

Lowe

Two-row malting barley



Low DON accumulation, averaging 50% less than AC Metcalfe

Grain yield is 12% higher than AC Metcalfe and 6% higher than CDC Copeland

Promising malt quality for craft brewing with low protein and high extract

Strengths of Lowe

- **Consistently low DON levels**, up to 85% lower than AC Metcalfe. Lowe has a better than average reaction to FHB, as noted by the Prairie Recommending Committee for Oat and Barley.
- **Grain yields are 12% higher** than AC Metcalfe and 6% higher than CDC Copeland across Western Canada.
- **Lodging scores** are lower than the malting checks and similar to Xena.
- **Good malting traits** with high kernel weight and low protein. FAN equal to CDC Copeland and less than AC Metcalfe. Fine extract is higher than the malting checks AC Metcalfe and CDC Copeland. Peeling and wort β -glucan levels are lower than the checks in Coop trials.
- Higher percent plumps, similar test weight, and heavier kernel weight compared to the malting checks.
- **Disease resistance**: resistance to the surface-borne smuts, loose smut, scald and spot-form net blotch is better than the malting checks.

Lowe was developed by the Field Crop Development Centre.

Table 1. Mean grain yield (kg/ha) by soil zone in the 2013 and 2014 Western Coop Two-Row Barley Trials.

Entry	Black ¹		Black and Grey ²		Brown ³		Overall	
	kg/ha	% AC Metcalfe	kg/ha	% AC Metcalfe	kg/ha	% AC Metcalfe	kg/ha	% AC Metcalfe
CDC Copeland	6871	106	6803	107	5132	104	6163	106
Xena	7062	109	7234	113	5925	120	6672	114
AC Metcalfe	6480	100	6381	100	4944	100	5842	100
Lowe	7310	113	7141	112	5487	111	6536	112
Stn. Yrs.	9		11		13		33	

Coop trials had 36 total entries in 2013, 32 in 2014. ¹Manitoba and Saskatchewan ²Alberta and BC ³Alberta and Saskatchewan

Table 2. Mean agronomic performance in the 2013 and 2014 Western Cooperative Two-Row Barley Trials.

Entry	Heading (days)	Maturity (days)	Height (cm)	Lodging (1-9)	Test Wt (kg/hL)	1000K Weight (g)	Plump >6/64 (%)
CDC Copeland	55.4	92.6	86.4	4.1	64.7	47.0	90.0
Xena	53.3	92.0	81.5	3.7	67.3	49.8	90.5
AC Metcalfe	54.1	92.2	83.9	4.6	66.4	46.1	89.1
Lowe	56.6	94.9	89.3	3.5	65.4	48.7	90.4
Stn. Yrs.	22	27	29	12	32	32	28

Lodging score 1-9, 9 being up to 100% lodged.

Table 3. DON accumulation in the 2013 and 2014 Western Coop Two-Row Barley Trials.

Entry	Brandon ¹		Portage-la-Prairie ¹		Morden ²		Charlottetown ²		Overall Mean	
	DON ppm	% AC Metcalfe	DON ppm	% AC Metcalfe	DON ppm	% AC Metcalfe	DON ppm	% AC Metcalfe	DON ppm	% AC Metcalfe
CDC Copeland	45.4	92	23.0	69	18.9	89	21.6	127	27.2	94
Xena	20.5	41	20.5	62	8.5	40	16.0	94	16.4	59
AC Metcalfe	49.4	100	33.2	100	21.2	100	17.0	100	30.2	100
Lowe	17.3	35	21.7	65	3.2	15	14.3	84	14.1	49

¹2013 data. ²2014 data.

Table 4. Mean malting quality in the 2014 and 2015 Barley Collaborative Trials.

Entry	Malt					Wort				
	Friability %	P and B %	Protein %	DP °L	α Amylase D.U.	F. Ext. %	Sol. P. %	β-Glucan ppm	Viscosity cP	FAN mg/L
AC Metcalfe	66.4	4.9	12.3	165	72.6	80.8	5.1	254	1.48	210
CDC Copeland	76	2.2	12	149	62.1	80.5	5.1	157	1.46	204
Lowe	76.8	2.3	11.6	134	63.8	80.8	4.7	179	1.47	185

Mean of 3 locations in 2014 and 5 in 2015. P and B - peeled and broken; DP - diastatic power; Sol. P. - soluble protein.

Table 5. Disease ratings from the 2014 Western Cooperative Two-Row Barley Disease Reaction Report.

Entry	Net Blotch		Scald	Spot blotch	Smut		Stem rust	Fusarium Head	
	Net form	Spot form			Loose	Surface		Blight	
CDC Copeland	I	I	S	S	I	MR	MR	I	
Xena	S	MR-I	S	MS-S	MS	MR-I	R	MR	
AC Metcalfe	S	I	S	I	R	MR	R-MR	I	
Lowe	I	MR	MR	I	R	R	S	MR	

R - resistant, MR - moderately resistant, I - intermediate, MS - moderately susceptible, S - susceptible.