

# **PROPOSAL:**

## **BARLEY BETA FIBER**

### **SUMMARY**

Reject the petition to add barley beta fiber to the National List at Section 205.606.

Adding conventional barley beta fiber to the National List would be illegal, as it fails OFPA's criteria: it is not essential, its production is harmful to the environment, and it is not consistent with organic farming and handling.

### ***Rationale***

- The production of barley beta fiber, under conventional agricultural management, potentially involves many environmentally damaging inputs and practices, including: synthetic fertilizers; monoculture; synthetic and toxic pesticides, herbicides and fumigants; synthetic volatile solvents.
- Enzymes used during the production of barley beta fiber are likely genetically engineered.
- Barley beta fiber's primary use is to replace nutrients (fiber) that have either been lost during processing, or were never present in the first place, to allow for an FDA-approved health claim. Health claims on packaged foods are marketing tools, and not essential to organic handling.
- Unnecessary or gimmicky conventional ingredients in organic foods threaten consumer confidence in the organic label.
- Organic consumers overwhelmingly reject synthetic or non-organic "nutrients" in organic foods, according to a consumer survey by PCC Natural Markets.
- The petitioner withheld important information as "Confidential Business Information." This information is vital for the NOSB to make an informed decision on this material.
- Not all "other ingredients" are disclosed, violating the requirement in OFPA that the NOSB must obtain a full list of "other ingredients" before adding a material to the National List.

Cornucopia disagrees with the Handling Subcommittee that barley beta fiber should be added to the National List simply because it is "unique." "Uniqueness" is not a

criterion for adding a material to the National List; if it were, what would prevent other “unique” materials, such as hydrogenated oils or artificial sweeteners, from being added to the National List?

## **BACKGROUND**

Barley betafiber is petitioned by Cargill, which manufactures barley betafiber under the Barliv™ brand name. Cargill argues that barley betafiber is a unique source of fiber, which allows manufacturers to add an FDA-approved health claim to packaged foods, including beverages.

### *International regulations*

Conventional barley betafiber is not allowed by any other organic regulations.

## **CONCERNS WITH BARLEY BETA FIBER**

### *Negative environmental impacts of conventional production*

Conventional agricultural practices are harmful to the environment. Yet, to our surprise, the Handling Subcommittee answered “no” to the question, “Are there adverse effects on environment from manufacture, use and disposal?” For this reason, we feel it is important to outline some of the environmental impacts of conventional barley production. The following were pointed out in the Technical Review:

- Synthetic fertilizers, including anhydrous ammonia, urea and ammonium sulfate are allowed on fields for conventional barley production.<sup>48</sup>
- Conventional barley growers and handlers are permitted to use a wide variety of pesticides and herbicides that are potentially harmful to the environment and human health, including malathion (an organophosphate insecticide), methomyl (a carbamate),<sup>49</sup> pinoxaden and fenoxaprop, glyphosate, atrazine and 2,4-D.<sup>50</sup>
- Conventional barley is commonly fumigated with toxic insecticidal gases to kill pests in storage. Methyl bromide, which has been recognized as an ozone-depleting chemical, is being phased out, but is still used to fumigate barley.

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<sup>48</sup> TR 366-367

<sup>49</sup> <http://www.amaroc.ma/produits/Details-produits/Presentations-produit/Lannate%2025%20wp/lannate.pdf> and <http://www.epa.gov/oppsrrd1/REDs/0028red.pdf>

<sup>50</sup> <http://www.ag.ndsu.edu/ibms/documents/GEbarley2012.pdf>

An alternative to methyl bromide is sulfuryl fluoride. But like methyl bromide, sulfuryl fluoride appears to have serious environmental impacts. Researchers at the University of California at Irvine discovered that sulfuryl fluoride is a greenhouse gas that is 4,000 times more efficient at trapping heat than carbon dioxide.<sup>51</sup> According to the researchers, the climate impact of using sulfuryl fluoride to fumigate foods is equivalent to the carbon dioxide emitted from about 1 million vehicles.

Other synthetic insecticidal fumigants (“grain protectants”) registered for use on barley grain in storage include chlorpyrifos methyl, deltamethrin, pirimiphos-methyl and malathion.<sup>52</sup>

Let’s be clear: there absolutely are negative environmental impacts from the manufacture of barley betafiber, and these should not be taken lightly (or ignored, as the Handling Subcommittee appears to have done so far).

### ***Possible use of excluded methods in processing of barley betafiber***

The petition points out that enzymes and ethanol are used in the processing of barley betafiber, but does not indicate whether these products are derived from excluded methods (genetic engineering). The TR questions whether excluded methods are involved, and points out that “the manufacturing process does not provide enough information to confirm whether excluded methods are used in the process” (TR 203-204).

The TR also points out that both Genencor and Novozyme have patented genetically engineered versions of the enzymes used in barley betafiber processing. In our own research, we found that Cargill has identified Genencor Spezyme, from the bacterium *Bacillus licheniformis*, as an enzyme used specifically in barley betafiber production. The patent to Genencor states that the amino acids in the bacteria have been rearranged and that “these mutants showed a slightly higher activity level than the wild type enzyme.”<sup>53</sup>

Genencor, the manufacturer of the enzymes used, is a subsidiary of DuPont, which contributed more than \$5 million to defeat Proposition 37 for labeling of genetically engineered foods.<sup>54</sup>

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<sup>51</sup> University of California – Irvine (January 30, 2009) “Termite Insecticide Found to Be Potent Greenhouse Gas,” *ScienceDaily*. (Available online at <http://www.sciencedaily.com/releases/2009/01/090121144059.htm>.)

<sup>52</sup> <http://www.sites.ext.vt.edu/newsletter-archive/cses/2005-10/grain.html>

<sup>53</sup> Patent 6,939,703 is a patent assigned to Genencor

<sup>54</sup> California Secretary of State public records, available online at <http://cal-access.sos.ca.gov/Campaign/Measures/Detail.aspx?id=1344799&session=2011>

The petitioner, Cargill, is the sole manufacturer of barley betafiber in the US. Cargill routinely uses excluded methods (genetic engineering); in fact, the corporation contributed a quarter million dollars to oppose Proposition 37 in California (the citizen ballot initiative to require labeling genetically engineered foods).<sup>55</sup>

The petitioner's unwillingness to publicly disclose whether the enzymes used are genetically engineered is in line with its past actions attempting to keep consumers in the dark about the use of genetically engineered ingredients and inputs.

### ***Barley betafiber replaces nutrients lost during processing***

According to the petitioner, the primary purpose why a food manufacturer would add barley betafiber to a product is to increase fiber content. In other words, the primary purpose would be either to replace nutrients lost during processing, or to add nutrients that were never supposed to be in the food in the first place. Low consumption of dietary fiber is in large part due to consumption of overly processed grains, and low consumption of whole fruits, vegetables, legumes and other high-fiber foods.

It is interesting to note that the petitioner points out barley betafiber's usefulness as a source of fiber in juice. By its very nature, processing a fruit or vegetable into juice removes the fiber. In that case, the primary purpose of barley betafiber would be to replace nutrients lost during processing.

For consumers, alternatives to barley betafiber include any food with a high fiber content, including barley, oats, whole grains, legumes, fruits and vegetables (or whole fruits and vegetables rather than juice).

### ***Maintaining consumer confidence in the organic label***

The growth of the organic industry is due, in large part, to the willingness of a growing number of consumers to pay a price premium for foods and beverages that are produced to high standards of environmental stewardship and safety to human health.

Consumers rightfully expect that ingredients in certified organic products be either organically grown and processed, or carefully vetted and determined to be both essential to producing the food and poses no harmful effects on the environment and human health. Barley betafiber is neither essential nor is its production harmless to the environment. Any addition of an unnecessary, conventionally produced ingredient threatens to erode consumer confidence in organics.

### ***Consumers overwhelmingly reject conventional "nutraceuticals" in organic foods***

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<sup>55</sup> Ibid

The Handling Subcommittee requested public comment on the “uniqueness” of barley betafiber and on market demand. A consumer survey of nearly 1,500 organic shoppers by the nation’s largest natural food cooperative, PCC Natural Markets in Seattle, shows that there is very little demand for conventionally grown, solvent-extracted ingredients that serve as “nutrients.”

For example, when asked about their inclination to purchase a product containing an added nutrient from non-organic sunflower oil, nearly two-thirds of respondents said they “would not purchase” the product; nearly one quarter said they would be “less inclined” to purchase; and only 4.7% would be “more inclined” to purchase a product with the added nutrient from conventional sunflower oil. We imagine responses would be similar if asked about added fiber from a conventional processed barley product.<sup>56</sup>

***The petitioner withheld Confidential Business Information (CBI)***

When a petitioner withholds important information, including from the technical reviewer, the petition should automatically be tabled until all information is made available to the NOSB and the public. Withheld information includes parts of the manufacturing process, quality control test results, and commercial information.

We are especially concerned that the entire appendix 2, explaining the manufacturing process, and appendix 7, outlining safety and toxicology reviews, have been withheld as CBI.

Under no circumstances should a conventionally grown and processed ingredient be approved for use in organics if the petitioner—in this case, Cargill—is unwilling to share basic manufacturing and safety data with the NOSB, the technical reviewer, and the organic community.

***“Other ingredients” are not disclosed***

“Other ingredients” are not disclosed. Since any information regarding the “manufacturing process” has been withheld as Confidential Business Information, the NOSB does not have a complete list of “other ingredients,” as the law clearly requires.

Sec 2119(l) REQUIREMENTS. – In establishing the National List or proposed amendments to the National List, the Board shall –  
(2) work with manufacturers of substances considered for inclusion in the proposed National List to obtain a complete list of ingredients

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<sup>56</sup> PCC Natural Markets. Nutrient Additives PCC Shopper Survey. August-September 2011. Submitted to the NOSB through regulations.gov

and determine whether such substances contain inert materials that are synthetically produced”

The Board cannot approve barley betafiber without the cooperation of the manufacturer in disclosing the full list of “other ingredients.”

## **CONCLUSION**

Barley betafiber fails many legal criteria for inclusion on the National List:

- Barley betafiber is a marketing tool and is not essential to organic handling;
- Barley betafiber is manufactured in ways that are harmful to the environment;
- The petitioner has withheld information outlining safety and toxicological reviews;
- Barley betafiber is likely produced using excluded methods;
- The petitioner has not disclosed all ingredients and processing aids used in the material’s production.

The petition should be rejected.