BENTLEY

Spring, 2-rowed, hulled, malting barley

Field Crop Development Centre, March 2008

Bentley is a two-rowed, rough awned, malting barley, well-adapted to the Brown, Black and Grey Soil Zones of western Canada. Bentley has high grain and forage yields, that combined with its malting quality should make it an excellent multi-purpose barley for the non-scald areas of western Canada.

Bentley was tested in the Western Cooperative Registration Trials as TR05669 and FB414, and in FCDC trials as H93103004. Its pedigree is I92125/TR229 where I92125=ND10419/ND11231.

The FCDC yield data show that Bentley yielded 9% higher than AC Metcalfe, while the Coop yield data show a 11% yield advantage. Silage yields for this variety were 8% higher than AC Virden in Coop trials and 12% higher than Seebe in FCDC trials. It has similar maturity to AC Metcalfe.

Bentley has high percent plump and kernel weights. It has good malting quality with low protein, high extract, good protein modification and friability. Bentley has lower diastatic power and alpha amylase than AC Metcalfe, and is similar to CDC Copeland and Harrington for these traits.

Bentley is resistant to the spot form of net blotch and has moderate resistance to spot blotch and the surface borne smuts. It has shown a MR/MS type of reaction to common root rot, stem rust, fusarium head blight, and moderate susceptibility to the net form of net blotch and loose smut. It is susceptible to scald.

End Use	• Bentley is a desirable malting barley for the non-scald areas of western Canada. Combined with high forage yields and quality, it should make a good multi-purpose variety.
Strengths	• Grain yields 111% of AC Metcalfe. • Biomass yields for greenfeed 108% of Virden. • Good malting quality with low percent protein and high extract, plump and kernel weight. • Resistance to surface-borne smuts, spot form of net blotch, and spot blotch.
Neutral Traits	• Days to maturity similar to the feed check Xena. • Tall, but lodging similar to the feed check Xena. • Test weights lower than AC Metcalfe but higher than Harrington. • Diastatic power and alpha amylase lower than AC Metcalfe, similar to CDC Copeland.
Weaknesses	• Susceptible to scald and moderately susceptible to the net form of net blotch and loose smut.

WESTERN CO-OPERATIVE 2-ROW BARLEY TRIALS

Summary of Yield and Agronomic Data for all Stations Averaged for 2005 and 2006

Entry Name	Yield (kg/ha)	Days to Head	Days to Maturity	Height (cm)	Lodging Score	Test Wt (kg/hl)	Kernel Weight (g)	% Plump > 6/64
Harrington	5089.7	60.2	92.1	81.6	4.9	63.1	42.3	81.6
Xena	6300.0	60.2	93.4	83.1	3.7	66.4	49.0	90.2
AC Metcalfe	5471.2	60.5	92.8	83.7	4.4	65.5	44.2	87.3
CDC Kendall	5469.2	61.4	92.0	82.1	4.5	65.2	42.9	90.7
Bentley	6064.8	60.0	93.3	87.7	3.8	64.3	48.0	92.1
Station Years	30	26	27	30	6	28	26	21

WESTERN CO-OPERATIVE 2-ROW BARLEY TRIALS - Yield (kg/ha) by Soil Zone 2005-2006								
	Black Soils	% AC Metcalfe	**Black & Grey Soils**	% AC Metcalfe	**Brown Soils**	% AC Metcalfe	**Overall**	% AC Metcalfe
Harrington	4904	88.0	5269.5	95.0	5093.0	94.0	5089.9	93.0
Xena	6410	119.0	6110.5	110.0	6347.0	117.0	6300.8	115.0
AC Metcalfe	5466	100.0	5541.5	100.0	5433.5	100.0	5471.0	100.0
CDC Kendall	5577	105.5	5326.0	96.0	5489.0	101.0	5469.0	100.0
Bentley	**6375**	117.0	**5945**	107.0	**5956**	110.0	**6065**	111.0
Station Years	8		8		14		30	

FIELD CROP DEVELOPMENT CENTRE DATA - Yield by Yield Class 2002-2007						
Grain Yield	**< 4.0 t/Ha**	**4.0 - 6.0 t/Ha**	**6.0-8.0 t/Ha**	**>8.0 t/Ha**	**Overall**	**Overall**
	Yield (kg/ha)					%AC Metcalfe
AC Metcalfe	3331	4697	6657	8335	5875	100.0
Bentley	**3590**	**5024**	**7485**	**8780**	**6428**	**109.4**
Station Years	5	15	20	6	46	

FIELD CROP DEVELOPMENT CENTRE - Agronomic data 2002-2007								
	Maturity	**1000 KWT**	**Test Wgt**	**Anthesis**	**Height**	**% Plump**	**Lodging**	
Agronomics	(days)	(g)	(kg/hl)	(days)	(cm)	%	(0-9)	Stage/%
AC Metcalfe	97.3	44.8	65.1	56.0	79.7	85.1	5.3	161.4
Bentley	**98.2**	**47.8**	**64.0**	**56.2**	**82.8**	**87.4**	**3.5**	**127.0**
Station Years	40	44	44	37	43	36	2	8

WESTERN CO-OPERATIVE FORAGE BARLEY TRIAL - Averaged for 2005 & 2006								
			Forage Quality					
Entry Name	**DM Yield**	**% Virden**	**CP**	**ADF**	**NDF**	**TDN**	**RFV**	**% Ranger RFV**
AC Ranger	10279	98.9	9.2	36.1	54.8	51.7	103.1	100.0
Virden	10398	100.0	9.7	36.5	55.1	51.3	102.0	98.9
Vivar	10386	99.9	9.3	35.3	55.5	52.6	102.9	99.8
Bentley (FB414)	**11271**	**108.4**	**9.1**	**35.5**	**54.4**	**52.4**	**104.7**	**101.6**
Station Years	11							

WESTERN CO-OPERATIVE TWO ROW BARLEY TRIAL - Malting Quality Data Averaged for 2005 & 2006												
	Plump	1000 KWT	Protein	F. Ext.	Soluble Protein	S/T Ratio	Diast. Power	Alpha-Amylase	Beta-Glucan	Viscos.	Friab	Peeled
	(%)	(g)	(%)	(%)	(%)	(%)	(°L)	(D.U.)	(ppm)	(cps)	(%)	(%)
Harrington	89.2	42.9	11.9	79.7	4.9	41.3	115	56.8	111	1.45	90.0	9.4
AC Metcalfe	91.7	44.3	12.1	80.2	4.9	40.5	132	60.6	62	1.43	85.7	6.5
CDC Kendall	93.2	43.1	12.2	80.0	5.0	40.6	152	61.0	53	1.42	92.0	4.5
Bentley	93.4	48.4	11.7	80.0	4.8	40.4	107	55.6	95	1.43	88.7	6.3
Station Years	Mean of 6 station years											