



April 3, 2020

Ms. Michelle Arsenault
National Organic Standards Board
USDA-AMS-NOP

Docket: AMS-NOP-19-0095

RE: Crops Subcommittee – Aquatic Plant Extracts (Sunset Review)

Dear Ms. Arsenault:

Thank you for this opportunity to provide comment on the National Organic Standards Board (NOSB) Crop Subcommittee's Sunset Review of Aquatic Plant Extracts.

The Organic Trade Association (OTA) is the membership-based business association for organic agriculture and products in North America. OTA is the leading voice for the organic trade in the United States, representing over 9,500 organic businesses across 50 states. Our members include growers, shippers, processors, certifiers, farmers' associations, distributors, importers, exporters, consultants, retailers and others. OTA's mission is to promote and protect organic with a unifying voice that serves and engages its diverse members from farm to marketplace.

Summary

- ✓ Alkali-Extracted Aquatic Plant Extracts are necessary for organic crop production.
- ✓ To evaluate environmental impacts, NOSB should engage in cross-subcommittee discussions to calibrate decisions on environmental impacts of marine-sourced raw materials across inputs and scopes.

We offer the following more detailed comments:

I. Background

Alkali-extracted aquatic plant extracts are currently listed on the National List at §205.601(j)(1) as allowed as plant or soil amendment for organic crop production: *Aquatic plant extracts (other than hydrolyzed) – Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount is limited to that amount necessary for extraction.* The use of phosphoric acid and other synthetic acids for pH adjustment of aquatic plant extracts is prohibited ([NOP Memo 14-1](#)).

The restricted allowance of alkali-extracted aquatic plant extracts has been in place since the NOP regulations were originally established in 2000. The listing has been renewed at each of the three Sunset Reviews (2006, 2010, and 2015) that have occurred for this listing over the past 20 years. Each review has demonstrated that the use of alkali-extracted aquatic plant extracts as listed at §205.601(j)(1) meet the

criteria established in the Organic Foods Production Act for allowance of a synthetic substance: 1) The input must not be harmful to not harmful to human health or the environment; 2) The input is necessary for production and processing of organic products because of the unavailability of natural or organic alternatives; and 3) The input is consistent with organic farming and a system of sustainable agriculture.

This year (2020), NOSB is conducting its fourth Sunset Review of this listing of aquatic plant extracts to determine its continued eligibility for inclusion on the National List as an allowed synthetic substance in accordance with criteria established in the Organic Foods Production Act. At the spring 2020 NOSB Meeting, the Crops Subcommittee presents its [Sunset Summary and Request for Comments on Aquatic Plant Extracts \(starts on Page 27\)](#). NOSB will collect public comments at the spring 2020 meeting to inform its proposal and vote at the fall 2020 meeting.

II. Necessity for Production

Alkali-extracted aquatic plant extracts are a widely and commonly used input in organic crop production. Certifiers report that hundreds of organic farm operations use alkali-extracted aquatic plant extracts, and Material Review Organizations list hundreds of brand-name products indicating a demand for their use. Removal of these products from the National List would negatively impact a significant number of organic farmers who are relying on alkali-extracted aquatic plant extracts as part of their organic crop production system. As indicated in our Sunset Surveys, respondents rate the necessity of products as a 5 out of 5, meaning that products are critical and they would leave organic without it.

In the production of organic fruits and vegetables, alkali-extracted aquatic plant extracts are used as foliar fertilizers and soil conditioners. Organic producers state that these inputs are fundamental for maintaining and enhancing plant and soil health, while also reducing the need for other materials for disease and pest control. Application can help control pests, increase yield, improve soil, strengthen germination and root development, and provide hundreds of macro and micro nutrients to help increase health and vigor of the crop. As fertilizers, seaweeds can provide a natural form of soluble potassium. In production of organic baby leaf vegetables, alkali-extracted aquatic plant extracts are used as a greening agent without the addition of nitrogen products.

To manufacture these products, seaweed is treated with an extracting agent (only potassium hydroxide or sodium hydroxide are permitted) to break the cell walls of seaweed, thereby releasing the naturally occurring nutrients, minerals, vitamins, amino acids, hormones, and other beneficial biochemical compounds within the seaweed. Once released, the natural compounds are free to be absorbed by the crop plant and immediately used for physiological processes. The alkali extraction step is essential for release of the bioactive compounds from the seaweed. The extractant is small in terms of volume but significant in terms of delivering benefit and value to farmers through an effective product. Without alkali extraction, the beneficial compounds of the seaweed are not nearly as available or effective for providing benefits to crops. Manufacturers state that there is no alternative manufacturing processes to get the equivalent benefits from seaweed. Producers state that the variety of biostimulants compounds and multiple modes of action are unique in seaweed extracts, and there are not comparable alternatives.

III. Impact on Environment

The evaluation of whether the use of marine materials such as alkali-extracted aquatic plant extracts as crop production inputs is “not harmful to the environment” received increased scrutiny by NOSB in recent years. The Crops Subcommittee began questioning the issue during the last Sunset Review of alkali-extracted aquatic plant extracts in fall 2015. Since then, the Materials Subcommittee has carried the issue forward through its work agenda topic for Marine Materials used in Crop Production (broader evaluation of seaweed used in crop production, including non-synthetic forms). When the Materials Subcommittee last discussed this topic in fall 2019, there was still no consensus from the public about the extent of environmental harm caused by seaweed harvesting, and if/how NOSB intervention would be appropriate to ensure environmental protection. A wealth of technical information about seaweed harvesting has been submitted from scientists and industry through public comments, technical reports, and an expert panel. Still, many questions remain unanswered about globally-representative data across regions where seaweed is harvested across the globe, and the extent to which environmental impacts are already addressed by existing legal oversight in these regulated industries. NOSB has expressed an interest in taking a slow and careful approach to this complex issue. A clear path forward on this particular work agenda item is not yet apparent.

Questions about the environmental impact from harvesting resources from marine environments have persisted throughout other subcommittees and input materials. The Handling Subcommittee has raised similar questions in its Sunset Review of seaweed-based ingredients and derivatives used in processing and handling. The Handling Subcommittee has also begun evaluating similar questions for harvesting fish, and the Crops Subcommittee is looking at environmental impacts of fish harvested for use in fish-based fertilizers. On the spring 2020 agenda alone, there are *four topics* across *two subcommittees* looking at some aspect of marine environmental impact from sourcing of input materials. Across the history of NOSB since 2016, there have been at least *16 topics* across *three subcommittees* when a marine-sourced material was evaluated against OFPA criteria for environmental impact.

As NOSB has evaluated materials sourced from marine environments, the question of environmental impact has been scrutinized to varying degrees. Seaweed and fish have both received increased scrutiny for similar concerns about the impact that harvesting these material has on marine ecosystems. Third-party Technical Reports were commissioned for some topics but not others. Harvesting methods and frequencies were elevated as an issue of concern for some topics but not others. For more information on the history of NOSB topics related to marine materials, please see the attached document: **NOSB TACKLES SEAWEED & FISH-BASED INPUTS**.

It is clear that NOSB, across subcommittees, is interested in protecting marine environments and ensuring that use of marine materials in organic production is not harmful to the environment. OTA agrees with the goal of continuously improving the sustainable sourcing of inputs. It is also clear that it is a complex topic with many intersecting issues at play. NOSB must approach the issue carefully, using science-based information and thoughtful consideration of the global industry impacts of any new regulatory requirements, so that organic operations continue to have reliable access to essential tools for production and processing.

To achieve NOSB’s goal of ensuring that the use of marine materials in organic production is not harmful to the environment, NOSB must change its evaluation approach to be more inclusive of materials sourced

from marine environments for use in organic production and processing. Meaningful outcomes can't be achieved by just looking at individual inputs in isolation.

OTA encourages NOSB to engage in cross-subcommittee discussions to calibrate (standardize, harmonize) **decisions on environmental impacts of marine-sourced raw materials across inputs and scopes.** A collaborative approach across subcommittees will support consistent and balanced decision-making on common questions around the environmental impact of harvesting marine materials. A common process for collecting and sharing technical information should be established for subcommittees to be working from a common base-line understanding of evidence about environmental impacts of various materials and sourcing methods across regions. Collaborative discussions could also serve to establish a common base-line for evaluating the extent to which sourcing of a marine materials is “harmful,” so that subcommittees have a common starting point when making use/scope-specific decisions about how the environmental criteria are balanced against other OFPA criteria. Additionally, these discussions can support a consistent approach for developing annotations, restrictions, and verification requirements in cases when sourcing of a marine materials is determined to cause harm such that a regulatory amendment is warranted.

As the vehicle for such cross-subcommittee discussions, perhaps the Materials Subcommittee could expand the Marine Materials work agenda item to look at all uses of marine materials across scopes instead of focusing just on seaweed in fertilizers. Or, establish a Joint Subcommittee, Task Force, or Working Group to support this effort and bring in outside experts. In any case, a centralized group should be responsible for leading the discussions and calibrating decisions on environmental impacts of harvesting inputs from marine environments. This centralized group can take actions to more broadly address environmental impacts of marine materials across scopes/uses, such as:

- Collect **technical information** about environmental impacts to support informed policy-development processes.
 - Establish the scope of information needed to make informed decisions about the environmental impact of marine materials (e.g., Conclusions about the environmental harm from seaweed or fish harvesting should be informed by data representative of the areas where those materials are harvested around the globe, as well as being relevant to materials harvested specifically for use in organic production and processing.)
 - Compile available technical information on environment impact of seaweed and fish harvesting. (e.g., Significant amounts of technical information have already been submitted to NOSB through public comments over the course of many meetings, and this information could be summarized and reflected back to NOSB and the public in a synthesized and thorough manner)
 - Commission Technical Reports as needed to fill information gaps.
 - Identify items to add to NOSB Research Priorities as needed to address areas where information is not currently available.
- Develop recommendations to clarify the **taxonomic nomenclature** of marine materials on the National List across crops, livestock, and handling scopes. NOSB began this work in 2016 and it has not yet been completed. A Discussion Document was posted in fall 2016, and proposals were

presented by each the Crops and Handling Subcommittee in spring 2017 although both were sent back to subcommittee for further work. Inconsistencies still persist, and there is still a need for clear and accurate terms and definitions for marine materials in the NOP regulations.

- Explore options to address in a consistent manner the environmental impact of inputs sourced from natural substances such as mineral, plant, or animal matter. What does it look like to ensure “not harmful to environment” of non-synthetic inputs not on the National List? Could there be a uniform approach to all non-synthetic inputs, such as a preference for less harmful or certified organic substances based on commercial availability? Could there be special annotations carved out for high risk substances, such as those sourced directly from native wild ecosystems?
- Explore opportunities for NOP certification to be better positioned as a tool for ensuring sustainable agriculture in marine environments. Continuous improvement of the regulations and guidance are needed to accommodate the unique conditions of marine agriculture. Additional guidance on the certification of marine plants under crop and wild crop standards would assist the organic community in ensuring that NOP certification can provide certain outcomes for sustainability.
- Work with NOP to explore the legal authority under OFPA to require organic certification of an ingredient in a product that is not intended for livestock or human consumption, such as crop fertilizers. This information is essential for informing future discussions and whether organic certification is a viable solution for verifying environmental impacts of materials used in crop fertilizers.

IV. Questions from Crops Subcommittee (Spring 2020):

1. *Given the broad range of views on this topic, please describe if/ or how aquatic plant extracts should be addressed during this Sunset Review.*

As with any Sunset Review, NOSB is responsible for evaluating the substance against OFPA criteria for the National List.

OTA has provided information in **Part II** above about the necessity of alkali-extracted aquatic plant extracts.

On the topic of environmental impact, we encourage NOSB to engage in cross-subcommittee discussions to calibrate decisions on environmental impacts of marine-sourced raw materials across inputs and scopes. As described in **Part III** above, the Crops, Handling, Materials Subcommittees are all actively looking at some aspect of environment impact from sourcing materials from marine environments for use as inputs in organic production and processing. NOSB should avoid making a decision on this individual Sunset Review [which only covers one form (synthetic) of one input (fertilizer) for one scope of materials (crops)] that could disrupt or conflict with the work of other subcommittees on other closely related forms, inputs, and scopes of marine materials. A coordinated approach across subcommittees and materials is essential for

achieving meaningful progress towards NOSB's goal of ensuring that use of marine materials in organic production is not harmful to the environment.

2. *Are aquatic plant extracts still needed in organic crop production?*

Yes. Alkali-extracted aquatic plant extracts are widely used by hundreds of organic farmers as a fundamental part of their system of maintaining and enhancing plant and soil health. See **Part II** above for more information.

3. *The 2006 [Technical Report](#) states that aquatic plant extracts can be derived naturally by dehydrating seaweeds and grinding them into meal. Meal can be applied directly to the soil or diluted with water and used as a foliar spray or soil drench. Non-synthetic products also may be produced using mechanical disruption, or freezing, pulverization, and clarification of the thawed slurry. The relative efficacy of alkali-extracted versus non-alkali- extracted product has not been consistently demonstrated, perhaps partly as a result of a lack of understanding of the mechanism by which aquatic plant extracts exert any purported beneficial effect (lines 205-12). Do the non-synthetic alternatives to this material provide the same functionality?*

No. The alkali extraction step is critical for releasing the bioactive compounds of seaweed and delivering benefits to crop production systems. Equivalent alternatives are not known to be available. See **Part II** above for more information.

On behalf of our members across the supply chain and the country, OTA thanks the National Organic Standards Board for the opportunity to comment, and for your commitment to furthering organic agriculture.

Respectfully submitted,



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cc: Laura Batcha
Executive Director/CEO
Organic Trade Association