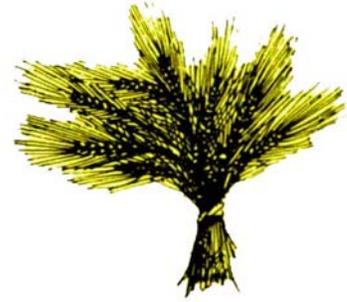
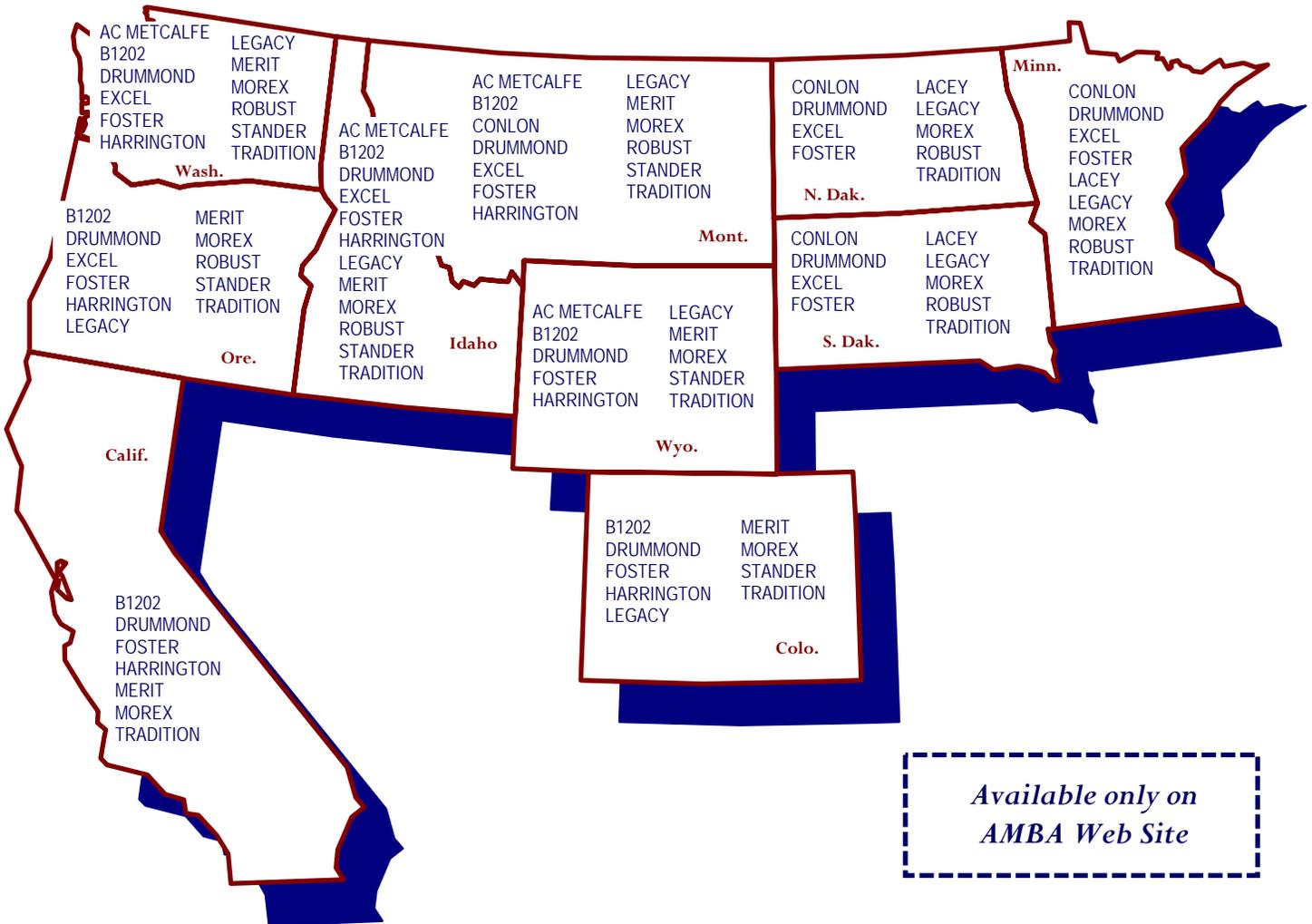


# Know Your



## 2005 MALTING BARLEY VARIETIES



These varieties are recommended by AMBA for planting in 2005. These malting varieties when grown in the states recommended and when delivered to market in pure carlots of sound, bright, plump, low moisture barley in an acceptable protein range may command premium prices over feed barley.

*prepared and distributed by*

**AMERICAN MALTING BARLEY ASSOCIATION, INC.**

740 N. Plankinton Avenue, Suite 830, Milwaukee, WI 53203

<http://www.AMBAinc.org>



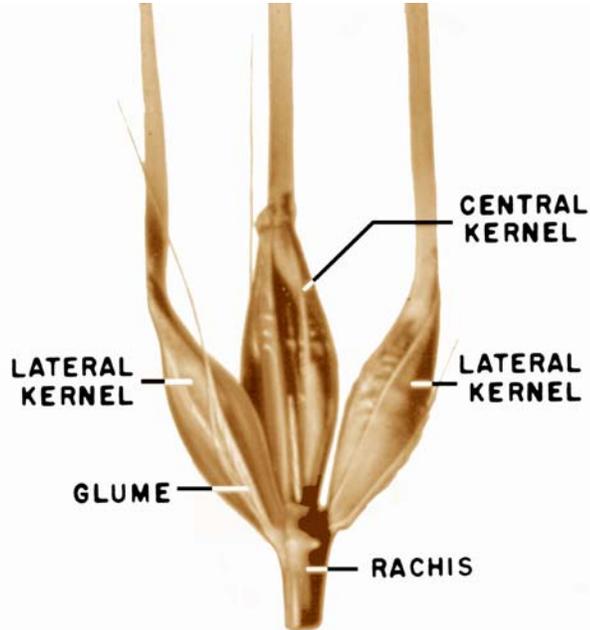
## VARIETY IDENTIFICATION PROCEDURE

### VARIETY IDENTIFICATION IS NOT DIFFICULT

Surveys show that in any one community there are usually not more than five or six varieties. With careful study of typical, pure kernel samples one can learn to recognize local varieties with a high degree of accuracy.

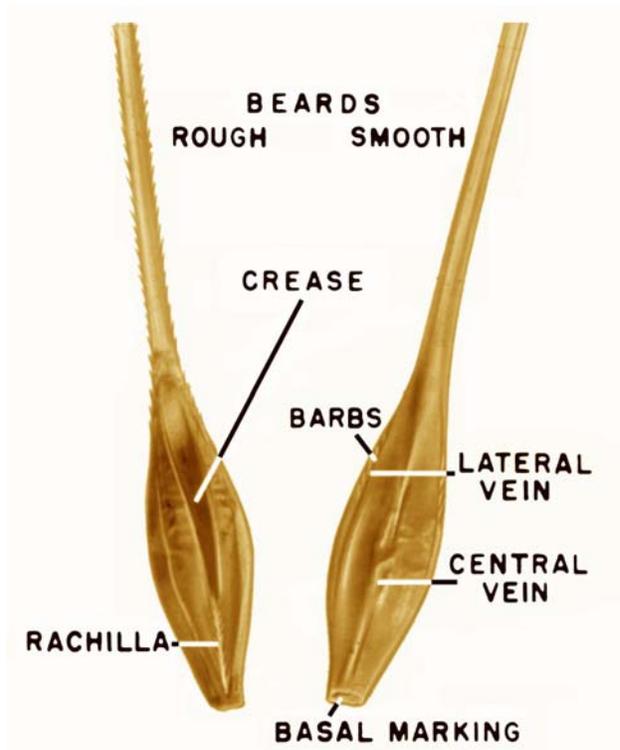
#### GUIDES IN IDENTIFYING KERNELS OF BARLEY VARIETIES

1. Study type samples - look at the sample as a whole, not at only a few individual kernels. Line up a row of 10-20 kernels pointing the base end toward the light source.
2. Use a magnifier with a good strong light - north daylight is best.
3. Know which varieties are being grown in your area - keep an eye open for any new introductions. Study varietal kernel characteristics for each new crop.
4. Do not be afraid to look and look, and look again.



#### TO IDENTIFY A SAMPLE

- A. Check general appearance of the sample. A pure sample will usually appear uniform. A sample containing a mixture of varieties generally has a non-uniform appearance.
- B. Determine the major kernel characters as follows:



1. Six-Row or Two-Row - The lateral or side kernels in six-row varieties are twisted. Therefore, in six-row varieties, two-thirds of the kernels are twisted. In two-row varieties, which have no lateral kernels, all kernels are straight and symmetrical and none are twisted.
2. White or Blue pearl (aleurone) – This is an easy character to determine with the use of a barley pearling machine. Sometimes blue varieties may have very weakly developed blue color and can be confused with white pearls.
3. Rough or Smooth Beards (awns) – There are usually enough broken pieces of beard or short pieces of beard attached to the kernel so that this character can easily be determined. Most smooth or semi-smooth bearded varieties have a few barbs at the tip but have no barbs on the rest of the beard.

4. Long or Short Hairs on Rachilla - This is an excellent character to use but a hand magnifying lens is needed to see the rachilla hairs. The difference between long and short hairs is very pronounced and does not vary from year to year or in different areas. Some varieties have aborted rachillas, these can be seen readily with the naked eye.

C. If the above characters are not sufficient to identify a variety, other characters will have to be used. The most useful are described below:

1. The basal mark can vary from a depression to a transverse crease. A depression is a smooth uniform hollow or “dimple”. A transverse crease is a sharp fold or line.

2. Crease shape may vary from wide, open and V-shaped from base of kernel to narrow and almost closed. In some varieties the crease is closed in the bottom half of the kernel and flaring at the tip end. This character will vary with growing conditions and plumpness of kernel.

3. Barbs on lateral veins can be seen with a magnifying glass or felt with the finger. Their number varies from none to many in different varieties. These barbs are not related to the barbs on the beards of rough bearded varieties.

4. Hairs on glumes require careful observation with a hand magnifying lens to determine the length of hairs and their location on the glume. This can be a very useful character in varieties such as Foster where the glumes are covered with long hairs.

5. Kernel shape varies with growing conditions but can be of value in a local area. The relationship between length and width and fullness in different parts of the kernel are useful characters. Kernel shape may be smooth and tapered or there may be prominent bulges or other distinctive features.

6. Wrinkling of the hull varies from very fine to coarse. Many two-row varieties have numerous, very fine wrinkles. Some varieties, such as Steptoe, have very little wrinkling and may have a smooth hull.

C. In any area one may find additional characters which will be of use in identifying local varieties. It is important to study locally grown samples each year as some kernel characters may vary depending on the season and location at which a variety is grown.

#### RACHILLA HAIRS



Rachilla hairs: left – long, center – short, right - aborted

## KERNEL CHARACTERS



Hairiness of glumes: left to right – covered, in band, on midline, without hairs or smooth.

## GLUME HAIRS



Variations in crease shape and width.

## CREASE SHAPE

## KERNEL CHARACTERS



Basal mark: left – depression, center – depression tending to crease, right – transverse crease.

## BASAL MARK



Wrinkling of hulls: left – slightly wrinkled, center – semi-wrinkled, right – wrinkled.

## HULL WRINKLING

## SIX-ROW MALTING BARLEY VARIETIES

### DRUMMOND

PEARL	White
RACHILLA	Long Hairs
BEARD	Semi-smooth

Crease narrow at base, flared toward beard end. Kernel, midlong to long, plump, with no prominent bulges.



### EXCEL

PEARL	White
RACHILLA	Long Hairs
BEARD	Smooth

Hull wrinkled. Crease narrow at base, flared toward beard end. Long hairs on rachilla may be infrequent, fragile.



### FOSTER

PEARL	White
RACHILLA	Long Hairs
BEARD	Semi-smooth

Crease V-shaped, narrow at base. Kernel plump and wide at center. Lateral kernels moderately twisted.



### LACEY

PEARL	White
RACHILLA	Short Hairs
BEARD	Smooth

V-shaped, narrow at base. Kernels medium large, plump, and wide at center. Veins moderately prominent.



## LEGACY

PEARL	White
RACHILLA	Long Hairs
BEARD	Smooth

Crease V-shaped with crease hairs. Several barbs on lateral veins. Hull wrinkled with sharkskin in interveinal areas.



## MOREX

PEARL	White
RACHILLA	Short Hairs
BEARD	Smooth

Crease V-shaped, more open than Robust. Moderately prominent veins. Hull more wrinkled than Robust. Few to no barbs on lateral veins.



## ROBUST

PEARL	White
RACHILLA	Short Hairs
BEARD	Smooth

Crease V-shaped, narrow at base. Hull slightly wrinkled. Barbs on lateral veins absent. Central vein moderately prominent, lateral veins less prominent. Kernel wide at center, full on crease side.



## STANDER

PEARL	White
RACHILLA	Short Hairs
BEARD	Smooth

Crease V-shaped, narrow at base. Medium large kernel is wide at center and tapering to both ends. Plump as Robust. Lateral kernels are moderately twisted.



## SIX-ROW MALTING BARLEY VARIETIES (cont.)

### TRADITION

PEARL	White
RACHILLA	Long Hairs
BEARD	Semi-smooth

Crease V-shaped with crease hairs and fence hairs. Kernel is midlong to long and narrow.



## TWO-ROW MALTING BARLEY VARIETIES

### AC Metcalfe

PEARL	White
RACHILLA	Long Hairs
BEARD	Rough

Crease narrow at base, flared toward beard end.



### B1202

PEARL	White
RACHILLA	Long Hairs
BEARD	Rough

Crease narrow at base, flared toward beard end. Loose hull.



## CONLON

PEARL	White
RACHILLA	Long Hairs
BEARD	Semi-Smooth

Crease narrow and shallow at the base, flared toward beard end. Kernel plump, symmetrical, smooth with no prominent bulges.



## HARRINGTON

PEARL	White
RACHILLA	Long Hairs
BEARD	Rough

Crease narrow, shallow and flared toward beard end. Barbs on lateral veins absent. Kernel broad and diamond shaped. Hull smooth to slightly wrinkled and skins easily.



## MERIT

PEARL	White
RACHILLA	Long Hairs
BEARD	Rough

Crease narrow at base, flared toward beard end. Prominent lateral veins. Mid-long kernel.



## KEY TO KERNEL IDENTIFICATION

<u>Variety</u>	<u>Pearl</u>	<u>Beard</u>	<u>Rachilla Hairs</u>	<u>Basal Mark</u>	<u>Hull Vein Barbs</u>	<u>Lateral Glume- Hair</u>	<u>Other Characters</u>
<b><u>SIX-ROW VARIETIES</u></b>							
* B2601	W	S	S	DC	W	F	Crease V-shaped. Humped back kernel.
Colter	W	S	L	C	W	N-F	Crease deep, relatively open at base and flared toward beard end.
** Drummond	W	SS	L	D	W	N	Crease narrow at base, flared toward beard end. Kernel, midlong to long, plump, with no prominent bulges.
** Excel	W	S	L	DC	W	N-F	Crease narrow at base, flared toward beard end. Long hairs on rachilla may be infrequent, fragile.
** Foster	W	SS	L	DC	W	N	Crease V-shaped, narrow at base.
** Lacey	W	SS	S	DC	W	F	Crease V-shaped, narrow at base. Kernels medium large, plump, and wide at center. Veins moderately prominent.
** Legacy	W	SS	L	DC	W	S	Crease V-shaped with crease hairs. Several barbs on moderately prominent lateral veins. Hull wrinkled with sharkskin in interveinal areas.
** Morex	W	S	S	DC	W	N-F	Crease V-shaped, more open than Robust. Moderately prominent veins. Hull more wrinkled than Robust.
** Robust	W	S	S	DC	W	N	Crease V-shaped, narrow at base. Central vein moderately prominent, lateral veins less prominent. Kernel wide at center, full on crease side.
** Stander	W	S	S	DC	W	N-F	Crease V-shaped, narrow at base. Plump as Robust.
Step toe	W	S&R	L	C	S	Nu	Crease closed and deep in lower two-thirds, flaring at beard end. Prominent veins.
** Tradition	W	SS	L	D	W	S	Crease V-shaped with crease hairs and fence hairs. Kernel long and narrow.
Westbred 501	W	SS	L	D	W	N	Crease closed in lower one-third, shallow, flaring at beard end. Slightly prominent veins.
<b><u>TWO-ROW VARIETIES</u></b>							
AC Metcalfe	W	R	L	D	W	F	Crease narrow at base, flared toward beard end.
** B1202	W	R	L	D	W	N	Crease narrow at base, flared toward beard end. Loose hull.
Baronesse	W	R	L	D	W	N	Mid-long to long kernel. Crease narrow lower half, flared at beard end. Lateral sterile florets are extremely reduced in size vs typical two-row barley.
Bowman	W	SS	L	DC	W	N	Crease narrow and shallow at base, flared toward beard end. Plump kernel, broad in relation to length.
Camelot	W	R	L	D	W	N	Crease narrow at base, flaring moderately toward beard end.

<u>Variety</u>	<u>Pearl</u>	<u>Beard</u>	<u>Rachilla Hairs</u>	<u>Basal Mark</u>	<u>Hull</u>	<u>Lateral Vein Barbs</u>	<u>Glume-Hair</u>	<u>Other Characters</u>
**Conlon	W	SS	L	DC	W	N	B/L	Crease narrow and shallow at base, flared toward beard end. Kernel plump, symmetrical, smooth with no prominent bulges.
Gallatin	W	R	S	D	W	N	C/S	Crease narrow at base, flared toward beard end.
*Garnet	W	R	L	DC	W	N	C/L	Lateral veins prominent. Kernels broad at midpoint, giving kernels a diamond shape.
**Harrington	W	R	L	D	S-W	N	C/L	Crease narrow, shallow. Loose Hull. Diamond shaped kernel.
Hector	W	R	L	DC	W	N	B/L	Crease narrow, shallow. Veins well defined. Kernel broad in relation to length.
Lewis	W	R	L	D	W	N	C/L	Crease narrow at base, flared toward beard end.
Logan	W	SS	L	D	W	F	B/L	Crease moderately wide, flared toward beard end. Kernel large, plump, and smooth with no prominent bulges.
**Merit	W	R	L	D	W	F	B/L	Crease narrow at base, flared toward beard end. Prominent veins. Mid-long kernel.
Moravian 14	W	R	L	D	W	N	C/S	Crease narrow at base, flared toward beard end. Short, round kernel.
Moravian 37	W	R	L	D	W	N	C/L	Crease V-shaped. Narrow at base, flared toward beard end.
*Piroline	W	R	S	D	W	N-F	C/S	Crease nearly closed in basal two-thirds then flaring open towards beard end. Well-defined veins. Mid-long kernel.
Stark	W	S	L	D	W	N	B/L	Crease narrow at base, flared towards beard end.
Valier	W	R	L	D	W	N-F	C/L	Crease narrow lower half, flared at beard end. Prominent veins.
Xena	W	R	L	D	W	N	C/S	Crease narrow in lower half, flared toward beard end.

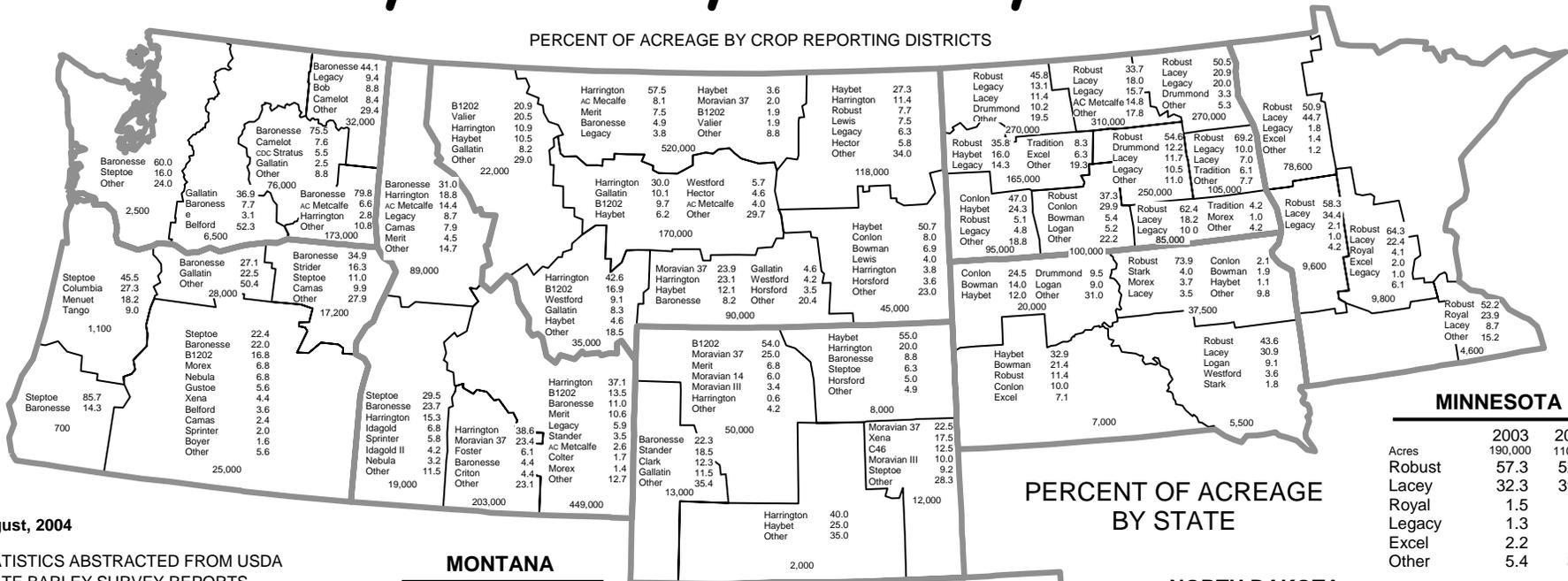
**TWO-ROW VARIETIES (continued)**

\*\*Recommended by AMBA for planting in 2005. \*Recommended in previous years.

ABBREVIATIONS Variety: w-winter; Pearl: W-white, B-blue; Beard: R-rough, S-smooth, SS-semi-smooth; Rachilla Hairs: S-short, L-Long; Basal Mark: D-depression, C-crease, DC-depression tending to crease; Hull: W-wrinkled, S-smooth; Lateral Vein Barbs: N-none, F-few, S-several, Nu-numerous; Glume-hair: C-Covered, B-band, M-midline, S-short, L-long.

# Barley Variety Survey - 2004

PERCENT OF ACREAGE BY CROP REPORTING DISTRICTS



August, 2004

STATISTICS ABSTRACTED FROM USDA  
STATE BARLEY SURVEY REPORTS  
2004 Preliminary  
2003 Revised  
BARLEY ACREAGE PLANTED IN EACH  
DISTRICT IN 2004 IS INDICATED  
BENEATH THE DISTRICT LIST OF  
VARIETIES.

MAP PREPARED AND DISTRIBUTED BY:  
American Malting Barley Association, Inc.  
740 N. Plankinton Ave., Suite 830  
Milwaukee, WI 53203 / (414) 272-4640

Compiled by United States Department of  
Agriculture/National Agriculture Statistics Service  
and cooperating state agencies. Supporting funds  
provided by American Malting Barley Association,  
Inc.; Idaho Barley Commission; Montana Wheat &  
Barley Committee; North Dakota Barley Council;  
Oregon Grains Commission; and Washington  
Barley Commission.



American Malting Barley Association, Inc.

## MONTANA

Acres	2003	2004
Harrington	47.1	40.3
Haybet	9.9	9.9
AC Metcalfe	0.7	5.0
Merit	3.8	4.4
Baronesse	4.1	3.9
B1202	4.9	3.9
Gallatin	2.9	3.4
Moravian 37	3.9	3.2
Legacy	1.0	2.8
Hector	1.8	2.4
Other	19.9	20.8

## IDAHO

Acres	2003	2004
Harrington	32.6	34.8
Baronesse	13.9	11.9
B1202	8.0	8.1
Merit	7.6	6.8
Moravian 37	6.1	6.3
Legacy	4.3	4.6
AC Metcalfe	1.0	3.2
Stander	2.2	2.1
Foster	1.3	2.0
Criton	1.0	1.7
Other	22.0	18.5

## WASHINGTON

Acres	2003	2004
Baronesse	68.1	72.9
AC Metcalfe	3.4	5.0
Camelot	4.6	3.0
CDC Stratus	1.5	2.6
Harrington	5.6	2.4
Legacy	---	2.1
Xena	2.0	1.7
Gallatin	2.4	1.6
Bob	---	1.3
Boyer	0.3	0.9
Other	12.1	6.4

## COLORADO

Acres	2003	2004
Moravian 14	54.1	47.5
Moravian 37	30.0	26.1
Alexis	5.9	11.3
Step toe	2.4	4.3
Otis	2.0	1.8
Baronesse	1.6	1.5
Moravian 69	---	1.5
Schuyler	1.5	1.4
Other	2.5	4.8

## OREGON

Acres	2003	2004
Baronesse	29.4	26.7
Step toe	7.9	12.2
Gallatin	9.0	9.6
Camas	16.1	9.2
Harrington	4.7	7.9
B1202	1.5	5.8
Strider	2.3	5.6
Belford	5.6	2.6
Morex	3.0	2.4
Kold	0.4	1.9
Other	20.1	16.1

## WYOMING

Acres	2003	2004
B1202	37.6	32.8
Moravian 37	24.1	17.9
Haybet	4.0	6.9
Moravian 14	2.9	4.7
Merit	2.2	4.5
Baronesse	6.4	4.4
Harrington	3.7	4.0
Xena	3.3	4.0
Moravian III	1.1	3.4
Stander	---	2.9
Other	14.7	14.5

## PERCENT OF ACREAGE BY STATE

### MINNESOTA

Acres	2003	2004
Robust	57.3	52.4
Lacey	32.3	39.5
Royal	1.5	1.8
Legacy	1.3	1.5
Excel	2.2	1.2
Other	5.4	3.6

### SOUTH DAKOTA

Acres	2003	2004
Robust	41.1	46.4
Conlon	13.5	9.1
Haybet	4.9	7.3
Bowman	6.9	7.1
Stark	5.2	4.6
Lacey	1.9	4.3
Logan	9.9	3.9
Drummond	---	2.7
Morex	---	2.0
Other	16.6	12.6