

Amisk

6 rowed, rough awned, semi-dwarf, general purpose barley



Amisk is a six rowed semi dwarf with:

- more plump seed than both the two row and six row checks,
- strong straw for decreased lodging, and
- a better than average combination of disease resistance to stem rust, Septoria, and spot form net blotch.

These traits will make Amisk a good grain and forage barley for western Canada.

Amisk was developed by the Field Crop Development Centre, Lacombe and was tested as BT593 and M98206002.

Strengths

- Plumps are 16% higher than AC Ranger and 14% higher than Vivar.
- Plumps are also higher than two row checks AC Metcalfe and Xena, by 5% and 7%, respectively.
- Good lodging resistance, better than Vivar and AC Ranger.
- Good disease package with moderate to good resistance to a range of key diseases: resistant to stem rust and Septoria; moderately resistant to spot-form of net blotch; intermediate resistance to net-form of net blotch, scald, spot blotch, and common root rot.
- Forage yields similar to Vivar.
- Quality traits equal to or exceed that of Vivar.

Neutral Traits

- Grain yields similar to checks Vivar and AC Ranger.
- Heading and maturity similar as the checks.
- Plant height equal to Vivar and significantly shorter than AC Ranger.
- 1000 kernel weight and test weight equal to Vivar and AC Ranger.
- Crude protein similar to Vivar.
- DON levels are similar to those of the checks.

Weaknesses

- Susceptible to barley yellow dwarf virus.
- Weaker in loose smut (*Ustilago nuda*) and covered smut resistance.

Table 1. Mean grain yield (kg/ha) by soil zone in the 2011 and 2012 Western Cooperative Six-Row Barley Trials.

Entry	Eastern Black ¹	Brown	Western Black ²	Grey Wooded	Overall	% AC Ranger	% CDC Mayfair
Amisk	5354	5385	7545	5050	5696	98	104
AC Ranger	5124	5921	7128	5707	5815	100	106
Vivar	5075	5428	7632	5645	5757	99	105
CDC Mayfair	5155	4924	7088	5132	5477	94	100
Celebration	5058	5052	6961	5232	5460	94	100
Coop Mean	5173	5184	7352	6153	5666		
Station Years	12	8	6	4	30		

Coop trials had 21 total entries in 2011, 20 in 2012. ¹ Manitoba and Saskatchewan (six locations). ² Alberta (three locations).

Table 2. Mean agronomic performance in the 2011 and 2012 Western Cooperative Six-Row Barley Trials.

Entry	Heading (days)	Maturity (days)	Height (cm)	Lodging (1-9)	Test Wt (kg/hL)	1000K Weight (g)	Plump >6/64 (%)
Amisk	55.0	97.0	75.1	2.1	60.4	40.8	87.0
AC Ranger	55.9	98.2	79.5	5.0	61.0	40.6	72.5
Vivar	55.8	97.0	75.5	3.2	60.9	40.5	74.9
CDC Mayfair	54.0	95.5	82.1	3.6	61.4	38.4	84.6
Celebration	54.3	95.0	81.0	3.6	63.1	36.7	83.4
Mean	54.5	96.4	80.0	3.5	61.0	39.3	79.9
LSD 0.05	2.6	0.9	1.6	1.2	0.8	1.0	3.1
Station Years	30	23	33	9	28	27	23

Lodging score 1-9, 9 being up to 100% lodged. LSD - least significant difference, the value by which means must differ in order to be considered significant.

Table 3. Mean yield and agronomic performance from the 2011 and 2012 FCDC yield trials.

Line / Variety	Yield (Kg/ha)	Anthesis (days)	Maturity (days)	Height (cm)	Test Wt. (kg/hL)	1000 K Wt. (g)	Plump >6/64 (%)
Amisk(M98206002)	7636	55	102	85	60	43	86
AC Ranger	7912	56	103	90	61	43	73
Vivar	7750	57	102	83	62	43	74
Sundre	7052	56	102	93	64	43	77
Station Years	11	11	11	10	11	11	11

Table 4. Mean silage yield and quality characteristics in the 2011 and 2012 FCDC silage trials.

Line/Variety	Dry Silage Yield (kg/ha)	% of Vivar	Protein (%)	ADF (%)	NDF (%)	Starch (%)	Lignin (%)	NDF30 (%)
AC Ranger	15362	104	10.6	29.5	46.9	17.2	4.0	49.5
Chigwell	14711	100	11.9	31.3	49.8	16.5	4.3	47.9
Amisk (M98206002)	15700	107	11.4	29.6	46.0	17.3	3.9	48.9
Vivar	14705	100	10.9	29.6	48.5	17.7	4.3	47.0
Mean	15006		11.5	29.7	47.2	17.0	4.1	48.2
Standard Error	235		0.2	0.5	0.7	0.5	0.1	0.3

ADF - Acid Detergent Fibre; NDF - Neutral Detergent Fibre; NDF30 - In Vitro Forage Digestibility or disappearance of NDF from forage incubated in rumen fluid for 30 hrs.

Table 5. Disease ratings.

Line/Variety	Loose Smut	Other Smuts	Root Rot	Scald	Spot Form Blotch	Net Form Blotch	Fusarium Head Blight
Amisk	VP	P	P	F	G	F	VP
AC Ranger	P	F	G	P	G	F	VP
Vivar	F	VG	G	F	G	F	VP
CDC Mayfair	VP	G	F	VP	G	P	P

VG – very good, G – good, F – fair, P – poor, VP – very poor. Amisk data from Western Coop, checks from Alberta Seed Guide.