

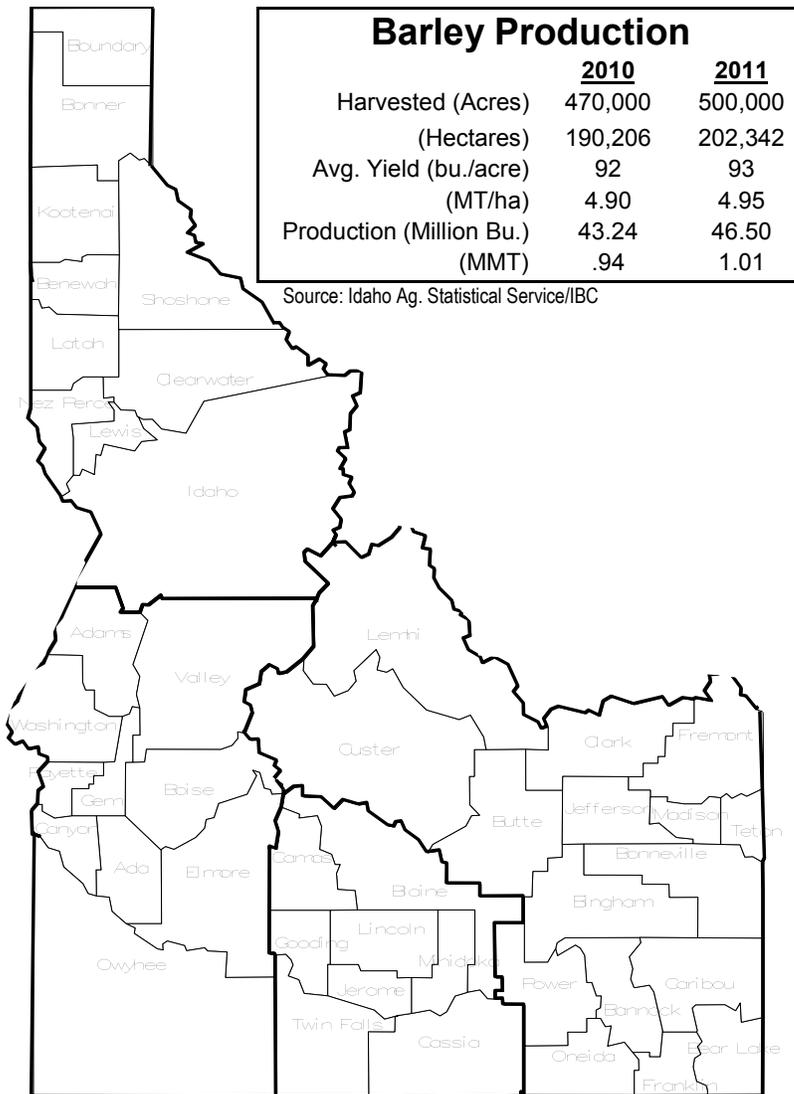


***2011***

***BARLEY QUALITY***

***REPORT***

# 2011 IDAHO BARLEY QUALITY REPORT



## Summary

Idaho barley production totaled 46.5 million bushels from 500,000 harvested acres in 2011, representing an increase of 8% in output from the previous year. Quality was good overall.

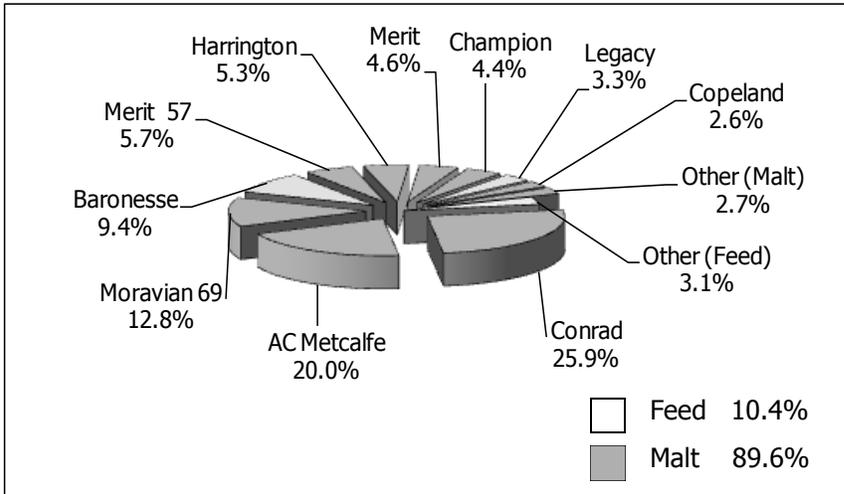
**Approximately 77% of Idaho's barley sampled received a USDA/FGIS grade of #1.** There were 686 barley samples collected from Idaho elevators, commodity brokers and farmers. The samples were separated by class, variety and region. They were graded at a licensed Federal Grain Inspection Service (FGIS) facility.

Average weight was slightly higher than last year at 50.1 pounds per bushel (lb/bu). ninety-eight percent of the 2-row malting barley crop tested 48 lb/bu or better and seventy-six percent of the 6-row malting barley crop tested 48 lb/bu or better. Overall thins averaged 1.5% and plumps averaged 94.6%. Protein averaged 11.3% statewide and moisture averaged 10.5%. The average for skinned and broken kernels was 1.5%.

## Average Statewide Barley Quality

Type	# Samples	Test Wt. <sup>1</sup>		1000 Knl (grams)	Moist %	Thin <sup>2</sup> %	Protein	Sound <sup>3</sup>	Skn/Br <sup>4</sup> %	% Plump	Average
		(lb/bu)	(kg/hl)								
2-R Feed	42	50.97	65.65	40.75	10.32	1.80	11.09	98.42	0.90	94.40	1.19
6-R Feed	14	47.18	60.77	0.00	9.92	5.13	11.99	99.31	0.00	0.00	1.64
2-R Malting	188	50.60	65.17	55.05	18.71	1.90	11.14	99.72	1.99	92.63	1.30
6-R Malting	442	49.35	63.56	36.33	11.13	1.19	11.31	99.82	2.93	93.64	1.00
<b>2011 Avg.</b>	<b>686</b>	<b>50.11</b>	<b>64.54</b>	<b>42.04</b>	<b>10.93</b>	<b>1.50</b>	<b>11.23</b>	<b>99.42</b>	<b>2.69</b>	<b>94.57</b>	<b>1.28</b>
2010 Avg.	506	49.59	63.88	41.35	10.48	2.09	11.31	99.96	1.47	92.44	1.43
5 Yr Avg.	497	49.32	63.52	39.81	10.09	2.87	11.60	99.21	1.73	88.31	1.47

# 2011 IDAHO BARLEY VARIETIES MALTING VS FEED



### Top Ten Idaho Varieties

Variety	Planted Acres	Hectares	% of Prod.
Conrad (2-Row Malt)	111,000	44,921	25.9%
AC Metcalfe (2-Row Malt)	85,700	34,682	20.0%
Moravian 69 (2-Row Malt)	54,600	22,096	12.8%
Baronesse (2-Row Feed)	40,400	16,350	9.4%
Merit 57 (2-Row Malt)	24,500	9,915	5.7%
Harrington (2-Row Malt)	22,500	9,106	5.3%
Merit (2-Row Malt)	19,900	8,053	4.6%
Champion (2-Row Feed)	18,800	7,608	4.4%
Legacy (2-Row Feed)	14,300	5,787	3.3%
Copeland (2-Row Malt)	11,300	4,573	2.6%
Other Malt	11,700	4,735	2.7%
Other Feed	13,400	5,423	3.1%
<b>TOTAL:</b>	<b>428,100</b>	<b>173,250</b>	<b>100%</b>

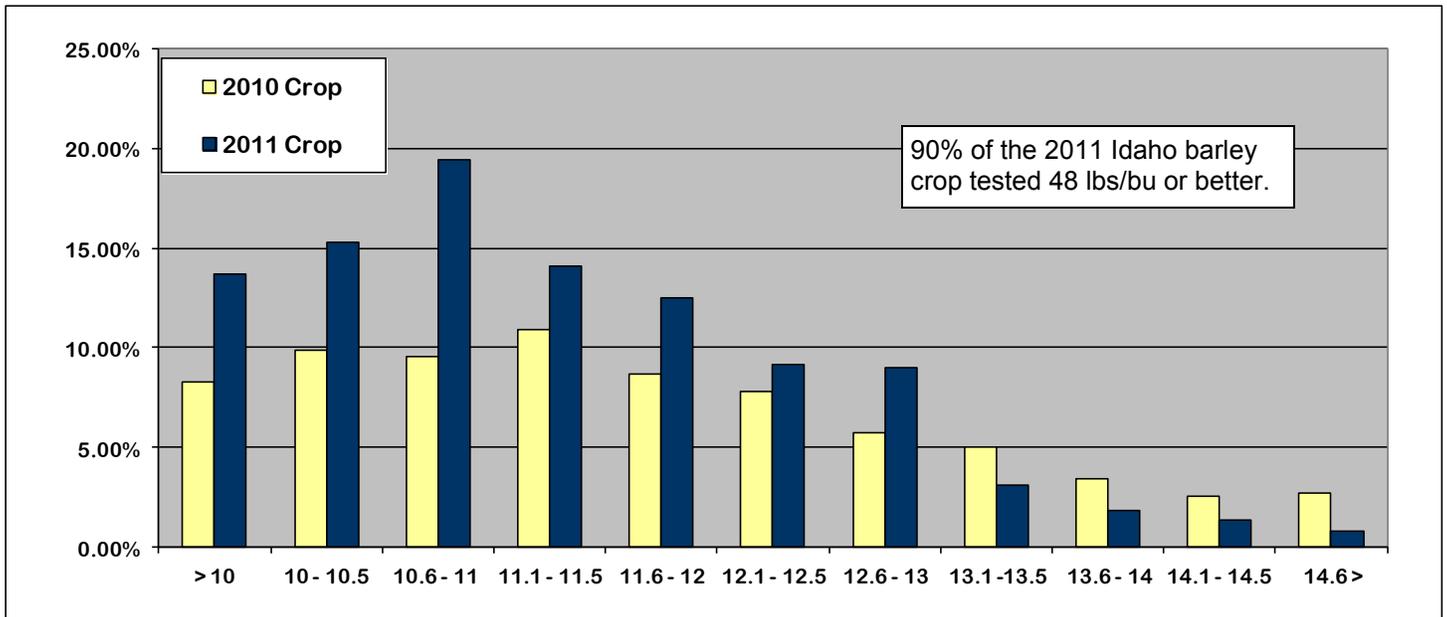
Source: 2011 IBC/Idaho Ag Statistics Service

Source: 2011 IBC/Idaho Ag Statistics Service

## 2011 Idaho Barley Quality By Variety

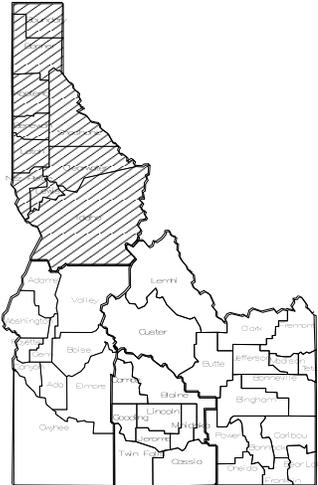
Variety	Type/Use	# Samples	Test Wt. (lbs/bu)	1000 Knl (grams)	Moisture %	Thin %	Protein %	Sound %	Skn/Br%	Plump%	Average
Legacy	2-Row Malt	174	50.33	36.08	14.33	1.24	14.44	99.90	3.07	92.06	1.00
AC Metcalfe	2-Row Malt	138	50.84	42.65	11.30	1.30	10.64	99.64	127.54	50.81	41.62
Conrad	2-Row Malt	127	50.81	41.62	10.54	1.33	11.32	99.89	2.72	95.06	1.33
Moravian 69	2-Row Malt	33	51.09	45.12	9.78	1.98	10.66	99.81	1.32	90.68	1.00
Copeland	2-Row Malt	31	51.09	45.12	9.78	1.54	12.61	99.81	2.85	93.49	1.50
Tradition	6-Row Malt	19	47.00	40.00	11.16	1.06	11.66	99.90	4.51	93.89	1.00
Charles	2-Row Malt	11	49.51	42.58	9.92	1.33	10.92	0.00	1.54	90.50	1.00
Merit	2-Row Malt	11	48.13	41.13	10.00	2.45	10.32	99.77	1.42	82.80	1.63

## Idaho Barley Test Weight Distribution 2010-2011



# 2011 Regional Quality

## North Idaho



### Barley Production

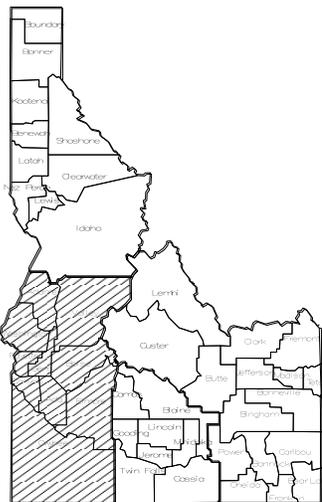
	<u>2010</u>	<u>2011</u>
<b>Harvested (Acres)</b>	32,900	34,000
(Hectares)	13,314	13,759
% Idaho Acreage	7%	6.8%

Source: Idaho Ag. Statistical Service/IBC

### Barley Varieties Planted

Champion	43.1%
Baronesse	10.9%
Spaulding	8.3%
AC Metcalfe	4.6%
Conrad	2.6%
Harrington	2.0%
Other Malting	1.1%
Other Feed	3.1%

Type	# Samples	Test Wt. <sup>1</sup> (lb/bu)	(kg/hl)	1000 Knl (grams)	Moist %	Thin <sup>2</sup> %	Protein	Sound <sup>3</sup>	Skn/Br <sup>4</sup> %	% Plump <sup>5</sup>	Average
2-R Feed	5	54.90	70.71	0.00	9.90	1.16	10.72	99.78	0.00	0.00	1.20
6-R Feed	5	51.50	66.33	44.17	9.32	2.52	12.16	99.80	1.80	93.35	1.00
<b>2011 Avg.</b>	<b>10</b>	<b>53.20</b>	<b>68.52</b>	<b>44.17</b>	<b>9.61</b>	<b>1.84</b>	<b>11.44</b>	<b>99.79</b>	<b>0.90</b>	<b>93.35</b>	<b>1.10</b>
2010 Avg.	14	49.41	63.64	40.36	10.58		11.26	99.74	1.80	88.90	1.93
5 Yr Avg.	12	49.58	61.52	42.27	8.77	4.22	11.36	91.25	0.90	91.43	1.24



## Southwest Idaho

### Barley Production

	<u>2010</u>	<u>2011</u>
<b>Harvested (Acres)</b>	5,640	6,000
(Hectares)	2,282	2,428
% Idaho Acreage	1.2%	1.2%

Source: Idaho Ag. Statistical Service/IBC

### Barley Varieties Planted

Haybet	13.3%
Baronesse	13.3%
Millennium	11.7%
Steptoe	10.0%
Other Feed	23.3%

Type	# Samples	Test Wt. <sup>1</sup> (lb/bu)	(kg/hl)	1000 Knl (grams)	Moist %	Thin <sup>2</sup> %	Protein	Sound <sup>3</sup>	Skn/Br <sup>4</sup> %	% Plump <sup>5</sup>	Average
2-R Feed	7	49.86	64.22	0.00	8.86	5.10	11.07	99.81			1.29
6-R Feed	3	46.50	59.89	0.00	9.23	6.43	12.00	99.47			1.67
<b>2011 Avg.</b>	<b>10</b>	<b>48.18</b>	<b>62.05</b>	<b>0.00</b>	<b>9.05</b>	<b>5.77</b>	<b>11.54</b>	<b>99.64</b>			<b>1.00</b>
2010 Avg.	8	51.09	65.80	0.00	11.25	1.45	10.55	99.46			1.00
5 Yr Avg.	9	44.05	53.06	0.00	7.70	5.46	10.18	83.82			1.37

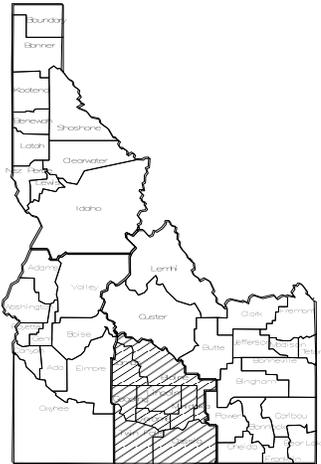
<sup>1</sup> Weighted average by regional production

<sup>2</sup> % Thins: 2-rowed kernels passing through a 5/64 x 3/4 in. (2.2 x 19 mm) slotted sieve  
6-rowed kernels passing through a 5/64 x 3/4 in. (2.0 x 19 mm) slotted sieve

# 2011 Regional Quality

## South Central Idaho

### Barley Varieties Planted



### Barley Production

	2010	2011
<b>Harvested (Acres)</b>	125,020	132,500
(Hectares)	50,594	53,621
% Idaho Acreage	26.6%	26.5%

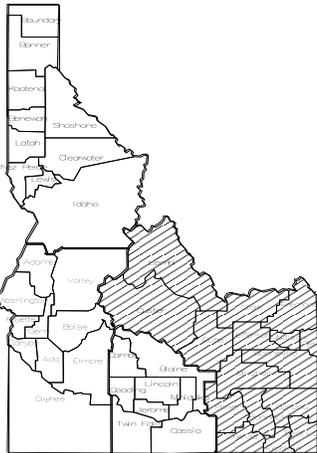
Source: Idaho Ag. Statistical Service/IBC

Moravian 69	38.3%
Conrad	12.2%
Criton	11.2%
Charles	7.1%
AC Metcalfe	5.0%
Baronesse	3.2%
Westbred 501	2.6%
Other Malting	7.6%
Other Feed	10.4%

Type	# Samples	Test Wt. <sup>1</sup>		1000 Knl (grams)	Moist %	Thin <sup>2</sup> %	Protein	Sound <sup>3</sup>	Skn/Br <sup>4</sup> %	% Plump <sup>5</sup>	Average
		(lb/bu)	(kg/hl)								
2-R Feed	10	46.12	59.40	0.00	8.91	2.08	11.01	88.55	0.00	91.50	0.90
6-R Feed	9	47.17	60.75	0.00	10.32	7.63	12.44	99.17	0.00	91.50	1.67
2-R Malting	18	52.44	67.55	43.21	9.82	2.92	11.00	99.56	1.41	91.50	1.18
<b>2011 Avg.</b>	<b>47</b>	<b>48.58</b>	<b>62.57</b>	<b>43.21</b>	<b>9.68</b>	<b>4.21</b>	<b>11.49</b>	<b>95.76</b>	<b>1.41</b>	<b>91.50</b>	<b>1.25</b>
2010 Avg.	27	51.15	65.88	43.21	9.91	3.01	11.20	99.75	1.41	91.50	1.48
5 Yr Avg.	61	30.35	39.09	34.39	5.70	2.38	7.11	76.97	1.34	113.12	0.73

## Southeast Idaho

### Barley Varieties Planted



### Barley Production

	2010	2011
<b>Harvested (Acres)</b>	306,440	327,500
(Hectares)	124,012	132,535
% Idaho Acreage	65.2%	65.5%

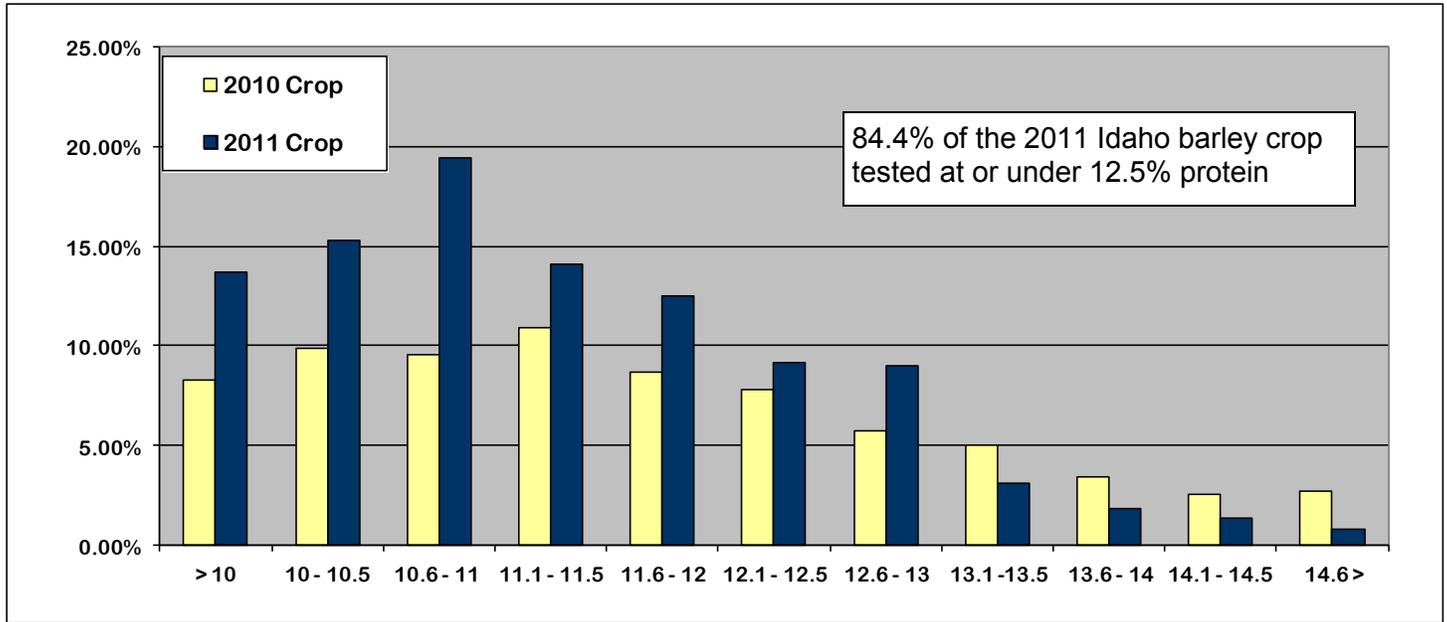
Source: Idaho Ag. Statistical Service/IBC

Conrad	28.0%
AC Metcalfe	23.1%
Baronesse	9.4%
Merit 57	7.3%
Harrington	6.1%
Merit	5.7%
Legacy	5.5%
Copeland	2.9%
Tradition	1.6%
Other Malting	2.4%
Other Feed	5.7%

Type	# Samples	Test Wt. <sup>1</sup>		1000 Knl (grams)	Moist %	Thin <sup>2</sup> %	Protein	Sound <sup>3</sup>	Skn/Br <sup>4</sup> %	% Plump <sup>5</sup>	Average
		(lb/bu)	(kg/hl)								
2-R Feed	22	48.00	61.82	40.75	10.59	1.51	10.21	92.96	0.90	94.40	1.18
6-R Feed	2	48.25	62.15	0.00	9.15	1.90	9.95	99.70	0.00	92.71	1.50
2-R Malting	169	50.55	65.11	42.58	26.28	4.64	11.12	99.70	2.05	92.53	1.29
6-R Malting	441	49.33	63.54	36.33	11.13	1.17	11.31	99.83	2.86	93.64	1.00
<b>2011 Avg.</b>	<b>634</b>	<b>49.03</b>	<b>63.51</b>	<b>39.89</b>	<b>14.28</b>	<b>2.31</b>	<b>10.65</b>	<b>98.05</b>	<b>1.45</b>	<b>93.52</b>	<b>1.24</b>
2010 Avg.	447	48.93	63.02	40.64	10.74	2.84	11.99	98.75	1.40	92.71	1.41
5 Yr Avg.	426	48.55	62.53	47.13	10.81	3.10	11.84	98.35	1.54	87.76	1.54

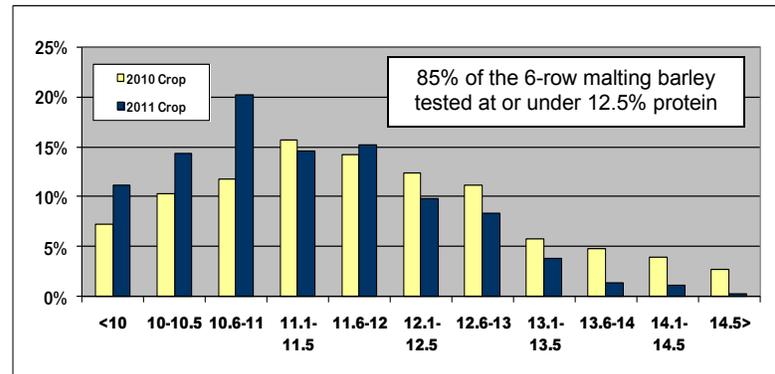
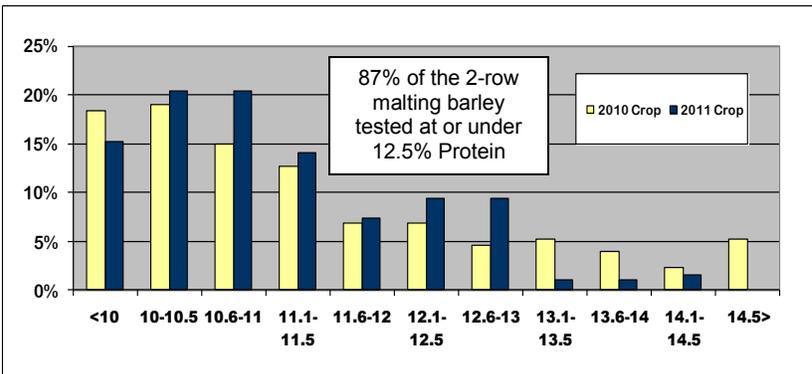
<sup>3</sup> % Sound = 100 % dockage free barley (minus) % damaged kernels, % foreign material, % other grains, % wild oats  
<sup>4</sup> % Skinned and broken kernels <sup>5</sup> % Plumps: Kernels retained on or above 6/64 x 3/4 in. (2.4 x 19 mm) slotted sieve

# Idaho Barley Protein Distribution 2010-2011



## 2-Row Malting Barley Protein

## 6-Row Malting Barley Protein



## METHODS EMPLOYED AND DEFINITION OF TERMS AND SYMBOLS

**TEST WEIGHT** - Test weight was determined on dockage free barley using a Seedburow Model #8850 computer grain scale. Test weight was expressed in pounds per bushel. In the event sample moisture exceeded 13.5%, the sample was allowed to air-dry prior to test weight determination.

**MOISTURE** - Moisture expressed as % of total weight was determined by using a Dicky-john gac2100.

**PROTEIN** - Percent total protein calculated on a dry basis was determined by infratech model 1241 whole grain analyzer using ANN calibration.

**PLUMP BARLEY** - Barley that remains on top of a 6/64 x 3/4 slotted-hole sieve after sieving.

**THIN BARLEY** - For the class Barley<sup>1</sup> and 6-row barley which passes through a 5/64 x 3/4 slotted-hole sieve and 2-row malting barley<sup>2</sup> which passes through a 5.5/64 x 3/4 slotted-hole sieve after sieving.

<sup>1</sup> The class Barley is a mixture of 10% or more of 2-row barley or 6-row barley.

<sup>2</sup> 2-row malting barley is sieved on a 5.5/64 x 3/4 slotted-hole sieve which would be higher thins.

# USDA/FGIS

## United States Grades and Grade Requirements

### § 810.204 Grades and grade requirements for the subclasses Six-rowed Malting Barley and Six-rowed Blue Malting Barley.

Grade	Minimum limits of -			Maximum Limits of -				
	Test Weight Per/bu.	Suitable Malting Types	Sound Barley <sup>1</sup>	Damaged Kernels <sup>1</sup>	Foreign Material	Other Grains	Skinned & Broken Kernels	Thin Barley <sup>2</sup>
	<i>Pounds</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
U.S. No. 1	47.0	95.0	97.0	2.0	.5	2.0	4.0	7.0
U.S. No. 2	45.0	95.0	94.0	3.0	1.0	3.0	6.0	10.0
U.S. No. 3	43.0	95.0	90.0	4.0	2.0	5.0	8.0	15.0
U.S. No. 4	43.00	95.0	87.0	5.0	3.0	5.0	10.0	15.0

<sup>1</sup> Injured-by-frost kernels and injured-by-mold kernels are not considered damaged kernels or considered against sound barley..

<sup>2</sup> Use the 5/64 x 3/4 slotted-hole sieve

Note: Malting barley shall not be infested in accordance with § 810.07(b) and shall not contain any special grades as defined in § 810.206. Six-rowed Malting barley and Six-rowed Blue Malting barley varieties not meeting the requirements of this section shall be graded in accordance with standards established for the class Barley.

### § 810.205 Grades and grade requirements for Two-rowed Malting Barley.

Grade	Minimum limits of -			Maximum Limits of -			
	Test Weight Per/bu.	Suitable Malting Types	Sound Barley <sup>1</sup>	Wild Oats	Foreign Material	Skinned & Broken Kernels	Thin Barley <sup>2</sup>
	<i>Pounds</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
U.S. No. 1	50.0	97.0	98.0	1.0	0.5	5.0	5.0
U.S. No. 2	48.0	97.0	98.0	1.0	1.0	7.0	7.0
U.S. No. 3	48.0	95.0	96.0	2.0	2.0	10.0	10.0
U.S. No. 4	48.0	95.0	93.0	3.0	3.0	10.0	10.0

<sup>1</sup> Injured-by-frost kernels and injured-by mold kernels are not considered damaged kernels or considered against sound barley

<sup>2</sup> Use the 5.5/64 x 3/4 slotted-hole sieve.

Note: Malting barley shall not be infested in accordance with § 810.07(b) and shall not contain any special grades as defined in § 810.206. Two-rowed Malting barley varieties not meeting the requirements of this section shall be graded in accordance with standards established for the class Barley.

### § 810.206 Grades and grade requirements for Barley.

Grade	Minimum limits of -			Maximum Limits of -			
	Test Weight Per/bu.	Sound Barley <sup>1</sup>	Damaged Kernels <sup>1</sup>	Heat Damaged Kernels	Foreign Material	Skinned & Broken Kernels	Thin Barley <sup>2</sup>
	<i>Pounds</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
U.S. No. 1	47.0	97.0	2.0	0.2	1.0	4.0	10.0
U.S. No. 2	45.0	94.0	4.0	0.3	2.0	8.0	15.0
U.S. No. 3	43.0	90.0	6.0	0.5	3.0	12.0	25.0
U.S. No. 4	40.0	85.0	8.0	1.0	4.0	18.0	35.0
U.S. No. 5	36.0	75.0	10.0	3.0	5.0	28.0	75.0

U.S. Sample grade shall be barley that:

- (a) Does not meet the requirements for the grades 1, 2, 3, 4, or 5: or
- (b) Contains 8 or more stones or any number of stones which have an aggregate weight in excess of 0.2 percent of the sample weight, 2 or more pieces of glass, 3 or more crotalaria seeds (*Crotalaria* spp.), 2 or more castor beans (*Ricinus communis* L), 4 or more particles of unknown foreign substance(s) or commonly recognized harmful or toxic substance(s), 8 or more cocklebur (*Xanthium* spp.) or similar seeds singly or in combination, 10 or more rodent pellets, bird droppings, or equivalent quantity of other animal filth per 1-1/8 to 1-1/4 quarts of barley: or
- (c) Has a musty, sour, or commercially objectionable foreign odor (except smut or garlic odor); or
- (d) Is heating or otherwise of distinctly low quality.

<sup>1</sup> Includes heat damaged kernels. Injured-by-frost kernels and injured-by-mold kernels are not considered damaged kernels or considered against sound barley..

<sup>2</sup> Use the 5/64 x 3/4 slotted-hole sieve

# METRIC CONVERSION TABLES FOR BARLEY

U.S. to Metric	
1 Wet Quart (Qt)	= 0.9464 Liter (L)
1 Dry Quart	= 1.10 Liters
1 Wet Gallon (Gal)	= 3.785 Liters
1 Wet Gallon	= 0.0378 Hectoliter (HI)
1 Dry Gallon	= 4.404 Liters
1 Dry Gallon	= 0.044 Hectoliter
1 Bushel	= 0.352 Hectoliter
1 Acre (A)	= 0.404694 Hectare (Ha)
1 Pound (Lb)	= 0.4536 Kilogram (Kg)
1 Mile (Mi)	= 1.610 Kilometers (Km)
1 Bu. Barley	= .021772 Metric Ton
1 Beer Barrel	= 31.0 Gallons
Lb/Bu x 1.288	= Kg/HI
Bu/A x 0.869	= HI/Ha
Bu/A x .05380	= MT/Ha

Metric to U.S.	
1 Liter	= 1.0567 Wet Quarts
1 Liter	= 0.098 Dry Quart
1 Liter	= .2642 Wet Gallon
1 Hectoliter	= 26.42 Wet Gallons
1 Liter	= .227 Dry Gallon
1 Hectoliter	= 22.70 Dry Gallons
1 Hectoliter	= 2.838 Bushels
1 Hectare	= 2.471 Acres
1 Kilogram	= 2.2046 Pounds
1 Kilometer	= 0.62 Mile
1 Metric Ton	= 45.9296 Bu. of Barley
1.1734 Hectoliters	= 1 Beer Barrel
Kg/HI x .7764	= Lb/Bu
HI/Ha x 1.15	= Bu/A
MT/Ha x 18.59	= Bu/A

## STANDARDS

	Lbs/Bu	Kg/HI
Malt	34	43.79
Barley	48	61.82

## ACKNOWLEDGMENTS

The Idaho Barley Commission would like to thank the barley producers, elevator operators and commodity dealers who participated in our barley quality survey. Their combined efforts were responsible for the success of this survey.

*Additional copies of this report are available by contacting the Idaho Barley Commission.*



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