

Busby

spring, 2-row, hulled, feed barley

Field Crop Development Centre, March 2008



Busby is a two-row, rough-awned, feed barley, well-adapted to the Brown, Black and Grey Soil Zones of western Canada. Busby has excellent disease resistance that combined with good grain yields and feed quality should make it a superior feed barley for the scald areas of western Canada.

Busby was tested in the Western Cooperative Registration Trials as TR06673 and in FCDC trials as H94034003. Its pedigree is H93089(F₁)/Seebe where H93089=I92121/AC Metcalfe and I92121=ND7085/ND4994-15//ND7556.

This line has scald and stripe rust resistance similar to Seebe, but with 10% higher grain yield and earlier maturity. This line has good lodging resistance and heads and matures earlier than Xena. Its kernel weight, test weight and percent plump are similar to Xena. It also has a higher digestible energy and lower fibre content than Xena.

This line is resistant to the surface-borne smuts, and moderately resistant to the spot form of net blotch. It has a MR/MS reaction to stem rust, fusarium head blight, and scald. The scald ratings of this line in FCDC field trials show it has scald ratings as good as or better than Seebe, and in international nursery trials this line has shown resistance to stripe rust, similar to Seebe. It has moderately susceptible reaction to the net form of net blotch and spot blotch. It is susceptible to common root rot, loose smut and septoria, also similar to Seebe.

End Use	<ul style="list-style-type: none"> • A superior feed barley for the scald areas of western Canada.
Strengths	<ul style="list-style-type: none"> • Grain yields 10% higher than Seebe and biomass yields for silage similar to Seebe. • Heads and matures 4 days earlier than Seebe. • Test weight, kernel weight, and percent plump similar or slightly higher than Seebe. • Similar height to Seebe with better lodging resistance. • Like Seebe, has good resistance to the surface-borne smuts, scald, stripe rust and FHB. As well has moderate resistance to the spot form of net blotch, the non-QCC races of stem rust, and spot blotch.
Neutral Traits	<ul style="list-style-type: none"> • Digestible energy (swine) and starch content of the grain similar to Seebe.
Weaknesses	<ul style="list-style-type: none"> • Susceptible to loose smut and common root rot.

WESTERN COOPERATIVE 2-ROW BARLEY TRIALS

Summary of Yield and Agronomic Data for all Stations Averaged for 2006 and 2007

Entry Name	Yield (kg/ha)	Days to Heading	Days to Maturity	Height (cm)	Lodging Score	Test Wgt (kg/hL)	Kernel Wt (mg)	% Plump >64
Xena	5957.7	57.3	88.9	84.6	4.3	66.4	48.5	90.5
AC Metcalfe	5206.7	57.6	88.1	84.5	5.0	65.5	43.7	88.3
Busby	5602.5	55.3	87.7	91.6	4.5	66.1	48.7	90.2
<i>Station Years</i>	31	24	26	28	4	25	25	21

WESTERN COOPERATIVE 2-ROW BARLEY TRIALS - Yield Averages by Zones 2006-2007

	Black Soils			Black and Grey Soils			Brown Soils			Overall		
	kg/ha	% AC Metcalfe	% Xena	kg/ha	% AC Metcalfe	% Xena	kg/ha	% AC Metcalfe	% Xena	kg/ha	% AC Metcalfe	% Xena
Xena	6236	111	100	5518	119	100	6070	114	100	5958	114	100
AC Metcalfe	5607	100	91	4652	100	84	5314	100	88	5207	100	87
Busby	6015	107	97.0	5150	111	93	5630	105	93	5602	108	94
<i>Station Yrs</i>		9			9			13			31	

FIELD CROP DEVELOPMENT CENTRE - Yield Data by Yield Class 2004-2007

Grain Yield	4.0 - 6.0 t/Ha				kg/ha	Overall % of Seebe
	< 4.0 t/Ha	t/Ha	6.0-8.0 t/Ha	>8.0 t/Ha		
Seebe	1890	5493	6843	8366	6474	100.0
Busby	2609	5776	7315	9469	6989	110.3
<i>Station Years</i>	1	6	13	3	23	

FIELD CROP DEVELOPMENT CENTRE - Agronomic Data 2004-2007

	Maturity (days)	KWT (gms)	Test Wt (kg/hl)	Anthesis (days)	Height (cm)	% Plump (%)	Lodging (0-9)	Stage/%
Seebe	103	47.4	65.3	58.9	91.2	86.5	4.2	100
Busby	99	50.2	66.6	54.5	91.9	88.3	3.7	85.5
<i>Station Years</i>	17	22	22	20	23	18	4	4

FIELD CROP DEVELOPMENT CENTRE - Feed/Food Quality Data 2004-2007

	Protein (%)	Protein Dig (%)	Lysine (x10%)	Dig Energy kcal/kg	Starch (%)	Lipid (%)	Total Fibre (%)	Pentosan (%)	Soluble Fibre (%)	Beta-Glucan (%)
Busby	11.8	71.6	7.3	3092.9	61.4	2.6	18.9	5.7	4.1	3.4
Seebe	13.1	68.5	7.6	3119.5	60.9	2.7	19.5	5.4	4.5	3.9
<i>Station years=7</i>										

FIELD CROP DEVELOPMENT CENTRE - Scald Data 2004-2007

	2004	2004	2005	2005	2006	2006	2007	2007
	Lac	Edm	Lac	Edm	Lac	Edm	Lac	Edm
Harrington	7.5	7	7.5	5				
Seebe	3.5	0	1	1	5.5	0	4	2
Busby	2	0	0	0	2.5	1	3	0

FIELD CROP DEVELOPMENT CENTRE - Spot Blotch & FHB Data

	Spot Blotch (0-9)			FHB (0-5)			
	2006	2007	2007	2004	2005	2006	2007
	Brandon	Brandon	Saskatoon	Brandon	Brandon	Brandon	Brandon
Seebe	8	8	6		2	2	3.3
Busby	4	4	4	1.5	2.5	2	2.5

FIELD CROP DEVELOPMENT CENTRE - Stripe Rust Data 2004-2007

	2005 CIMMYT				Pullman		Mt Vernon				Creston	
	Mexico		Ecuador		7/17/2007		6/1/2007		7/10/2007		2007	
	IT	%	IT	%	IT	%	IT	%	IT	%	IT	%
Seebe					0	0	2	1	8	5		0
Busby					8	1	2	1	5	5		0