

National Organic Standards Board (NOSB)
Livestock Committee
April 4, 2008

Recommendation on the use of Fish Meal and Fish Oil in Organic Aquaculture

Introduction:

This recommendation intends to provide clarity to the issues of Fish Meal and Fish Oil in the feeding of organic aquatic animals.

Background:

During the discussion and approval of the aquaculture proposed rule presented at the Spring 2007 NOSB meeting, it became clear that there was a need to provide specific recommendations for the use of fish meal and fish oil in organic aquaculture. The following recommendations are being brought forward in order to maintain organic principles in the feeding of animals in organic aquaculture.

Discussion:

The present recommendation was developed after careful consideration of the nutritional and health needs of aquatic species presented by the Aquaculture Working Group, the panelists selected at the Aquaculture Symposium of November 2007 and Public Comment. The following points summarize the important criteria which guided this recommendation:

- While respecting the current knowledge of the nutritional needs of aquatic animals for fish meal and fish oil, there are potentially certifiable organic alternatives becoming available; however, the commercial availability of such alternatives is currently an open question.
- Certified organic fish meal and fish oil would be expected to become increasingly available in the future as the certified organic aquaculture industry grows.
- To ensure that diets are nutritionally complete at the inception of USDA certified organic aquaculture, we propose that the aquatic products of other organic certification systems be allowed via 7USC6505, section 2106(b). Allowing such organic aquatic products should reduce the depletion of existing wild caught fisheries as well as promote aquatic products from organically managed operations that already exist elsewhere. This will allow the nascent USDA certified organic aquaculture industry the needed time to establish a critical mass of basic feed resources for itself.
- Aquatic species are considered livestock (7USC6502, sec 2103). Organic systems should promote the natural behaviors of livestock [§ 205.239 (a)]. Many aquatic species require a piscivorous diet to maintain health and this should be the goal of the nutrition provided for such organically managed aquatic animals [§ 205.238(a)(2)].

Additionally, fish feed derived from terrestrial animal or plant sources, or fresh water fish are not considered an acceptable alternative for a variety of reasons to marine-based fish; therefore we have also considered the following prior to making a recommendation:

- Many organic consumers that consume fish may be excluding terrestrial animal sources from their personal diets and do not want to knowingly or unknowingly consume terrestrial animals through fish.
- While some species of aquatic animals may appear to thrive on terrestrial plant sources of feed, the specific composition of the nutritional needs of aquatic animals is not completely understood and there is a risk of undermining the health and well-being of aquatic animals which would be inhumane to the animals and potentially economically unsustainable for the industry. This path would in all likelihood also result in a greater need for supplementation with synthetic amino acids.

- Terrestrial animal and plant-based feeds also do not provide the marine-based fatty acids that marine animals need to thrive and that also result in the fatty acid profile, including omega 3's, that consumers expect for their health benefits. While alternative marine feeds, such as aquatic worms and marine algae may provide these fatty acids in the future, their origin is in the marine plankton and they will still need to source marine-based feeds. Standards have not yet been developed for insects and these other multi-cellular life forms and there are unresolved questions regarding their agricultural nature.
- The earlier version of this document considered that fish meal and fish oil from wild caught fish and other wild aquatic animals produced from sustainable food grade fisheries or sustainably-managed forage fisheries could be allowed in the following step-wise levels: no more than 12% each during year 1 through 5 after this regulation is implemented, no more than 6% each during year 6 through 8, and no more than 3% each during year 9 through year 10, with the percentages being on average, over the production cycle of the aquatic animals life.
- The earlier version of this document also contained a proposal to create a provisional certified organic label that could be used for fish for human consumption whose diets included either imported certified organic aquatic products [in accordance with OFPA §2106(b)] or wild fish or other wild aquatic animals or their by-products [in accordance with OFPA §2107(c)]. This proposal would be a mechanism to notify the consumer that these fish had been fed a provisional diet during the production cycle of the aquatic animal's life. This proposal further called for the allowance that trimmings from fish marketed under this label shall be considered organic for the purposes of feeding certified organic fish. The committee believed that it would be incorrect to consider this proposal analogous to a "transition" or "conversion" label, which the committee does not support. Those terms are used on individual farming operations basis. The label that was being considered was closer to the "Made with" label described in OFPA and the Rule. However, it is not listed specifically as a labeling option in OFPA. As a result, this provision is not fully supported by the Committee in this recommendation but we believe it is worthy of further debate and consideration in light of the requirement that organic livestock be fed a diet that meets their nutritional needs (§205.238(a)(2) and the value of omega-3 fish oil in the human diet.

Recommendation – to be inserted:

§ 205.251 Origin of aquaculture animals.

(a) Aquatic animals grown in aquaculture to be sold as organic must have been under continuous organic management, including organic feed, beginning no later than the second day after final larval metamorphosis and the beginning of exogenous feeding, where applicable by species, or beginning no later than when 5% of total market weight *has been achieved, whichever is greater. However, in either case, substances prohibited in § 205.602 and § 205.604 are not allowed during earlier life stages*

§ 205.252 Aquaculture feed.

(a) Feeds and feeding practices must meet the minimum nutritional requirements of the aquatic animal. Fish meal and oil from carcasses, viscera, and trimmings from the processing of foreign certified organic farmed aquatic animals will be considered organic for use in fish feed only.

(b) However, fish meal and fish oil produced from wild fish and other wild aquatic animals, or any portion of the wild fish that do not qualify as provided in this section cannot be used in organic production of aquatic animals, or certified or labeled as organic.

(c) Use of aquatic animal feeds must minimize the environmental impact of released nutrients on receiving waters and adjoining ecosystems as documented in the Organic System Plan.

(d) Aquatic animals must be provided with their natural foods consistent with the need to optimize health and growth of the aquatic animal. This includes live foods and the sources of ingredients in formulated feeds as allowed in the rule.

- (e) Feeds for aquaculture products for human consumption may not contain lipids from sources other than fish oil or omega-3 fatty acids produced by organic microorganisms or plants, except that other lipids from organic sources may be provided in feeds for aquatic animals that have a specific dietary requirements for such ingredients to the extent necessary to meet the minimum requirement for that lipid in that aquatic animal.
- (f) Aquaculture feeds must be composed of feed ingredients that are certified organic, except that nonsynthetic substances and synthetic substances allowed under § 205.603 may be used as feed additives and supplements, and cannot contain non-synthetic substances listed on §205.604.
- (g) Aquaculture feeds may include fish meal and fish oil derived from organically raised aquatic animals or algae without limitation according to an Organic System Plan, providing the meal and oil is produced from aquatic animals of a different genus than the aquatic animal being fed.
- (h) Silage and lipids produced from organic fish that is enzyme-processed, or produced with acids and bases that are organically certified or approved in § 205.603 for fish emulsion or other purposes, may be certified organic and incorporated into organic aquaculture feeds without limitation.
- (i) Organic aquaculture feeds may include meals and oils containing essential fatty acids produced by processes allowed in organic production.
- (j) Nutritional pigment compounds that appear on 205.603 or are organically produced and allowed by the U.S. Food and Drug Administration for inclusion in aquaculture feeds may be used.
- (k) The producer of organic aquatic animals shall not:
- (1) incorporate or introduce any type of antibiotic or hormone in feeds, the water supply, or the environment;
 - (2) provide feed supplements or additives in amounts above those needed for adequate nutrition and health maintenance of the species at its specific stage of life;
 - (3) feed mammalian or poultry slaughter products to aquatic animals;
 - (4) use feedstuffs extracted with synthetic solvents not approved on the National List;
 - (5) use feed, feed additives, and feed supplements in violation of the U.S. Federal Food, Drug, and Cosmetic Act; or
 - (6) use any genetically modified organism, or any organism produced by any other excluded method provided in § 205.2 Terms defined, or product thereof, as a feed ingredient.
- (l) Fish meal or fish oil may not be sourced from any fishery classified by relevant state/provincial, national, or international fisheries authorities as follows: “at risk of reduced reproductive capacity;” “suffering reduced reproductive capacity;” “harvested outside precautionary limits;” “over-exploited;” “depleted;” “overfished;” “overfishing is occurring;” or any other comparable classification, or at significant risk of those conditions within the next recruitment cycle.
- (m) All fish meal and fish oil must be monitored for heavy metal levels and persistent organic pollutants including persistent bioaccumulative toxins (PBTs) and mercury, cadmium, lead, arsenic and tin. All of these metals and pollutants must be removed from the organic feeding system if found to have amounts above regulatory levels in commercially available fish meal and fish oil, provided, however, that the comparable products are classes of fish meal and fish oil allowed in this section, and do not include those produced with volatile organic solvents not allowed under § 205.603. Fish oil and fish meal must be treated with or by an approved organic process for removal of contaminants, if present in levels above regulatory standards.

Committee Vote:

Motion: Rigo Delgado Second: Jeff Moyer Yes: 5 No: 1 Absent: 1 Abstain: 0

Minority Opinion – Fish Meal and Fish Oil for Organic Aquaculture Production, May 2008

The following minority opinion suggests alternative fish meal and fish oil allowances are necessary to allow for the initial growth of the organic aquaculture industry.

1. The National Organic Standards Board (NOSB) has no capacity to request or authorize the Secretary of the United States Department of Agriculture to designate fish meal and fish oil products from foreign countries that qualify as “organic” in those countries as being equivalent to certified organic products in the United States of America for any purpose, general or specific.

Recognition of foreign organic standards by the United States of America can include but are not limited to the need for Mutual Recognition Agreements, Equivalency Agreements, Import/Export Agreements, and Conformity Assessment Agreements. Recommendations to even encourage the Secretary to reach these agreements with foreign countries are outside the authority of the NOSB.

Without review of organic aquaculture certification standards in each and every country involved with consideration for such details, that could include but are not limited to, the amount and source of fish meal and fish oil in the diet, acceptable contamination levels of heavy metals and other potential contaminants, allowance for prohibited materials such as anti-fouling agents and antibiotics, it is not reasonable to request the Secretary to accept these foreign-sourced and foreign-certified by-products as “organic” in this country.

2. The minority opinion agrees with the need for some allowance of fish meal and fish oil to be included in the diet of organic aquatic fish to be sold as organic fish in the United States of America. Many species of fish, to be managed and produced as organic, would require fish meal and fish oil in their diets for the health of the animal, and to satisfy the requirement of organic production that the ration for certified organic livestock must be sufficient to meet nutritional requirements (§205.238(a)(2)) for protein and amino acids, fatty acids and energy sources, etc. The producer of organic livestock is required also to maintain living conditions which accommodate the health and natural behavior of the animals (§239(a)). The natural behavior of many fish species is to eat other fish.

The minority opinion supports the portion of the previous version of this document that would allow for the feeding of wild caught fish meal and fish oil as described in the Discussion section of this recommendation. This option recognizes that there is no organic fish meal and fish oil available currently, that there is a nutritional need of piscivorous fish that can be met only with fish meal and fish oil (at this point in time of scientific knowledge and product development) and that altering significantly the diet of piscivorous fish would alter the fatty acid profile of the fish meat via a decrease in omega-3 fats in their fatty acid profile. If such a change in fatty acid profile of fish meat occurred due to a forced change in the diet of organic fish due to regulatory language, the value of organic fish in the human diet would decrease. Such an occurrence would be contrary to the goal and values of the organic movement. Furthermore, this option recognizes that as this industry is allowed to grow and develop, sources of fish meal and fish oil from organic aquaculture sources would develop and, thereby, decrease the need for fish meal and fish oil from non-organic sources as the step-wise allowance implies.

This recommendation would allow for enforcement of the entire recommendation to stay within the control and authority of the Secretary, the USDA and other governmental organizations.

3. The Organic Food Production Act of 1990 as amended (OFPA) states that “the Secretary shall allow, through regulations promulgated after public notice and opportunity for comment, wild seafood to be certified and labeled as organic” (OFPA §2107(c)(1)). The response via public comment has generally been that wild-caught fish should not be certified and labeled as organic because they cannot be “agri” “cultured”. The consideration seems to be that if the production inputs cannot be managed then wild fish should not be certified organic. Therefore, by extension, wild-caught fish and their trimmings should not be considered agricultural. Definitions (§205.2) in the regulation should be clarified appropriately if that opinion within the organic industry, that wild seafood cannot be certified as organic because they are not managed and thus not agricultural, is accepted and regulations that are allowed for in OFPA are not promulgated.