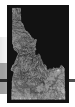
2002 MALTING BARLEY EXPOSITION

MALTING BARLEY VARIETIES FOR IDAHO

Dr. Charles A. Erickson
USDA-ARS
Aberdeen, Idaho



American Malting Barley Association Recommended Malting Barley Varieties For Idaho

2-ROWED SPRING MALTING VARIETIES

B1202	**GARNET**
HARRINGTON	**MERIT**

6-ROWED SPRING MALTING VARIETIES

FOSTER	**LEGACY**
MOREX	**STANDER**

OTHER MALTING BARLEY VARIETIES GROWN IN IDAHO

2-ROWED VARIETIES

ANDRE	KRIS
CHINOOK	MORAVIAN
CLARK	MORAVIAN III
CONLON	MORAVIAN 14
CRYSTAL	MORAVIAN 37
CREST	PIROLINE
GALENA	PREMIER
KIMBERLY	VANGUARD
KLAGES	

OTHER MALTING BARLEY VARIETIES GROWN IN IDAHO

6-ROWED VARIETIES

AZURE	KARLA
B1602	LACEY
B2601	LARKER
DRUMMOND	ROBUST
EXCEL	RUSSELL
KARL	TRAILL

FEED BARLEY VARIETIES GROWN IN IDAHO

VARIETY	TYPE	VARIETY	TYPE
BANCROFT	**2-Rowed**	**IDAGOLD II**	**2-Rowed**
BARONESSE	**2-Rowed**	**MENUET**	**2-Rowed**
CAMAS	**2-Rowed**	**MILLENIUM**	**6-Rowed**
COLTER	**6-Rowed**	**MUNSING**	**2-Rowed**
CRITON	**2-Rowed**	**NEBULA**	**6-Rowed**
FARMINGTON	**2-Rowed**	**STEPTOE**	**6-Rowed**
GALLATIN	**2-Rowed**	**TARGHEE**	**2-Rowed**
HECTOR	**2-Rowed**	**XENA**	**2-Rowed**

IDAHO BARLEY VARIETY ACREAGE*

	YEAR			
	2000		2001	
VARIETY	ACRES (X1,000)	PERCENT	ACRES (X1,000)	PERCENT
TOTAL	750.0		680.0	
HARRINGTON	167.6	22.3	164.7	24.3
BARONESSE	128.1	17.1	111.3	16.4
B1202	81.3	10.8	70.3	10.3
MOREX	75.0	10.0	47.9	7.0
GALENA	46.7	6.2	43.2	6.4
MERIT	31.7	4.2	27.4	4.0
FOSTER	11.5	1.5	17.3	2.5
STEPTOE	23.0	3.1	17.0	2.5
B2601	8.9	1.2	14.5	2.1
STANDER	20.0	2.7	13.2	1.9
OTHER	156.0	20.8	153.0	22.5

* AMERICAN MALTING BARLEY ASSOCIATIO

GARNET

Developed and released by USDA-ARS, Aberdeen and the Idaho Agricultural Experiment Station, 2001

FEATURES
- **2-row Spring Malting Barley**
- **4,000 acres grown in 2001**
- **Good malting quality**
- **High yield**
- **Good test weight**
- **High kernel plumpness**
- **Similar in height and maturity to Harrington with better straw strength**

85Ab2323

Developed and approved for release by USDA-ARS, Aberdeen and the Idaho Agricultural Experiment Station, 2001

FEATURES
- **2-row Spring Malting Barley**
- **Good malting quality**
- **High yield**
- **High test weight**
- **High kernel plumpness**
- **Moderately early in maturity**
- **Similar in height to Harrington**

Agronomic data for Garnet, 85Ab2323 and selected two-rowed varieties grown under irrigation at Aberdeen, Idaho 1990-94 & 1996-2000

Entry	Yield (bu/A)	Test Weight (lbs/bu)	Plump Barley (%)	Heading Date (Julian)	Height (in)	Lodging (%)	Protein (%)
No. Trials	10	10	10	10	10	10	3
Garnet	143.7	53.6	96	178	38	11	14.0
B1202	143.9	53.6	94	176	34	8	14.1
Crest	141.1	53.4	90	175	34	16	12.7
Crystal	150.1	55.1	93	178	37	9	13.2
Harrington	139.8	54.0	90	177	35	20	13.4
85Ab2323	146.7	54.8	93	175	37	18	13.2

Malting quality data* for Garnet, 85Ab2323 and selected two-rowed varieties grown under irrigation at Aberdeen, Idaho 1996-2000

Entry	Plump Barley (%)	Malt Extract (%)	Barley Protein (%)	Wort Protein (%)	S/T (%)	DP (°ASBC)	Alpha Amylase (20°DU)	Beta-glucan (ppm)
Garnet	97	80.4	13.0	5.39	42.3	142	57.0	172
B1202	95	78.9	13.6	4.86	36.9	117	51.9	188
Crest	92	79.3	13.5	5.69	43.0	117	61.8	284
Crystal	94	79.7	13.5	5.12	37.9	149	57.6	367
Harrington	87	78.4	13.2	4.45	34.7	95	41.9	404
85Ab2323	94	80.2	13.4	5.21	40.2	127	47.0	249

* Malting quality data courtesy of USD -ARS Cereal Crops Research Unit, Madison, Wisconsin-

LEGACY

Developed and released by Busch Agricultural Research, 2000, PVP protected

FEATURES
- **6-row Spring Malting Barley**
- **10,500 acres grown in 2001**
- **High malt extract and good enzymes**
- **Good yield**
- **Good test weight**
- **Medium-tall height and medium-late maturity**

MERIT

Developed and released by Busch Agricultural Research, 1998, PVP protected

FEATURES
- **2-row Spring Malting Barley**
- **27,400 acres grown in 2001**
- **High malt extract and good enzymes**
- **Good yield**
- **Good test weight**
- **Similar to Harrington in height and straw strength, 3-4 days later in maturity**

MORAVIAN 37

Developed and released by Coors Brewing Company, 1992, PVP protected

FEATURES
- **2-row Spring Malting Barley**
- **2,600 acres grown in 2001**
- **Good yield**
- **Good test weight**
- **Excellent kernel plumpness**
- **Similar to Harrington in height and maturity with good lodging resistance**

Agronomic data for selected tw -rowed varieties grown under irrigation at Aberdeen, Idaho, 1998-2001

years	4	4	4	4	4	4
IdaGold II	151.9	55.6	94	177	29	0
Galena	151.3	55.3	93	179	33	1
Baronesse	149.5	54.8	95	176	34	12
Camas	148.5	55.2	92	174	35	7
Moravian 14	147.3	55.8	94	172	30	1
Merit	146.4	54.6	94	178	37	15
Garnet	145.8	54.8	97	177	37	17
Moravian 37	144.3	55.8	98	177	30	3
Criton	139.7	54.4	97	172	38	19
B 1202	139.3	54.8	96	176	34	15
Crest	135.9	54.3	93	175	34	25
Bancroft	134.6	54.9	94	175	36	67
AC Metcalfe	134.6	54.8	95	176	37	20
85Ab2323	132.2	55.2	93	175	37	42
Orca	131.4	54.3	97	168	37	6
Harrington	131.4	54.6	91	178	37	50

Agronomic data for selected six-rowed varieties grown under irrigation at Aberdeen, Idaho, 1999-2001

years	3	3	3	3	3	3
Milleniu	190.0	52.0	89	166	34	0
Colter	187.2	52.9	92	170	38	16
93Ab688	185.0	53.2	91	171	38	22
Steptoe	166.8	51.4	94	170	37	15
Foster	154.6	53.2	96	171	40	6
Legacy	152.5	53.0	88	172	40	33
Drummond	151.1	52.9	96	172	39	7
Stander	148.5	53.9	95	172	39	7
CDC Copeland	143.0	54.9	98	177	39	28
Harrington	131.1	54.1	89	176	36	18
Morex	127.1	53.4	94	171	40	30

Agronomic data of selected varieties grown on dryland at Tetonia, Idaho, 1998-2001

	Yield	Test Weight	Plump Barley	Heading Date	Plant Height
	bu/ac	lbs/ac	%	Julian	inches
years	4	4	4	4	1
85Ab2323	81.9	52.5	95	194	21
Camas	81.6	53.3	88	193	23
Targhee	77.9	51.5	89	194	23
Hector	77.6	51.8	83	195	21
Chinook	77.4	52.2	84	194	24
Criton	76.8	50.7	95	195	22
Bancroft	76.6	51.4	88	194	23
Baronesse	76.1	50.9	89	194	22
Steptoe	75.2	48.7	92	190	21
Merit	74.7	50.5	84	196	23
Harrington	72.9	51.0	81	195	24
Legacy	71.6	49.3	79	192	25
Clark	69.0	50.8	83	196	23
Munsing	68.5	51.8	83	193	20

Yield and test weight data* from the Western Dryland Spring Barley Nursery, Soda Springs, 1998-2000

Variety or Selection	Yield	Test Weight	Plump Barley	Date of Heading	Height
	bu/A	lbs/bu	%	Julia	inches
years	3	3	3	3	3
Bancroft	62.4	50.6	90	201	25
Baronesse	61.1	51.3	87	200	23
Xena	59.2	51.8	92	199	24
Steptoe	57.5	48.0	94	194	24
Chinook	57.3	52.0	92	202	24
Targhee	57.0	50.5	90	202	24
Cres	55.3	51.8	95	200	23
85Ab232	54.6	51.0	94	201	24
Hector	53.2	50.7	84	201	25
Criton	53.1	49.4	95	200	23
Clark	53.0	49.7	85	202	24
Harrington	52.4	51.2	89	201	23
Legacy	51.8	49.4	88	197	26
Merit	51.7	49.4	88	202	23
Munsing	50.4	52.3	94	196	20
Crystal	48.9	50.2	87	202	23

* Courtesy of the Idaho Barley Variety Enhancement Program

Malting quality data* for tw -rowed spring barley varieties grown under irrigation at Aberdeen, Idaho, 1998-2001

Variety or Selection	Kernel Weight (mg)	Plump Barley % over 6/6	Malt Extract (%)	Barley Protei (%)	Wort Protei (%)	S/T (%)	DP (oASBC)	Alpha-amylase (20oDU)	Beta-glucan (ppm)
years	3	3	3	3	3	3	3	3	3
AMBA Ideal		> 80 %	> 81 %	11.5-13.5	4.9-5.5%	40-45	120-140	45-60	< 115
Harrington	41.1	86.2	78.4	13.3	4.47	34.6	90	44.3	385
B1202	45.0	95.8	79.3	13.7	4.96	37.3	115	54.0	219
Bancroft	45.4	93.6	80.3	13.1	5.00	39.4	129	48.3	372
Chinook	45.3	93.6	79.1	14.1	5.25	37.9	153	55.6	471
Crest	42.5	91.8	79.4	13.7	5.85	43.3	119	69.1	186
Crystal	46.1	93.8	80.0	13.3	5.26	39.3	136	63.9	357
Galena	41.8	93.3	79.4	12.5	4.14	33.2	94	38.5	332
Garnet	47.4	97.3	80.9	13.0	5.44	42.9	142	61.7	201
IdaGold II	44.9	93.2	79.0	12.8	3.68	29.6	91	32.7	323
Merit	43.1	92.7	81.2	12.6	5.25	44.1	137	74.4	155
Moravian 14	37.6	93.1	79.0	13.0	4.38	34.5	110	38.5	219
Moravian 37	44.4	97.6	79.7	12.6	4.49	36.3	114	40.4	272
85Ab2323	47.1	92.8	79.9	13.8	5.34	39.9	128	51.6	272

* Malting quality data courtesy of USDA-ARS Cereal Crops Research Unit, Madison, Wisconsin.

Malting quality data* for si -rowed spring barley varieties grown under irrigation at Aberdeen, Idaho, 1998-2001

Variety or Selection	Kernel Weight (mg)	Plump Barley % over 6/64	Malt Extract (%)	Barley Protein (%)	Wort Protein (%)	S/T (%)	DP (oASBC)	Alpha-amylase (20oDU)	Beta-glucan (ppm)
years	3	3	3	3	3	3	3	3	3
AMBA Ideal		> 70 %	> 79*	11.3-13.3	5.2-5.6%	40-45	140-160	45-60	< 140
Morex	36.1	82.9	79.7	13.6	5.25	39.4	174	60.3	274
Stander	38.0	92.2	76.4	12.8	5.97	48.4	143	72.5	254
B1614	38.5	91.8	79.1	13.5	5.55	43.1	147	57.8	189
B2601	35.6	78.8	79.1	12.5	4.96	41.5	137	57.0	363
Colter	38.7	78.5	80.5	10.4	4.31	42.5	104	47.7	248
Drummon	37.6	93.6	78.7	13.7	5.16	39.0	169	58.4	209
Exce	37.1	88.7	80.2	12.1	5.85	50.6	147	62.7	344
Foster	38.4	85.0	79.2	12.2	5.08	43.7	148	61.9	216

* Malting quality data courtesy of USDA -ARS Cereal Crops Research Unit, Madison, Wisconsin.

WINTER BARLEY VARIETIES

TWO-ROWED BARLEY VARIETIES

FANFARE* **PUFFIN***
PIPKIN*

SIX-ROWED BARLEY VARIETIES

BOYER	**PLAISANT***
CYCLONE	**SCHUYLER**
EIGHT-TWELVE	**SCIO**
GWEN	**SHOWIN**
HESK	**SPRINTER**
HUNDRED	**STRIDER**
KAMIAK	**SUNSTAR PRIDE**
KOLD	

*** Malting quality barley varieties**

Agronomic data for selected winter barley varieties grown under irrigation at Aberdeen, Idaho, 1996-2000

Variety or Selection No.	Yield (bu/A)	Test Weight (lbs/bu)	Plump Barley (%)	Heading Date (Julian)	Plant Height (inches	Lodging (%)
years	4	4	1	4	4	2
Sunstar Pride	199.3	50.2	71	156	33	2
Boyer	195.5	50.2	86	150	35	3
Cyclone	184.3	49.6	96	147	35	3
Sprinter	184.0	51.5	96	152	35	3
Hesk	183.4	49.2	85	148	36	3
Hundred	183.0	48.9	86	150	34	2
Eight-Twelve	179.5	50.2	95	146	34	3
Strider	179.1	51.5	95	145	33	3
Scio	175.0	49.4	89	147	32	3
Kold	174.2	51.1	82	149	34	4
Schuyler	165.7	50.7	83	150	36	3
Showin	160.4	48.4	74	150	29	4
Gwen	160.4	50.9	90	141	35	3
Kamiak	155.6	50.2	89	141	38	4
Plaisant	152.5	53.2	88	144	35	2
88Ab536-B	151.9	52.1	86	141	38	2
Pipkin	142.8	55.2	98	153	36	4
Puffi	132.3	53.3	99	147	33	4

Agronomic data* for selected varieties from the Western Regional Winter Barley Nursery at Kimberly, Idaho, 1998-2000

Variety	Yield bu/ac	Tes Weight lbs/bu	Plump Barley %	Date of Headi Julia	Height inches
years	3	3	3	3	3
Sunstar Pride	162.1	48.8	77	152	32
Cyclone	152.4	50.6	77	144	33
Strider	149.3	49.4	87	141	35
Eight-twelve	143.3	50.6	83	142	32
Boyer	140.7	49.4	80	147	33
Gwen	139.8	50.2	79	138	34
Kold	139.4	49.4	77	145	34
Hundred	138.8	49.4	75	148	31
Sprinter	138.7	55.2	91	148	34
Scio	137.3	49.3	81	145	32
Hesk	137.3	49.2	80	145	35
Showin	135.5	48.2	73	146	29
Schuyler	130.7	50.4	67	147	35
Kamiak	125.4	51.0	80	138	35
Puffi	117.2	51.9	89	141	32
Pipkin	109.1	51.4	79	148	37

* Courtesy of the Idaho Barley Variety Enhancement Progra

Agronomic data for selected winter barley varieties grown under irrigation at Aberdeen, Idaho, 1998-2001

Variety or Selection	Row Number	Yield (bu/A)	Test Weight (lbs/bu)	Plump Barley (%)	Heading Date (Julian)	Plant Height (inches)	Lodging (%)
years		3	3	1	3	3	1
Sunstar Pride	6	209.4	51.4	71	157	33	4
Boyer	6	201.6	52.4	86	151	35	5
Eight-twelve	6	191.8	52.7	93	147	33	0
95Ab2299	2	174.1	55.7	95	150	35	2
94Ab1269	2	169.6	53.4	99	146	30	2
Schuyler	6	169.4	52.3	65	150	35	3
94Ab1274	2	167.9	53.6	97	147	32	2
Fanfare	2	165.9	55.1	99	149	33	1
Pipkin	2	155.9	56.4	98	153	36	6
Plaisant	6	155.6	53.1	88	139	37	3
Puffin	2	149.0	54.4	99	146	31	6
88Ab536-B	6	141.8	52.2	88	140	36	2

Malting quality data* for selected winter barley varieties grown under irrigation at Aberdeen, Idaho, 2001.

Variety or Selection	Rowed	Kernel Weight (mg)	Plump Barley (%)	Malt Extract (%)	Barley Protein (%)	Wort Protein (%)	S/T (%)	DP (° ASBC)	Alpha amylase (20° DU)	Beta-glucan (ppm)
years		2	2	2	2	2	2	2	2	2
AMBA IDEAL	2		>80%	>81%	11.2-12.8%	4.9-5.5%	40-45%	120-140	45-60	<115
AMBA IDEAL	6		>70%	>79%	11.3-13.3%	5.2-5.6%	40-45%	140-160	45-60	<140
Fanfare	2	44.6	95.4	77.7	14.0	4.42	31.7	98	37.4	100
Pipkin	2	38.7	92.6	77.3	11.4	3.91	34.2	88	41.9	155
Puffi	2	45.2	96.7	76.3	12.8	4.25	33.3	103	32.1	309
Plaisant	6	38.9	90.9	77.6	11.9	3.71	31.9	106	37.8	428
88Ab536-B	6	32.9	78.5	78.6	12.1	4.65	38.7	156	49.8	187
94Ab1269	2	48.1	98.7	80.6	12.5	5.43	45.5	124	68.5	143
94Ab1274	2	46.8	97.8	81.9	12.0	5.47	47.6	122	66.9	83
95Ab2299	2	40.0	93.3	79.0	12.8	5.47	43.8	129	75.9	151
Morex	6	32.7	75.2	79.4	13.0	6.46	52.1	155	70.8	132

DATA AND STATISTICS PROVIDED BY:

The American Malting Barley Association, Inc.
The Idaho Barley Variety Enhancement Program
University of Idaho Agricultural Experiment Station
Karen L. Dempster and Larry D. Robertson
Idaho Barley Commission
USDA-ARS Cereal Crops Research Unit, Madison, Wisconsin

TECHNICAL HELP PROVIDED BY:
David Burrup, USDA-ARS, Aberdeen
Kay Calzada, USDA-ARS, Aberdeen
Karla Reynolds, USDA-ARS, Aberdeen