

'Calgary' barley is a two-rowed spring feed barley with short rachilla hairs, short rachis, white aleurone, with semi-erect heads developed by Serasem in France. The pedigree is (Dominique x Blenheim) x (Barleta x Chapka). Calgary will be marketed in the United States by Arizona Plant Breeders and is being considered for marketing in Canada also. It was in both the dryland and irrigated intrastate trials 2001 and was in the irrigated intrastate trials and irrigated offstation trials in 2002. It has yielded higher than Baronesse and Gallatin at 15 irrigated conditions (table 2 & 7). Test weights have been comparable to Baronesse but lower than Haxby (table 8). It is comparable in heading date to Baronesse and is about two inches shorter than Baronesse in plant height (tables 10 & 11). Calgary had good lodging tolerance based on 9 locations from 2001 - 2002. Arizona Plant Breeders have requested that it be considered for recommendation under irrigated and high moisture conditions.

Table 1. 2001-2002 SPRING BARLEY Calgary OVERALL INTRASTATE SUMMARY ⁽¹⁾

ID	Pedigree	# Yrs	Yield (bu/ac)	# Yrs	Test Wt (lb/bu)	# Yrs	Plump (%)	# Yrs	Heading Date	# Yrs	Plant Ht. inches	# Yrs	Protein %
PI491534	Gallatin (Check)	16	95.0	16	49.8	16	71.2	20	178.1	16	28.9	14	14.0
MT950186	Haxby	16	101.2	16	51.7	16	80.6	20	178.8	16	28.4	14	14.1
PI610264	Valier	16	99.3	16	50.1	16	74.4	20	180.8	16	27.8	14	14.6
PI568246	Baronesse	16	99.0	16	49.5	16	75.2	20	180.9	16	26.2	14	14.1
SK 76333	Harrington	16	90.9	16	48.0	16	75.3	20	180.4	16	27.4	14	14.0
S3482	Calgary	16	101.4	16	49.6	16	77.4	15	180.8	16	24.1	14	14.2
SITMEAN	SITMEAN	16	96.6	16	49.6	16	77.0	20	179.8	16	27.1	13	14.3

⁽¹⁾ Irrigated intrastate locations: Kalispell (high moisture), Sidney, Huntley, Conrad and Bozeman.
 Dryland intrastate locations: Havre, Sidney, Moccasin, Huntley, Conrad and Bozeman.

Table 2. 1997-2002 SPRING BARLEY OVERALL SUMMARY All irrigated locations ⁽¹⁾

ID	Pedigree	# Yrs	Yield (bu/ac)	# Yrs	Test Wt (lb/bu)	# Yrs	Plump (%)	# Yrs	Heading Date	# Yrs	Plant Ht. inches	# Yrs	Protein %
PI491534	Gallatin (Check)	15	106.1	15	50.2	15	78.2	13	179.1	15	32.5	12	13.8
MT950186	Haxby	15	115.1	15	51.7	15	84.5	13	179.9	15	31.8	12	13.6
PI568246	Baronesse	15	111.9	15	49.7	15	81.5	13	181.7	15	29.6	12	13.8
SK 76333	Harrington	15	102.2	15	48.1	15	80.0	13	181.5	15	30.9	12	13.7
S3482	Calgary	15	118.9	15	49.7	15	82.5	13	181.5	15	27.1	12	13.6
SITMEAN	SITMEAN	15	107.9	15	49.4	15	81.9	13	180.6	15	30.9	11	13.9

⁽¹⁾ 2001 & 2002 | Irrigated intrastate locations: Kalispell (high moisture), Sidney, Huntley, Conrad, Bozeman.
 2002 Irrigated offstation locations: Sidney, Conrad, Bozeman, Hysham, Bridger.

Table 3. Yield (bu/ac)																
Irrigated Intrastate											Irrigated Malt Offstation					Overall
Variety	2001					2002					2002					Mean
	Bozeman	Sidney	Kalispell	Huntley	Conrad	Bozeman	Sidney	Kalispell	Huntley	Conrad	Bozeman	Sidney	Conrad	Hysham	Bridger	16 locs
Gallatin (Check)	134.6	64.2	181.4	144.6	70.0	95.0	85.6	139.9	131.9	117.1	76.4	75.5	114.2	64.5	96.4	106.1
Haxby	131.4	73.2	181.1	163.3	76.9	98.4	87.4	151.3	164.6	123.9	94.1	95.7	118.5	65.7	101.8	115.1
Baronesse	127.3	64.2	173.5	158.4	85.9	98.2	77.8	144.1	141.6	119.9	85.3	86.0	125.1	79.3	112.1	111.9
Harrington	138.4	61.9	178.5	131.5	67.7	90.6	71.0	129.6	135.9	106.9	71.8	80.4	108.0	70.6	89.9	102.2
Calgary	154.6	61.2	187.3	164.3	73.8	113.9	82.1	147.2	158.5	125.9	98.2	84.1	140.7	75.1	116.2	118.9
SITEMEAN	135.2	63.1	174.2	152.7	71.6	103.4	77.4	143.3	146.5	116.0	78.4	83.7	112.8	60.4	99.6	107.9
C.V. (S/Mean)*100	5.92	13.35	14.45	5.54	10.17	8.56	5.73	7.24	10.89	6.55	10.79	4.74	7.68	10.61	13.69	***
F-Value	6.75	5.05	0.97	6.85	2.32	6.29	4.62	2.57	2.07	4.26	10.64	10.48	7.21	3.19	4.77	***
L.S.D. (.05)	13.38	14.09	43.34	14.07	12.62	15.27	7.61	17.94	27.08	12.85	13.91	6.53	14.23	17.37	13.60	***
Table 4. Test Weights (lb/bu)																
Irrigated Intrastate											Irrigated Malt Offstation					Overall
Variety	2001					2002					2002					Mean
	Bozeman	Sidney	Kalispell	Huntley	Conrad	Bozeman	Sidney	Kalispell	Huntley	Conrad	Bozeman	Sidney	Conrad	Hysham	Bridger	16 locs
Gallatin (Check)	53.0	38.8	53.8	50.4	50.5	54.5	46.7	50.2	50.4	52.1	55.4	47.7	52.7	46.8	50.2	50.2
Haxby	55.0	42.1	53.0	51.2	52.9	55.0	49.0	51.3	53.7	54.3	54.4	49.8	53.8	48.7	51.6	51.7
Baronesse	51.9	38.5	51.9	49.6	51.3	53.0	48.1	50.2	50.0	51.8	52.1	47.2	52.8	49.1	48.5	49.7
Harrington	50.6	35.1	52.4	47.6	49.2	53.4	45.0	45.2	49.1	51.2	51.0	46.0	48.5	47.8	49.0	48.1
Calgary	54.8	36.8	52.7	50.8	51.1	53.4	45.5	47.7	52.5	52.8	52.4	45.8	51.6	47.9	50.3	49.7
SITEMEAN	53.0	38.6	52.5	49.0	50.7	53.5	46.5	49.8	50.7	51.7	51.5	46.9	50.9	47.0	49.2	49.4
C.V. (S/Mean) *100	0.94	4.04	1.60	2.36	***	0.90	2.04	***	3.33	***	***	1.63	***	2.28	2.98	***
F-Value	19.64	10.21	7.09	5.89	***	13.92	7.47	***	2.54	***	***	11.55	***	3.87	4.37	***
L.S.D. (.05)	0.99	2.70	1.47	1.95	***	1.00	1.55	***	1.00	***	***	1.26	***	1.84	2.30	***

Table 5. Lodging Index

Variety	Irrigated Intrastate						Offstation			Overall
	2001			2002			2002			Mean
	Bozeman	Sidney	Kalispell	Bozeman	Sidney	Kalispell	Sidney	Hysham	Bridger	9 locs
Gallatin (Check)	1.2	8.8	0.0	1.6	1.7	1.0	1.0	6.3	2.0	2.6
Haxby	1.5	8.6	1.9	1.4	1.6	0.0	1.3	5.7	3.0	2.8
Baronesse	3.0	7.9	4.5	2.6	0.7	1.7	0.3	7.3	1.3	3.3
Harrington	1.3	8.9	3.0	3.7	2.0	2.1	1.7	5.6	1.3	3.3
Calgary	0.0	7.6	0.0	0.7	0.0	0.1	0.3	2.7	2.7	1.6
C.V. (S/Mean) *100	57.05	11.28	95.17	50.61	62.61	82.40	117.54	39.19	52.61	***
F-Value	6.17	2.45	3.69	3.97	5.66	2.75	1.93	1.00	2.27	***
L.S.D. (.05)	1.18	1.66	2.16	1.47	1.19	1.59	1.81	3.54	1.78	***

Scale: 0 = no lodging, 9 = completely lodged

Table 6. Dryland Locations Yields (bu/ac)

Variety	2001	2002	2001	2001	2001	2001	2001
	Havre	Sidney offstation	Intrastate	Moccasin	Huntley	Conrad	Bozeman
Gallatin (Check)	31.6	55.1	83.4	71.1	44.3	23.9	100.4
Haxby	28.9	53.8	78.2	77.4	47.2	22.4	113.1
Baronesse	32.2	62.5	95.4	71.7	48.2	27.9	117.6
Harrington	31.2	51.3	83.5	62.8	39.3	20.4	104.5
Calgary	26.0	56.1	75.6	65.3	43.7	20.3	122.9
SITEMEAN	29.5	56.2	84.1	69.8	45.4	21.5	112.4
C.V. (S/Mean) *100	11.33	10.09	8.16	7.59	10.93	15.26	5.97
F-Value	2.92	1.36	3.29	3.72	3.44	1.56	4.50
L.S.D. (.05)	5.68	9.33	11.60	9.03	8.59	5.69	11.61

2001-2002 T-paired results vs Calgary Irrigated Locations

Table 7. Yield (bu/ac)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
PI491534	Gallatin	106.1	15	-12.8	-5.0	.000
MT950186	Haxby	115.1	15	-3.7	-1.3	.224
PI568246	Baronesse	111.9	15	-6.9	-2.6	.019
SK 76333	Harrington	102.2	15	-16.7	-6.0	.000
SITMEAN	SITMEAN	107.9	15	-11.0	-5.2	.000

THE MEAN FOR THE REFERENCE VARIETY (Calgary) IS: 118.9 (N= 15)

Table 8. Test Weight (lb/bu)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
PI491534	Gallatin	50.2	15	.5	1.1	.272
MT950186	Haxby	51.7	15	2.0	5.2	.000
PI568246	Baronesse	49.7	15	.0	-.0	.987
SK 76333	Harrington	48.1	15	-1.7	-4.7	.000
SITMEAN	SITMEAN	49.4	15	-.3	-.9	.360

THE MEAN FOR THE REFERENCE VARIETY (Calgary) IS: 49.7 (N= 15)

Table 9. Plump Percent (over # 6 screen)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
PI491534	Gallatin	78.2	15	-4.3	-1.5	.169
MT950186	Haxby	84.5	15	2.1	.9	.359
PI568246	Baronesse	81.5	15	-1.0	-.3	.783
SK 76333	Harrington	80.0	15	-2.4	-1.0	.354
SITMEAN	SITMEAN	81.9	15	-.6	-.3	.785

THE MEAN FOR THE REFERENCE VARIETY (Calgary) IS: 82.5 (N= 15)

2001-2002 T-paired results vs Calgary Irrigated Locations

Table 10. Heading Date (days from Jan. 1)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
PI491534	Gallatin	179.1	13	-2.3	-5.3	.000
MT950186	Haxby	179.9	13	-1.5	-4.0	.002
PI568246	Baronesse	181.7	13	.2	.4	.692
SK 76333	Harrington	181.5	13	.1	.1	.908
SITMEAN	SITMEAN	180.6	13	-.9	-3.4	.005

THE MEAN FOR THE REFERENCE VARIETY (Calgary) IS: 181.5 (N= 13)

Table 11. Plant Height (inches)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
PI491534	Gallatin	32.5	15	5.4	9.4	.000
MT950186	Haxby	31.8	15	4.7	6.4	.000
PI568246	Baronesse	29.6	15	2.5	5.3	.000
SK 76333	Harrington	30.9	15	3.8	6.4	.000
SITMEAN	SITMEAN	30.9	15	3.8	7.7	.000

THE MEAN FOR THE REFERENCE VARIETY (Calgary) IS: 27.1 (N= 15)

Table 12. (Protein Percent)

ID	NAME	ACTUAL MEAN	NO. OBS	MEAN DIFF	T-PAIRED VALUE	P-VALUE
PI491534	Gallatin	13.8	12	.2	.7	.484
MT950186	Haxby	13.6	12	.1	.5	.660
PI568246	Baronesse	13.8	12	.3	1.1	.312
SK 76333	Harrington	13.7	12	.2	.5	.613
SITMEAN	SITMEAN	13.8	11	.4	1.4	.181

THE MEAN FOR THE REFERENCE VARIETY (Calgary) IS: 13.6 (N= 12)