



October 7, 2014

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**Docket No. AMS-NOP-14-0063**

Thank you for the opportunity to comment on the proposals and discussion documents for the Fall 2014 National Organic Standards Board meeting in Louisville, Kentucky.

These comments were prepared by Consumers Reports' Food Safety and Sustainability Center. Consumer Reports is the world's largest independent product-testing organization. Using its more than 50 labs, auto test center, and survey research center, the nonprofit rates thousands of products and services annually. Founded in 1936, Consumer Reports has over 8 million subscribers to its magazine, Website and other publications. Its advocacy division, Consumers Union, works for health reform, food and product safety, financial reform, and other consumer issues in Washington, D.C., the states, and in the marketplace.

## **Materials Subcommittee**

### **Research Priorities — Consumer Demand**

During the Spring 2014 meeting, the NOSB approved the Research Priorities proposed by the Materials Subcommittee in the Fall of 2013, which included a request for research regarding "Consumer Demand."

Consumers Union has provided survey data about consumer sentiment on important issues to the NOSB for more than a decade. This past year, we have conducted two nationally representative surveys. The first surveyed 1,016 consumers in March 2014 and the second surveyed 1,004 consumers in April 2014. We hope that the NOSB will use the findings of these surveys to inform its votes and decisions.

Specifically, the NOSB states that "The NOSB get [sic] told often by commenters who are or claim to represent consumers that consumers have expectations about what organic means and

what inputs and ingredients should be in organic food. Sometimes there is a wide difference between what consumer activist groups claim and sales of specific categories of organic products in the marketplace. How can the NOSB determine whether the consumers and groups who speak up are truly representing all consumers of organic, and if not, is there a better measure of consumer preference and expectations than sales figures of organic products?”

Sales figures are not adequate measures of consumer expectations of labels. To measure consumer expectations, as requested by the NOSB, we collaborated with the National Research Center, a research arm of Consumer Reports' National Testing and Research Center in Yonkers, N.Y. The National Research Center is comprised of highly trained social scientists and like the rest of Consumer Reports, it is free from corporate influence. National Research Center surveys are designed to gather unbiased, objective information from consumers akin to many independent national polls.

We examined what consumers value when shopping for foods, what they think a label means and what they think a label should mean. In that way, we wanted to gauge consumer understanding, consumer expectations and where consumers were/are being misled.

When a consumer considers a certain standard to be important (e.g. avoiding artificial ingredients), and thinks a label meets this standard, that consumer is likely to base his/her purchasing decisions on this belief about the label, regardless of whether it is accurate or mistaken. If a majority of consumers express that a certain standard is important to them, it is then important to ask whether consumers think a label currently meets this standard. If an overwhelming majority of consumers also think a certain label meets this important standard, we believe this to be an indication that consumers are misled by the label when they purchase and pay more for foods that don't meet this standard.

The first and second sets of questions (“what is important” and “what do you think the label currently means”) help to explain purchasing decisions that do not match expressed expectations for the label. Our results show that 69% of consumers think it is important to avoid artificial ingredients. 74% of consumers think that the organic label meets this standard, and 76% think that the organic label means no artificial materials were used during processing. This suggests that a vast majority of purchases of organic foods with artificial ingredients are likely made as a result of the mistaken belief that organic foods are free from artificial ingredients.

The third set of questions — what do consumers think the organic label should mean — is a much more appropriate and sound measure of consumer expectations. Our results show that 89% of U.S. consumers think that the “organic” label on processed foods should mean that the food is free from artificial ingredients, and 91% think it should mean no artificial materials were used. While we understand that organic allows for exceptional use of artificial ingredients, we also believe that the National Organic Program should understand this disconnect and ensure that exceptions are made carefully, with full review and that they sunset after five years. Materials

that remain on the National List well beyond the 5 year sunset period are simply not in line with consumer expectations.

The NOSB should not base important decisions regarding approvals of artificial ingredients and processing aids based on consumer buying habits. Our findings show that many purchasing decisions are likely the result of consumer confusion: the overwhelming majority of U.S. consumers think that the organic label guarantees that the food is free from artificial materials.

We disagree with the argument — so often voiced during NOSB discussions — that the purchasing habits of U.S. consumers show consumer support of the use of artificial materials.

First, this argument is based on the assumption that consumers who purchase organic foods with artificial ingredients are aware of the use of artificial materials in organic food production. We now know, based on our nationally representative survey, that this assumption is flawed. Three quarters of U.S. consumers who purchase organic foods do not know that artificial materials are allowed. When they purchase organic foods with artificial ingredients, they are not signaling that the use of artificial ingredients is acceptable to them.

Second, our consumer survey data show that 9 out of 10 U.S. consumers state that they think that organic foods should be produced and processed without the use of artificial materials.

The full reports of our two surveys are attached, and we urge the NOSB to use this data to inform its decisions. In addition to addressing the NOSB's question regarding the disconnect between consumer buying habits and expectations, the surveys also cover consumer expectations of antibiotic use in organic agriculture (day-old poultry), organic aquaculture standards, sunset review and other topics.

Attachments: March 2014 Consumer Reports Survey and April 2014 Consumer Reports Survey

Note: Our survey asked the same sets of questions about the “natural” label on foods. We found that 66% of consumers think “natural” processed food products mean no toxic pesticides were used, 66% think no artificial ingredients or colors were used, 65% think no chemicals were used during processing and 64% think no GMOs were used. We suggest that this does not mean that consumers accept the presence of artificial ingredients and GMOs in “natural” foods, but rather that they are misled. Our line of reasoning is consistent for the “organic” label.

# Handling Subcommittee

## Whole Algal Flour

We urge the NOSB to reject the petition for whole algal flour. “Whole algal flour” fails all OFPA criteria for inclusion on the National List [7 U.S.C. 6517(c)(1)(A)].

First, we do not know whether “whole algal flour” would be detrimental to human health or the environment. Whole algal flour is a novel food ingredient, which was “self-determined” as “Generally Recognized as Safe” by its manufacturer in April 2013. The FDA accepted this self-determination in June 2013. The FDA does not require or perform independent safety testing. The FDA’s GRAS Notification system, whereby food manufacturers make their own determination regarding the safety of their own food additives, has been widely criticized as inadequate for protecting consumers.

We know very little about “whole algal flour,” since information about the algal organisms and the production methods were CBI redacted entirely, in both the original petition and the addendum.

Second, “whole algal flour” is not necessary for the production or handling of organic foods. The petitioner states that the sole purpose of adding “whole algal flour” to organic foods would be to provide a “healthy alternative” to organic cream, milk, eggs, and/or butter. The petitioner therefore answered the question of whether natural and organic alternatives exist: since whole algal flour is petitioned as an alternative to organic foods, the organic alternative to whole algal flour is organic food.

And finally, whole algal flour is not consistent with organic farming and handling. As defined by the NOSB in 1997, organic agriculture is an “ecological production management system that promotes and enhances biodiversity, biological cycles, and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain, or enhance ecological harmony. The primary goal of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, animals and people.” Whole algal flour is petitioned as an alternative to organic cream, milk, eggs, and/or butter, which are produced on organic farms that can meet these principles and which could be impacted if “whole algal flour” is used in organic foods instead of organic milk and eggs. And while the petition did not disclose any processing information, Solazyme’s GRAS notification reveals that “whole algal flour” is produced from cryo-preserved micro algae in sterile industrial fermenters that never come in contact with the soil or sun and are entirely removed from ecological systems.

Worse yet, Solazyme claims, without substantiation, that organic milk, cream, butter and eggs are “unhealthy,” and that it will market its industrially fermented algae powder as a “healthy” alternative to organic foods.

We also question whether the sourcing of the microalgae is consistent with organic principles. In the addendum to its petition, Solazyme writes that its algal organisms are not genetically modified. Yet this is how Solazyme describes its business to investors in its annual reports: “we pioneered an industrial biotechnology platform that allows us to optimize oil profiles by tailoring the structures of the oil molecules.” Solazyme discusses how its “proprietary, highly productive microalgae produce and accumulate oil that constitutes over 80% of the dry cell weight. Typical wild microalgae, in contrast, usually have only 5-20% oil content.”

A recent patent filed by Solazyme is titled, “Tailored oils produced from recombinant heterotrophic microorganisms” and discusses how “the triglyceride oil composition is produced by a recombinant oleaginous microbe comprising an exogenous gene.”

In fact, Solazyme has been the subject of articles in the New York Times and The Guardian about its use of the controversial genetic modification techniques described as “synthetic biology.”

Whereas organic agriculture aims to produce healthy foods by working within the bounds of existing natural and ecological systems, Solazyme’s business model appears centered on the exact opposite: using biotechnology to create new food-like substances that mirror the nutritional profiles of existing foods. Solazyme writes to investors: “Until now, the physical and chemical characteristics of conventional oils have been dictated by oil compositions found in nature.” Solazyme seeks to use biotechnology to “improve” the foods found in nature.

In addition to rejecting the Solazyme petition for whole algal flour, we also ask that the NOSB ensure that ingredients such as Solazyme’s “whole algal flour” can not be added to organic foods as “microorganisms.” For Sunset 2016, the NOSB should specify that the 205.605(a) listing for “microorganisms” is restricted to microorganisms that are necessary as starter cultures for natural fermentation. Microorganisms such as microalgae that have been fermented and inactivated, for the purpose of adding them to foods as an ingredient, should be petitioned and listed separately. This would be consistent with OFPA, which states that “the [national] list shall contain an itemization, by specific use or application, of each synthetic substance” [7 U.S.C. 6517(b)].

## **Sunset 2015 — Gellan Gum**

The Handling Subcommittee proposes to list gellan gum on the National List for another five years. Gellan gum is the product of fermented bacteria that are referred to as “polysaccharide slime formers” in patents filed by the original petitioner. These patents, with titles such as “targeted gene deletions for polysaccharide slime formers,” claim inventions such as “inserting mutated segments of genes from one strain of bacteria into wild-type strains.”

Yet the original petition to the NOSB, submitted in 2004, redacted the entire section titled “Sources and Detailed Description of Manufacturing Procedures” as Confidential Business Information. The petition never mentions the word “bacteria” or “fermentation” — literally, not a word in the original petition about the source of the microorganisms or processing methods used.

So while we thank the Handling Subcommittee (HS) for proposing to reject the “whole algal flour” petition because “it felt that they could not make a full determination due to the uncertainty created by the redaction of a large amount of Confidential Business Information,” we ask that the same standard be applied to sunset reviews. If an original petitioner redacted entire sections, the material should not be re-approved until this information is provided. This is especially true when the initial vote by the NOSB was to reject the petition, and the lobbying firm Covington and Burling had to be retained to get the material approved, as was the case with gellan gum.

In our Spring 2014 comments, we raised concerns about this lack of information about the genetics of the bacteria, as well as the processing aids and ancillary substances used. We urged the NOSB to find out this information, and stated that we would not support the relisting of gellan gum without adequate answers to our questions.

The HS has not adequately addressed questions about gellan gum. Nothing is known about possible genetic modifications of these bacterial “slime formers,” artificial processing materials used to process the slime, and ancillary substances in the final product.

It is not unusual for NOSB discussions and decisions to ignore consumer expectations that organic foods should be free from artificial ingredients and artificial processing materials. And yet, the Handling Subcommittee shows, in its gellan gum proposal, that consumer expectations do matter. In fact, the Subcommittee bases its decision to relist gellan gum on consumer expectations. The Subcommittee writes: “It was agreed that certain materials might be essential for creating a product that meets consumer expectations of taste and texture.”

So while consumer expectations that organic foods be free from GMOs (88%), artificial processing materials (91%) and artificial ingredients (89%) are ignored, consumer expectations “of taste and texture,” voiced by a handful of commenters and without substantiation, are the sole basis for allowing a material, about which practically nothing is known, in organic foods.

If consumers knew that the “taste and texture” was derived from solvent-extracted, fermented, genetically modified slime forming bacteria, would they still prefer that taste and texture?

In addition, NOP regulations even prohibit the use of non-organic materials if their primary purpose is to improve taste and texture [205.600(b)(4)].

The Handling Subcommittee is willing to use unsubstantiated claims of “consumer expectations” as the basis for listing a material about which it knows nothing. Our recent survey results show that consumers think that organic foods are free from GMOs (75%), artificial ingredients (74%) and artificial processing aids (76%), and that the overwhelming majority of consumers think that organic foods should be free from GMOs (88%), artificial ingredients (89%) and artificial processing aids (91%).

If “consumer expectations of taste and texture” are the Handling Subcommittee’s basis for proposing to relist gellan gum, then we urge the NOSB to base its decision on consumer expectations that are based on consumer survey data and rooted in the spirit and the letter of the organic law: the consumer expectation that organic foods be free from GMOs and artificial materials.

## **Sunset 2015: Tragacanth gum**

We support the removal of tragacanth from the National List, for the reasons expressed in our Spring 2014 comment. An organic alternative to tragacanth gum is available: organic gum arabic. In the original petition to add tragacanth to the National List, the petitioner wrote that “from growth, to harvesting, to processing, to functionality, the two gums (Arabic and Tragacanth) are almost the same.”

Conventional tragacanth comes from shrubs grown in other countries that could be treated with synthetic toxic pesticides, perhaps even pesticides that are allowed in those countries but prohibited in the U.S. Since no Technical Report has been completed for tragacanth, we do not know how this gum is processed and which artificial materials are used in its production. Our survey findings show that 9 out of 10 U.S. consumers expect organic processed foods to be free from pesticides (91%) and processed without artificial materials (91%).

Non-essential conventional ingredients like tragacanth gum mislead consumers who think that organic foods are free from pesticides (79%) and were processed without artificial materials (76%). We disagree with the Handling Subcommittee’s proposal to keep tragacanth gum on the National List.

## **Sunset 2015: Sherry Wine and Marsala Wine**

We support the sunset of sherry wine and marsala wine from the National List.

Sherry and marsala wine are made from conventional grapes, which are likely sprayed with toxic synthetic pesticides. 79% of U.S. consumers think that organic packaged and processed foods are free from toxic pesticides, and 91% believe that organic packaged and processed foods should be free from toxic pesticides. Given the harmful effects on human health and the environment from the use of synthetic pesticides in conventional grape production, sherry and marsala wine should sunset from the National List.

## **Sunset 2016 — Microorganisms**

We support the continued use of non-genetically modified microorganisms as starter cultures for fermentation of organic foods such as cheese and miso. However, the term “microorganisms” as currently listed on 205.605(a) is too broad, and should be more narrowly defined to clarify that microorganisms can be used only as starter cultures for fermentation. Other uses of microorganisms are not essential to organic handling.

There has been a rise in recent years in experimentation with novel strains or genetically modified strains of microorganisms, including bacteria and microalgae. These microorganisms are fermented in aseptic conditions, then deactivated and processed into food additives. These deactivated and processed microorganisms are sometimes used to replace textures of real food (e.g. xanthan gum and gellan gum imitate the texture and mouthfeel of milk and cream) or to replace nutrients found in real food (e.g. “whole algal flour” is marketed as a “healthy” alternative to milk and eggs because it lacks certain dietary fats).

We are concerned that deactivated microorganisms that are not approved by the NOSB could be approved by certain certifiers under the “microorganisms” listing. Given the rise in novel microorganism food additives derived from deactivated microorganisms, and the attempts to petition these substances for use in organic foods, we believe it is crucial to take action now and clarify that deactivated microorganisms need to be individually petitioned.

For Sunset 2016, we ask that the NOSB specify that microorganisms are allowed only “as starter cultures for fermentation.” This would be consistent with OFPA, which states that “the [national] list shall contain an itemization, by specific use or application, of each synthetic substance” [7 U.S.C. 6517(b)].

Regarding the Ancillary Substances review, we believe that the Organic Foods Production Act of 1990 (OFPA) requires that all ingredients in certified organic foods must either be produced in accordance with the federal organic standards or must appear on the National List of Approved and Prohibited Substances.

OFPA does not distinguish between “ingredients” and “other ingredients” or “ancillary ingredients.” Quite simply: any synthetic ingredient not appearing on the National List shall not be added to organic products during processing or any post harvest handling.

OFPA also specifies that the National List “shall contain an itemization, by specific use or application, of each synthetic substance permitted” (Sec. 2118 [7 USC 6517]).

The National List is for single substances, not formulated multi-ingredient products. All non-organic ingredients and substances used in organic production must be on the National List.

We have argued in the past that consumers look to the organic label for assurance that the food contains no artificial ingredients and that no artificial processing aids were used. Our survey results show that 9 out of 10 consumers indeed think that organic foods should be free from artificial ingredients and processing aids.

Therefore, if any of the substances identified during this review are considered essential to producing microorganisms for use in organic foods, these substances should be petitioned to be reviewed by the NOSB for inclusion on the National List.

## Sunset 2016: Cyclohexylamine, Diethylaminoethanol and Octadecylamine

We support the sunset of cyclohexylamine, diethylaminoethanol and octadecylamine from the National List. These toxic volatile amines are currently allowed for package sterilization.

Our survey results show that the vast majority of consumers (76%) do not know that artificial materials are used during the processing of organic foods. And 91% of US consumers think the organic label on packaged and processed foods should mean that no artificial materials are used during processing.

These consumer beliefs and expectations are consistent with the Organic Foods Production Act, which addresses the use of toxic substances in package sterilization: “For a handling operation to be certified under this title, each person on such handling operation shall not, with respect to any agricultural product covered by this title, use any bag or container that had previously been in contact with any substance in such a manner as to compromise the organic quality of such product” [7 U.S.C. 6510 (a)(6)].

It is important to note that, during the NOSB’s Fall 2001 discussion about these toxic chemicals prior to their approval, NOSB members were assured by the NOP that there would be a functional sunset process in the future. From the transcript:

Chair Brickey: “Let me address that too. The Board would be revisiting this, if it’s doing its job, in five years anyway.”

Mr Mathews (NOP): “Our list is dead at five years. ... But it is a sunset provision, which means everything comes off at five years.”

After some NOSB members express doubts about approving these materials, Mr. Mathews once again affirms the sunset process: “Yes — and they’ll all have to be re-reviewed in five years or they’re going to take them off the list.” (page 286-287)

The transcript also shows extensive discussions about the cost and inconvenience of natural alternatives. The discussion suggests that cost became a deciding factor in the NOSB’s approval. From the transcript:

NOSB member Dave Carter asks during the discussion about non-toxic alternatives: “What’s the primary limiting — I mean, is that a cost factor?”

NOSB member Kim Burton replies: “Yes.”

We urge the NOSB to re-evaluate these materials based on OFPA criteria, rather than cost and convenience to handlers, as was done for their initial approval. We also urge the NOSB to review the original TAP reviews, as the three reviewers wrote that these chemicals are incompatible with organic production and recommended that they not be allowed.

The reviewers wrote that organic food production requires changing systems. Just as a farm makes changes to its overall system to eliminate its dependence on toxic chemicals for pest control and soil fertility, so processing facilities must make changes to eliminate the need for toxic chemicals. From the TAP review: “The inconvenience of having to retool or readjust systems should not be the determining factor in whether or not such materials are added to the National List.”

These three substances were approved based on the cost to handlers of using natural alternatives. Yet OFPA and NOP regulations state that synthetic processing aids must be evaluated against criteria that include adverse effects on the environment and human health, and the unavailability of wholly natural substitute products.

The original TAP reviews include information about the toxicity of these substances and their harmful effects on the environment and worker health. The TAP reviews also have an extensive list of alternatives, and concludes: “None of these are necessarily cheap, but all offer a viable alternatives to the use of toxic chemicals.”

All three reviewers recommended against the use of these volatile amines in organic production. Their conclusions:

“Organic standards are precautionary when evaluating synthetic substances used in food. Volatile amines in general do not appear to be compatible with the principles of organic handling. They are synthetic, toxic, and are not necessary to produce any food. Given the environmental impacts of the manufacturing process and the adverse health effects from exposure, they do not fit within organic principles.”

“The justification for use of ODA is no different than trying to justify the use of a synthetic herbicide like Round Up for organic farming, just because it provides a cheaper alternative to weed control and does not leave any detectable residue. Organic handling isn’t about economics or end product testing, it’s the process that’s critical when evaluating compatibility with organic principles. Food processors generated and used steam for a long time without these chemicals. Many organic food processors have already adopted viable and practical ways to address corrosion without the use of ODA.”

We urge the NOSB to remove these materials from the National List.

## **Sunset 2016: Egg White Lysozyme**

We urge the NOSB to perform a complete review of egg white lysozyme. The 2011 Technical Evaluation Report on “enzymes” covers egg white lysozyme, but many questions remain. For example, the TER states that an “inert polymer resin” is used to extract lysozyme from egg whites. What polymer resins are used? What other materials are used to process egg white lysozyme? What ancillary substances are used in the final product? Can egg white lysozyme be made from organic eggs, using organic processing methods?

These questions are especially important given that the primary use of egg white lysozyme is as a preservative. Egg white lysozyme comes from conventional eggs, using artificial processing materials and possibly artificial ancillary substances. Egg white lysozyme does not meet consumer expectations, since 91% believe that processed foods labeled “organic” should be made without pesticides and artificial processing materials, and 89% believe that no artificial ingredients should be used.

## **Sunset 2016: Sodium Acid Pyrophosphate**

We support the sunset of sodium acid pyrophosphate, which is a synthetic ingredient used to control the process of leavening. Our April 2014 survey found that 74% of U.S. consumers currently think the organic label means the food is free from artificial ingredients, and 89% think that organic foods should be free from artificial ingredients.

It also appears that sodium acid pyrophosphate was not adequately reviewed prior to its initial approval. The Technical Advisory Panel report available for sodium acid pyrophosphate covers other materials (sodium phosphates). The May 2003 meeting transcript reveals that some NOSB members noted the inadequacy of the Technical Advisory Panel report, and opposed sodium acid pyrophosphate’s approval for this reason. NOSB member Jim Riddle stated: “I objected to just accepting a TAP and accepting a material based on insufficient review. And I’ll continue to oppose it, not on the basis of the material so much as the quality of the TAP.”

The use of Sodium Acid Pyrophosphate in products labeled “natural” has been the subject of multiple class-action lawsuits. Furthermore, in September 2014, the FDA sent a warning letter to a Massachusetts bakery, which contained the following: “your liveGfree Blueberry Pancakes are misbranded ... because it bears the claim “ALL NATURAL” but contains sodium acid pyrophosphate, which is a synthetic substance.”

Sodium Acid Pyrophosphate should not be relisted on the National List until an adequate review, based on a sufficient Technical Report, has been performed.

## **Sunset 2016: Tetrasodium Pyrophosphate**

We support the sunset of tetrasodium pyrophosphate, which is a synthetic ingredient used in meat analogs that is not essential to organic handling. The 2014 Technical Evaluation Report states: “A variety of palatable meat analog products are now available in the marketplace. Many of them are produced without the use of tetrasodium pyrophosphate (TSPP).” The TR lists several natural alternatives that can be sourced organically.

Our April 2014 survey findings show that the overwhelming majority (89%) of U.S. consumers think that organic processed foods should be free from artificial ingredients. Especially when natural alternatives exist and the material is not essential to organic handling, it should be removed from the National List.

## **Sunset 2016: L-Malic Acid**

In order to perform the necessary review of L-Malic Acid, the NOSB should request a Technical Report on L-Malic Acid. The original petitioner requested the addition of DL-Malic Acid to the National List, a synthetic substance that acts as a synthetic preservative and an artificial flavor enhancer. The 2003 TAP review focused primarily on DL-Malic Acid, since the petitioner had stated that only the synthetic version was commercially available.

All three TAP reviewers concluded that DL-Malic Acid is synthetic and should not be added to the National List. Their review of L-Malic Acid was limited. The TAP review only notes that L-Malic acid can be obtained by double fermentation: “glucose fermented to fumaric acid; fumaric acid fermented to L-Malic Acid” and that “L-malic acid has been obtained from sugar fermentation by microorganisms.” The transcript from the Spring 2003 meeting, when L-Malic Acid was added to the National List, shows that a NOSB member stated that L-Malic Acid is “natural,” and the Board then voted without a review or discussion about the sourcing or processing methods used.

L-Malic Acid, the product of double fermentation of glucose, should be adequately reviewed. Without a Technical Report on L-Malic Acid, we believe that the NOSB is not able to perform an adequate sunset review of this material.

# Livestock Subcommittee

## Aquaculture

The topic of “aquaculture” appears on the Fall 2014 meeting agenda, but without a written proposal or discussion document. We wish to reiterate our positions on the development of organic aquaculture standards, outlined below, which are supported by the findings from our March 2014 consumer survey. We also support Food and Water Watch and the Center for Food Safety’s comments on aquaculture.

### Prohibit Open Ocean Systems

We are concerned that open ocean aquaculture is incompatible with organic principles. In 2007, a coalition of more than 40 organic farmers, consumer advocates, animal welfare, conservation groups and even celebrity chefs joined forces to call on the USDA to ensure that the organic label does not include carnivorous fish and open ocean systems. These organizations included the Center for Food Safety, the Humane Society of the United States, Greenpeace USA, Sierra Club Canada, Trout Unlimited, Food and Water Watch, Pure Salmon Campaign and Consumers Union.

Open ocean systems are potentially damaging to the marine ecosystem by creating water pollution from fish waste, excess feed and dead fish. Our survey found that a sizable portion of consumers (67%) want federal standards to include a prohibition on fish net pens in the ocean which allow for the exchange of materials such as waste, chemicals and small wild fish.

Escapes from open ocean systems may cause genetic disruption of wild fish when they interbreed with or overtake wild fish populations.

Farming certain fish, like salmon, at high stocking densities in open net cages creates a breeding ground for bacterial and viral diseases as well as parasites, which can readily transfer to and from wild fish by tidal flow and escapes. An October 2006 study published in the National Academy of Sciences showed sea lice infections on salmon farms in British Columbia can kill up to 95 percent of young wild salmon as they migrate out to sea past salmon farms. The Norwegian Directorate for Nature Management has estimated that in some areas, 90 percent of the outgoing juvenile, wild salmon run carries lethal lice levels.

It is also still unclear whether open ocean systems can function long-term without the drugs, including antibiotics and parasiticides, that are currently used in conventional aquaculture.

The State of Alaska prohibited open ocean finfish farming in 1990, to protect the health of its native marine ecosystem and the fishing industry that depends on it. The Alaska state legislature opposes open ocean aquaculture for finfish and predatory shellfish.

Given these concerns, we continue to urge the Board to reconsider previous decisions and prohibit all open ocean systems.

### **Requirements for feed in aquaculture systems**

An overwhelming majority of U.S. consumers (84%) think that federal standards for organic fish should require that 100% organic feed is used. We believe it is important that the standards require 100% organic feed and prohibit the use of wild-caught fish meal and fish oil. We are concerned with the safety of wild-caught fish, which is exposed to oceanic pollutants, including methyl mercury and radiation, which cannot be controlled. Those pollutants concentrate as they move up the food chain, and with consumers at the top of the chain, we believe that carnivorous farmed fish which require wild-caught fish meal and fish oil should not carry the organic label.

### **Prohibit carnivorous fish**

Carnivorous fish like salmon and cod require other fish as food. A farmed salmon diet relies heavily on wild fish, which should never be certified organic. They also place pressure on wild fish for feed. It currently takes three pounds of wild fish to produce one pound of farmed salmon, not exactly an ecologically efficient system. And, this “fish chow” exposes farmed salmon to a variety of toxins such as PCBs and dioxins.

### **Prohibit organic salmon and other migratory fish**

We are concerned that salmon farming interferes with the animals’ natural behavior. Salmon are migratory fish, and cannot exhibit this instinctive natural behavior when they are confined. Salmon farming, or farming any other migratory fish, is not compatible with organic principles and should not be allowed.

Sincerely,

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