Maturity* (days to R9)	2019 Seed Sizing (%) [2] >22/64	>20/64	<20/64	Test Wt (lb/bu A)
6946 DMR	3289	129	39	40	21	25.4
Panther DMR	3875	131	49	40	11	26.8
Experimental lines being tested/proposed for registration in Canada						
EX 43400	2714	127	25	40	36	25.4
EX 88647	3407	125	54	35	11	24.1
Site Average (lb/ac)	3321	128				25.4
CV%	6.96					
Sign Diff	No					
LSD (0.05)	--					
Planting Date	14-May					
Desiccation Date	--					
Harvest Date	22-Oct					

	Dakota Plains					
Hybrid	Yield (lb/ac)	Maturity* (days to R9)	2019 Seed Sizing (%) [2] >22/64	>20/64	<20/64	Test Wt (lb/bu A)
6946 DMR	3519	128	67	23	10	24.0
Panther DMR	3167	129	71	20	9	23.4
Experimental lines being tested/proposed for registration in Canada						
EX 43400	2898	128	69	23	7	24.0
EX 88647	2821	126	87	11	3	23.7
Site Average (lb/ac)	3101	128				23.8
CV%	9.46					
Sign Diff	No					
LSD (0.05)	--					
Planting Date	28-May					
Desiccation Date	--					
Harvest Date	19-Oct					

*Physiological maturity for sunflowers is R9, where the bracts on the head are almost completely brown.
At Carberry, heads were clipped and dried artificially for stationary combining.
2 Totals may not add to 100% due to rounding

SUNFLOWERS - OIL TYPE

Comments:

These varieties were tested and data donated by the National Sunflower Association of Canada Inc.
Oil Sunflower markets - include birdfood, oil crush and de-hull. Variety selection become more important when trying to capture de-hull markets. Choose varieties with better de-hull ratio, larger size and higher test weight. Environment will contribute greatly to final product.

Summary Table

Company	Variety	Herbicide/Disease Tolerance	Site Years	YIELD % check	Maturity (days to R9)	Height (inches)	% Oil	Oil Type	Test Weight
NuSeed Americas	N4HM354 DMR	CL / DM	12	104	-1	-2	47.9	NS	34.3
NuSeed Americas	Talon	ExSun	15	97	-2	-4	45.2	NS	29.7
DuPont Pioneer	P63HE60	ExSun / DM	12	96	-2	0	46.9	HO	33.2
DuPont Pioneer	P63ME70	ExSun / DM	17	100	0	0	47.8	NS	31.0
DuPont Pioneer	P63ME80	ExSun / DM	15	94	1	0	49.8	NS	32.4
Experimental lines being tested/proposed for registration in Canada									
NuSeed Americas	N4HE302	ExSun	6	88	-2	3	44.5	HO	30.7
NuSeed Americas	N5LM307	CL	2	103	0	-8	39.4	CO	30.7
	CHECK CHARACTERISTICS								
	P63ME70		17 site years	3313 lb/ac	124 days	69 inches			

1 Genetic traits include CL = Clearfield tolerance; ExSun = Express tolerance; DM = Downy Mildew Resistance.
2 Oil Type include NS=NuSun; HO=High Oleic; CO = ConOil

Site Comparisons

	Carberry			
Hybrid	Yield (lb/ac)	Maturity* (days to R9)	Test Wt (lb/bu A)	Oil (%)
N4HM354 DMR	2203	128	34.9	41.9
Talon	2426	122	32.3	41.1
P63HE60	2148	125	33.2	40.0
P63ME70	2115	129	31.5	42.7
Experimental lines being tested/proposed for registration in Canada				
N4HE302	2212	133	32.3	41.4
N5LM307	2110	129	32.4	37.0
Site Average (lb/ac)	2202	128	32.8	40.7
CV%	8.9			
Sign Diff	No			
LSD (0.05)	--			
Planting Date	14-May			
Desiccation Date	--			
Harvest Date	22-Oct			

	Dakota Plains			
Hybrid	Yield (lb/ac)	Maturity* (days to R9)	Test Wt (lb/bu A)	Oil (%)
N4HM354 DMR	3179	127	34.8	47.2
Talon	3302	128	29.8	44.8
P63HE60	3588	128	34.6	46.9
P63ME70	3374	128	31.3	48.2
Experimental lines being tested/proposed for registration in Canada				
N4HE302	3406	130	31.5	46.5
N5LM307	3549	128	29.1	40.7
Site Average (lb/ac)	3400	128	31.9	45.7
CV%	5.7			
Sign Diff	No			
LSD (0.05)	--			
Planting Date	28-May			
Desiccation Date	--			
Harvest Date	19-Oct			

*Physiological maturity for sunflowers is R9, where the bracts on the head are almost completely brown.
At Carberry, heads were clipped and dried artificially for stationary combining.