



UNIVERSITY OF
SASKATCHEWAN

Potato Variety Trials 1991 - 2006

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Saskatchewan
Agriculture
and Food

Potato Variety Trials



This trial evaluates the yield and quality of standard potato varieties relative to some recently introduced types under Saskatchewan growing conditions. Trials are conducted on irrigated land in Saskatoon. Varieties are planted side-by-side in 20 m long rows with an in-row spacing of 25 cm and 1 m between rows.

Nitrogen is applied preplant and just prior to row closure (150 #/acre total). Phosphorus is band- applied at seeding (120 #/acre total). Standard pest control measures are employed. The trial is planted in mid-May and harvested 90 (early) and 120 (final) days later. Crop vigour and disease reactions are monitored throughout the season. The crop is graded and rated for yields, appearance, disease reactions and specific gravities.



Long term average data is based on at least 6 site years of tests conducted from 1991 onwards.

The growing conditions during May through early July of 2006 were excellent, resulting in good early yields. Consistent heat in August and early September reduced yields at 120 days but increased tuber dry matter content. The 120 day harvest of some varieties was pre-empted by plot raiders. Scab ratings are trending down - reflecting the move to a less scab infested site as of 2003.

Performance of SSPGA varieties

AC Pacific Russet - This new release from the Prairie Potato Breeding Consortium produced good yields at the 90 day harvest. The 120 day harvest was lost, but in adjacent trials this variety out-yielded Norkotah by 10% at 120 days. Pacific Russet is targeted at the fresh market.

AC Peregrine Red - This SSPGA exclusive line continues to show exceptional yield potential, red skin color and quality if grown to maturity (120 days).

This trial is supported by the University of Saskatchewan

Long-term average data

	Long-Term Average						
	Marketable yield (t/ha)	Specific gravity	Uniformity	Eye depth	Skin colour	Flesh colour	Scab %
RUSSETS							
AC Pacific Russet	19.0	1.081	Good	S	R	W	trace
Amisk	17.8	1.091	Good	S	R	W/Y	16
Ataska	-	-	Good	S	L R	W	0
Burbank	16.9	1.086	Medium	M	R	W/Y	5
Frontier	19.9	1.086	Good	S	R	W	5
Gemstar	20.8	1.092	-	-	-	-	trace
Goldrush	19.0	1.082	Good	S	R	W	trace
Norkotah	18.5	1.081	Very Good	M	R	W/Y	11
Ranger	17.2	1.092	Good	M	R	W/Y	21
Shepody	18.6	1.081	Good	S	L R	W/Y	28
Umatilla	21.6	1.091	Good	S	R	W/Y	trace
REDS							
AC Peregrine	23.4	1.083	Good	S	D Red	W	21
Cherry Red	19.9	1.086	Medium	S	D Red	W	16
Chieftain	22.1	1.079	Good	M	Red	W	18
Nordonna	16.3	1.074	Good	M	D Red	W/Y	5
Norland	20.7	1.071	Medium	M	Red	W	10
DR Norland	21.0	1.073	Medium	M	D Red	W/Y	8
Pontiac	23.6	1.074	Medium	D	Red	W/Y	37
Red Lasoda	21.9	1.072	Medium	D	Red	W/Y	26
Red Ruby	14.1	1.071	Good	M	D Red	W	10
Rode Esterling	19.6	1.082	Good	M	D Red	Y	19
Sangre	21.7	1.075	Good	M	D Red	W	19
Viking	21.5	1.074	Medium	S	Red	W	14
CHIPPERS							
Atlantic	21.2	1.095	Good	S	L R	W/Y	20
Niska	20.8	1.085	Medium	M	W	W/Y	14
Norchip	15.8	1.083	Medium	D	W	W	5
Snowden	19.8	1.095	Medium	M	L R	W/Y	14
OTHER							
AC Ptarmigan	23.6	1.073	Good	S	L R	W/Y	19
Alpha	17.6	1.097	Medium	S	L R	Y	14
Bintje	20.3	1.088	Good	M	W	Y	12
Yukon Gold	21.4	1.093	Good	M	W	Y	19

- **Eye depth:**
 - S = Shallow
 - M = Medium
 - D = Deep
- **Colour:**
 - D Red = Dark red
 - R = Russet
 - W = White
 - Y = Yellow
 - L = Light
- **Scab %:**
 - % of surface area of tuber affected on average

Yearly data

	Yearly Results 2005-2007											
									2005			
	Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity	
	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final
RUSSETS												
AC Pacific Russet					13.9	n/a	1.073	1.084	16.1	-	1.076	1.083
Amisk					13.6	n/a	1.081	n/a	11.3	19.1	1.080	1.089
Burbank					9.9	19.8	1.075	1.093	8.5	-	1.072	1.081
Gemstar					10.1	n/a	1.079	1.097	14.0	28.1	1.082	1.085
Goldrush					14.2	21.5	1.079	1.100	14.0	23.2	1.079	1.080
Norkotah					12.6	18.2	1.073	1.084	13.4	-	1.073	1.083
Ranger					-	-	-	-	-	-	-	-
Shepody					10.1	19.9	1.069	1.089	12.8	-	1.071	1.074
Umatilla					17.9	n/a	1.080	1.081	17.9	27.4	1.080	1.093
REDS												
AC Peregrine					14.8	25.5	1.078	1.091	17.1	27.3	1.078	1.083
Cherry Red					18.7	19.9	1.085	1.095	12.9	27.0	1.081	1.083
Chieftain					11.8	22.8	1.076	1.091	14.4	24.2	1.081	1.083
Nordonna					-	-	-	-	-	-	-	-
Norland					18.5	20.2	1.072	1.076	19.3	22.2	1.079	1.079
DR Norland					19.1	n/a	1.073	1.076	13.1	-	1.079	1.081
Pontiac					15.4	25.8	1.063	1.085	11.2	30.7	1.068	1.075
Red Lasoda					-	-	-	-	-	-	-	-
Red Ruby					-	-	-	-	-	-	-	-
Rode Esterling					-	-	-	-	-	-	-	-
Sangre					16.3	21.0	1.066	1.076	15.1	27.4	1.067	1.076
Viking					18.3	24.6	1.074	1.086	13.0	28.3	1.072	1.078
CHIPPERS												
Atlantic					13.9	22.7	1.086	1.112	11.7	22.9	1.095	1.105
Niska					-	-	-	-	-	-	-	-
Snowden					18.5	22.9	1.091	1.108	16.7	-	1.089	1.090
OTHER												
AC Ptarmigan					13.6	19.3	1.067	1.077	14.6	26.3	1.072	1.077
Alpha					9.7	23.2	1.078	1.101	12.4	24.1	1.083	1.096
Bintje					24.2	26.7	1.077	1.085	15.4	20.8	1.076	1.090
Yukon Gold					15.6	17.7	1.084	1.096	15.8	25.9	1.086	1.094

Early Harvest: = Harvested 90 days after planting

Final Harvest: = Harvested 120 days after planting

2005 - Final yields lost due to flooding

n/a – 2006 Final yields lost due to theft

	Yearly Results 2001-2004											
	2004				2003				2001			
	Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity	
	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final
RUSSETS												
AC Pacific Russet	9.2	16.2	1.072	1.083	-	-	-	-	-	-	-	-
Amisk	11.2	15.3	1.082	1.100	14.0	18.9	1.092	1.100	14.6	24.4	1.072	1.086
Burbank	12.5	16.8	1.075	1.100	14.9	17.4	1.084	1.084	10.9	22.3	1.075	1.089
Goldrush	8.1	10.6	1.075	1.082	15.5	19.5	1.080	1.086	9.3	22.1	1.062	1.083
Norkotah	11.2	17.0	1.082	1.087	15.9	19.9	1.090	1.089	16.9	21.7	1.074	1.083
Ranger	-	-	-	-	8.9	14.6	1.088	1.092	14.3	21.2	1.077	1.093
Shepody	8.1	17.4	1.065	1.084	14.9	21.9	1.080	1.084	11.4	22.7	1.070	1.081
Umatilla	7.7	12.8	1.074	1.094	14.9	25.3	1.085	1.100	-	-	-	-
REDS												
AC Peregrine	15.6	24.7	1.069	1.084	18.7	24.4	1.082	1.082	11.4	20.3	1.068	1.072
Cherry Red	13.8	22.4	1.077	1.089	15.8	23.7	1.085	1.097	13.8	19.6	1.071	1.083
Chieftain	7.3	10.7	1.062	1.073	21.7	28.3	1.082	1.089	16.4	24.5	1.067	1.072
Nordonna	-	-	-	-	6.4	11.8	1.069	1.071	10.2	22.6	1.064	1.074
Norland	17.8	24.0	1.069	1.080	19.1	23.5	1.072	1.076	22.2	27.4	1.068	1.065
DR Norland	13.8	16.4	1.074	1.085	16.1	21.3	1.072	1.079	16.3	28.7	1.067	1.070
Pontiak	13.9	17.7	1.073	1.091	20.0	37.7	1.078	1.082	14.3	25.7	1.054	1.065
Red Lasoda	13.1	15.4	1.073	1.085	20.5	26.5	1.072	1.087	7.4	16.5	1.055	1.063
Red Ruby	-	-	-	-	-	-	-	-	13.5	17.7	1.060	1.070
Rode Esterling	-	-	-	-	-	-	-	-	19.9	28.9	1.080	1.083
Sangre	14.2	18.8	1.059	1.076	19.6	25.7	1.080	1.082	11.0	24.4	1.057	1.073
Viking	10.1	13.0	1.069	1.076	18.5	27.0	1.082	1.086	20.5	27.0	1.072	1.071
CHIPPERS												
Atlantic	10.9	14.4	1.093	1.101	11.0	19.3	1.092	1.100	15.8	23.9	1.089	1.097
Niska	10.9	14.6	1.077	1.094	19.9	23.3	1.085	1.087	16.2	25.0	1.075	1.088
Snowden	12.2	20.6	1.090	1.098	8.4	21.0	1.093	1.096	15.0	24.6	1.071	1.090
OTHER												
AC Ptarmigan	15.0	17.4	1.073	1.087	19.1	22.5	1.073	1.077	23.1	29.9	1.069	1.070
Alpha	10.0	15.9	1.077	1.101	10.1	15.5	1.091	1.100	8.8	22.8	1.078	1.095
Bintje	15.3	17.8	1.073	1.095	14.0	24.9	1.083	1.093	15.5	27.0	1.062	1.077
Yukon Gold	8.9	12.2	1.080	1.090	15.5	21.9	1.079	1.094	21.0	27.7	1.077	1.093

Early Harvest: = Harvested 90 days after planting

Final Harvest: = Harvested 120 days after planting

	Yearly Results 1998-2000											
	2000				1999				1998			
	Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity	
	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final
RUSSETS												
AC Pacific Russet	-	-	-	-	-	-	-	-	-	-	-	-
Amisk	9.5	15.8	1.073	1.099	7.2	10.6	1.083	1.076	-	-	-	-
Burbank	14.5	20.5	1.079	1.090	5.4	11.7	1.079	1.070	4.5	12.5	1.073	1.080
Frontier	-	-	-	-	-	-	-	-	11.5	16.7	1.077	1.085
Goldrush	12.1	16.0	1.075	1.088	7.5	10.4	1.076	1.070	4.5	14.3	1.074	1.082
Norkotah	18.8	19.5	1.078	1.078	8.7	11.8	1.079	1.064	9.5	18.1	1.082	1.086
Ranger	10.8	19.2	1.088	1.090	2.0	11.4	1.083	1.083	10.0	12.7	1.091	1.096
Shepody	13.2	18.2	1.081	1.088	8.9	13.2	1.076	1.077	6.3	12.3	1.072	1.076
Umatilla	-	-	-	-	-	-	-	-	-	-	-	-
REDS												
AC Peregrine	14.7	22.1	1.076	1.076	-	-	-	-	-	-	-	-
Cherry Red	15.2	20.5	1.073	1.093	9.6	13.1	1.076	1.079	9.6	15.8	1.083	1.089
Chieftain	19.0	19.8	1.068	1.085	13.2	9.8	1.075	1.073	-	-	-	-
Nordonna	11.7	23.2	1.080	1.082	11.0	21.3	1.068	1.071	5.6	13.2	1.064	1.077
Norland	19.5	24.4	1.071	1.075	11.4	19.4	1.073	1.060	21.5	23.0	1.078	1.076
DR Norland	23.2	23.6	1.073	1.096	16.8	17.1	1.070	1.062	14.6	18.2	1.073	1.078
Pontiak	17.3	23.3	1.078	1.076	12.3	19.6	1.072	1.068	10.5	20.3	1.079	1.066
Red Lasoda	15.8	24.6	1.073	1.081	14.6	20.5	1.068	1.068	10.8	24.0	1.059	1.066
Red Ruby	16.9	17.9	1.073	1.074	7.8	10.2	1.073	1.066	10.0	15.9	1.071	1.071
Rode Esterling	15.5	24.3	1.090	1.088	8.9	13.6	1.081	1.077	-	-	-	-
Sangre	17.3	24.4	1.069	1.082	14.7	14.1	1.070	1.064	7.5	18.1	1.066	1.075
Viking	22.6	22.9	1.073	1.073	13.3	21.6	1.072	1.072	12.3	20.3	1.066	1.067
CHIPPERS												
Atlantic	17.3	25.3	1.089	1.095	10.3	19.1	1.085	1.089	2.2	20.5	1.077	1.097
Niska	12.7	19.9	1.084	1.083	10.5	15.9	1.080	1.087	4.9	10.1	1.078	1.080
Norchip	-	-	-	-	NA	NA	1.077	1.079	4.3	7.2	1.077	1.082
Snowden	9.0	18.4	1.090	1.099	4.0	17.4	1.090	1.092	7.8	15.3	1.086	1.086
OTHER												
AC Ptarmigan	20.2	27.7	1.074	1.072	14.0	23.7	1.069	1.062	-	-	-	-
Alpha	10.2	18.9	1.073	1.099	9.0	14.2	1.087	1.094	7.1	16.6	1.083	1.093
Bintje	13.1	28.0	1.082	1.091	4.1	10.4	1.083	1.083	-	-	-	-
Yukon Gold	20.0	23.0	1.093	1.093	-	-	-	-	-	-	-	-

Early Harvest = Harvested 90 days after planting
Final Harvest = Harvested 120 days after planting

	Yearly Results 1994-1997											
	1997				1996				1994 - Saskatoon*			
	Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity	
	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final
RUSSETS												
AC Pacific Russet	-	-	-	-	-	-	-	-	-	-	-	-
Amisk	8.1	20.6	1.083	1.091	13.6	16.5	1.091	1.090	-	25.5	-	1.086
Ataska	16.5	21.2	1.080	1.085	15.8	16.8	1.080	1.084	-	-	-	-
Burbank	6.3	11.8	1.074	1.081	12.9	14.3	1.086	1.086	-	24.1	-	1.083
Frontier	16.1	20.9	1.084	1.084	14.8	20.8	1.084	1.090	-	23.3	-	1.087
Goldrush	14.3	18.4	1.077	1.081	18.4	21.3	1.083	1.084	-	26.7	-	1.076
Norkotah	13.2	18.7	1.076	1.081	10.7	15.7	1.083	1.081	-	18.2	-	1.073
Ranger	9.7	17.0	1.078	1.087	N/A	11.1	1.084	1.089	-	23.4	-	1.095
Shepody	7.7	18.8	1.076	1.082	12.7	16.1	1.082	1.078	-	24.9	-	1.080
Umatilla	-	-	-	-	-	-	-	-	-	-	-	-
REDS												
AC Peregrine	-	-	-	-	-	-	-	-	-	-	-	-
Cherry Red	-	-	-	-	-	-	-	-	-	-	-	-
Chieftain	11.2	21.0	1.071	1.079	14.1	24.4	1.077	1.083	-	29.0	-	1.071
Nordonna	4.1	15.9	1.063	1.073	10.9	17.2	1.080	1.079	-	-	-	-
Norland	17.8	20.0	1.069	1.065	16.1	18.3	1.067	1.070	-	13.2	-	1.064
DR Norland	14.0	19.7	1.064	1.071	13.9	19.4	1.068	1.067	-	25.8	-	1.059
Pontiak	11.2	14.9	1.066	1.069	16.4	26.6	1.074	1.069	-	22.5	1.083	-
Red Lasoda	12.7	16.4	1.070	1.064	18.8	22.4	1.072	1.072	-	33.6	-	1.070
Red Ruby	10.2	11.6	1.068	1.070	9.5	13.2	1.074	1.077	-	-	-	-
Rode Esterling	12.4	15.1	1.076	1.077	14.4	16.1	1.085	1.087	-	-	-	-
Sangre	14.2	18.1	1.067	1.073	15.3	17.7	1.076	1.080	-	29.0	-	1.067
Viking	15.9	19.1	1.068	1.071	16.6	18.0	1.076	1.072	-	19.0	-	1.066
CHIPPERS												
Atlantic	13.0	23.9	1.087	1.094	13.2	21.1	1.092	1.095	-	19.6	-	1.079
Niska	14.7	20.4	1.077	1.086	14.5	21.9	1.085	1.088	-	28.6	-	1.078
Norchip	12.7	17.9	1.080	1.094	11.8	17.7	1.084	1.088	-	3.2	-	1.069
Snowden	11.5	20.6	1.092	1.100	7.8	17.9	1.093	1.099	-	21.0	-	1.095
OTHER												
AC Ptarmigan	17.2	24.0	1.070	1.068	17.2	23.0	1.073	1.074	-	13.9	-	1.062
Alpha	4.6	15.9	1.082	1.090	8.0	16.7	1.086	1.105	-	-	-	-
 Bintje	10.7	19.8	1.079	1.086	14.0	18.1	1.087	1.089	-	-	-	-
Yukon Gold	-	-	-	-	-	-	-	-	-	-	-	-

Early Harvest = Harvested 90 days after planting

Final Harvest = Harvested 120 days after planting

	Yearly Results 1991-1993												
	1993 - Saskatoon *				1992 **				1991 **				
	Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity		Marketable yield (t/ha)		Specific gravity		
	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final	Early	Final	
RUSSETS													
Amisk	-	-	-	-									
Ataska	-	-	-	-									
Burbank	10.0	21.0	1.075	1.085									
Frontier	4.3	23.5	1.082	1.088									
Goldrush	-	-	-	-									
Norkotah	11.9	22.0	1.079	1.081									
Ranger	11.7	22.0	1.082	1.083									
Shepody	-	-	-	-									
Umatilla	-	-	-	-									
REDS													
Cherry Red	-	-	-	-									
Chieftain	11.2	22.1	1.071	1.074									
Nordonna	-	-	-	-									
Norland	12.6	13.5	1.071	1.075									
DR Norland	11.0	21.7	1.071	1.072									
Pontiak	6.0	19.6	1.064	1.072									
Red Cloud	2.4	5.9	1.080	1.092									
Red Lasoda	20.7	28.1	1.069	1.078									
Red Ruby	-	-	-	-									
Rode Esterling	-	-	-	-									
Sangre	-	-	-	-									
Viking	-	-	-	-									
CHIPPERS													
Atlantic	-	-	-	-									
La Belle	13.0	19.7	1.082	1.088									
Maine Chip	7.6	14.9	1.087	1.101									
Niska	-	-	-	-									
Norchip	11.1	21.4	1.076	1.091									
Portage	9.9	8.8	1.072	1.079									
Snowden	13.2	18.1	1.094	1.097									
OTHER													
Alpha	-	-	-	-									
Binje	-	-	-	-									
Yukon Gold	-	-	-	-									

Early Harvest = Harvested 90 days after planting

Final Harvest = Harvested 120 days after planting