

Appendix 2

APPENDIX 2

**Barley Food Products:
Manufacturer Specifications**

Barley Food Products – Manufacturer Specifications

Barley food manufacturers either responded to a request for product descriptions, specifications and nutritional information or made the information available on company web pages. The products include:

1. Dehulled berries
2. Whole berries – hullless type
3. Pearl
4. Flakes
 - a. Cut or whole
 - b. Steamrolled or micronized
5. Cracked/Grits
6. Meal
7. Flour
8. Flour concentrate

All manufacturers provided specifications for protein, fat, ash and fiber content (either total dietary or crude fiber). Specifications ranged from 9 to 18% protein, 0.5 to 3.5% fat, 0.9 to 3% ash, and 10 to 28% total dietary fiber. Manufacturers using waxy hullless barley also specified β -glucan contents ranging from 6.5 – 10.1%.

Specifications/nutritional labels are included for the following manufacturers:

<u>Manufacturer</u>	<u>No. Pages</u>
1. Arrowhead Mills, Hereford, TX	8
2. Castle Dome Foods, Yuma, AZ	3
3. Grain Milers, Eugene, OR	6
4. Minnesota Grain, East Grand Forks, MN	16
5. Montana Milling, Great Falls, MT	5
6. NuWorld Nutrition, Perham, MN	1
7. Quaker, Chicago, IL	1
8. Western Trails, Bozeman, MT	1

ARROWHEAD
MILLS

FLAKES

AMERICAN ORGANIC COMPANY

ORGANICALLY
PRODUCED
ARROWHEAD
MILLS

BARLEY
FLAKES

Cooks in 6 Minutes!

Net Wt. 16 oz. (1 lb.) 454g

Nutrition Facts

Serving Size 1/3 cup (37g)
Servings Per Container about 12

Amount Per Serving

Calories 110 Calories from Fat 10

% Daily Value*

Total Fat 1.0g 1%

Saturated Fat 0g 0%

Cholesterol 0mg 0%

Sodium 0mg 0%

Potassium 190mg 5%

Total Carbohydrate 28g 9%

Dietary Fiber 5g 20%

Sugars 0g

Protein 4g

Vitamin A 0% Vitamin C 0%

Thiamine 6% Riboflavin 2%

Niacin 6% Calcium 0% Iron 6%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram
Fat 9 • Carbohydrate 4 • Protein 4

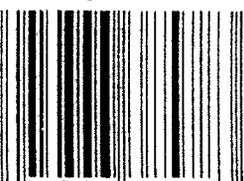
INGREDIENT: Organically Produced Whole Grain Barley, Flaked

Organically grown and processed to Texas Organic Standards and Cert. 4 TAC, Chp. 18. For third party certification information, call 800-749-0730, 8:00 a.m.-5:00 p.m. (CT) weekdays or write.

Arrowhead Mills, Inc
Box 2059
Hereford, Texas 79045 USA
© 9-95

STORE IN A COOL DRY PLACE
Satisfaction Guaranteed. If not completely satisfied, return container and brief explanation.

Nitrogen Packed



0 74333 38578 3

BARLEY
FLAKES

FINISHED PRODUCT SPECIFICATIONS

PRODUCT SPECIFICATION NUMBER **ROLLED BARLEY (HIGH BETA-GLUCAN) (FLAKES), ORGANIC 201**

DESCRIPTION A food grade product produced from high beta-glucan barley (*Hordeum vulgare*) by mechanical harvesting, cleaning, micronizing, rolling, and sifting to produce a clean rolled flake. Micronizing consists of rapidly heating the grain with infrared heat to ~300 degrees F within 30-40 seconds. The heated grain is then passed through a pair of rolls to flake the grain. The variety of barley used is high in beta-glucans, a component that is an excellent source of water-soluble dietary fiber. Grown and processed in accordance with third-party certified organic standards.

PROPERTIES
 Appearance - Large flakes, up to ~ 12 mm long x ~ 8 mm wide x ~ 1 mm thick; color is light golden-tan
 Odor - Minimal odor, free of any rancid or other off-odors.
 Flavor - Very mild flavor, free of any off-flavors.

ANALYSIS		TYPICAL	LIMITS	
		ANALYSIS	MIN.	MAX.
CHEMICAL	Moisture Content (%)	9.0		
	Protein Content (% as is)	14.0		
	Ash (% as is)	1.4		
	Fat (Ether Extract) (% as is)	2.2		
	Crude Fiber (% as is)	1.8		
	Total Dietary Fiber (% as is)	14.0		
	-Beta-Glucans (% as is)	9.0		
PHYSICAL PROPERTIES	Density (lb/cu ft)	30.0		
	Particle Size			
	- On US # 4 (%)	—		
	- On US # 6 (%)	—		
	- On US # 8 (%)	—		
	- On US # 10 (%)	—		
	- On US # 12 (%)	—		
- Thru US # 12 (%)	—			
FOREIGN MATERIAL	Hulls (%)			0.01
	All other foreign material (%)			0.1
MYCOTOXIN RESIDUE	Deoxynivalenol (or DON) (ppm - parts per million)			1.0
CHEMICAL RESIDUE	Synthesized chemicals (including pesticides)			No tolerance
INSECT CONTAMINATION				No live forms

PACKAGING

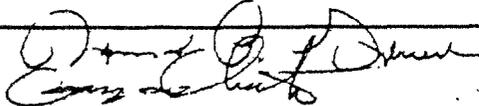
TYPE	ITEM CODE
25 lb. Paper Sack	45670
12/16 oz. Poly Bag in Box	38578

INGREDIENT STATEMENT "ORGANIC WHOLE GRAIN ROLLED BARLEY"

SHELF LIFE/STORAGE Twelve months at 70% relative humidity and 70 degrees F.

REASON FOR CHANGE:
 1. Add Kosher symbol.

AUTHORIZED BY: JG
REVIEWED BY: GS
DATE: 6/14/99



BARLEY

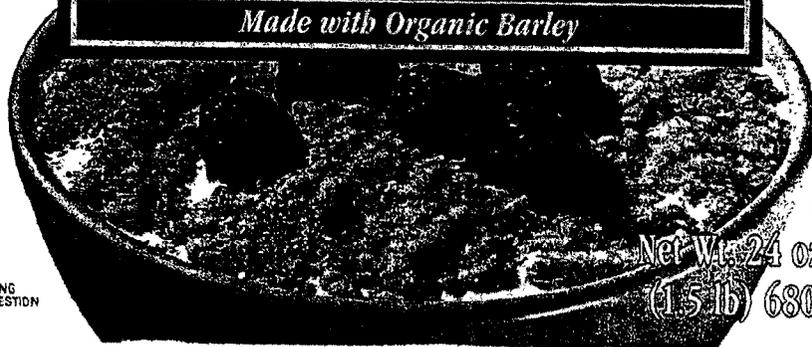
AMERICA'S ORGANIC COMPANY™

ORGANICALLY PRODUCED
ARROWHEAD MILLS

Cooks in 3 Minutes!

BITS O BARLEY

Versatile Whole Grain Nutrition
HOT BREAKFAST CEREAL
 Made with Organic Barley



SERVING SUGGESTION

Net Wt. 24 oz. (1.5 lb) 680g

Nutrition Facts

Serving Size 1/3 cup (46g)
 Servings Per Container 7

Amount Per Serving
Calories 160 Calories from Fat 10
% Daily Value*

Total Fat 1.0g	2%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 0mg	0%
Potassium 230mg	7%
Total Carbohydrate 33g	12%
Dietary Fiber 6g	25%
Sugars 1g	1%

Protein 5g
 Vitamin A 0% • Vitamin C 0%
 Thiamine 8% • Riboflavin 2%
 Niacin 6% • Calcium 0% • Iron 8%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
 Fat 9 • Carbohydrate 4 • Protein 4

INGREDIENT: Organically Produced Hulless Barley, cracked

Organically grown and processed to Texas Organic Standards and Cert., 4 TAC, Chp. 18. For third party certification information, call 800-749-0730, 8:00 a.m.-5:00 p.m. (CT) weekdays or write:

Arrowhead Mills, Inc.
 Box 2059
 Hereford, Texas 79045 USA
 © 9-95

STORE IN A COOL DRY PLACE
 Satisfaction Guaranteed. If not completely satisfied, return container and brief explanation

Nitrogen Packed



0 74333 38518 9

BITS O BARLEY

FINISHED PRODUCT SPECIFICATIONS

PRODUCT SPECIFICATION NUMBER **BARLEY GRITS (BITS-O-BARLEY), ORGANIC 203**

DESCRIPTION A food grade product produced from high beta-glucan barley (*Hordeum vulgare*) by mechanical harvesting, cleaning, milling, and sifting out fines to produce a medium size grit. Grown and processed in accordance with third-party certified organic standards.

PROPERTIES
 Appearance - Medium large tan and white grits of irregular shape, about 2-3 mm across.
 Odor - Very mild aroma; free of any rancid or other off-odors.
 Flavor - Very mild flavor; free of any off-flavors.

ANALYSIS		TYPICAL ANALYSIS	LIMITS	
			MIN.	MAX.
CHEMICAL	Moisture Content (%)	11.5		13.0
	Protein Content (% as is)	10.5		
	Ash (% as is)	0.9		
	Fat (Ether Extract) (% as is)	1.5		
	Crude Fiber (% as is)	0.8		
	Total Dietary Fiber (% as is)	11.5		
PHYSICAL PROPERTIES	Density (lb/cu ft)	37.0		
	Particle Size			
	- On US # 8 (%)	0		
	- On US # 10 (%)	Trace		
	- On US # 16 (%)	51		
	- On US # 20 (%)	37		
	- On US # 30 (%)	9		
	- On US # 40 (%)	2		
- Thru US # 40 (%)	1			

PERFORMANCE COOK TEST Cooks to normal consistency in 10 minutes (using 2 25 volumes water to 1 volume barley grits).

FOREIGN MATERIAL All foreign material (%) No tolerance

MYCOTOXIN RESIDUE Deoxynivalenol (or DON) (ppm - parts per million) 10

CHEMICAL RESIDUE Synthesized chemicals (including pesticides) No tolerance

INSECT INFESTATION No live forms

PACKAGING TYPE ITEM CODE
 12/24 oz. Poly Bag in Box 36518

INGREDIENT STATEMENT "ORGANIC HIGH BETA-GLUCAN BARLEY GRITS"

SHELF LIFE/STORAGE Twelve months at 70% relative humidity and 70 degrees F.

REASON FOR CHANGE:
 1. Add Kosher symbol.

ISSUED BY: JG
REVIEWED BY: GS
DATE: 6/14/99

AMERICA'S ORGANIC COMPANY,™



PEARLED
BARLEY



BARLEY
cups
cup barley in 3 cups
1/4 hours.

SOUP
cups
cup barley
ling vegetable broth
potatoes, sliced
celery, chopped
onions, chopped
peas
parsley, chopped
to taste
egg (optional)
and broth in heavy
cover and simmer until
tender (about 1 hour).
Add ingredients, except
egg and cook until
tender. Add parsley
from heat.

APPLE PUDDING
peeled apples
cooked barley
honey
nutmeg
ground cinnamon
egg substitutes
lemon
barley, lemon juice,
honey together in large
pieces. Separate eggs,
until creamy; stir into
egg whites until stiff;
add pudding into but-
ter baking dish. Bake at
350 for 40 minutes.



Net Wt. 28 oz. (1.75 lb) 795g

Nutrition Facts
Serving Size 1/4 cup (48g)
Servings Per Container About 17

Amount Per Serving	
Calories 170	Calories from Fat 5
% Daily Value*	
Total Fat 0.5g	1%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 0mg	0%
Potassium 140mg	4%
Total Carbohydrate 37g	12%
Dietary Fiber 6g	24%
Sugars less than 1g	
Protein 5g	
Vitamin A 0%	Vitamin C 0%
Thiamine 15%	Riboflavin 2%
Niacin 8%	Calcium 2% • Iron 8%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400 mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

INGREDIENT: Organically Produced Pearled Barley

STORE IN A COOL DRY PLACE

Organically grown and processed to Texas Organic Standards & Cert., 4 TAC, Chp. 18. For third-party certification information, call 800-749-0730, 8:00a.m.-5:00p.m. (CT) weekdays or write:

**Arrowhead Mills, Inc.,
Box 2059 Hereford,
Texas 79045 USA © 8-95**

Satisfaction Guaranteed. If not completely satisfied, return container for full explanation.

FINISHED PRODUCT SPECIFICATIONS

PRODUCT SPECIFICATION NUMBER **PEARLED BARLEY, ORGANIC 010**

DESCRIPTION A food grade product produced from barley (*Hordeum vulgare*) by mechanical harvesting, cleaning, and mechanical abrasion to remove the hull (Some bran, or pericarp is also removed in the process, the barley should go through a maximum of 2-3 pearling stages). Grown and processed in accordance with third-party certified organic standards.

PROPERTIES

Appearance - Color is light-tan color with some white showing. Shape is normally plump with a well-rounded taper on both ends, with a slight crease running from end to end. Average size is 5-6 mm long x 3-4 mm across x 2-3 mm thick.

Odor - Very mild odor, free of any rancid or other off-odors.

Flavor - Very mild, free of any off-flavors.

ANALYSIS		TYPICAL	LIMITS	
		ANALYSIS	MIN.	MAX.
CHEMICAL	Moisture Content (%)	10.0		13.0
	Protein Content (% as is)	10.0		
	Ash (% as is)	1.0		
	Fat (% as is)	1.5		
	Crude Fiber (% as is)	1.0		
	Total Dietary Fiber (% as is)	15.0		
PHYSICAL PROPERTIES	Test Weight (lb/bu)	61.0	59.0	
	Seeds per Gram	---		40.0
	Particle Size (100 gm sample for 5 min on Rotap sifter) - On US # 8 (%)	---		
PERFORMANCE COOK TEST	Cooks to normal consistency in 75 minutes (using 3 volumes water to 1 volume barley).			
DAMAGE AND FOREIGN MATERIAL	Total Damage (including broken) (%)	---		4.0
	Unhulled Kernels (%)	0.002		0.01
	Other Cereal Grains or Seeds (%)	0.17		0.2
	Mineral - Rocks (>0.5 mm dia) (%)	Trace		0.001
	Mineral - Small Rocks (<0.5 mm dia), or Dirt (%)	0.0		0.01
	Excreta (%)	0.0		0.001
	Total Other Foreign Material (%)			0.05
MYCOTOXIN RESIDUE	Deoxynivalenol (or DON) (ppm - parts per million)			1.0
CHEMICAL RESIDUE	Synthesized chemicals (including pesticides)			No Tolerance
INSECT INFESTATION	No live forms			

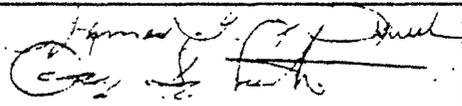
PACKAGING	TYPE	ITEM NUMBER
	50 lb. Paper Sack	4521C
	25 lb. Paper Sack	4521I
	12/28 oz. Poly Bag	47618

INGREDIENT STATEMENT "ORGANICALLY PRODUCED PEARLED BARLEY"

SHELF LIFE/STORAGE Twenty-four months at 70% relative humidity and 70 degrees F

REASON FOR CHANGE:
 1 Add Kosher symbol, Ingredient Statement, revise Packaging

AUTHORIZED BY: JG
REVIEWED BY: GS
DATE: 2/24/00



CERTIFIED ORGANIC

**ARROWHEAD
MILLS.**



PREMIUM QUALITY

— **WHOLE GRAIN** —

**BARLEY
FLOUR**

NET WT. 24 OZS. (1½ LBS.) 680g

Nutrition Facts

Serving Size 1/4 cup (25g)
Servings Per Container: 27

Amount Per Serving

Calories: 93 Calories from Fat 5

% Daily Value*

Total Fat 0.5g **1%**

Saturated Fat 0g **0%**

Cholesterol 0mg **0%**

Sodium 0mg **0%**

Potassium 125mg

Total Carbohydrate 19g **6%**

Dietary Fiber 3g **14%**

Sugars 0g

Protein 3g

Vitamin A 0% • Vitamin C 0%

Thiamine 4% • Riboflavin 2%

Niacin 4% • Calcium 0% • Iron 4%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Calories 2,000 2,500

Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram

Fat 9 • Carbohydrates 4 • Protein 4

INGREDIENTS: CERTIFIED ORGANIC
HULLLESS BARLEY FLOUR

Organically grown and processed in accordance with California Organic Foods Act of 1990. For third-party certification information, call 800-749-0730 or write

ARROWHEAD MILLS, INC.
BOX 2059
HEREFORD, TEXAS 79045 USA ©11-96

STORE IN A COOL DRY PLACE

SATISFACTION GUARANTEED IF NOT COMPLETELY SATISFIED, RETURN CONTAINER AND BRIEF EXPLANATION



RECYCLABLE PACKAGE
(Where facilities exist)

FINISHED PRODUCT SPECIFICATIONS

PRODUCT **BARLEY FLOUR/WHOLE GRAIN HIGH BETA-GLUCAN (IMPACT), ORGANIC**
SPECIFICATION NUMBER **309**

DESCRIPTION A food grade flour produced from high beta-glucan barley (*Hordeum vulgare*) by mechanical harvesting and cleaning, followed by impact grinding and sifting (to remove large pieces). The high beta-glucan is a water soluble fiber that comes from waxy hullless varieties. Grown and processed in accordance with third-party certified organic standards.

PROPERTIES
 Appearance - Medium-fine flour, creamy white in color, peppered with very small pieces of darker bran
 Odor - Very mild odor, free of any rancid or other off-odors
 Flavor - Very mild flavor, free of any off-flavors

ANALYSIS		TYPICAL	LIMITS	
		ANALYSIS	MIN.	MAX.
CHEMICAL	Moisture Content (%)	9.5		13.0
	Protein Content (%. as is)	13.0		
	Ash (%. as is)	1.7		
	Fat (Ether Extract) (%. as is)	3.2		
	Crude Fiber (%. as is)	1.7		
	Total Dietary Fiber (%. as is)	16.5		
	- Beta-Glucans (%. as is)	6.5		
PHYSICAL PROPERTIES	Density (lb/cu ft)	25.0		
	Particle Size (30 gm sample for 5 min. on Rotap sifter)			
	- On US # 20 (%)	0.2		0.5
	- On US # 40 (%)	13		
	- On US # 60 (%)	36		
- Thru US #60 (%)	51			
FOREIGN MATERIAL	All foreign material (%)			No tolerance
MYCOTOXIN RESIDUE	Deoxynivalenol (or DON) (ppm - parts per million)			1.0
CHEMICAL RESIDUE	Synthesized chemicals (including pesticides)			No tolerance
INSECT INFESTATION				No live forms

PACKAGING **TYPE** **ITEM CODE**
 12/1.5 lb Paper Bag 47130

INGREDIENT STATEMENT "ORGANIC WHOLE GRAIN HIGH BETA-GLUCAN BARLEY FLOUR"

SHELF LIFE/STORAGE Twelve months at 70% relative humidity and 70 degrees F

REASON FOR CHANGE:
 1) Discontinue 25 lb Paper Sack

ISSUED BY: JG
REVIEWED BY: GS
DATE: 2/28/00



Castle Dome Foods, Inc.

Whole Grain Waxy Hulless Barley Quick Flakes

Product Code: CDF6WF01416

Product Specifications

Proximate analyses	%
Fat*	2.5 – 3.5
Protein*	15.0 – 18.0
Ash*	1.5 – 2.5
Total Dietary Fiber*	14.5 – 17.0
Soluble Dietary Fiber*	> 6.0
B-glucan*	> 6.5
Moisture	9.0 – 10.5

*dry weight basis

Physical Characteristics

Gelatinized Starch, % of total	35.0 – 45.0
Flake Thickness, in	.014 – .016
Density, lb/cu ft	23.5 – 28.5

Microbiological

Total Plate Count	< 10,000
Yeasts and Molds	<100
Salmonella	Negative

Shelf Life

Recommended 6 months.



Castle Dome Foods, Inc.

Waxy Hulless Barley Flour

Product Code: 10BC016006

Product Analysis*	%
Fat	2.8
Protein	14.8
Ash	1.6
Moisture	9.5
Total Dietary Fiber	15.6
Soluble Dietary Fiber	7.5
B-glucan	7.1

*% dry weight except for moisture.

Microbiological

Total Plate Count	< 10,000
Yeasts and Molds	<100
Salmonella	negative

Shelf Life

Recommended 6 months.
Store at room temperature.

Sieve	Size	%
Over U.S. 60	>250 μ	24.6
Over U.S. 100	150-250 μ	24.1
Through U.S. 100	< 150 μ	51.3



Castle Dome Foods, Inc.

Waxy Hulless Barley Concentrate I

Waxy Hulless Barley Concentrate I is made from WestBred® Waxy Hulless Barley Varieties developed and grown to contain the highest levels of β -glucan Soluble Fiber. The β -glucan Soluble Fiber content of Waxy Hulless Barley Concentrate I is increased by a patented (U.S. Patent Number 5,614,242) milling process.

Product Analysis*	%
Fat	2.6
Protein	16.3
Ash	2.2
Moisture	8.8
Total Dietary Fiber	22.0
Soluble Dietary Fiber	8.8
B-glucan	10.1
Alkaline Extract Viscosity (cPs)	224.5

*% dry weight except for moisture.

Microbiological

Total Plate Count	< 10,000
Yeasts and Molds	<100
Salmonella	negative

Shelf Life

Recommended 6 months.
Store at room temperature.

Particle Distribution	Sieve Size	%
Over U.S. 60	>250 μ	45.0
Over U.S. 100	150-250 μ	43.0
Through U.S. 100	< 150 μ	12.0



GRAIN MILLERS

Product Specification

PRODUCT: Pearled Barley Flakes

REVISION DATE: 14 December 2000

SUPPLIER INFORMATION

Supplier Name: GRAIN MILLERS, INC
Manufacturer: GRAIN MILLERS, INC.
Address: Grain Millers, Inc.
315 Madison Street
Eugene, Oregon 97402
Telephone: 541-687-8000
Fax: 541-343-7820

SUPPLIER PLANT INFORMATION

Plant Address: as above
AIB Inspected: YES 2000 Result: SUPERIOR
HACCP Program in place: YES
ORGANIC Certified: YES Agency: Oregon Tilth
KOSHER certified: YES Rabbinical Organization: Orthodox Union
Symbol: Circle U; Status: Pareve

REGULATORY COMPLIANCE INFORMATION

- A. Raw Material Description: Grain Millers Barley products are manufactured from pre-selected, sound barley grown in the northwest regions of North America.
B. Ingredient Declaration: 100% PEARLED BARLEY
C. Allergens, Sulfites & Gluten: This product contains no Egg or Egg products, Milk or Milk products, Peanuts or Peanut Products, Tree Nuts or Tree Nut products...
D. Flavors: NONE ADDED.
E. This product is not irradiated.
F. This product contains no components from an animal source
G. This product contains no genetically altered plant material
H. Product is produced under the jurisdiction of the FDA and are listed in the CFR-Title 21 Subchapter B as "Food For Human Consumption" and are, therefore, classified as non-hazardous materials.

315 Madison Street • Eugene, OR 97402 • (800) 443-8972 • (541) 687-2155 Fax
www.grainmillers.com

Pearled Barley Flakes
Product Specification (Cont'd)

PACKAGING

Product is available in 25lb and 50lb 3 Ply Kraft bags (poly lining available), polymesh super sacks and bulk truck or railcar.

SHIPPING AND STORAGE

- A. Shipping/Storage: Dry/Ambient 35-95 F (1-35 C)
B. Shelf Life: 12 Months
C. Lot Coding: s=shif; j= Julian Date; y = last digit of year
E. Special precautions for use: NONE

PRODUCT CHARACTERISTICS

- A. Sensory: Color: Creamy yellow-white to light brown
Flavor: Cooked barley flavor - no off flavors
Texture: whole flaked kernels
Odor: Cooked barley - no off odors

B. Physical/Chemical

Table with 7 columns: Property, Target, Minimum, Maximum, Units, Ref. Method, COA. Rows include Thickness, Granulation, Absorption, Bulk Density, Hulls/Slivers, Weed Seed, Moisture, Protein, Fat, Fat Acidity, Total Dietary Fiber, and Ash.

* COA information provided upon request may require additional costs to the customer

C. Microbiological

Table with 4 columns: Property, Maximum, Reference Method, COA. Rows include Aerobic Plate Count, Coliform, E. coli, Salmonella, and Yeast and Molds.

* COA information provided upon request may require additional costs to the customer.

315 Madison Street • Eugene, OR 97402 • (800) 443-8972 • (541) 687-2155 Fax
www.grainmillers.com

NUTRITIONAL INFORMATION

Nutritional information per 100 gram sample dry basis.

Proximate Nutrients	per 100 grams	Proximate Nutrients	per 100 grams
Calories (kcal)	392	Sodium (mg)	10.0
Protein (g)	11.0	Calcium (mg)	32
Total Fat (g)	1.3	Potassium (mg)	311
Saturated Lipid (g)	0.2	Iron (mg)	2.8
Monounsat. Lipid (g)	0.1	Phosphorous (mg)	246
Polyunsat. Lipid (g)	0.7	Total Vitamin A (IU)	0.0
Cholesterol (mg)	0.0	Vitamin C (mg)	0.0
Total Carbohy. (g)	86		
Sugars (g)	0.0		
Total Dietary Fiber (g)	17.0		
Ash (g)	1.2		

Dry basis data calculated from information contained in:
 USDA Nutrient Database for Standard Reference Release 13
 USDA-ARS Nutrient Data Laboratory
 For further information see the USDA website for nutritional data at:
www.nal.usda.gov/fnic/foodcomp



GRAIN MILLERS

Product Specification

PRODUCT: Barley Flour

REVISION DATE: 14 December 2000

SUPPLIER INFORMATION

Supplier Name: GRAIN MILLERS, INC. Telephone: 541-687-8000
Manufacturer: GRAIN MILLERS, INC. Fax: 541-343-7820
Address: Grain Millers, Inc. 315 Madison Street Eugene, Oregon 97402

SUPPLIER PLANT INFORMATION

Plant Address: as above
AIB Inspected YES 2000 Result: SUPERIOR
HACCP Program in place YES
ORGANIC Certified YES Agency: Oregon Tilth
KOSHER certified: YES Rabbinical Organization Orthodox Union Symbol: Circle U; Status: Pareve

REGULATORY COMPLIANCE INFORMATION

- A. Raw Material Description. Grain Millers Barley products are manufactured from pre-selected, sound barley grown in the northwest regions of North America. The grain is carefully cleaned, pearled, and milled into flour.
- B. Ingredient Declaration. 100% PEARLED BARLEY
- C. Allergens, Sulfites & Gluten: This product contains no Egg or Egg products, Milk or Milk products, Peanuts or Peanut Products, Tree Nuts or Tree Nut products (almond, brazil nut, cashew, chestnut, hazelnut (filbert), macadamia nut, pecan, pine nuts, pistachio, or walnut), Soybeans or Soybean products, Seafood, Sulfites, or wheat or wheat products. This product is not an identified oil allergen source. This product contains no source of wheat gluten.
- D. Flavors: NONE ADDED.
- E. This product is not irradiated.
- F. This product contains no components from an animal source
- G. This product contains no genetically altered plant material
- H. Product is produced under the jurisdiction of the FDA and are listed in the CFR-Title21 Subchapter B as "Food For Human Consumption" and are, therefore, classified as non-hazardous materials. As a result, these products are exempt from the 29 CFR 1910.1200 OSHA Hazardous Communication Standard; Material Safety Data Sheets (MSDS) are not required.

PACKAGING

Product is available in 25lb and 50lb 3 Ply Kraft bags (poly lining available), polymesh super sacks and bulk truck or railcar.

SHIPPING AND STORAGE

- A. Shipping/Storage: Dry/Ambient 35-95 F (1-35 C)
- B. Shelf Life: 12 Months
- C. Lot Coding: sjjjy s=shift; jjj = Julian Date; y = last digit of year
- E. Special precautions for use: NONE.

PRODUCT CHARACTERISTICS

- A. Sensory: Color: Creamy yellow-white to light brown
Flavor: Cooked barley flavor - no off flavors
Texture: whole flaked kernels
Odor: Cooked barley - no off odors

B. Physical/Chemical

Property	Target	Minimum	Maximum	Units	Ref. Method	COA
Granulation						Yes
on U.S. #40	23	12	33	%	50 gms	
on U.S. #60	26	18	35	%	5 min.	
on U.S. #80	25	15	35	%	Ro-Tap	
on U.S. #100	12	2	22	%		
Pan	20	10	30	%		
Bulk Density	31	30	32	lb./cubic ft	GMI B.1	Yes
Moisture		9.0	12.0	%	AACC 44-15A	Yes
Protein		12.0	15.0	% as is	AACC 46-30	upon request*
Fat		2.0	3.0	% as is	AACC 30-20	upon request*
Fat Acidity		0.0	0.5	% as is	AACC 02-02A	upon request*
Total Dietary Fiber		12.0	15.0	% as is	AACC 32-05	upon request*
Ash		1.80	3.00	% as is	AACC 08-02	upon request*

* COA information provided upon request may require additional costs to the customer.

C. Microbiological

	Maximum	Reference Method	COA
Aerobic Plate Count	50,000/gm max.	FDA-BAM Chapter 3	upon request*
Coliform	100/gm max.	FDA-BAM Chapter 4	upon request*
E. coli	Negative	FDA-BAM Chapter 4	upon request*
Salmonella	Negative 25 grams	FDA-BAM Chapter 5	upon request*
Yeast and Molds	100/gm max.	FDA-BAM Chapter 19	upon request*

* COA information provided upon request may require additional costs to the customer.

NUTRITIONAL INFORMATION

Nutritional information per 100 gram sample dry basis.

Proximate Nutrients	per 100 grams	Proximate Nutrients	per 100 grams
Calories (kcal)	392	Sodium (mg)	10.0
Protein (g)	11.0	Calcium (mg)	32
Total Fat (g)	1.3	Potassium (mg)	311
Saturated Lipid (g)	0.2	Iron (mg)	2.8
Monounsat. Lipid (g)	0.1	Phosphorous (mg)	246
Polyunsat. Lipid (g)	0.7	Total Vitamin A (IU)	0.0
Cholesterol (mg)	0.0	Vitamin C (mg)	0.0
Total Carbohy. (g)	86		
Sugars (g)	0.0		
Total Dietary Fiber (g)	17.0		
Ash (g)	1.2		

Dry basis data calculated from information contained in:
USDA Nutrient Database for Standard Reference Release 13
USDA-ARS Nutrient Data Laboratory
For further information see the USDA website for nutritional data at:
www.nal.usda.gov/fnic/foodcomp



GRAIN MILLERS

Product Specification

PRODUCT: Whole Pearled Barley

REVISION DATE: 14 December 2000

SUPPLIER INFORMATION

Supplier Name: GRAIN MILLERS, INC.
Manufacturer: GRAIN MILLERS, INC. Telephone: 541-687-8000
Address: Grain Millers, Inc. Fax: 541-343-7820
315 Madison Street
Eugene, Oregon 97402

SUPPLIER PLANT INFORMATION

Plant Address: as above
AIB Inspected YES 2000 Result: SUPERIOR
HACCP Program in place YES
ORGANIC Certified YES Agency: Oregon Tilth
KOSHER certified: YES Rabbinical Organization: Orthodox Union
Symbol: Circle U; Status: Pareve

REGULATORY COMPLIANCE INFORMATION

- A. Raw Material Description: Grain Millers Barley products are manufactured from pre-selected, sound barley grown in the northwest regions of North America. The grain is carefully cleaned, pearled, and packaged.
- B. Ingredient Declaration: 100% PEARLED BARLEY
- C. Allergens, Sulfites & Gluten: This product contains no Egg or Egg products, Milk or Milk products, Peanuts or Peanut Products, Tree Nuts or Tree Nut products (almond, brazil nut, cashew, chestnut, hazelnut (filbert), macadamia nut, pecan, pine nuts, pistachio, or walnut), Soybeans or Soybean products, Seafood, Sulfites, or wheat or wheat products. This product is not an identified oil allergen source. This product contains no source of wheat gluten.
- D. Flavors: NONE ADDED.
- E. This product is not irradiated
- F. This product contains no components from an animal source.
- G. This product contains no genetically altered plant material
- H. Product is produced under the jurisdiction of the FDA and are listed in the CFR-Title 21 Subchapter B as "Food For Human Consumption" and are, therefore, classified as non-hazardous materials. As a result, these products are exempt from the 29 CFR 1910.1200 OSHA Hazardous Communication Standard; Material Safety Data Sheets (MSDS) are not required.

315 Madison Street • Eugene, OR 97402 • (800) 443-8972 • (541)687-2155 Fax
www.grainmillers.com

Whole
Product Specification (Control)

PACKAGING

Product is available in 25lb and 50lb 3 Ply Kraft bags (poly lining available), polymesh super sacks and bulk truck or railcar.

SHIPPING AND STORAGE

- A. Shipping/Storage: Dry/Ambient 35-95 F (1-35 C)
- B. Shelf Life: 12 Months
- C. Lot Coding: sjjj s-shiR; jjj - Julian Date, y - last digit of year
- E. Special precautions for use: NONE.

PRODUCT CHARACTERISTICS

- A. Sensory: Color: Creamy yellow-white to light brown
Flavor: Cooked barley flavor - no off flavors
Texture: whole flaked kernels
Odor: Cooked barley - no off odors

B. Physical/Chemical

Property	Target	Minimum	Maximum	Units	Ref. Method	COA
Bulk Density	50	48	52	lb/cubic ft	GMI B.1	Yes
Foreign Material	min.	0	5 oats	#/100 gms	GMI B.2.1	Yes
Moisture		9.0	12.0	%	AACC 44-15A	Yes
Protein		12.0	15.0	% as is	AACC 46-30	upon request*
Fat		2.0	3.0	% as is	AACC 30-20	upon request*
Fat Acidity		0.0	0.5	% as is	AACC 02-02A	upon request*
Total Dietary Fiber		12.0	15.0	% as is	AACC 32-05	upon request*
Ash		1.80	3.00	% as is	AACC 08-02	upon request*

* COA information provided upon request may require additional costs to the customer.

C. Microbiological

	Maximum	Reference Method	COA
Aerobic Plate Count	50,000/gm max.	FDA-BAM Chapter 3	upon request*
Coliform	100/gm max.	FDA-BAM Chapter 4	upon request*
E. coli	Negative	FDA-BAM Chapter 4	upon request*
Salmonella	Negative 25 grams	FDA-BAM Chapter 5	upon request*
Yeast and Molds	100/gm max.	FDA-BAM Chapter 19	upon request*

* COA information provided upon request may require additional costs to the customer.

315 Madison Street • Eugene, OR 97402 • (800) 443-8972 • (541)687-2155 Fax
www.grainmillers.com

NUTRITIONAL INFORMATION

Nutritional information per 100 gram sample dry basis.

Proximate Nutrients	per 100 grams	Proximate Nutrients	per 100 grams
Calories (kcal)	392	Sodium (mg)	10.0
Protein (g)	11.0	Calcium (mg)	32
Total Fat (g)	1.3	Potassium (mg)	311
Saturated Lipid (g)	0.2	Iron (mg)	2.8
Monounsat. Lipid (g)	0.1	Phosphorous (mg)	246
Polyunsat. Lipid (g)	0.7	Total Vitamin A (IU)	0.0
Cholesterol (mg)	0.0	Vitamin C (mg)	0.0
Total Carbohy. (g)	88		
Sugars (g)	0.0		
Total Dietary Fiber (g)	17.0		
Ash (g)	1.2		

Dry basis data calculated from information contained in:
 USDA Nutrient Database for Standard Reference Release 13
 USDA-ARS Nutrient Data Laboratory
 For further information see the USDA website for nutritional data at:
www.nal.usda.gov/fnic/foodcomp

Minnesota Grain, Inc.

Proximate Nutrient Values for

PEARLED BARLEY

Proximate Nutrients	Value per 100g	Source Of Data (C, U, N, A)*		Value per 100g	Source Of Data (C, U, N, A)*
Moisture (g)	10.10	U	Calories (Energy) (kcal)	352.0	U
Ash (g)	1.11	U	Saturated Fat ³ (g)	.244	U
Total Fat ¹ (g)	1.16	U	Monounsaturated Fat ⁴ (g)	.149	U
Total Carbohydrate(g)	77.72	U	Polyunsaturated Fat ⁵ (g)	.560	U
Protein (g)	9.91	U	Cholesterol (mg)	0	U
Other ² (g) (Examples: alcohol, acids, propylene glycol, glycerol)		U	Total Dietary Fiber (g)	15.6	U
			Sugars ⁶ (g)	0	U
			Total Vitamin A (IU)	22.0	U
			Vitamin C (mg)	0	U
			Sodium (mg)	9.0	U
Proximate Nutrient Sum: Must Equal 100 Grams	100.	U	Calcium (mg)	29.0	U
			Iron (mg)	2.5	U
			Potassium (mg)	280.0	U
			Phosphorus (mg)	221.0	U

* Source of Data: C = Calculated U = USDA Nutrient Database A = Analytical N = Canadian Nutrient File

DEFINITIONS

- | | |
|------------------------|--|
| 1. Total Fat | All fatty acids expressed as triglycerides |
| 2. Other | Constituents not defined by moisture, ash, total fat, total carbohydrate, or protein |
| 3. Saturated Fat | All fatty acids containing no double bonds |
| 4. Monounsaturated Fat | All cis-monounsaturated fatty acids |
| 5. Polyunsaturated Fat | All fatty acids containing cis, cis-methylene-interrupted double bonds |
| 6. Sugars | All mono- and disaccharides |

Additional Nutrient Information

Nutrient	Value per 100g	Source Of Data (C,U,N,A)*	Nutrient	Value per 100g	Source Of Data (C,U,N,A)*	Nutrient	Value per 100g	Source Of Data (C,U,N,A)*
Trans Fatty Acids (g)		U	Beta Carotene(mg)			Magnesium (mg)	79.0	U
Linoleic Acid (g)	.505	U	Vitamin D (IU)			Zinc (mg)	2.13	U
Soluble Fiber (g)		U	Vitamin E (IU)			Copper (mg)	.42	U
Insoluble Fiber (g)		U	Vitamin K (mcg)			Chloride (mg)		
Other Carbohydrate(g)	77.72	U	Thiamin (mg)			Selenium (mcg)		
Starch (g)			Riboflavin (mg)	.114	U	Manganese(mg)	1.322	U
Sugar Alcohols:			Niacin (mg)	4.604	U	Chromium (mg)		
Sorbitol (g)			Vitamin B6(mg)	.26	U	Molybdenum (mcg)		
Mannitol (g)			Folate (mcg)	23.0	U	Aluminum (mg)		
Xylitol (g)			Vitamin B12 (mcg)			Barium (mg)		
Other (g)			Biotin (mg)			Fluoride (mg)		
Aspartame (mg)	.619	U	Pantothenic Acid (mg)	.282	U	Iodine (mcg)		
Sucralose (mg)								
Acesulfame-Potassium (mg)								
Caffeine (mg)								

* Source of Data: C = Calculated U = USDA Nutrient Database A = Analytical N = Canadian Nutrient File



SILLIKER LABORATORIES OF MINNESOTA

11585 K-Tel Drive
Minnetonka, MN 55343
(952) 932-2800 Fax (952) 932-0764

FOOD SAFETY • QUALITY • NUTRITION

CERTIFICATE OF ANALYSIS

COA No:	MIN-3076420-1
Supersedes:	MIN-3076420-C
COA Date	2/26/02
Page 1 of 1	

TO:
Mr. Lowell Bedard
Quality Assurance Manager
Minnesota Grain
316 5th Ave NE
PO Box 526
East Grand Forks, MN 56721

Received From:	East Grand Forks, MN
Received Date:	2/21/02

Location of Test: (except where noted)	Minnetonka, MN
--	----------------

Analytical Results

Desc. 1: 23050 Laboratory ID: 30475288
Desc. 2: Cut Hulled Barley Condition Rec'd: NORMAL
Temp Rec'd (°C): 15

Analyte	Result	Units	Method Reference	Test Date	Loc.
Protein - Combustion			AOAC 990.03	2/26/02	
As Received	10.19	%			
Protein Factor	6.25	-			

Desc. 1: 23050 Laboratory ID: 30475289
Desc. 2: Regular Pearled Barley Condition Rec'd: NORMAL
Temp Rec'd (°C): 15

Analyte	Result	Units	Method Reference	Test Date	Loc.
Protein - Combustion			AOAC 990.03	2/26/02	
As Received	9.18	%			
Protein Factor	6.25	-			

Desc. 1: 12323 Laboratory ID: 30475292
Desc. 2: Barley Flour Condition Rec'd: NORMAL
Temp Rec'd (°C): 15

Analyte	Result	Units	Method Reference	Test Date	Loc.
Crude Fiber	0.50	%	AOAC 962.09	2/25/02	

Desc. 1: Test Laboratory ID: 30475293
Desc. 2: Pulverized Barley Condition Rec'd: NORMAL
Temp Rec'd (°C): 15

Analyte	Result	Units	Method Reference	Test Date	Loc.
Crude Fiber	4.52	%	AOAC 962.09	2/25/02	

Stephanie Campbell, M.S.

Laboratory Director

The results of these tests relate only to the samples tested. This report shall not be reproduced except in full, without the written approval of the laboratory.



9000 Plymouth Avenue - Minneapolis

To <i>Glenn</i>	From <i>Steve</i>
Co./Dept	Co.
Phone #	Phone #
Fax #	Fax #

1-800-245-5615
 (612) 540-4453
 Fax (612) 540-4010

Steve Camp
 Minnesota Grain Pearling
 Box 526
 East Grand Forks MN 56721

Date Submitted: 23 Oct 1997
 Date Reported: 4 Nov 1997
 P.O. Number: CAMP23
 Library Number: 97-07893
 Customer Number: 1-0823

FINAL REPORT

* * * * *

Customer ID: HULLED Medallion Labs ID: 97057907
 Sample Description: Hulled Barley - 1997 Crop

Test Description	Results	Units	Estimate
Calories, No Fiber Correction	351.	Calories/100 g	
Calories from Fat	18.	Calories/100 g	
Calories from Saturated Fat	5.	Calories/100 g	
Fatty Acid Analysis w/Profile			
Total Fat	2.05	%	
Saturated Fat	0.550	%	
Monounsaturated Fat	0.250	%	
Carbohydrates, Total	72.5	%	
Fiber, Total Dietary	12.1	%	
Sugars by HPLC			
Total Sugar	0.780	%	
Fructose	0.00	%	
Glucose	0.10	%	
Sucrose	0.34	%	
Maltose	0.34	%	
Lactose	0.00	%	
Protein by Kjeldahl (F=5.83)	10.6	%	
Vitamin A Retinol	<	100 IU/100 g	
Vitamin C, Total	<	0.500 mg/100 g	
Metals Short Scan by ICP			
Sodium	4.00	mg/100 g	
Calcium	37.4	mg/100 g	
Iron	2.62	mg/100 g	
Moisture by Forced Air (1 hr)	13.3	%	
Ash Analysis	1.530	%	
Cholesterol by GC	<	1.00 mg/100 g	

* * * * *

Customer ID: REGULAR Medallion Labs ID: 97057909
 Sample Description: Regular Pearled Barley - 1997 Crop

Test Description	Results	Units	Estimate
Calories, No Fiber Correction	352.	Calories/100 g	
Calories from Fat	14.	Calories/100 g	
Calories from Saturated Fat	4.	Calories/100 g	
Fatty Acid Analysis w/Profile			

Signed *Steve Camp*
 For Medallion Laboratories

LIMS SAMPLE ID 97057907CUSTOMER ID HULLEDDate Analyzed: 30Oct97Reference #: C102887AAnalyst: Lori KjosDescription: Hulled Barley - 1997 Crop

	Normalized by Weight	% (w/w) as Triglyceride in Product	% (w/w) Saturated Fatty Acids in Product	% (w/w) Monounsaturated Fatty Acids in Product	% (w/w) cis-cis Polyunsaturated Fatty Acids in Product
4:0 Butyric					
6:0 Caproic					
8:0 Caprylic					
10:0 Capric					
12:0 Lauric	0.049%	0.001	0.001		
13:0 Tridecanoic	0.049%	0.001	0.001		
14:0 Myristic	0.391%	0.008	0.008		
14:1 Myristoleic					
15:0 Pentadecanoic	0.098%	0.002	0.002		
15:1 Pentadecenoic					
16:0 Palmitic	25.049%	0.513	0.489		
16:1 Palmitoleic	0.146%	0.003		0.003	
17:0 Margaric	0.098%	0.002	0.002		
17:1 Margaroleic					
18:0 Stearic	1.709%	0.035	0.034		
18:1 trans Elaidic					
18:1 Oleic	11.914%	0.244		0.234	
18:2 trans Linolelaidic	0.049%	0.001			
18:2 Linoleic	55.176%	1.130			1.081
20:0 Arachidic	0.244%	0.005	0.005		
18:3 g-Linolenic					
18:3 Linolenic	3.516%	0.072			0.069
20:1 Gadoleic	0.537%	0.011		0.011	
21:0 Heneicosanoic					
18:4 Octadecatetraenoic					
20:2 Eicosadienoic	0.098%	0.002			0.002
22:0 Behenic	0.342%	0.007	0.007		
20:3 g-Eicosatrienoic					
22:1 Erucic	0.098%	0.002		0.002	
20:3 Eicosatrienoic					
20:4 Arachidonic	0.049%	0.001			0.001
23:0 Tricosanoic					
22:2 Docosadienoic					
24:0 Lignoceric	0.293%	0.006	0.006		
20:5 Eicosapentaenoic					
24:1 Nervonic	0.098%	0.002		0.002	
22:5 Docosapentaenoic					
22:6 Docosahexaenoic					
Totals					

Note: cis-cis polyunsaturates are reported for informational purposes only.



3000 Plymouth Avenue • Minneapolis, MN 55427

1-800-243-5616
(612) 540-4453
Fax: (612) 540-4010

Steve Camp
Minnesota Grain Pearling
PO Box 200
East Grand Forks MN 56721

Date Submitted: 21 Oct 1997
Date Analyzed: 21 Nov 1997
P.O. Number: CAMP21
Library Number: 97-07843
Customer Number: 10823

F H M A L R E P O R T

* * * * *

Customer ID: REGULAR

Medallion Labs ID: 97097909

Sample Description: Regular Pearled Barley - 1997 Crop

Test Description	Results	Units	Estimate
Total Fat	1.60	%	
Saturated Fat	0.490	%	
Monounsaturated Fat	0.170	%	
Carbohydrates, Total	74.5	%	
Fiber, Total Dietary	10.3	%	
Sugars by HPLC			
Total Sugar	0.800	%	
Fructose	0.00	%	
Glucose	0.06	%	
Sucrose	0.32	%	
Maltose	0.42	%	
Lactose	0.00	%	
Protein by Kjeldahl (F=5.83)	9.79	%	
Vitamin A Retinol	<	100 IU/100 g	g
Vitamin C, Total	<	0.500 mg/100 g	g
Metals Short Scan by ICP			
Sodium	4.00	mg/100 g	g
Calcium	31.8	mg/100 g	g
Iron	2.07	mg/100 g	g
Moisture by Forced Air (2 hr)	12.9	%	
Ash Analysis	1.153	%	
Cholesterol by GC	<	1.00 mg/100 g	g

Signed: *[Signature]*
for Medallion Laboratories

LIMS SAMPLE ID 97057909

TO: Medallion Labs

CUSTOMER ID REGULAR

Date Analyzed: 30Oct97

Reference #: C102897A

Analyst: Lori Kjos

Description: Regular Pearled Barley - 1997 Crop

	Normalized by Weight	% (w/w) as Triglyceride in Product	% (w/w) Saturated Fatty Acids in Product	% (w/w) Monounsaturated Fatty Acids in Product	% (w/w) cis-cis Polyunsaturated Fatty Acids in Product
4:0 Butyric					
6:0 Caproic					
8:0 Caprylic					
10:0 Capric					
12:0 Lauric					
13:0 Tridecanoic	0.082%	0.001	0.001		
14:0 Myristic	0.499%	0.008	0.008		
14:1 Myristoleic					
15:0 Pentadecanoic	0.062%	0.001	0.001		
15:1 Pentadecenoic					
16:0 Palmitic	28.367%	0.455	0.434		
16:1 Palmitoleic	0.125%	0.002		0.002	
17:0 Margaric	0.062%	0.001	0.001		
17:1 Margaroleic					
18:0 Stearic	2.182%	0.035	0.034		
18:1 trans Elaidic					
18:1 Oleic	10.287%	0.165		0.158	
18:2 trans Linolelaidic	0.062%	0.001			
18:2 Linoleic	53.367%	0.856			0.819
20:0 Arachidic	0.249%	0.004	0.004		
18:3 g-Linolenic					
18:3 Linolenic	2.993%	0.048			0.046
20:1 Gadoleic	0.436%	0.007		0.007	
21:0 Heneicosanoic					
18:4 Octadecatetraenoic					
20:2 Eicosadienoic	0.125%	0.002			0.002
22:0 Behenic	0.312%	0.005	0.005		
20:3 g-Eicosatrienoic	0.187%	0.003			0.003
22:1 Erucic	0.062%	0.001		0.001	
20:3 Eicosatrienoic					
20:4 Arachidonic	0.062%	0.001			0.001
23:0 Tricosanoic					
22:2 Docosadienoic					
24:0 Lignoceric	0.312%	0.005	0.005		
20:5 Eicosapentaenoic					
24:1 Nervonic	0.187%	0.003		0.003	
22:5 Docosapentaenoic					
22:6 Docosahexaenoic					
Totals	100.00%	1.000	1.000	0.002	0.819

Note: cis-cis polyunsaturates are reported for informational purposes only.

TECHNICAL DATA SHEET

Minnesota Grain, Inc.

PRODUCT: QUICK BARLEY FLAKES

PRODUCT CODE: 154-1

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade #2 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall comply with all regulations of the Federal Food, Drug and Cosmetic Act. The barley shall be pearled, cut, steamed and rolled in accordance with good manufacturing practices. The following criteria shall apply to the finished product:

PHYSICAL PROPERTIES:

Granulation: Rotap 100 g.
2 min. with-out hammer
On U.S. #5 5.0% MAX.
On U.S. #8 60 +/-10%
On U.S. #14 35 +/-10%
Thru U.S. #14 10.0% MAX.
Thickness .017 +/- .002"
Density 25-29#/cu. ft.

CHEMICAL PROPERTIES:

Moisture 13.5% Max.
Protein 9.5% Min.
(as is; N=6.25)
Crude Fiber 2.0% Max.
Fat 0.5% - 2.0%
Ash 0.5% - 1.5%

MICROBIOLOGICAL PROPERTIES:

Standard Plate Count/g 100,000 Max.
Yeast & Mold Count/g 1,000 Max.
Coliform MPN/g 2,000 Max.
Salmonella/25 g. 0 Max.
E. Coli MPN/g 0 Max.
Staph aureus/g 0 Max.

PACKAGING AND LABELING: 50# Kraft multi-wall, unlined bags; and totes. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 3 months.

TECHNICAL DATA SHEET

PRODUCT: QUICK HULLED BARLEY FLAKES

PRODUCT CODE: 152-1

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade #2 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall comply with all regulations of the Federal Food, Drug and Cosmetic Act. The barley shall be hulled, cut, steamed and rolled in accordance with good manufacturing practices. The following criteria shall apply to the finished product:

PHYSICAL PROPERTIES:

Granulation: Rotap 100 g.
2 min. with-out hammer
On U.S. # 8 35% Min.
On U.S. #14 25-60%
Thru U.S. #20 20.0% Max.
Thickness .018 +/- .002"
Density 24-28#/Cu. Fl.

CHEMICAL PROPERTIES:

Moisture 14.0% Max.
Protein 9.0% Min.
(as is; N=6.25)
Crude Fiber 3.0% Max.
Fat 1.0% Min.
Ash 2.0% Max.

MICROBIOLOGICAL PROPERTIES:

Standard Plate Count/g 20,000 Max.
Yeast & Mold Count/g 100\100 Max.
Coliform MPN/g 100 Max.
Salmonella/25 g 0 Max.
E. Coli MPN/g Less than 3/g
Staph aureus/g 100 Max.
(coagulase positive)

PACKAGING AND LABELING: 50# Kraft, multi-wall, unlined bags; and totes. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 4-6 months.

TECHNICAL DATA SHEET

PRODUCT: HULLED BARLEY FLAKES .030

PRODUCT CODE: 150

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade #1 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall comply with all regulations of the Federal Food, Drug and Cosmetic Act. The barley shall be hulled, steamed and rolled in accordance with good manufacturing practices. The following criteria shall apply to the finished product:

PHYSICAL PROPERTIES:

Granulation: Rotap 100 g.
2 min. with-out hammer
On U.S. # 8 85.0% Min.
Thru U.S. #20 5.0% Max.
Thickness .030 +/- .002"
Density 20-28#/Cu. Ft.

CHEMICAL PROPERTIES:

Moisture 14.0% Max.
Protein 9.0% Min.
(as is; N=6.25)
Crude Fiber 3.0% Max.
Fat 0.5% - 1.5%
Ash 0.5% - 1.5%

MICROBIOLOGICAL PROPERTIES:

Standard Plate Count/g 50,000 Max.
Yeast & Mold Count/g 1,000 Max.
Coliform/g 100 Max.
Salmonella/25 g. 0 Max.
E. Coli/g Less than 3/g

PACKAGING AND LABELING: 50# Kraft, multi-wall, unlined bags and totes. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 4-6 months.

Minnesota Grain, Inc.

PRODUCT: REGULAR WHITE BARLEY FLAKES

PRODUCT CODE: 157C CUSTOMER SPEC. NUMBER: 305

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade #1 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall comply with all regulations of the Federal Food, Drug and Cosmetic Act. The barley shall be pearled, steamed and rolled in accordance with good manufacturing practices. The following criteria shall apply to the finished product:

PHYSICAL PROPERTIES:

Granulation: Rotap 100 g.
2 min. with-out hammer
On U.S. #5 45.0% Min.
On U.S. #6 15.0-45.0%
On U.S. #7 2.0-8%
Thru U.S. #7 12.0% Max.
Thickness .043 - .047"
Density 30-36#/cu.ft.
Pesticide Residue Meets current FDA Regulations
Foreign Matter None visually

MICROBIOLOGICAL PROPERTIES:

Standard Plate Count	25,000 CFU/g max.	BAM
Salmonella	Negative	BAM
Vomotoxin	< 1 ppm	BAM
Yeast and Mold	100 CFU/g max.	BAM
Coliforms	100 MPN/gram	BAM
E. coli	<3 MPN/gram	BAM

CHEMICAL PROPERTIES:

Moisture	14.0% Max.	AACC 44-15A
Protein		
N=6.25	9.0% Min.	AACC 46-11
Crude Fiber	1.5% Max.	AACC 32-10
Fat	0.5 - 1.5%	AACC 30-20
Ash	0.5 - 1.5%	AACC 08-01

PHYSICAL PROPERTIES:

Color	White - yellow tint
Odor	None
Flavor	Typical
Texture	Flakes

PACKAGING AND LABELING: 50 # Kraft multi-wall, unlined bags; and totes. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 4-6 months.

Revision Date: June 27, 2001 LJB
Supercededs: 10-17-97 GH
Approval:

Minnesota Grain reserves the right to change product specifications.

TECHNICAL DATA SHEET

PRODUCT: CUT HULLED BARLEY

PRODUCT CODE: 133

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade #2 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall comply with all regulations of the Federal Food, Drug and Cosmetic Act. The barley shall be hulled and cut in accordance with good manufacturing practices. The following criteria shall apply to the finished product:

PHYSICAL PROPERTIES:

Granulation: Rotap 100 g.
5 min. with hammer
On U.S. # 8 5.0% Max.
On U.S. #10 35 +/-10%
On U.S. #20 62.5 +/-12.5%
Thru U.S. #20 5.0% Max.
Density 44#/Cu. Ft.

CHEMICAL PROPERTIES:

Moisture 13.0% Max.
Protein 9.0% Min.
(as is; N=6.25)
Crude Fiber 3.0% Max.
Fat 2.0 +/-0.5%
Ash 1.0 +/-0.5%

PACKAGING AND LABELING: 50# and 100# Kraft multi-wall, unlined bags; totes, and bulk. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 6 months.

2/4/94 GH

TECHNICAL DATA SHEET

PRODUCT: MEDIUM BARLEY GRITS

PRODUCT CODE: 131

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade # 1 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall comply with all regulations of the Federal Food, Drug and Cosmetic Act. The barley shall be hulled and milled in accordance with good manufacturing practices. The following criteria shall apply to the finished product:

PHYSICAL PROPERTIES:

Granulation: Rotap 100 g.
2 min. with-out hammer
On U.S. # 8 2.0% Max.
On U.S. #12 45 +/-15%
On U.S. #16 45 +/-15%
On U.S. #20 15 +/-10%
Thru U.S. #20 5.0% Max.
Density 41#/Cu. Ft.

CHEMICAL PROPERTIES:

Moisture 13.5% Max.
Protein 9.0% Min.
(as is; N=6.25)
Crude Fiber 1.5% Min.
Fat 1.0% Min.
Ash 2.0% Max.

PACKAGING AND LABELING: 50# Kraft multi-wall, unlined bags; totes, and bulk. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 6 months.

Revised: 2-19-02 LJB
Superseds: 2-4-04 GH
Approved:

TECHNICAL DATA SHEET

PRODUCT: FINE PEARLED BARLEY

PRODUCT CODE: 113

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade #2 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall comply with all regulations of the Federal Food, Drug and Cosmetic Act. The barley will be hulled and processed in accordance with good manufacturing practices. The following criteria shall apply to the finished product:

PHYSICAL ANALYSIS	SPECIFICATION	TYPICAL
Granulation: Rotap 100 g. 2 min. with hammer		
% On a U.S. Std. #8 Screen	85% Min.	95%
% Through a U.S. Std. #8 Screen	15% Max.	5%
200 Kernel Weight	4.0 - 5.0g	4.5g
Density	50-54#/Cu. Ft.	52#/Cu. Ft.

CHEMICAL ANALYSIS	SPECIFICATION	TYPICAL
% Moisture	13.5% Max.	12.0%
% Protein (N x 6.25)	9.5% Min.	10.0%
% Crude Fiber	1.5% Max.	0.8%
% Fat	0.7% Min.	1.0%
% Ash	0.5% Min.	1.0%

PACKAGING AND LABELING: 50# and 100# Kraft, multi-wall, unlined bags; totes and bulk. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 9-12 months.

TECHNICAL DATA SHEET

PRODUCT: REGULAR PEARLED BARLEY

PRODUCT CODE: 111

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade # 1 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall comply with all regulations of the Federal Food, Drug and Cosmetic Act. The barley will be hulled and processed in accordance with good manufacturing practices. The following criteria shall apply to the finished product:

PHYSICAL ANALYSIS	SPECIFICATION	TYPICAL
Granulation: Rotap 100 g. 2 min. with hammer		
% On a U.S. Std. #8 Screen	90% Min.	98%
% Through a U.S. Std. #8 Screen	10% Max.	2%
200 Kernel Weight	4.8 - 6.0g	5.4g
Density	48-52#/Cu. Ft.	50#/Cu. Ft.
CHEMICAL ANALYSIS	SPECIFICATION	TYPICAL
% Moisture	13.5% Max.	12.00%
% Protein (N x 6.25)	9.5% Min.	10.50%
% Crude Fiber	1.5% Max.	0.80%
% Fat	0.7% Min.	1.00%
% Ash	0.5% Min.	1.00%
Vomotoxin	< 1 ppm	.6 ppm

PACKAGING AND LABELING: 50# Kraft, multi-wall, unlined bags; totes and bulk. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 9-12 months.

Minnesota Grain, Inc.

PRODUCT: BARLEY FLOUR

PRODUCT CODE: 800

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade #1 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall be manufactured in accordance with good manufacturing practices and comply with all regulations of the Federal Food, Drug and Cosmetic Act. The following criteria should apply to the finished product:

PHYSICAL PROPERTIES:

Granulation: Rotap 25. five minutes
On U.S. #80 10% Max.
On U.S. #100 15% Max.
Thru U.S. #100 85% Min.

CHEMICAL PROPERTIES:

Moisture 13% Max
*Protein 9% Min.
(as is; N+6.25)
*Ash 1.7% Max.
*14% Moisture Basis

MICROBIOLOGICAL PROPERTIES:

E. Coli <100/g
Coag. Pos. Staph <10/g
Salmonella Neg. 375/g

PACKAGING AND LABELING: 50# Kraft, multi-wall unlined bags. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 3-6 months.

Revised 11-21-01 LJB
Supercedes 5-10-01 LJB
Approved:

TECHNICAL DATA SHEET

PRODUCT: HULLED BARLEY MEAL

PRODUCT CODE: 160

RAW BARLEY REQUIREMENTS: Barley selected for this product shall be milled from U.S. grade #2 or better. The barley shall be cleaned using standard grain cleaning equipment to remove dockage, foreign matter and stones in accordance with good manufacturing practices. The cleaned barley shall also be free from insect and rodent infestation, fumigants and other foreign odors or substances.

FINISHED PRODUCT REQUIREMENTS: The finished product shall comply with all regulations of the Federal Food, Drug and Cosmetic Act. The barley shall be hulled and milled in accordance with good manufacturing practices. The following criteria shall apply to the finished product:

PHYSICAL PROPERTIES:

Granulation: Rotap 100 g.
5 min. with hammer
On U.S. #20 20.0% Max.
On U.S. #40 40 +/-15%
On U.S. #60 20 +/-10%
Thru U.S. #100 15 +/-10%
Density 33#/Cu. Ft.

CHEMICAL PROPERTIES:

Moisture 13.5% Max.
Protein 9.0% Min.
(as is; N=6.25)
Dietary Fiber 10.0% Min.
Fat 2.5% Max.
Ash 2.0% Max.

PACKAGING AND LABELING: 50# and 100# Kraft multi-wall, unlined bags; totes and bulk. Labeling requirements include product name, net weight, name of manufacturer, and lot number.

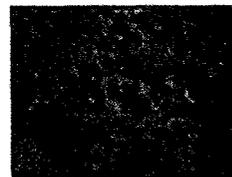
SHIPPING AND STORAGE REQUIREMENTS: Products stretched wrapped prior to loading and shipped on clean, dry pallets. Transportation of product shall be under such conditions as will prevent contamination. Store in a clean, dry area for a maximum of 6 months.

2/4/94 GH

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Whole Barley



A: DESCRIPTION:

Conventional & Organic: Triple cleaned Whole Barley, hull remains on the barley. Great for sprouting, popping (yes, like popcorn) or grinding into whole barley flour. Once ground, the whole barley flour is normally sifted to remove the hulls.

B: PROPERTIES:

Conforms to all USDA #1 grade requirements or as stated below.

<i>Proximate Composition</i>	<i>Standard</i>
Maximum Moisture	13%
Minimum Test Weight	48 Pound Minimum

C: EXTRANEIOUS MATTER:

Product has been cleaned of wood, stones and other foreign matter.
Product has been screened with metal detector to eliminate metal particles.

D: ANALYSIS:

Crude Protein	9% - 17%
Ether Extract	1.9% - 2.9%
Crude Fiber	11% - 12.5%
Ash	1.5% - 2.5%
N.F.E.	75.7%
Total Sugar	2.5%
Total Starch	64.6%

E: PACKAGING:

Packed according to customer's specifications.



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Barley Flakes

Conventional & Organic: Barley Flakes are made from Dehulled Barley. The proportions of the natural constituents of the barley remain unaltered.

B: PROPERTIES:

Condition	Dry, free flowing, Granular.
Color	Cream
Odor	Natural, with no off odors.

C: EXTRANEEOUS MATTER:

Product has been cleaned of wood, stones and other foreign matter.
Product has been screened with metal detector to eliminate metal particles.

D: ANALYSIS:

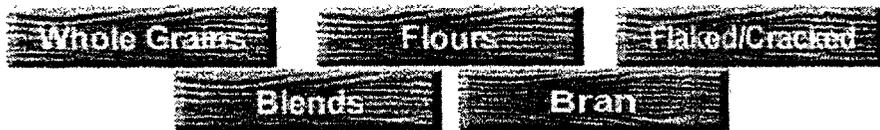
Moisture	Max 14.0%
Protein (Nx5.7), 14% m.b.	Min 13.0%
Ash, 14% m.b.	Max 2.0%
Granulations	
On US Std #8	90% Min
On US Std #20	8% Min
Through US Std #20	2% Max

E: F.D.A. STATUS:

Conforms to all provisions of the FDA cosmetic act as amended.

F: PACKAGING:

Packed according to customer's specifications.

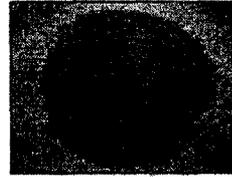


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Cracked Barley



A: DESCRIPTION:

Conventional & Organic: Granular product made by grinding Dehulled Barley. The proportions of the natural constituents of the barley remain unaltered.

B: PROPERTIES:

Condition	Dry, free flowing, Granular.
Color	Cream
Odor	Natural, with no off odors.

C: EXTRANEIOUS MATTER:

Product has been cleaned of wood, stones and other foreign matter. Product has been screened with metal detector to eliminate metal particles.

D: ANALYSIS:

Moisture	Max 14.0%
Protein (Nx5.7), 14% m.b.	Min 13.0%
Ash, 14% m.b.	Max 3.0%
Granulations	
On US Std #8	0-1
On US Std #16	45-60
On US Std #20	15-25
On US Std #40	10-15

E: F.D.A. STATUS:

Conforms to all provisions of the FDA cosmetic act as amended.

E: PACKAGING:

Packed according to customer's specifications.



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Barley Flour

A: DESCRIPTION:

Conventional & Organic: Flour made by grinding food grade dehulled barley.

B: PROPERTIES:

Condition	Dry, free flowing powder, free of hard lumps.
Color	Light tan
Odor	Natural, with no off odors.

C: EXTRANEEOUS MATTER:

Product has been cleaned of wood, stones and other foreign matter. Product has been screened with metal detector to eliminate metal particles.

D: ANALYSIS:

Moisture	Max 10.0%
Protein (Nx6.25%)	13.0% - 15.0%
Ash D.B.	1.5% - 2.5%
Fiber	1.4% - 2.0%
Fat	1.9% - 2.9%
Granulations	
On US Std #20	2-6%
Through US Std #50	95-98%
Through US Std #70	80-90%
On US Std #100	70-80%
Through US Std #100	0-5%

E: F.D.A. STATUS:

Conforms to all provisions of the FDA cosmetic act as amended.

E: PACKAGING:

Packed according to customer's specifications.



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Dehulled Barley



A: DESCRIPTION:

Conventional & Organic: Dehulled barley has the outer hull removed from triple cleaned barley. It still has the outer layer of bran so it is more nutritious than Pearled Barley. It grinds much better than whole barley and the flour does not need to be sifted. This is what we use to make our own Barley Flour, Barley Grits and Barley Flakes.

B: PROPERTIES:

Conforms to all USDA #1 grade requirements or as stated below.

<i>Proximate Composition</i>	<i>Standard</i>
Test Weight / bushel	57-60 pounds
Stained or discolored	1.0% Max
Broken or shattered kernels through #8 Sieve	7.0% Max
Stones per 200 pounds	2.0% Max
Wheat	1.0% Max
Foreign Seeds	1.0% Max
Wild Oat Hulls per 400 Kernels	.05% Max

C: EXTRANEEOUS MATTER:

Product has been cleaned of wood, stones and other foreign matter. Product has been screened with metal detector to eliminate metal particles.

D: ANALYSIS:

Moisture	14.5% Max
Protein (NX 6.25)	13.0% Min
Ash (14% M.B.)	2.0% Max
Fat	.5% - 2.0%
Crude Fiber	1.5% Max

E: F.D.A. STATUS

Conforms to all provisions of the FDA cosmetic act as amended.

E: PACKAGING:

Packed according to customer's specifications.



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NUWORLD NUTRITION

816 6TH Ave NE ■ Perham, MN 56573 ■ 218-346-3161 ■ eot.com/~nuworld

Whole Grain Waxy Hulless Barley Quick Flakes

Proximate analyses	%
Fat*	2.5 – 3.5
Protein*	15.0 – 18.0
Ash*	1.5 – 2.5
Total Dietary Fiber*	14.5 – 17.0
Soluble Dietary Fiber*	> 6.0
B-glucan*	> 6.5
Moisture	9.0 – 10.5

*dry weight basis

Physical Characteristics

Flake Thickness, in	.014 – .016
Density, lb/cu ft	23.5 – 28.5
Granulation -10W	55-60%
-18W	40-45%

Microbiological

Total Plate Count	< 10,000
Yeasts and Molds	<100
Salmonella	Negative

Shelf Life

Recommended 6 months.



BARLEY
QUICK COOKING

http://www.motherscereal.com/readytoeat/ready_frame.html

Manufactured by

The Quaker Oats Company
P.O. Box 049003
Chicago, IL 60604-9003

Nutrition Facts

Serving Size 1/3 cup (48g)
Servings Per Container about 6

Amount Per Serving

Calories 170 **Calories from Fat** 10

%Daily Value*

Total Fat 1g **2%**

Saturated Fat 0g **1%**

Polyunsaturated Fat 0.5g

Monounsaturated Fat 0g

Sodium 0mg **0%**

Potassium 125mg **4%**

Total Carbohydrate 37g **12%**

Dietary Fiber 5g **20%**

Protein 5g

Iron **4%**

Niacin **10%**

Phosphorus **10%**

Not a significant source of Cholesterol, Sugars, Vitamin A, Vitamin C, Calcium.
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Ingredients: 100% Natural
pearled barley.

UPC 0 30000 21642 2

- Good source of fiber
- Low fat

Western Trails, Bozeman, MT

HULLLESS BARLEY NUTRITIONAL COMPARISONS						
	100 g. samples	100 g Sample	100 g. samples	1 oz. Serving	1 oz. Serving	1 oz (28.4 g)
	Purple Buffalo	Hulled barley*	Bronze Nugget	Purple	Bronze	Waxy Hulless
Ash	2.35	2.29	1.94	0.67	0.55	
Calcium (mg)	55	33	34	15.59	9.64	
Cholesterol (mg)	0	0	0	0	0	
Fat (total)	1.74	2.3	1.22	0.49	0.35	0.3
Sat. fat	0.26	0.482	0.22	0.07	0.06	
Moisture	10.1	9.44	11.43	2.86	3.24	
Protein	15.35	12.48	12.33	4.35	3.5	4
Vitamin C	0		0	0	0	
Calories	359	354	353	101.78	100.08	100
Carbohydrates	70.46		73.08	19.98	20.72	20
Dietary Fiber	22.2	17.3	27.9	6.29	7.91	12.6
Iron (mg)	2.5	3.6	2.2	0.71	0.6248	
Sodium (mg)	3	12	5	0.85	1.42	5
sugars	2.38		1.89	0.67	0.54	
Vitamin A	0		0	0	0	5
Potassium (mg)						180
						5.8
*Not from same lab - from USDA Nutritional analysis						
Purple and Bronze NuBarleys tested 5/99						

See reverse
side 400