

Appendix 2

**Estimated Intake of Fiber by
Consumers of Products Proposed for
Fortification with
Oat Soluble Fiber from BetaTrim™**

**Prepared for:
The Quaker Oats Company**

**Prepared by:
ENVIRON International Corporation**

November 17, 2000

STATEMENT OF COMPLIANCE AND QUALITY

This study was conducted in accordance with the approved Standard Operating Procedures of ENVIRON International Corporation and the report was Quality Assurance (QA) audited to assure that it meets the requirements of the Statement of Work and accurately reflects the raw data.

Mary Ann Murphy
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QA Auditor

November 17, 2000
Date

11/17/00
Date

Table of Contents

I. Introduction.....	1
II. Methods.....	1
A. Food consumption data.....	1
B. Soluble fiber and total dietary fiber content of CSFII food codes	2
C. Products proposed for fortification with oat soluble fiber from BetaTrim™	2
III. Populations included in analyses	3
IV. Analyses	4
V. Results and Discussion.....	5
VI. References.....	6
VII. Data Tables.....	7
Appendix: CSFII food codes representative of the proposed uses of oat soluble fiber from BetaTrim™	16

**Estimated Intake of Fiber by Consumers of Products
Proposed for Fortification with
Oat Soluble Fiber from BetaTrim™**

I. Introduction

ENVIRON International Corporation (ENVIRON) is pleased to provide The Quaker Oats Company with estimates of fiber intake by consumers of products proposed for fortification with BetaTrim™, an oat soluble fiber beta-glucan product. The products proposed for fortification include selected bars, beverages, and beverage mixes. The proposed uses would provide 0.75 g of oat soluble fiber from BetaTrim™ per serving of food. This report provides estimates of the current intake of soluble fiber and total dietary fiber by users of these foods. The report also provides estimates of intake of oat soluble fiber from BetaTrim™, total soluble fiber and total dietary fiber under the proposed fortification scheme.

II. Methods

A. Food consumption data

The food consumption data used in these analyses are results of the 1994-96 USDA Continuing Survey of Food Intakes by Individuals (CSFII) and its Supplemental Children's Survey (CSFII 1998), as provided on CD-ROM (USDA, 2000).

The CSFII 1994-96 was conducted between January 1994 and January 1997 with non-institutionalized individuals in the United States. In each of the three survey years, data were collected from a nationally representative sample of individuals of all ages. The CSFII 1998 was a survey of children ages 0 through 9 which was supplemental to the CSFII 1994-96. It used the same sample design as the CSFII 1994-96 and was intended to be merged with CSFII 1994-96 to increase the sample size for children. The merged surveys are designated as CSFII 1994-96, 1998.

In the CSFII 1994-96, 1998, dietary intakes were collected through in-person interviews using 24-hour recalls on 2 nonconsecutive days approximately one week apart. A total of 21,662 individuals provided data for the first day; of those individuals, 20,607 provided data for a second day.

B. Soluble fiber and total dietary fiber content of CSFII food codes

The 1994-96, 1998 CSFII dataset includes daily and 2-day average intakes of total dietary fiber for each survey respondent. The USDA nutrient database does not, however, provide data on the soluble fiber content of foods reported in the survey.

ENVIRON has developed a database of the soluble and total fiber concentrations per 100 grams of each food reported in the CSFII survey. This database was based upon a combination of data further detailing the food intakes reported in the CSFII, and values of the concentration of fiber in foods. The "Food Code-to-Commodity Translation File" and the "Commodity Intakes by Cooked Status, Food Form, and Cooking Method File" are files that were developed in a joint effort by USDA and EPA to allow estimation of human exposures to pesticide residues and environmental contaminants through intakes of foods and beverages (EPA, 2000). The Food Code-to-Commodity Translation File translates each CSFII food code into EPA commodity percentages; the Cooked Status, Food Form, and Cooking Method File further defines the CSFII commodity intake data by the EPA codes for cooked status, food form, and cooking method. These files were used to identify approximately 600 unique fiber-containing food commodities by cooking status (cooking status forms were identified as uncooked or cooked).

For each of the unique food commodity and cooking status combinations, ENVIRON developed a database of the soluble and total fiber concentrations per 100 gram food. The fiber values were based upon nutrient data in the Nutrition Data System for Research (NDS-R) software, version 4.02 (Nutrition Coordinating Center, 1999). The ENVIRON database of fiber values was then linked to the Food Code-to-Commodity Translation File and the file containing the 2-day diet recall information and estimates of total and soluble fiber were generated.

C. Products proposed for fortification with oat soluble fiber from BetaTrim™

The Quaker Oats Company requested intake estimates of fiber based on the proposed BetaTrim™ uses in three categories of foods: 1) bars; 2) beverages; and 3) beverage mixes. The food codes reported in the CSFII 1994-96, 1998 that are representative of the products proposed for fortification, the serving size of each of the food categories, and the proposed oat soluble fiber BetaTrim™ fortification per food category are identified in Table 1. The serving sizes identified for each of the food categories correspond to the Reference Amounts Customarily Consumed per eating occasion (CFR 121 §101.12). A list of the food codes used in the intake estimates is provided in the Appendix.

Table 1 Proposed Uses of Oat Soluble Fiber from BetaTrim™			
Food Category	Description of Foods	Serving Size^a	Oat Soluble Fiber from BetaTrim™ per Serving (g)
Bars	High protein bars, breakfast bars, meal replacement bars, granola bars, fortified high energy bars	1 bar	0.75
Beverages	Milk analogues; milk-based fruit drinks; instant breakfast, diet, and meal supplement/replacement beverages; citrus juices including grapefruit and orange juices and juice mixtures; tomato and vegetable juices; corn and bean beverages; cranberry juice drinks; fruit-flavored drinks	240 mL	0.75
Beverage Mixes	Milk analogue powders; milk beverage powders; instant breakfast, diet, and meal supplement/replacement beverage mixes; protein powders and supplements; cereal beverage powders; fruit-flavored drink mixes	Amount to make 240 mL drink	0.75
^a Serving sizes correspond to the Reference Amounts Customarily Consumed per eating occasion (CFR 121 §101.12).			

III. Populations included in analyses

Intake of fiber by users of the products proposed for fortification with oat soluble fiber from BetaTrim™ was estimated for seven age/sex groups. A “user” of a food category was defined as an individual who reported consumption of a food from the category at least once during the two days of the diet recalls. Only those individuals who provided two complete 24-hour diet recalls were included in the analyses. The age and sex of each population group as well as the number of people in each group in the CSFII 1994-96, 1998 are presented in Table 2.

Age Group	Sex Group ^a	Number of People ^b
Children 2 to 5 years old	M/F	5447
Children 6 to 12 years old	M/F	2089
Teenagers 13 to 19 years old	M	603
Teenagers 13 to 19 years old	F	619
Adults 20 years and older	M	4751
Adults 20 years and older	F	4572
Total population 2 years and older	M/F	18081
^a M = male; F = female		
^b Number of people who provided two complete 24-hour diet recalls in CSFII 1994-96, 1998.		

IV. Analyses

Data on fiber content of foods were combined with diet recall data to generate estimates of the mean 2-day average soluble and total fiber intakes by populations of users of the products proposed for fortification with oat soluble fiber from BetaTrim™. ENVIRON estimated mean fiber intakes by the populations of users under two scenarios:

1. Soluble and total fiber intakes before the proposed oat soluble fiber from BetaTrim™ fortification
2. Oat soluble fiber from BetaTrim™, total soluble fiber, and total dietary fiber intakes (total soluble and total dietary fiber values include the oat soluble fiber provided by BetaTrim™) after the proposed oat soluble fiber from BetaTrim™ fortification

In addition to the mean 2-day average estimates, ENVIRON also determined the 90th percentile of the 2-day average fiber intakes by all population groups under each scenario. For each of the seven population groups, estimates were completed for each of the three food categories as well as for foods from all of the categories combined.

ENVIRON also estimated the mean and 90th percentiles of soluble and total fiber intake by all individuals in the survey. These estimates therefore included individuals who did not report intake of one or more foods from the categories included in the proposed oat soluble fiber fortification.

All 2-day average intake means and 90th percentiles were calculated using the weighting factors generated by USDA to adjust for differences in representation of subpopulations. The WesVar Complex Samples Version 3.0 software was used to generate all estimates.

V. Results and Discussion

The estimated intakes of soluble and total fiber by users of bars, selected beverages and beverage mixes before and after the proposed addition of 0.75 g oat soluble fiber from BetaTrim™ per serving are presented in Tables 3 through 9.

As shown in Table 9, the mean 2-day average intake of oat soluble fiber from BetaTrim™ by the total population (2 years and older) resulting from the proposed uses ranges from 0.54 g to 0.96 g per day per category; the mean intake of oat soluble fiber from BetaTrim™ by this population from all categories is 0.80 g. The estimated mean and 90th percentile intakes of total soluble fiber per day under the proposed fortification scheme are 6.61 g and 10.48 g, respectively. The estimated mean and 90th percentile intakes of total dietary fiber after the addition of oat soluble fiber from BetaTrim™ are 17.26 and 28.90 g per day, respectively.

Table 10 presents estimated intakes of soluble fiber and total fiber intake by seven populations of individuals in the United States. The results presented in this table reflect the mean and 90th percentiles of fiber intakes by all individuals, not just those who reported use of one of the products proposed for fortification with the oat soluble fiber. The estimated mean soluble and total fiber intakes by the population of individuals ages 2 and older are 5.71 and 16.00 grams per day, respectively. It should be noted that the estimates of total dietary fiber generated in this report deviate slightly from the values generated using the USDA total fiber values (USDA 1999a, 1999b). The differences in the estimates may be attributed to different sources of fiber data.

Overall, the findings of this study suggest that the proposed uses of oat soluble fiber from BetaTrim™ will have a positive effect on the soluble and total fiber intakes by consumers of the fortified products.

It is important to note that for some population groups, relatively small numbers of people reported use of some product categories; estimates based on small sample sizes may be less reflective of actual intakes than estimates based on larger sample sizes.

VI. References

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US Department of Agriculture, Agricultural Research Service. (2000). *1994-96, 1998 Continuing Survey of Food Intakes by Individuals* [CD-ROM], data and documentation. National Technical Information Service, Accession No. PB2000-500027.

VII. Data Tables

Table 3
Soluble and Total Dietary Fiber Intake by Users of Products Containing Oat Soluble Fiber from BetaTrim™
Estimates of Intake Before and After Proposed Uses ^a

Children 2 to 5 years old

	Before Proposed Uses						After Proposed Uses					
	Users ^b		Soluble Fiber		Total Dietary Fiber		Oat Soluble Fiber from BetaTrim™ ^c		Total Soluble Fiber ^d		Total Dietary Fiber ^d	
	Number of People ^e	Percent of People	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)
Bars	303	5.5	4.47	6.51	12.64	18.32	0.41	0.75	4.89	6.96	13.05	18.75
Beverages	1911	35.2	4.08	6.16	11.10	17.05	0.50	0.94	4.58	6.75	11.60	17.68
Beverage Mixes	1108	20.2	3.80	5.80	10.29	16.19	0.68	1.47	4.48	6.69	10.97	16.79
All Food Categories	2850	52.3	3.98	6.06	10.86	16.95	0.64	1.31	4.62	6.78	11.50	17.57

^a Food consumption data source: 1994-96, 1998 Continuing Survey of Food Intakes by Individuals; estimates based upon 2-day average intakes per person. Fiber data source: ENVIRON and Nutrition Data System for Research (NDS-R) software version 4.02 (NCC, 1999). Proposed uses of BetaTrim™ provide 0.75g oat soluble fiber from BetaTrim™ per serving of food.

^b A "user" of a food category was defined as an individual who reported consumption of a food from the category at least once during the two days of the 1994-96, 1998 CSFII diet recalls; "Number of People" represents the number of survey respondents who were users of the food category, and "Percent of People" represents the weighted proportion of individuals in this population group who were users of the food category.

^c Reflects the oat soluble fiber provided by the proposed uses of BetaTrim™.

^d Total soluble fiber and total dietary fiber estimates in the "After Proposed Uses of BetaTrim™" scenario reflect the addition of oat soluble fiber provided by BetaTrim™.

^e Mean estimates based on a sample size smaller than 75 and 90th percentile estimates based on a sample size smaller than 200 may tend to be less statistically reliable than estimates based on larger cell sizes (FASEB/LSRO, 1995).

Table 4
Soluble and Total Dietary Fiber Intake by Users of Products Containing Oat Soluble Fiber from BetaTrim™
Estimates of Intake Before and After Proposed Uses ^a

Children 6 to 12 years old

	Before Proposed Uses						After Proposed Uses					
	Users ^b		Soluble Fiber		Total Dietary Fiber		Oat Soluble Fiber from BetaTrim™ ^c		Total Soluble Fiber ^d		Total Dietary Fiber ^d	
	Number of People ^e	Percent of People	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)
Bars	127	6.7	5.02	7.37	14.32	20.49	0.48	0.75	5.50	7.84	14.79	20.85
Beverages	643	31.9	4.82	7.46	13.20	20.59	0.58	1.02	5.40	8.19	13.78	21.24
Beverage Mixes	419	17.6	4.50	6.80	12.10	19.24	0.82	1.64	5.32	7.99	12.93	20.27
All Food Categories	1016	48.3	4.72	7.36	12.98	20.41	0.75	1.47	5.47	8.22	13.73	21.16

^a Food consumption data source: 1994-96, 1998 Continuing Survey of Food Intakes by Individuals; estimates based upon 2-day average intakes per person. Fiber data source: ENVIRON and Nutrition Data System for Research (NDS-R) software version 4.02 (NCC, 1999). Proposed uses of BetaTrim™ provide 0.75g oat soluble fiber from BetaTrim™ per serving of food.

^b A "user" of a food category was defined as an individual who reported consumption of a food from the category at least once during the two days of the 1994-96, 1998 CSFII diet recalls; "Number of People" represents the number of survey respondents who were users of the food category, and "Percent of People" represents the weighted proportion of individuals in this population group who were users of the food category.

^c Reflects the oat soluble fiber provided by the proposed uses of BetaTrim™.

^d Total soluble fiber and total dietary fiber estimates in the "After Proposed Uses of BetaTrim™" scenario reflect the addition of oat soluble fiber provided by BetaTrim™.

^e Mean estimates based on a sample size smaller than 75 and 90th percentile estimates based on a sample size smaller than 200 may tend to be less statistically reliable than estimates based on larger cell sizes (FASEB/LSRO, 1995).

Table 5
Soluble and Total Dietary Fiber Intake by Users of Products Containing Oat Soluble Fiber from BetaTrim™
Estimates of Intake Before and After Proposed Uses ^a

Male Teenagers 13 to 19 years old

	Before Proposed Uses						After Proposed Uses					
	Users ^b		Soluble Fiber		Total Dietary Fiber		Oat Soluble Fiber from BetaTrim™ ^c		Total Soluble Fiber ^d		Total Dietary Fiber ^d	
	Number of People ^e	Percent of People	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)
Bars	29	4.8	7.16	10.36	22.01	35.27	0.52	0.76	7.68	11.22	22.53	35.71
Beverages	171	29.4	6.68	9.57	18.27	29.29	0.90	1.87	7.58	10.95	19.17	29.67
Beverage Mixes	92	14.5	6.28	9.78	17.28	32.50	1.40	2.62	7.68	11.87	18.68	33.74
All Food Categories	256	43.1	6.36	9.59	17.69	30.00	1.14	2.21	7.50	11.13	18.83	30.47

^a Food consumption data source: 1994-96, 1998 Continuing Survey of Food Intakes by Individuals; estimates based upon 2-day average intakes per person. Fiber data source: ENVIRON and Nutrition Data System for Research (NDS-R) software version 4.02 (NCC, 1999). Proposed uses of BetaTrim™ provide 0.75g oat soluble fiber from BetaTrim™ per serving of food.

^b A "user" of a food category was defined as an individual who reported consumption of a food from the category at least once during the two days of the 1994-96, 1998 CSFII diet recalls; "Number of People" represents the number of survey respondents who were users of the food category, and "Percent of People" represents the weighted proportion of individuals in this population group who were users of the food category.

^c Reflects the oat soluble fiber provided by the proposed uses of BetaTrim™.

^d Total soluble fiber and total dietary fiber estimates in the "After Proposed Uses of BetaTrim™" scenario reflect the addition of oat soluble fiber provided by BetaTrim™.

^e Mean estimates based on a sample size smaller than 75 and 90th percentile estimates based on a sample size smaller than 200 may tend to be less statistically reliable than estimates based on larger cell sizes (FASEB/LSRO, 1995).

Table 6
Soluble and Total Dietary Fiber Intake by Users of Products Containing Oat Soluble Fiber from BetaTrim™
Estimates of Intake Before and After Proposed Uses^a

Female Teenagers 13 to 19 years old

		Before Proposed Uses				After Proposed Uses						
	Users ^b		Soluble Fiber		Total Dietary Fiber		Oat Soluble Fiber from BetaTrim™ ^c		Total Soluble Fiber ^d		Total Dietary Fiber ^d	
	Number of People ^e	Percent of People	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)
Bars	33	5.9	5.07	7.20	13.29	18.48	0.42	0.65	5.49	7.70	13.71	19.16
Beverages	185	30.1	4.70	7.57	12.88	21.98	0.77	1.55	5.47	8.58	13.65	23.16
Beverage Mixes	73	11.8	4.64	7.83	12.01	22.83	1.11	2.23	5.75	8.93	13.12	23.28
All Food Categories	258	42.6	4.62	7.50	12.45	21.75	0.91	1.87	5.53	8.83	13.36	22.33

^a Food consumption data source: 1994-96, 1998 Continuing Survey of Food Intakes by Individuals; estimates based upon 2-day average intakes per person. Fiber data source: ENVIRON and Nutrition Data System for Research (NDS-R) software version 4.02 (NCC, 1999). Proposed uses of BetaTrim™ provide 0.75g oat soluble fiber from BetaTrim™ per serving of food.

^b A "user" of a food category was defined as an individual who reported consumption of a food from the category at least once during the two days of the 1994-96, 1998 CSFII diet recalls; "Number of People" represents the number of survey respondents who were users of the food category, and "Percent of People" represents the weighted proportion of individuals in this population group who were users of the food category.

^c Reflects the oat soluble fiber provided by the proposed uses of BetaTrim™.

^d Total soluble fiber and total dietary fiber estimates in the "After Proposed Uses of BetaTrim™" scenario reflect the addition of oat soluble fiber provided by BetaTrim™.

^e Mean estimates based on a sample size smaller than 75 and 90th percentile estimates based on a sample size smaller than 200 may tend to be less statistically reliable than estimates based on larger cell sizes (FASEB/LSRO, 1995).

Table 7
Soluble and Total Dietary Fiber Intake by Users of Products Containing Oat Soluble Fiber from BetaTrim™
Estimates of Intake Before and After Proposed Uses ^a

Male Adults 20 years and older

	Before Proposed Uses						After Proposed Uses					
	Users ^b		Soluble Fiber		Total Dietary Fiber		Oat Soluble Fiber from BetaTrim™ ^c		Total Soluble Fiber ^d		Total Dietary Fiber ^d	
	Number of People ^e	Percent of People	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)
Bars	123	3.2	8.46	12.89	25.11	40.29	0.66	1.12	9.12	13.94	25.77	40.74
Beverages	1349	28.2	7.40	11.59	21.44	34.78	0.76	1.50	8.17	12.73	22.21	35.38
Beverage Mixes	303	6.9	6.97	11.44	19.79	31.67	1.15	2.25	8.13	13.60	20.94	33.30
All Food Categories	1636	34.8	7.36	11.69	21.24	35.23	0.91	1.69	8.26	13.12	22.15	36.31

^a Food consumption data source: 1994-96, 1998 Continuing Survey of Food Intakes by Individuals; estimates based upon 2-day average intakes per person. Fiber data source: ENVIRON and Nutrition Data System for Research (NDS-R) software version 4.02 (NCC, 1999). Proposed uses of BetaTrim™ provide 0.75g oat soluble fiber from BetaTrim™ per serving of food.

^b A "user" of a food category was defined as an individual who reported consumption of a food from the category at least once during the two days of the 1994-96, 1998 CSFII diet recalls; "Number of People" represents the number of survey respondents who were users of the food category, and "Percent of People" represents the weighted proportion of individuals in this population group who were users of the food category.

^c Reflects the oat soluble fiber provided by the proposed uses of BetaTrim™.

^d Total soluble fiber and total dietary fiber estimates in the "After Proposed Uses of BetaTrim™" scenario reflect the addition of oat soluble fiber provided by BetaTrim™.

^e Mean estimates based on a sample size smaller than 47 and 90th percentile estimates based on a sample size smaller than 124 may tend to be less statistically reliable than estimates based on larger cell sizes (FASEB/LSRO, 1995).

Table 8
Soluble and Total Dietary Fiber Intake by Users of Products Containing Oat Soluble Fiber from BetaTrim™
Estimates of Intake Before and After Proposed Uses ^a

Female Adults 20 years and older

	Before Proposed Uses						After Proposed Uses					
	Users ^b		Soluble Fiber		Total Dietary Fiber		Oat Soluble Fiber from BetaTrim™ ^c		Total Soluble Fiber ^d		Total Dietary Fiber ^d	
	Number of People ^e	Percent of People	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)
Bars	134	3.4	5.74	8.20	16.72	26.34	0.53	0.75	6.27	8.81	17.25	26.71
Beverages	1439	31.7	5.52	8.47	15.70	24.93	0.61	1.13	6.14	9.21	16.32	25.56
Beverage Mixes	316	6.8	4.73	7.27	12.99	20.51	0.85	1.53	5.57	8.59	13.83	21.89
All Food Categories	1747	38.6	5.43	8.37	15.40	24.86	0.70	1.48	6.13	9.16	16.10	25.35

^a Food consumption data source: 1994-96, 1998 Continuing Survey of Food Intakes by Individuals; estimates based upon 2-day average intakes per person. Fiber data source: ENVIRON and Nutrition Data System for Research (NDS-R) software version 4.02 (NCC, 1999). Proposed uses of BetaTrim™ provide 0.75g oat soluble fiber from BetaTrim™ per serving of food.

^b A "user" of a food category was defined as an individual who reported consumption of a food from the category at least once during the two days of the 1994-96, 1998 CSFII diet recalls; "Number of People" represents the number of survey respondents who were users of the food category, and "Percent of People" represents the weighted proportion of individuals in this population group who were users of the food category.

^c Reflects the oat soluble fiber provided by the proposed uses of BetaTrim™.

^d Total soluble fiber and total dietary fiber estimates in the "After Proposed Uses of BetaTrim™" scenario reflect the addition of oat soluble fiber provided by BetaTrim™.

^e Mean estimates based on a sample size smaller than 47 and 90th percentile estimates based on a sample size smaller than 124 may tend to be less statistically reliable than estimates based on larger cell sizes (FASEB/LSRO, 1995).

Table 9
Soluble and Total Dietary Fiber Intake by Users of Products Containing Oat Soluble Fiber from BetaTrim™
Estimates of Intake Before and After Proposed Uses ^a

Total Population 2 years and older

	Users ^b		Before Proposed Uses				After Proposed Uses					
			Soluble Fiber		Total Dietary Fiber		Oat Soluble Fiber from BetaTrim™ ^c		Total Soluble Fiber ^d		Total Dietary Fiber ^d	
	Number of People ^e	Percent of People	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)
Bars	749	4.0	6.28	10.15	18.31	30.51	0.54	0.86	6.82	10.98	18.85	30.83
Beverages	5698	30.5	5.96	9.64	16.92	28.22	0.67	1.31	6.63	10.47	17.59	28.99
Beverage Mixes	2311	9.5	5.24	8.67	14.43	25.40	0.96	1.86	6.19	9.69	15.39	26.28
All Food Categories	7763	39.6	5.81	9.45	16.46	28.02	0.80	1.50	6.61	10.48	17.26	28.90

^a Food consumption data source: 1994-96, 1998 Continuing Survey of Food Intakes by Individuals; estimates based upon 2-day average intakes per person. Fiber data source: ENVIRON and Nutrition Data System for Research (NDS-R) software version 4.02 (NCC, 1999). Proposed uses of BetaTrim™ provide 0.75g oat soluble fiber from BetaTrim™ per serving of food.

^b A "user" of a food category was defined as an individual who reported consumption of a food from the category at least once during the two days of the 1994-96, 1998 CSFII diet recalls; "Number of People" represents the number of survey respondents who were users of the food category, and "Percent of People" represents the weighted proportion of individuals in this population group who were users of the food category.

^c Reflects the oat soluble fiber provided by the proposed uses of BetaTrim™.

^d Total soluble fiber and total dietary fiber estimates in the "After Proposed Uses of BetaTrim™" scenario reflect the addition of oat soluble fiber provided by BetaTrim™.

^e Mean estimates based on a sample size smaller than 75 and 90th percentile estimates based on a sample size smaller than 200 may tend to be less statistically reliable than estimates based on larger cell sizes (FASEB/LSRO, 1995).

Table 10
Soluble and Total Dietary Fiber Intake by Individuals in the United States ^a

Total Population 2 years and older

Age Group	Sex	Number of People	Soluble Fiber		Total Dietary Fiber	
			Mean (g/d)	90 th Percentile (g/d)	Mean (g/d)	90 th Percentile (g/d)
Children 2 to 5 years old	M/F	5447	3.91	6.06	10.69	16.90
Children 6 to 12 years old	M/F	2089	4.58	7.11	12.64	19.85
Teenagers 13 to 19 years old	M	603	5.93	9.51	16.43	27.44
Teenagers 13 to 19 years old	F	619	4.23	7.05	11.61	19.61
Adults 20 years and older	M	4751	7.16	11.42	20.26	33.84
Adults 20 years and older	F	4572	5.16	8.16	14.45	23.62
Total population 2 years and older	M/F	18081	5.71	9.47	16.00	27.66

^a Food consumption data source: 1994-96, 1998 Continuing Survey of Food Intakes by Individuals; estimates based upon 2-day average intakes per person. Fiber data source: ENVIRON and Nutrition Data System for Research (NDS-R) software version 4.02 (NCC, 1999).

Appendix: CSFII food codes representative of the proposed uses of oat soluble fiber from BetaTrim™

FOOD CODE	FOOD NAME	CATEGORY
41435110	HIGH PROTEIN BAR, CANDY-LIKE, SOY & MILK BASE	Bar
53540000	BREAKFAST BAR, NFS	Bar
53540100	BREAKFAST BAR, CAKE-LIKE	Bar
53540200	BREAKFAST BAR, CEREAL CRUST W/ FRUIT FILLING, LOWFAT	Bar
53540250	BREAKFAST BAR, CEREAL CRUST W/ FRUIT FILLING, FAT FR	Bar
53540500	BREAKFAST BAR, DATE, W/ YOGURT COATING	Bar
53541100	BREAKFAST BAR, DIET MEAL TYPE	Bar
53541200	MEAL REPLACEMENT BAR (INCL SLIM FAST BAR)	Bar
53542100	GRANOLA BAR W/ OATS, SUGAR, RAISINS, COCONUT	Bar
53542200	GRANOLA BAR, OATS, FRUIT, NUTS, LOWFAT	Bar
53542210	GRANOLA BAR, NONFAT	Bar
53543100	GRANOLA BAR W/ PEANUTS, OATS, SUGAR, WHEAT GERM	Bar
53544200	GRANOLA BAR, CHOCOLATE-COATED	Bar
53544210	GRANOLA BAR, W/ COCONUT, CHOCOLATE-COATED	Bar
53544220	GRANOLA BAR W/ NUTS, CHOCOLATE-COATED	Bar
53544250	GRANOLA BAR, COATED W/ NONCHOCOLATE COATING	Bar
53544300	GRANOLA BAR, HIGH FIBER, YOGURT COATING, NOT CHOC	Bar
53544400	GRANOLA BARS, W/ RICE CEREAL	Bar
53544450	POWERBAR (FORTIFIED HIGH ENERGY BAR)	Bar
11310000	MILK, IMITATION, FLUID, SOY BASED	Beverage
11320000	MILK, SOY, READY-TO-DRINK, NOT BABY	Beverage
11551050	MILK FRUIT DRINK (INCL LICUADO)	Beverage
11552200	MILK-BASED FRUIT DRINK (INCL ORANGE JULIUS)	Beverage
11553000	FRUIT SMOOTHIE DRINK, W/ FRUIT AND DAIRY PRODUCTS	Beverage
11611000	INSTANT BREAKFAST, FLUID, CANNED	Beverage
11621000	DIET BEVERAGE, LIQUID, CANNED	Beverage
11623000	MEAL SUPPLEMENT / REPLACEMENT, PREPARED, RTD	Beverage
11641000	MEAL REPLACEMENT, MILK BASED, HIGH PROTEIN, LIQUID	Beverage
41440010	MEAL REPLACEMENT/SUPPLEMENT, LIQUID, HI PROTEIN	Beverage
41440020	ENSURE W/ FIBER, LIQUID	Beverage
41440050	ENSURE PLUS LIQUID NUTRITION	Beverage
41440100	MEAL REPLACEMENT, LIQUID, SOY-BASE (ISOCAL, OSMOLITE)	Beverage
61201220	GRAPEFRUIT JUICE, CANNED, BOTTLED, CARTON, UNSWEET	Beverage
61201230	GRAPEFRUIT JUICE, CANNED, BOTTLED, CARTON, W/ SUGAR	Beverage
61201240	GRAPEFRUIT JUICE, CANNED/BOTTLE/CARTON, W/ LOW CAL S	Beverage
61201620	GRAPEFRUIT JUICE, FROZEN, UNSWEETENED (RECONST)	Beverage
61201630	GRAPEFRUIT JUICE, FROZEN, W/ SUGAR (RECONSTITUTED)	Beverage
61210220	ORANGE JUICE, CANNED/BOTTLED/CARTON, UNSWEETENED	Beverage
61210230	ORANGE JUICE, CANNED/BOTTLED/CARTON, W/ SUGAR	Beverage
61210250	ORANGE JUICE, W/ CALCIUM, CAN/BOTTLE/CARTON, UNSWEET	Beverage
61210620	ORANGE JUICE, FROZEN, UNSWEETENED, RECONST W/ WATER	Beverage
61210630	ORANGE JUICE, FROZEN, W/ SUGAR, RECONST W/ WATER	Beverage

FOOD CODE	FOOD NAME	CATEGORY
61210720	ORANGE JUICE, FROZEN, UNSWEETENED, NOT RECONSTITUTED	Beverage
61210820	ORANGE JUICE, FROZ, W/, CALCIUM ADDED, RECON W/WATER	Beverage
61216220	GRAPEFRUIT & ORANGE JUICE, CANNED, UNSWEETENED	Beverage
61219000	ORANGE & BANANA JUICE	Beverage
61219100	PINEAPPLE-ORANGE-BANANA JUICE	Beverage
61219150	ORANGE-WHITE GRAPE-PEACH JUICE	Beverage
61219650	APRICOT-ORANGE JUICE	Beverage
74301100	TOMATO JUICE	Beverage
74303000	TOMATO & VEGETABLE JUICE, MOSTLY TOMATO (INCL V-8)	Beverage
74303100	TOMATO & VEGETABLE JUICE, MOSTLY TOMATO, LOW SODIUM	Beverage
74304000	TOMATO JUICE W/ CLAM OR BEEF JUICE	Beverage
75132000	MIXED VEGETABLE JUICE (OTHER THAN TOMATO)	Beverage
92306100	CORN BEVERAGE (INCLUDE CORN TEA)	Beverage
92306200	BEAN BEVERAGE (INCLUDE BEAN TEA)	Beverage
92530510	CRANBERRY JUICE DRINK W/VIT C ADDED (INCL COCKTAIL)	Beverage
92530520	CRANBERRY-APPLE JUICE DRINK W/ VITAMIN C ADDED	Beverage
92531010	ORANGE DRINK & ORANGEADE W/ VITAMIN C ADDED	Beverage
92550610	FRUIT-FLAVORED DRINK, LOW CAL, W/ VITAMIN C ADDED	Beverage
92582050	FRUIT-FLAVORED DRINK, VITAMIN & MINERAL FORTIFIED	Beverage
92582110	ORANGE BREAKFAST DRINK, CALCIUM FORTIFIED	Beverage
11330000	MILK, SOY, DRY, RECONSTITUTED, NOT BABY	Beverage mix
11612000	INSTANT BREAKFAST, POWDER, MILK ADDED	Beverage mix
11613000	INSTANT BFAST, PWDR, SWT W/ LO CAL SWT, MILK ADDED	Beverage mix
11631000	HIGH CALORIE BEV, CANNED OR POWDERED, RECONSTITUTED	Beverage mix
11830400	MILK BEV POWDER, DRY, NOT RECONST, NOT CHOC	Beverage mix
11830450	MILK BEV MIX, W/ SUGAR, EGG WHITE, NOT RECONSTITUTED	Beverage mix
11830800	INSTANT BREAKFAST POWDER, NOT RECONSTITUTED	Beverage mix
11830810	INSTANT BFAST, PWDR, SWT W/ LO CAL SWT, NOT RECONSTUT	Beverage mix
11830850	HIGH CALORIE MILK BEVERAGE, POWDER, NOT RECONST	Beverage mix
11830900	PROTEIN SUPPLEMENT, MILK BASED, DRY POWDER	Beverage mix
11830940	MEAL REPLACEMENT, PROTEIN, MILK BASED, FRUIT JUICE MIX	Beverage mix
11830970	MEAL REPLACEMENT, PROTEIN TYPE, MILK-BASE, POWDER	Beverage mix
11830990	NUTRIENT SUPP, MILK-BASE, POWDER (INCL SUSTAGEN)	Beverage mix
11831500	NUTRIENT SUPPLEMENT, MILK-BASE, HIGH PROT, NOT RECONST	Beverage mix
11832000	MEAL REPLACEMENT, MILK-&SOY-BASE, POWDER, NOT RECONST	Beverage mix
11835100	MEAL REPLACEMENT, POSITRIM DRINK MIX, DRY POWDER	Beverage mix
11835200	LOSE-IT (NANCI), MEAL REPLACEMENT, POWDER	Beverage mix
41430000	PROTEIN POWDER, NFS	Beverage mix
41430010	PROTEIN SUPPLEMENT, POWDERED	Beverage mix
41430100	FORMULATED DIET MEAL, POWDER, SOY PROTEIN ISOLATE	Beverage mix
41430200	MEAL REPLACE / SUPP, SOY-MILK-BASE, POWD, WATER ADDED	Beverage mix
41430310	PROTEIN DIET POWDER W/ SOY & CASEIN	Beverage mix
92203000	CEREAL, BEVERAGE (INCLUDE PERO, BREAK AWAY)	Beverage mix
92203110	CEREAL BEVERAGE, W/BEEET ROOTS, FROM POWDERED INSTANT	Beverage mix

FOOD CODE	FOOD NAME	CATEGORY
92541010	FRUIT-FLAVORED DRINK, FROM SWEETENED PWDR,FORTIFIED	Beverage mix
92542000	FRUIT-FLAVORED DRINK, FROM POWDER, W/HI VIT C(TANG)	Beverage mix
92544000	FRUIT-FLAVOR DRINK, FROM UNSWEET PWDR, W/ VIT C,W/ SUGAR	Beverage mix
92552000	FRUIT-FLAV DRINK, FROM MIX, HI VIT C ADDED, LOW CAL	Beverage mix
92731000	FRUIT-FLAVORED DRINK, NON-CARB, FROM POWDER, W/ SUGAR	Beverage mix
92741000	FRUIT-FLAVORED DRINK, NON-CARB, FROM LO CAL POWDER	Beverage mix
92900110	FRUIT-FLAVORED CONCENTRATE, DRY, W/ SUGAR & VIT C	Beverage mix
92900200	FRUIT-FLAV BEV, DRY CONC, LO CAL (INCL CRYSTAL LIGHT)	Beverage mix