

## Barley Variety Trial

### Summary:

Barley variety trials were conducted in 2018 to evaluate the performance of several varieties and their potential in the brown soil zone (Consort) as part of the Alberta and Saskatchewan Regional Variety Testing Program. The variety trial responses showed a huge variability in yield performance between same varieties and climatic conditions. These responses might be attributed to soil condition variabilities in the field. It also shows the potentiality of this crop when conditions are favorable.

**Cooperator:** Barry Redel, Consort NE 11-35-07-W4

### Site Information:

Table 1 **Soil Analysis**

Soil Analysis	Consort
Nitrogen* (0-24")	36 lb/A (D)
Phosphorus* (0-6")	27 lb/A (D)
Potassium* (0-6")	664 lb/A (O)
Sulfate* (0-24")	62 lb/A (O)
Soil Salinity* (E.C.)	0.38 (G)
pH	6.4 (neutral)
OM (%)	2.4 (normal)
Soil Texture	Loam

\* D = Deficient, M = Marginal, O = Optimum, E = Excess,

Table 2 **Agronomic Information**

	Consort
Previous Crop	Canola
Seeding Date	May 16
Seeding Depth	1.5 – 2.0 inches
Seedbed Condition	Adequate moisture conditions for germination
Seeding Rate	18 plants per square foot
Fertilizer	154 lb/A of 26-18-5-3 placed between the paired seed rows
Seeder	Henderson 500 drill (5 paired rows on 11" spacing, fertilizer between rows)
Seedbed Preparation	Pre-seed glyphosate
Herbicide	Buctril M, Achieve plus Turbocharge
Fungicide	None
Harvest Date	September 4

Table 3 Precipitation 2018 (inches)

Month	Consort
May	1.1
June	4.7
July	1.0
August	0.9
Total	7.7

**Results:**

Table 4 Alberta Two Row Barley Trial – Consort 2018

Variety	Yield (lb/A)	Yield (bu/A at 60 lb/bu)	Height (cm)	Bushel Weight (lb/bu)	TKW (grams)
AAC Connect	5931	99	88	49	43
AAC Synergy	5716	95	92	49	40
AC Metcalfe	5003	83	83	48	36
Altorado	5636	94	82	49	40
CDC Ascent	4765	79	85	63	37
CDC Austenson	4692	78	83	46	35
CDC Copeland	5269	88	92	48	39
CDC Copper	5308	88	82	47	38
CDC Goldstar	5051	84	85	49	36
Claymore	5245	87	92	47	34
Lowe	5261	88	92	53	37
Oreana	6020	100	84	48	40
Sirish	5888	98	77	48	36
SR14501	5460	91	97	50	38
SR16511	5332	89	102	44	38
TR15155	5594	93	84	47	37
TR16629	5404	90	93	45	35
Mean	5387	90	88	49	38
LSD (0.05)	NS				
C.V. %					

**Comments:** The Alberta two row barley variety trial at Consort averaged 90 bu/A, ranging from 78 to 100 bu/A. These variety yields showed no statistical differences. Oreana yield was the highest and CDC Austenson has the lowest yield.

Table 5. Saskatchewan Two Row Barley Trial – Consort 2018

Variety	Yield (lb/A)	Yield (bu/A at 60 lb/bu)	Height (cm)	Bushel Weight (lb/bu)	TKW (grams)
AAC Connect	6196	103	92	51	47
AAC Synergy	6174	103	88	51	47
AC Metcalfe	6337	106	88	51	43
Altorado	6414	107	88	52	44
CDC Ascent	3582	60	90	59	41
CDC Bow	5032	84	86	50	48
CDC Copeland	6458	108	87	51	46
CDC Copper	6740	112	89	52	49
CDC Fraser	6543	109	87	51	46
CDC Goldstar	6298	105	92	52	45
CDC PlatinumStar	6272	105	90	51	44
Claymore	7899	132	85	52	43
Lowe	7055	118	94	53	48
Oreana	6950	116	72	52	44
Sirish	6948	116	79	53	47
SR14501	6077	101	99	52	40
SR16511	6674	111	111	51	47
TR15155	6690	111	87	51	42
Mean	6323	105	89	52	45
LSD (0.05)	991	17			
C.V. %	16				

**Comments:** The two row barley yield variety trial for the Saskatchewan set behaved differently than the Alberta RVT group, having a higher yield in the same varieties. The average yield was 105 bu/A, ranging from 60 to 132 bu/A. The average yield was 15 bu/A higher than the Alberta set. In this case varieties were significant different. When two varieties difference was higher than 991 lb/A or 17 bu/A, they were statistically different.

Table 6 shows the average of same variety from both (Alberta and Saskatchewan) variety set. The differences in yield of the same variety with the same moisture content could be an indication of soil constraints at the site where those sets were planted.

**Table 6. Two Row Barley Combined Yield Average at Consort 2018 (Alberta and Saskatchewan)**

Variety	Average Yield (lb/A)*	Average Yield (bu/A at 60 lb/bu)*
AAC Connect	6064 ± 187	101 ± 3
AAC Synergy	5945 ± 324	99 ± 6
AC Metcalfe	5670 ± 943	95 ± 16
Altorado	6025 ± 550	101 ± 9
CDC Ascent	4174 ± 837	70 ± 13
CDC Copeland	5864 ± 841	98 ± 14
CDC Copper	6024 ± 1013	100 ± 17
CDC Goldstar	5675 ± 882	95 ± 15
Claymore	6572 ± 1877	110 ± 32
Lowe	6158 ± 1269	103 ± 21
Oreana	6485 ± 658	108 ± 11
Sirish	6418 ± 750	107 ± 13
SR14501	5769 ± 436	96 ± 7
SR16511	6003 ± 949	100 ± 16
TR15155	6142 ± 775	100 ± 16

\* Yield Average combined and Standard deviation

**Comments:** This table shows the huge variability found in this field. The same varieties planted in the same area showed a huge yield difference between them. CDC Copper, Claymore and Lowe presented the highest variability in yield with a difference of more than 17 bu/A. The highest yielding variety was for Claymore with 110 ± 32 bu/A.