



Pulse Variety Evaluation in 2004

2004 was an exceptional year – and thankfully it is almost over. Due to extreme weather conditions experienced in 2004 many of the trials seeded were not taken to harvest due to lack of maturity, kind of like many of your dry edible bean and soybean fields this year.

The Edible Bean Committee of MPGA debated long and hard on value of data that was collected in 2004. At the end of the day, it was decided to only use the disease data collected from this year. The decision to not include yield, maturity and seed quality data was not an easy one. Because really, sometimes the best data that you can get is no data.

Wide Row Edible Beans

The cool wet weather of 2004 delayed the maturity at all locations and for this reason we have not included this year's yield or maturity data. Instead the yield and maturity rating data were repeated from last year. Again we have presented the data in single years and wherever possible two or three years of data averaged together to give a better idea of how a variety may perform in a "normal" year. It's always recommended to use long-term data as it can minimize the risk of choosing an inappropriate variety that really won't work on your farm – remember how the hot, dry weather of 2003 hastened maturity? You will also have to look at and understand terms which many of you may not be familiar with. The Coefficient of Variation (CV) is a measurement that describes the amount of variation found within the trial. While a small %CV is desirable, trials having a CV of less than 18% typically indicate valid data. You will note that there is no CV data provided for the narrow and wide row trials. The other term to understand is the Least Significant Difference (LSD). The LSD is used to determine if the yield numbers between two different

varieties are actually statistically different or not. Sometimes, just because a number happens to be larger, doesn't always mean that it is. If the difference between the two numbers is greater than the LSD then the difference between the two varieties is real. Of course it's best if the variety in question yields better over more than one growing season.

While 2004 was an exceptionally heavy pressure year for sclerotinia (white mould) in edible beans, it offered an opportunity to rate how the different varieties in the wide row trials reacted to the disease. Mould pressure was especially heavy at the Winkler wide row site, and since white mould fungicides are not applied to the trials, Dr. Bob Connor, Pulse Crop Pathologist of Agriculture and Agri-Food Canada at the Morden Research Station rated the site in mid-August for white mould. We have included his ratings for white mould. The first column, % incidence, indicates the number of plants that have some white mould on the plant. The second column, severity, tells how much white mould is present on the plants. The rating scale goes from 0 to 4. If the plants are free of white mould they would have a rating of 0. A rating of 1 means that white mould pressure is low; somewhere between 1 and 25% of the leaf tissue was infected with mould. A rating of 2 is in the moderate level with mould between 26 and 50%, 3 between 51 and 75% and a rating of 4 is between 76 and 100%. By the way, the Winkler site was lost to white mould.

The next six columns are white mould and rust ratings taken at harvest; data normally presented with the wide row trials. These ratings have been presented in a 1, 2 and 3-year rolling average wherever possible. While the 2004 values do differentiate between varieties they thankfully aren't representative of mould ratings in

most years. This is why the data has been averaged over two or three years.

Narrow Row Bean Plots

The three western sites were lost due to the August 20th frost. Data was collected from Arborg and Treherne but due to the adverse growing conditions the yield and days to maturity data was not considered valid. As with the wide row trials we have reprinted the 2003 data.

Peas

Peas were the one bright spot for pulse data as we were able to obtain data from all six of the pea sites seeded. 2004 marks the first time we ran an identical pea trial to Saskatchewan. Due to large pea acres in Saskatchewan, companies with limited seed supplies of new lines, tended to focus on Saskatchewan and initially bypass the Manitoba tests.

One of the benefits to running the same pea test with Saskatchewan is that we have access to all the newly registered lines/varieties supported for registration last February. Using the same seed source opens up the opportunity of using some regional Saskatchewan data to give Western Manitoba pea growers more information to make a variety selection. In time it's hoped to expand the trial into a Prairie Pea Test with sites from Manitoba to Alberta and maybe even the BC Peace.

Soybeans

These trials were just being combined as our print deadline came due. If valid results are obtained we will post the data on MPGA's website at www.manitobapulse.ca.

We look forward to a return to normal growing conditions in 2005. We will then go back to publishing the variety trial data as an insert in our December *Pulse Beat*. Remember, 2004 was not just a year where we had an early frost, it was a year where we had no growing season, period! ■

2004 Wide Row Bean Screening Trials

Type	Variety	White Mould Rating					Averaged over 1, 2 and 3 Years								
		2004 Mid-August Winkler Site ¹		End of Season Average All Locations ⁴			Rust Rating ⁵ End of Season			Yield			Days to Maturity		
		Incidence ²	Severity ³	2003	2003- 2004	2002- 2004	2002	2003- 2004	2002- 2004	2003	2002- 2003	2001- 2003	2003	2002- 2003	2001- 2003
		%	(0-4)	%			%			(lb/acre)					
NAVY	AC Cruiser	25	1	29	16	15	0	0	0	2903	2993	3044	96	102	103
	AC Mast	5	1	9	5	8	0	0	0	2849	2760	–	95	103	
	Cargo	60	1	58	34	30	0	0	0	2080	2295	2321	92	99	101
	CDC White Cap	25	1	36	22	27	0	0	0	2785	2796	2760	95	101	102
	Cirrus	55	1	45	26		0	0		2695	2767	2737	92	99	100
	Envoy	65	1	71	39	36	0	0	0	2287	2156	2202	91	100	101
	Frigate	15	1	24			0	0	0						
	Morden 003	40	1	60	33		2	0		2488	–	–	89	–	–
	Regent	25	1	37	20	22	0	0	0	2832	2653	2855	93	101	103
	T9903	45	1	49	29	29	0	0		2953	2787	–	94	100	–
	GTS 531	10	1	27	15	15	0	0	0	2779	2763	–	97	104	–
	HR100	40	1	46	25		0	0		2883	–	–	93	–	–
	T2003	45	1	55	30		0	0		3077	–	–	95	–	–
	T9601	35	1	65	39	37	0	0	1	2945	2848	2742	92	99	99
	T9808	30	1	45	26		0	0		2324	–	–	92	–	–
	8590510	15	1	18			0								
	03YT11	15	1	25			0								
ROG 417	60	1	54			0									
Mean		34	1	42			0.1		2706	2696	2675	93	96	101	
CV %		52	31												
LSD .05		4.0	0.4												
PINTO	AC Pintoba	45	2	44	25	26	1	2	3	3120	2830	2941	95	102	103
	CDC Minto	80	3	73	39	40	1	2	5	2620	2536	2470	96	100	101
	Maverick	80	3	66			0								
	Rally	75	2	58	31		0	0		3109			95		
	8520645	50	2	46	25	27	0	0	0	3079	2907		98	102	
	8530762	90	3	54			0								
	Mean		70	3	57			0		2982	2758	2705	96	101	102
CV %			21												
LSD .05			0.8												
PINK	Early Rose	100	3	58	34		1	1		2227			86		
	ROG 312	100	3	57	33		10	3	4	2574	2613	2571	91	65	98
	ROG 922	95	2	32			11								
RED	ROG 312R	100	2	54			0								
	AC Scarlet	100	3	70	38	33	1	1	1	2477	2503	2611	93	66	101
	AC Earlired	100	3	69	39	35	3	3	4	2181	2317	2398	86	61	93
BLACK	Ember	100	3	69			2								
	AC Harblack	65	1	58	31	28	0	0	0	2764	2596	2610	94	68	103
	AC Black Diamond	55	1	44	25	20	0	0	0	2437	2539	2572	92	65	99
	CDC Jet	20	1	31	17	15	0	0	0	2375	2177	2348	94	67	101
FDM BAYO	316-13	50	1	33			0								
	CDC 180-5F	90	3	64	35	31	0	1	0	2417	2229		97	70	
	610-23	80	2	74			3								
Mean		81	2	55			2.4		2431	2425	2518	92	66	99	
CV %		16	12												
LSD .05		4	0												
LRK	Foxfire	20	1	18	29	27	0	0	0	2561	2202	2269	89	95	96
	Pink Panther	30	1	19	23	17	0	0	0	2535	2396	2418	96	102	103
	ROG 773	20	1	18			0								
	ROG 776	25	1	15			0								
DRK	ROG 802	35	1	22	25	20	0	0	0	2099	1989	2060	95	103	103
	Cabernet	40	1	16	16		0	0		1833			96		
	RedHawk	25	1	8	12	9	0	0	0	1351	1363	1559	95	102	103
	ROG 847	20	1	22			0								
WK	GTS 401	40	1	21	17		0	0		2713			99		
	Q84-117	15	1	11			0								
GN	AC Polaris	85	2	77	43	43	3	2	5	2612	2513	2630	94	100	100
	Matterhorn	80	2	60	43	40	0	0	0	3131	2889		94	99	
	ROG 591	70	2	63			0								
	131	65	2	61			0								
CR	Cran 09	95	3	47	38	30	0	0	0	2299	2235	2487	92	97	99
	Etna	45	1	31			0								
Mean		44	1	32			0.2		2348	2227	2237	94	100	101	
CV %		38	30												
LSD .05		4.7	0.6												

KEY
2004 WIDE ROW BEAN SCREENING TRIALS

¹ Early white mould ratings were only taken at the Winkler site.

² Early white mould ratings at Winkler are based on the incidence of infected plants out of 20 plants and are expressed as a % of the tissue in the plot that showed symptoms of white mould.

³ White mould severity is rated on a scale of 0-4 (0 = no disease, 1 = 1-25% of the plant tissue is diseased, 2 = 25-50 % of the plant tissue is diseased, 3 = 50-75% of the plant tissue is diseased and 4 = 75-100% of the plant tissue is diseased).

⁴ White mould ratings at end of season are expressed as % of plant tissue in the plot that had symptoms of white mould.

⁵ Rust ratings are expressed as the % of leaf tissue in the plot that had incidence of rust. Check Varieties within each bean type are printed in **bold**.

Lentils

Variety Descriptions		Long Term Manitoba	Long Term Saskatchewan		Cotyledon ⁵ Colour	Seed Weight (g/1000)	Resistance to ⁶	
Market Class ¹	Variety	Yield ² % of Laird	Yield ³ % of Laird	Maturity ⁴ Rating			Ascochyta Blight	Anthracnose Race 1
Small Red	Crimson	89 (10)	112 (6)	Early	Red	35	VP	VP
	CDC Blaze	91 (10)	117 (5)	Early	Red	34	G	P
	CDC Redberry	125 (3)	130 (3)	Early Medium	Red	42	G	G
	CDC Redcap	100 (10)	117 (7)	Early	Red	35	G	F
	CDC Redwing	87 (7)	109 (7)	Early	Red	38	G	P
	CDC Robin	111 (12)	110 (6)	Early	Red	30	G	G
Small Green	Eston	135 (35)	110 (8)	Early	Yellow	33	VP	VP
	CDC Milestone	100 (12)	127 (9)	Early	Yellow	37	G	V
	CDC Viceroy	109 (5)	136 (4)	Early	Yellow	33	G	G
Medium Green	CDC Richlea	127 (19)	114 (8)	Medium	Yellow	51	VP	VP
	CDC Vantage	108 (12)	124 (8)	Medium	Yellow	52	G	VP
Large Green	Laird	100	100	Very Late	Yellow	67	VP	VP
	CDC Glamis	106 (12)	105 (8)	Very Late	Yellow	60	G	VP
	CDC Grandora	93 (12)	107 (7)	Very Late	Yellow	69	G	VP
	CDC Sovereign	106 (12)	107 (7)	Late	Yellow	66	G	P
	CDC Sedley	100 (10)	106 (6)	Medium	Yellow	68	F	VP
	CDC Plato	117 (9)	109 (5)	Medium Late	Yellow	62	G	P
French Green	CDC LeMay	99 (9)	114 (5)	Early	Yellow	32	F	VP
	Common	119 (22)	113 (5)	Early	Yellow	31	VP	P
Varieties that are being tested or proposed for registration in Canada								
Small Red	1125-1-5	n/a	n/a	Early	Yellow	n/a	G	G
Medium Green	1038-L-18	n/a	n/a	Medium	Yellow	n/a	G	P

¹ Market Class refers to how lentils are sold in the marketplace – seed size and seed coat colour.

² Long-term Manitoba yield is compiled from trials in Western Manitoba where Laird yielded 1355 lb/acre over 35 site-years. No yield data was collected in 2004.

³ Derived from the 2003 Saskatchewan Seed Guide. Yield data are from Coop and Regional Trials in Saskatchewan Crop Area 3 and 4 since 1999 which has similar growing conditions to the black soil zone in Western Manitoba. These are direct yield comparisons to Laird.

⁴ Maturity ratings conducted under Saskatchewan conditions.

⁵ Cotyledon colour refers to the colour inside the lentil (when it is split in half) – not the colour of the seed coat.

⁶ Disease resistance ratings determined under Saskatchewan conditions, VG = Very Good, G = Good, F = Fair, P = Poor, VP = Very Poor, n/a = Data not Available

* Number in brackets is actual number of site-years in direct comparison to Laird. The more site-years the more dependable the data.

2004 Narrow Row Bean Screening Trials

YIELD AND SEED SIZE BY INDIVIDUAL SITES

Yield (lb/acre) Sorted by Location and Averaged over 1, 2 and 3 Years

Type	Variety	Treherne			Arborg			Boissevain			Thornhill		
		2003	2003-2002	2003-2001	2003	2003-2002	2003-2001	2003	2003-2002	2003-2001	2003	2001	2003 & 2001
Navy	CDC Whitecap	1660	2053	2164	1679	2316	2465	2124	2170	2184	1823	2123	1973
Navy	Cirrus	1300	1852	-	1490	2132	-	2848	2688	-	2097	-	-
Navy	AC Cruiser	1676	2243	-	1454	2389	-	3162	2829	-	2049	-	-
Navy	T9601	1652	2216	-	1736	2534	-	1938	2094	-	2165	-	-
Navy	Envoy	1364	1686	1819	1824	2359	2281	2732	2367	2458	1577	1661	1619
Navy	Morden 003	1685	-	-	1693	-	-	2353	-	-	2623	-	-
Navy	T9808	-	-	-	-	-	-	-	-	-	-	-	-
Navy	T2003	-	-	-	-	-	-	-	-	-	-	-	-
Navy	T9903	-	-	-	-	-	-	-	-	-	-	-	-
Black	CDC Espresso	1430	1327	1499	1285	1917	1864	2100	2034	1970	1259	1939	1599
Black	CDC Jet	1490	1748	1883	1800	2659	2580	2581	2370	2263	1939	2245	2092
Black	316-13	1516	-	-	1692	-	-	2539	-	-	1859	-	-
SM Red	AC Redbond	1707	1865	1982	1242	1885	2180	1636	1954	1851	1842	1856	1849
Pinto	CDC Pintium	2289	2021	2023	2071	2489	2493	2670	2590	2486	2501	1978	2239
Pinto	HR99	1530	1794	1898	1425	2095	2296	4040	3435	2930	1949	2051	2000
Pinto	CDC Minto	1775	2055	-	1447	2174	-	3510	3066	-	1895	-	-
Pinto	SC 11745-3	1782	-	-	1753	-	-	2907	-	-	2067	-	-
GNB	CDC Crocus	1272	1613	1830	1196	1934	2100	2534	2493	2383	1935	1858	1897
GNB	AC Polaris	1796	2081	2366	1770	2364	2705	2551	2522	2527	2215	2386	2301
GNB	Resolute												
GNB	CDC Polar Bear												
Average (lb/acre)		1620	1889	1941	1597	2250	2329	2639	2509	2339	1987	2011	1952

Focus on Pulses

Wednesday

January 19, 2005

10:00am – noon

*during Manitoba Ag Days
Keystone Centre Assembly Hall
Brandon, Manitoba*

TOPICS TO INCLUDE

Disease Update

Market Outlooks

Pulse Opportunities

MPGA's update on the
"Bright side of 2004"

See you there!

Manitoba Pulse Growers Association Inc.

and

Manitoba Agriculture Food and Rural Initiatives

are pleased to present

The Third Annual

Manitoba Bean Symposium

to be held

February 8 & 9, 2005

at Morden Recreation Centre, Morden, MB

*The agenda will include bean topics on day one and
soybean topics on day two, tradeshow both days
and the 2005 MPGA Annual Members meeting on February 8.*

See you there!

For further information call

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2004 Narrow Row Bean Screening Trials (cont'd)

Disease Characteristics						Plant Characteristics – Averaged Across All Locations										
Type	Variety	White Mould %		Rust %		Days to Maturity			Plant type (1-9)		% pods > 5 cm above ground		Lodging (1-5)		Seed Quality (1-5)	
		2004	2003-2004	2004	2003-2004	2003	2003-2002	2003-2001	2003	2003-2002	2003	2003-2002	2003	2003-2002	2003	2003-2002
Navy	CDC Whitecap	18	12	0	0	86	96	97	1.3	1.9	83	43	1.4	1.8	1.1	1.3
Navy	Cirrus	23	15	0	0	89	94	96	3.5	4.2	81	43	1.7	2.2	2.7	2.3
Navy	AC Cruiser	3	4	0	0	87	94	–	3.2	3.6	76	40	1.1	1.3	1.2	1.4
Navy	T9601	73	39	0	0	85	93	–	2.7	3.3	69	36	1.2	1.5	1.3	1.7
Navy	Envoy	72	39	0	0	89	95	–	2.7	2.9	83	43	2.0	2.3	1.2	1.4
Navy	Morden 003	25	14	0	0	85	–	–	1.1		81	–	1.3	–	1.8	
Navy	T9808	11	–	0												
Navy	T2003	32	–	0												
Navy	T9903	18	–	0												
Black	CDC Espresso	6	3	0	0	87	–	–	1.8		76	–	1.0	–	2.2	
Black	CDC Jet	5	3	0	0	86	92	95	1.0	1.3	72	37	1.1	1.1	2.3	2.2
Black	316-13	10	6	0	0	87	95	97	1.3	2.3	82	42	1.0	1.5	1.2	1.1
SM Red	AC Redbond					86	90	93	1.3	2.3	71	37	1.2	1.9	1.1	1.6
Pinto	CDC Pintium	50	26	0	1	82	86	88	1.0	1.6	81	41	1.1	1.3	1.0	1.8
Pinto	HR99	42	22	0	1	85	92	94	1.6	2.3	68	35	1.2	1.1	1.0	1.5
Pinto	CDC Minto	45	24	0	0	86	93	–	5.2	5.9	70	38	1.8	2.6	1.0	1.5
Pinto	SC 11745-3		–			84	–	–	1.7		77	–	1.5	–	1.0	
GNB	CDC Crocus		–			87	94	95	4.1	4.7	77	41	2.0	2.6	1.8	2.1
GNB	AC Polaris	63	33	0	1	85	90	93	4.8	5.6	59	32	1.9	3.1	2.2	2.5
GNB	Resolute	26	13	0	–											
GNB	CDC Polar Bear	80	40	0	–											
	Average	26.9		0.0		86	93	94	2.4	3.2	75	39	1.4	1.9	1.5	1.7
	C.V. (%)	35														
	LSD (0.05)	16.2														

KEY

Disease Ratings*

Rust % plants with rust symptoms
White Mould % plant/pod infected with white mould

Plant Characteristics

Pod Ht – (>5cm) Percent of pods above 5cm from the ground.
 Plant Type – (1-9) 1=upright / bush type
 9=vine
 Lodging – (1-5) 1=upright
 5=flat on the ground (rated at maturity).
 Seed Quality – (1-5) 1=very good (based on color/wrinkle free/
 uniform size).
 5=very poor.

Manitoba Pulse Growers Association

Mission Statement

To provide its members
with production and marketing support,
through focused research, advocacy
and linkages with industry partners.

Peas

Varieties	2004 Yield by Test Location ¹ % of Carneval						Long Term Manitoba Yield ² % of Carneval	Maturity Rating ³	Resistance to ⁴		Seed ⁵ Size
	Arborg	Boissevain	Dauphin	Hamiota	Morden	Thornhill			Lodging	Powdery Mildew	
Yellow Peas											
Alfetta	125	113	109	110	102	103	97 (25)	E	F	P	VL
Carneval	100	100	100	100	100	100	100 (86)	E	G	F	M
Carrera	118	114	96	102	98	102	101 (14)	E	n/a	P	L
CDC Bronco	123	93	99	128	118	79	112 (12)	M	G	VG	M
CDC Golden	106	124	101	121	128	93	123 (13)	M	G	VG	M
CDC Mozart	111	110	119	109	127	103	108 (24)	M	F	VG	M
Cutlass	121	107	109	91	116	98	118 (13)	M	G	VG	M
Eclipse	137	117	123	124	127	126	110 (20)	M	G	VG	L
Miser	120	101	93	113	102	94	109 (13)	M	F	VG	S
SW Cabot	100	67	90	87	103	96	92 (6)	E	n/a	P	M
SW Carousel	123	109	105	110	117	105	112 (6)	E	n/a	VG	L
SW MIDAS	122	93	104	113	67	98	117 (13)	E	n/a	VG	M
SW SALUTE	127	93	106	128	111	101	115 (21)	M	F	VG	M
Topeka	121	105	110	101	100	85	109 (24)	M	F	VG	M
Tudor	94	115	116	79	114	97	103 (6)	M	n/a	VG	L
<i>Varieties that are being tested or proposed for registration</i>											
CDC 653-8	113	113	109	115	135	114	118 (6)	E	n/a	VG	M
CDC 715-4	128	97	145	105	121	107	118 (6)	M	n/a	VG	L
Green Peas											
Camry	128	101	131	106	89	99	108 (6)	M	n/a	VG	L
CDC Striker	118	119	105	103	92	90	110 (11)	M	G	P	M
Nessie	118	113	108	102	91	88	113 (11)	E	n/a	P	L
Nitouche	112	96	97	111	109	98	104 (10)	M	G	P	L
Stratus	121	88	97	124	121	92	113 (22)	M	F	VG	L
SW PARADE	132	92	94	114	114	103	102 (15)	M	F	P	S
<i>Varieties that are being tested or proposed for registration</i>											
Cooper (proposed name)	133	109	124	89	115	97	113 (6)	L	n/a	VG	L
CDC 672-1	106	91	99	84	92	86	93 (6)	M	n/a	VG	M
Vortex (proposed name)	120	107	86	100	58	108	95 (6)	E	n/a	P	M
Carneval yield (bu/ac)	77	57	49	44	86	64	62				
CV% (%)	13.56	12.85	13.59	14.30	10.38	9.38					
LSD% (in bu/acre)	NS	13	7	11	7	10					

¹ Each site represents one year of data only. Caution is advised when using small data sets.

² Long-term yield for Carneval is 62 bu/acre over 86 site years.

³ Maturity Rating: E = Early, M = Medium, L = Late

⁴ Resistance to ratings are: P = Poor, F = Fair, G = Good, VG = Very Good,

⁵ Seed Size: VL = Very Large, L = Large, M = Medium, S = Small