

MARKETING PREMIUM QUALITY BARLEY

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Definition of premium quality barley

- Not all barleys are alike.
 - Considerable variability in barley quality and energy value.
 - Conventional method to account for variability is test weight (pounds/bushel).
 - Test weight is widely considered to be reliable predictor of energy value, but research suggests that above a certain threshold there is only a weak positive relationship. Starch and fiber more reliable criteria.
 - Corn delivers known quantity of energy depending on processing method.
- No uniform quality requirements from end users.
- Feed users have different requirements based on different types of animals and methods used to process grain.
- Computerized least-cost formulations indicate highest value for barley in ruminant diets, intermediate value in hog feeds and lower value in poultry.

US Barley Grading Standards				
	Test wt. (lb/bu)	Thin barley (%)	Foreign material (%)	Sound barley (%)
US #1	47.0	10.0	1.0	97.0
US #2	45.0	15.0	2.0	94.0
US #3	43.0	25.0	3.0	90.0
US #4	40.0	35.0	4.0	85.0
US #5	36.0	75.0	5.0	75.0

Source: USDA/FGIS Barley Grades and Grade Requirements

- Western U.S. feed shed trades barley on the basis of 48 lb test weight.
- Premium quality barley has been defined in some local markets as 50 lb/bu or heavier barley.
- Winnipeg Commodity Exchange specifies minimum 48 lb test weight on Western Barley futures contracts; \$5 ton penalty on 46 lb/bu.

Idaho Prime Barley – premium quality standard designated by Idaho Barley Commission for feed barley grown in Idaho (since 1995):

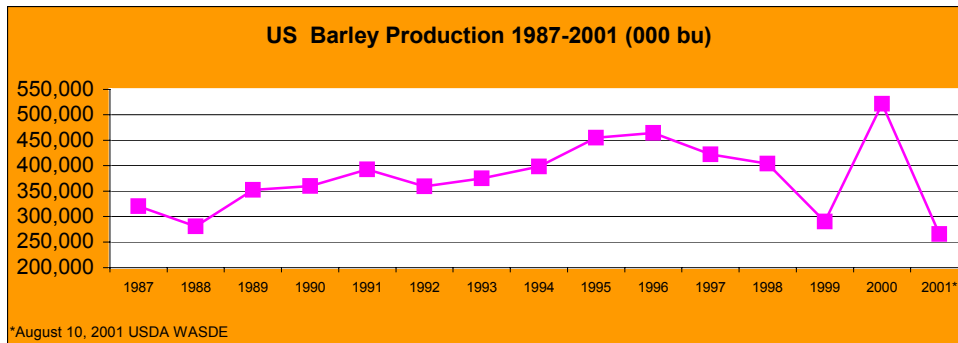
- All of the criteria of US #1 barley
- Minimum test weight of 50 lb/bu (US #1 – 47 lb)
- 5% or less thins (US #1 – 10%)

United States and Canadian barley production trends

United States barley production trends

Year	Production (million bu)	% Change
1990	422	-29%
1995	361	-14%
2000	318	-13%
2001	266	-15%

Source: USDA World Ag Supply and Demand Estimates, August 10, 2001

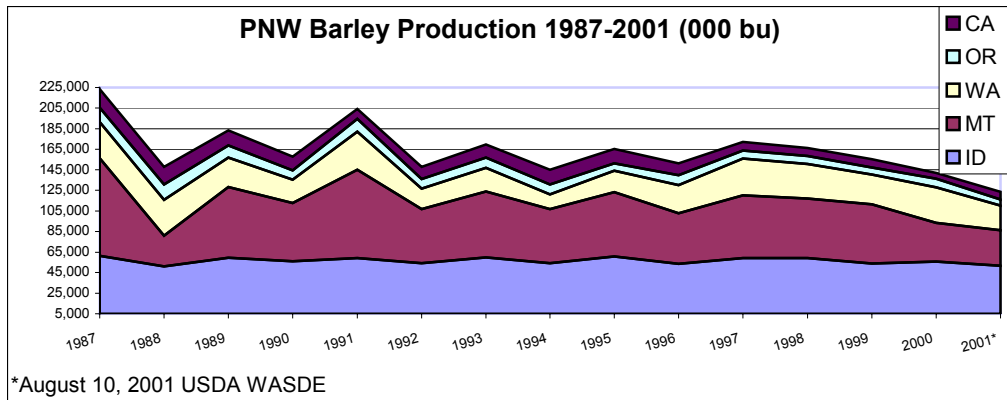


Western United States* Barley Production Trends

Year	Production (million bu)	% Change
1990	158	-22%
1995	165	+ 5%
2000	142	- 14%
2001	123	- 13%

*Western region defined as CA, ID, MT, OR and WA.

Source: USDA World Ag Supply and Demand Estimates, August 10, 2001



Western United States and Canadian feed demand and livestock numbers

United States feed demand and livestock numbers.

Year	US Prod. (mbu)	Domestic Feed Use (mbu)	% Utilization as Feed
1990	422	199	47%
1995	361	185	51%
2000	318	123	39%
2001	266	100	38%

Source: USDA World Ag Supply & Demand Estimates, August 10, 2001

United States Feed Barley Demand

Year	US Prod. (MMT)	Domestic Feed Use (MMT)	% Utilization as Feed
1990	9.19	4.33	47%
1995	7.86	4.03	51%
2000	6.92	2.68	39%
2001	5.79	2.18	38%

Source: USDA World Ag Supply & Demand Estimates, August 10, 2001

Canadian Feed Barley Demand

<u>Year</u>	<u>Can. Prod. (MMT)</u>	<u>Domestic Feed Use (MMT)</u>	<u>% Utilization as Feed</u>
1990	13.4	7.25	54%
1995	13.0	9.01	69%
2000	13.5	10.2	76%
2001	12.3	10.0	81%

Source: Stats Canada Barley Supply & Demand (1990-2001)

Trends in Western United States Livestock Production (2000)

<u>State</u>	<u>Milk Cows (000)</u>	<u>% Change (1990-00)</u>	<u>Cattle on Feed (000)</u>	<u>% Change (1990-00)</u>	<u>Hogs & Pigs (000)</u>	<u>% Change (1990-00)</u>
CA	1,490	+34%	415	-15%	150	-23%
ID	332	+95%	315	+58%	24	-60%
WA	246	+9%	235	+38%	27	-51%
OR	90	-8%	50	-40%	32	-60%
MT	18	-25%	70	-12%	155	-16%
Region	2,176	+33%	1,085	+6%	388	-33%
USA	9,190	-8%	14,003	+20%	59,138	+9%

Source: USDA National Ag Statistics Service, Aug. 2001

Western United States feed market specifications

- California (largest market) traditionally trades on basis of 46 lb/bu due to availability of lower test weight Midwestern barley.
- ID, OR and WA dairy and beef sheds trade barley on the basis of 48 lb/bu test weight.
- Portland export market (feed barley) has traded on basis of US # 2 – minimum 45 lb/bu.

Recent trends and opportunities in dairy rations

- Inelastic barley demand in Western dairy shed (CA) has shrunk from 40% as recently as 5 years ago to 10-15% today.
- Key factors driving shift away from barley include:
 - Corn shuttle trains
 - Barley availability
 - Barley price competitiveness
- Barley's nutritional value is widely recognized but price remains significant factor.

- Research has shown that economic feed value of barley in ruminant diets is equivalent to or superior to corn (less starch but starch is more extensively digested and more thoroughly utilized by animal).
- Heavier test weight barleys shown to be more digestible and deliver better animal performance.
- General dairymen philosophy – barley must be priced at \$5/ton discount to corn to remain in ration at significant level (50/50).
- Many nutritionists recommend at least 50/50 barley blend if price is at least equal to corn.
- Many nutritionists recommend at least 25% barley in grain ration.

Is there additional value in marketplace for heavier test weight barley (50 lbs and above)?

Surveyed ID nutritionists and feed consultants in fall 2001:

50 lb/bu	52-54 lb/bu	> 54 lb/bu
\$2/ton	\$2-5/ton	\$5-10/ton

Recent trends and opportunities in beef rations

- 1986 changed beef rations significantly.
 - Railroads restructured freight rates, making Nebraska corn competitive.
 - Railroads lowered barley rates to CA.
 - All Eastern ID elevators dropped from speed dial by end users in Western ID and Eastern OR.
- 1997 railroads shifted focus to 100 car shuttles.
- Inconsistent supply of barley has made corn the grain of choice.
- Deliver consistent supply of high quality barley.
- Remain price competitive with other feed grains.
- Achieve competitive rail freight rates to feed-deficit areas.

Conclusions

- Feed barley use will be function of price and nutrition. Premium quality of PNW barley is recognized, but end users reluctant to pay premiums.
- Need to change NRC values to reflect higher quality barleys produced in PNW.
- Need to achieve more equitable barley loan rates to ensure stable Western US production base.