SVPG Wheat Variety Evaluation 1 (CWRS) and Evaluation 2 (HY)

Project duration: May 2021 – August 2021
Objectives: Two tests to evaluate spring wheat varieties for the Saskatchewan Variety Performance Group
Collaborators: SVPG, Saskatchewan Agriculture

Background
(From the Saskatchewan Wheat Development Commission website): The Saskatchewan Variety Performance Group (SVPG) is an informal group made up of stakeholders who are interested in variety performance testing in Saskatchewan. SVPG has coordinated the post-registration regional performance testing of spring wheat, durum, barley, oats, and flax varieties since 2006. The data collected from these trials is entered into annual publications "Varieties of Grain Crops" and the Saskatchewan Seed Guide. In this project, SVPG collects data on priority traits including maturity, height, lodging, test weight, thousand kernel weight, protein, ergot and wheat midge.

Results
The average yield for spring wheat entries in Evaluation 1 (Canadian Western Red Spring) is shown in Figure 1. The average yield for entries in Evaluation 2 (High Yielding) is shown in Figure 2. The results are for one site-year only, and should be interpreted with caution. Consult a seed guide for multi-site-year data for available varieties.

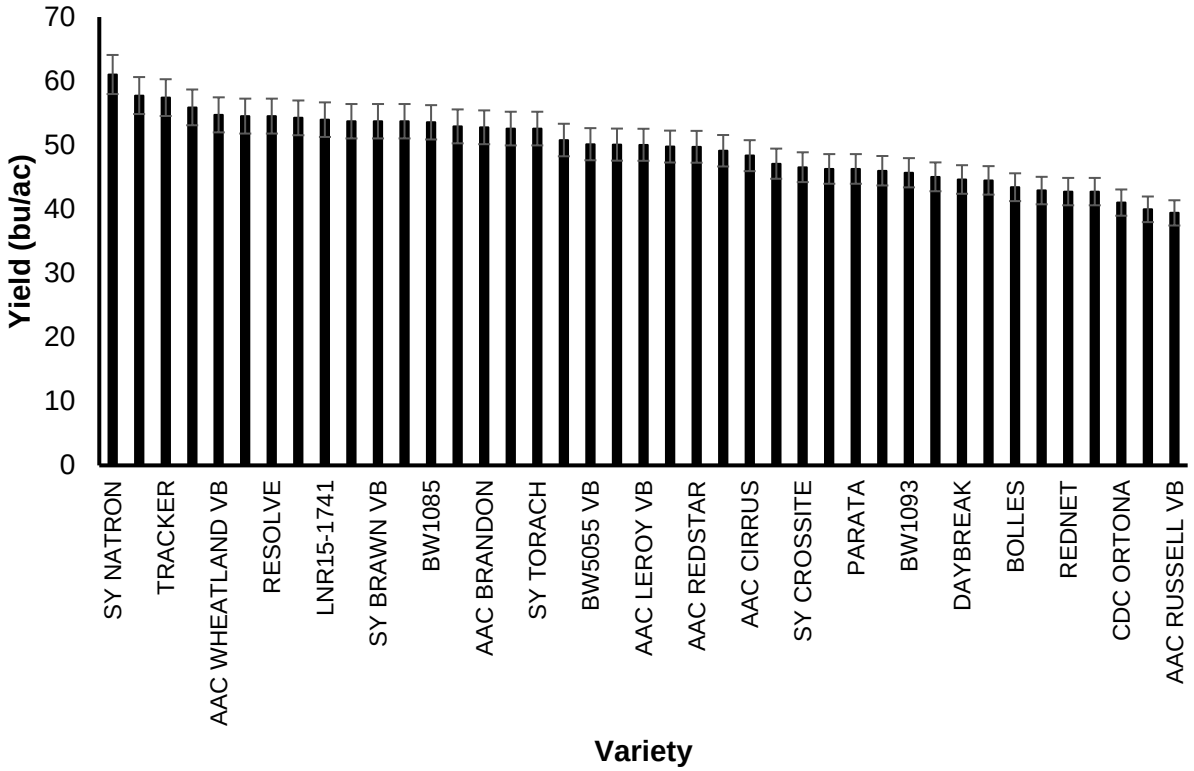

Figure 1: Average yield for spring wheat entries in Evaluation 1 (Canadian Western Red Spring)

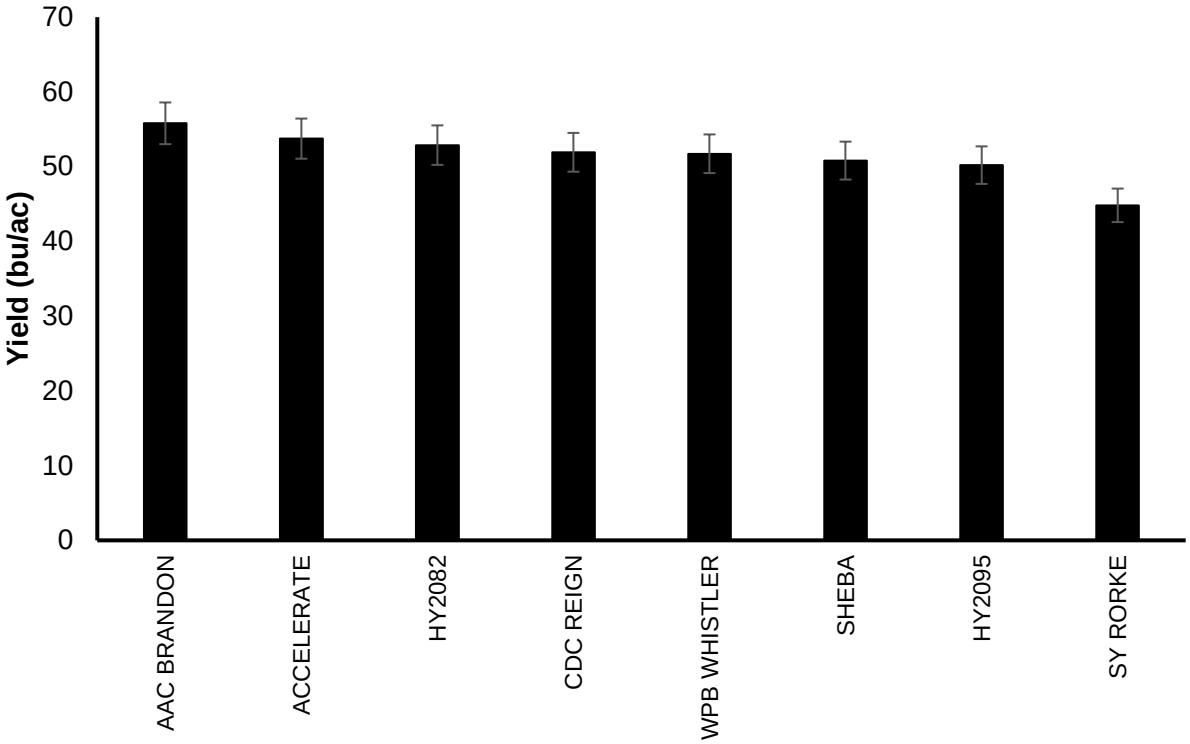

Figure 2: Average yield for spring wheat entries in Evaluation 2 (High Yielding)

Table 1: Comparison of yield means and statistical difference for spring wheat entries in Evaluation 1 (CWRS) (varieties connected by the same letter are statistically significant)

Variety	Statistical significance for yield											Yield (bu/ac)
LNR15-1741	A											61.03
AAC HODGE VB	A	B										57.74
AAC TOMKINS	A	B	C									55.89
AAC WHEATLAND VB	A	B	C	D								54.73
DAYBREAK	A	B	C	D								54.53
ELLERSLIE	A	B	C	D	E							53.73
BW1085	A	B	C	D	E							53.57
BW5062	A	B	C	D	E							52.93
AAC BRANDON	A	B	C	D	E	F						52.78
RESOLVE	A	B	C	D	E	F	G					50.88
AAC WARMAN VB	A	B	C	D	E	F	G					50.80
SY GABBRO		B	C	D	E	F	G					50.17
BW5055 VB		B	C	D	E	F	G	H				50.15
AAC STARBUCK VB		B	C	D	E	F	G	H				50.08
AAC LEROY VB		B	C	D	E	F	G	H				50.05
AAC BROADACRES VB		B	C	D	E	F	G	H				49.78
AAC REDSTAR		B	C	D	E	F	G	H				49.74
PT598		B	C	D	E	F	G	H	I			49.42
BW5045		B	C	D	E	F	G	H	I			49.13
PARATA		B	C	D	E	F	G	H	I			49.10
SY CAST		B	C	D	E	F	G	H	I	J		48.53

AAC CIRRUS		B	C	D	E	F	G	H	I	J		48.36
PT5003			C	D	E	F	G	H	I	J		47.32
AAC MAGNET			C	D	E	F	G	H	I	J	K	47.10
CDC SKRUSH			C	D	E	F	G	H	I	J	K	46.29
SY NATRON			C	D	E	F	G	H	I	J	K	46.05
AAC HOCKLEY			C	D	E	F	G	H	I	J	K	46.00
BW1093			C	D	E	F	G	H	I	J	K	45.69
BW5031 VB				D	E	F	G	H	I	J	K	45.05
AAC ALIDA VB				D	E	F	G	H	I	J	K	44.50
SY BRAWN VB				D	E	F	G	H	I	J	K	44.39
BOLLES					E	F	G	H	I	J	K	43.43
JAKE						F	G	H	I	J	K	42.74
SY TORACH							G	H	I	J	K	42.44
CDC ORTONA							G	H	I	J	K	41.03
REDNET							G	H	I	J	K	40.89
AAC WHITEHEAD VB								H	I	J	K	39.98
TRACKER								H	I	J	K	39.75
AAC RUSSELL VB									I	J	K	39.42
SY CHERT VB										J	K	39.02
SY CROSSITE											K	36.88
LSD	8.50											
% CV	13.87											

Table 2: Comparison of yield means and statistical difference for spring wheat entries in Evaluation 2 (High Yielding) (varieties connected by the same letter are statistically significant)

Variety	**Statistical Significance for Yield**	**Mean**
AAC BRANDON	A	55.80
ACCELERATE	A	53.74
HY2082	A	52.87
CDC REIGN	A	51.92
WPB WHISTLER	A	51.72
SHEBA	A	50.80
HY2095	A	50.20
SY RORKE	A	44.82
LSD	14.51	
% CV	14.56	

Plant heights for spring wheat entries in Evaluation 1 (CWRS) are shown in Figure 3, and for spring wheat entries in Evaluation 2 (High Yielding)

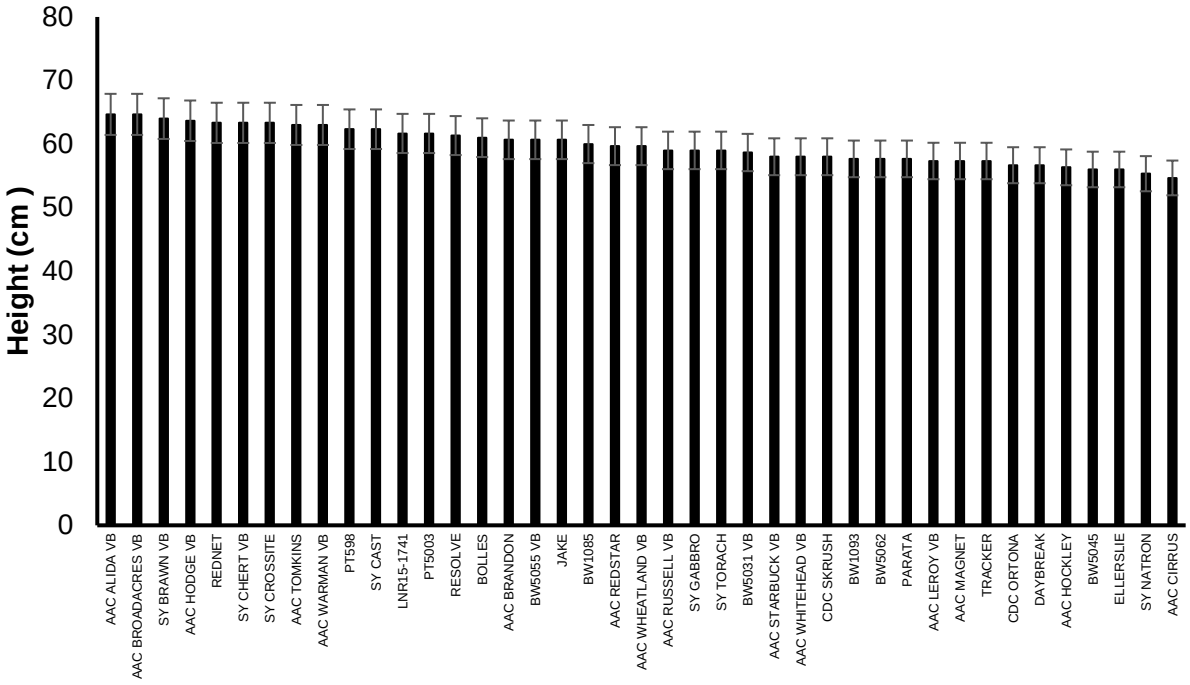

Figure 3: Plant heights for spring wheat entries in Evaluation 1 (CWRS)

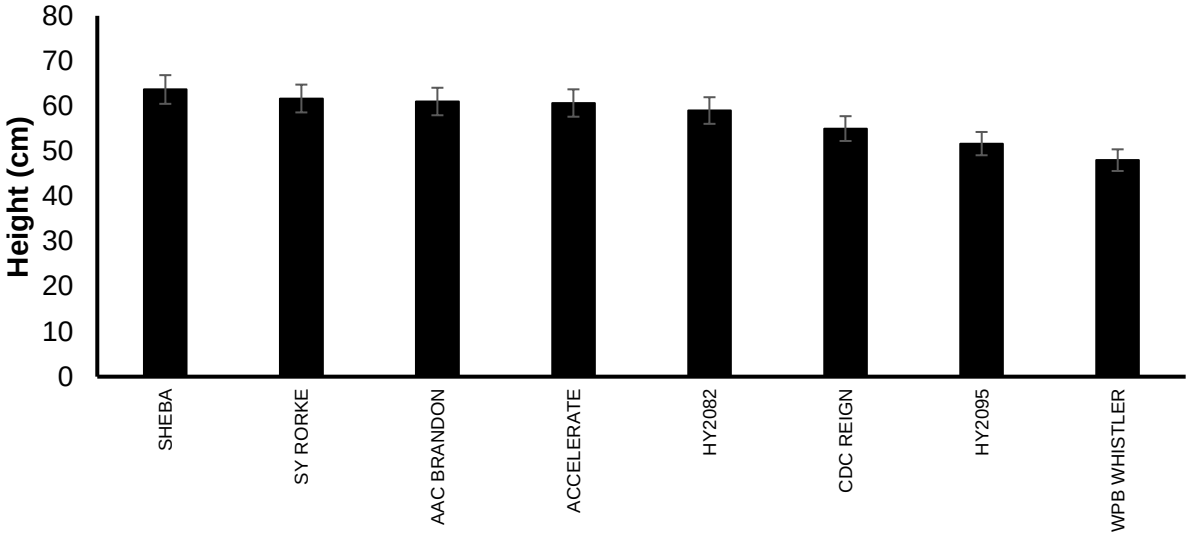

Figure 4: Plant heights for spring wheat entries in Evaluation 2 (High Yielding)

Table 3: Comparison of height means and statistical difference for spring wheat entries in Evaluation 1 (CWRS) (varieties connected by the same letter are statistically significant)

Variety	Statistical significance for yield							Height (cm)
SY CROSSITE	A							70.00
PARATA	A	B						65.00
AAC ALIDA VB	A	B	C					64.67
AAC BROADACRES VB	A	B	C					64.67
ELLERSLIE	A	B	C	D				64.00
AAC HODGE VB	A	B	C	D				63.67
SY GABBRO	A	B	C	D				63.67
REDNET	A	B	C	D				63.67
JAKE	A	B	C	D	E			63.00
AAC TOMKINS	A	B	C	D	E			63.00
AAC WARMAN VB	A	B	C	D	E			63.00
SY BRAWN VB	A	B	C	D	E	F		62.33
SY CHERT VB	A	B	C	D	E	F		61.67
DAYBREAK	A	B	C	D	E	F		61.33
SY NATRON	A	B	C	D	E	F		61.33
BOLLES		B	C	D	E	F	G	61.00
AAC BRANDON		B	C	D	E	F	G	60.67
BW5055 VB		B	C	D	E	F	G	60.67
BW1085		B	C	D	E	F	G	60.00
RESOLVE		B	C	D	E	F	G	59.67
AAC WHEATLAND VB		B	C	D	E	F	G	59.67
AAC REDSTAR		B	C	D	E	F	G	59.67
AAC RUSSELL VB		B	C	D	E	F	G	59.00
BW5031 VB		B	C	D	E	F	G	58.67
SY CAST		B	C	D	E	F	G	58.67
CDC SKRUSH		B	C	D	E	F	G	58.00
AAC WHITEHEAD VB		B	C	D	E	F	G	58.00
AAC STARBUCK VB		B	C	D	E	F	G	58.00
BW5062		B	C	D	E	F	G	57.67
BW1093		B	C	D	E	F	G	57.67
AAC LEROY VB		B	C	D	E	F	G	57.33
AAC MAGNET		B	C	D	E	F	G	57.33
CDC ORTONA		B	C	D	E	F	G	56.67
PT5003		B	C	D	E	F	G	56.67
AAC HOCKLEY		B	C	D	E	F	G	56.33
BW5045			C	D	E	F	G	56.00
SY TORACH				D	E	F	G	55.67
AAC CIRRUS					E	F	G	54.67
PT598					E	F	G	54.67
TRACKER						F	G	54.00
LNR15-1741							G	52.33
LSD	**8.83**							
% CV	**9.58**							

Table 4: Comparison of height means and statistical difference for spring wheat entries in Evaluation 2 (High Yielding) (varieties connected by the same letter are statistically significant)

Variety	Statistical Significance for Height				Height (cm)
SHEBA	A				63.67
SY RORKE	A	B			61.67
AAC BRANDON	A	B			61.00
ACCELERATE	A	B			60.67
HY2082	A	B	C		59.00
CDC REIGN		B	C	D	55.00
HY2095			C	D	51.67
WPB WHISTLER				D	48.00
LSD	**14.51**				
% CV	**14.56**				

Materials and methods

Experimental Design: Random Complete Block Design
Entries: Wheat 1, 41 entries; Wheat 2, 8 entries
Seeding: May 6
Harvest: Wheat 1 Sep 8; Wheat 2 Aug 31

Agronomic information
Previous year's crop: Oat Silage
Soil Type: Erickson Clay Loam
Landscape: Rolling with trees to the east
Seedbed preparation: Vertical tilled
Data collected Date collected
Maturity: Aug 10
Height: Aug 10
Lodging: Aug 31
Yield: Sep 8
Moisture: Sep 8

Table 5: 2021 Fertility Information

	Available		Added	Type
N	93	lb/ac	96 lb/ac	46-0-0
P	46	ppm	15 lb/ac	11-56-0-0
K	709	ppm	-	-

Table 6: Pesticide Application

Crop stage	Date	Product	Rate
Pre-emerge	May 10	Heat LQ	35 ml/ac
		Amigo	750 ml/ac
In-crop	Jun 14	Curtail M	810 ml/ac
		Puma	271 ml/ac