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National Organic Standards Board  
USDA-AMS-NOP  
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Washington, DC 20250-0268

Submitted via [Regulations.gov](https://www.regulations.gov).

**RE: Docket # AMS-NOP-21-0087**

**NOSB Crops Subcommittee Proposal: Highly Soluble Nitrogen Fertilizers**

Dear NOSB Members:

Thank you for the opportunity to provide comments on the proposal for highly soluble nitrogen fertilizers. MOSA certifies over 2,000 organic operations throughout the United States, including approximately 730 livestock operations, 1,750 crop operations, and 325 handling operations. Almost all MOSA certified operations use some National List materials.

MOSA's comments include information taken from our database, as well as anecdotal comments from staff regarding their experiences during file review. Our information below does not include any totals for Material Review Organizations (MRO) such as OMRI, WSDA, CDFR, or EPA listed materials in use on MOSA certified operations because we do not record ingredients for those materials in our database. MOSA clients may be and likely are using additional materials under the review and oversight of another organic organization which contain highly soluble nitrogen.

We support the listing of natural materials as prohibited when materials of concern arise. Our general approach to crop fertility input review is that natural materials not listed as prohibited or restricted on §205.602 are allowed. All materials in use on organic operations must be applied *in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances.*

Among MOSA clients, we are not aware of any use of ammonia extract products at this time. However, we do see a wider use of guano. Notably, seven products are in use by more than 30 clients. We would like to interpret this NOSB proposal as NOT including guano. Or if it is included, we'd like clarity regarding the specific concerns for this material. The document isn't entirely clear regarding concerns or *if* guano is being intentionally included, thus we request further clarification. This document only refers to guano eight times, and does so in somewhat of a conflicting way. The NOSB seems to intend to include guano as a highly soluble nitrogen fertilizer. However, the 2020 Technical Report references include guano as an "organic fertilizer" which requires soil mineralization and is regarded as not as highly soluble. *"These include fish meal, liquid fish residues, feather meal, bird*

*or bat guano, alfalfa meal, bone meal, kelp, seaweed, and meat meal. These materials may be more readily available to crops due to their lower C: N ratio, but all require mineralization to be plant bioavailable. The mineralization is required due to the nitrogen available in these materials being present as more complex molecules and proteins. These materials provide a slower N release than ammonia extracts.” [Pages 108/9 of 152 of the meeting book; Emphasis added, and the point is evidenced by the label clips provided below- soluble nitrogen is listed separately than water insoluble nitrogen.]*

Guano is also not included in the examples provided on pages 102/3 of 152 of the meeting book. Could guano be included on the list of unrestricted, allowed materials that NOSB noted certifiers could develop? (referenced on page 104 of 152 of the meeting book)

The NOSB noted, *“In order to know what percent of the nitrogen in a blend counts toward the 3:1 restriction, a manufacturer could either provide the percent of the nitrogen in the blend that is restricted on the label (without disclosing what that material is) or a Material Review Organization could list that on the product certificate. As a last resort, if neither of those listings is available, the grower could call the manufacturer for that information. This would be similar to the soluble and insoluble nitrogen subanalysis that is already present on fertilizer labels, i.e., 3% N from ingredients below 3:1 C: N. If a grower uses multiple fertility sources, they will total all the N application from restricted materials and make sure the total is less than 20% of the crop needs.”*

Unlike High Nitrogen Liquid Fertilizers, MOSA could not simply rely on OMRI/MRO listing to allow a material. Material manufacturers could use a Material Review Organization to verify the percentage of the restricted material contained in the input, but further calculations would be needed at the farm and certifier level to ensure application rates also meet the maximum percentage allowed. As described by the NOSB, at minimum, a seven step process would be needed to determine compliance of any highly soluble nitrogen containing material, and the seventh step requires additional information including the crop and desired yield, region, seeding rate, soil type, other inputs used, etc.

Certifiers generally do not allow manufacturers to self-declare information without disclosure of the details. We tend to make determinations ourselves based on complete information received. Growers would likely not be expected to provide calculations. In the distant past, when we used to verify sodium nitrate applications were no more than 20% of the crops total nitrogen needs, MOSA internally (not the farmers) checked the math to ensure applications were not in excess of the allowable amount, and we also made some general assumptions which were shown to be true through examples. So, with other *highly soluble nitrogen fertilizers*, we would likely tend to make general assumptions when encountering fertilizers containing ingredients with a low C:N ratio (ammonia extract/sodium nitrate/guano (if included)). If a restricted ingredient is one of many total ingredients and the input product is one of a few total inputs, we could assume that the total amount of the input that would be needed would *automatically* exceed the limited application amount recommended for application. For example, we have three inputs in our database containing guano, which is just one of more than 20 ingredients in each of the products. To exceed 20% of the nitrogen needs of the crops, each of these inputs would need to be applied in extreme excess of recommended amounts. It would be a reasonable assumption that we would not need to do more in-depth review of such materials. Two other products are in potting soil, again a single ingredient in a multiple ingredient mix. As used, rates of the guano would not begin to exceed the proposed maximum amount allowed, and generally, we don't consider potting soil to be a fertilizer *to the soil*. This is another area for making reasonable assumptions. We have one 100% guano product that was used

by one operation in the past (clips below), as one of more than 30 inputs in use on their operation. That client's inspection report fertility section began, *"The client applies minimal fertilizer to the soil,"* thus without even beginning to do the math, we can see that this input wouldn't be applied in excess of maximums allowed on this operation, but even if we did do the math, we could see that it would need to be applied at a rate of more than 250 lbs (for a crop demanding 100lbs of Nitrogen total), an unrealistic amount of this input, and so again, this scenario is another example where reasonable assumptions could be made without a negative impact to organic integrity. In summary, as they are being used, zero of the products in MOSA's database that are in use on MOSA certified operations present any concern whatsoever with regard to the intent of this proposal. Practical decision making ability should be acknowledged.

### Specifications

Guaranteed Analysis    Directions

Watering Feed: Mix 1 to 2 tablespoons per gallon of water and apply directly around the base of each plant. Fertilize every one to three days depending on the size and age of the plants. For small and very young plants, reduce concentration by half.

Top Dressing: Sprinkle one-half to 1 tablespoon per gallon of soil evenly around the base of each plant and work into soil. Drench slowly with water. Repeat this process every three to five days. For small or very young plants, reduce concentration by half.

### Specifications

Guaranteed Analysis    Directions

- Total Nitrogen (N): 12%
- Water Soluble Nitrogen: 7%
- Water Insoluble Nitrogen\*: 5%
- Available Phosphate (P2O5): 11%
- Soluble Potash (K2O): 2%

Derived From: Seabird Guano

\*5% Slowly available water insoluble nitrogen from seabird guano

Some settling may occur.

[Sunleaves Peruvian Seabird 3lb](#)

The NOSB's process has been somewhat concerning. A petition to add Ammonia Extract as a prohibited material resulted in a larger category of materials being recommended for prohibition.

*Motion to add at § 205.105: nitrogen fertilizers with a C: N ratio of 3:1 or less, including those individual components of a blended fertilizer formulation, are limited unless use is restricted to a cumulative total use of 20% of crop needs.*

The proposal has been presented without a discussion document for stakeholder input. We'd like to more fully understand the reasoning behind the inclusion of guano. We'd like to more fully understand when ingredients in blended fertilizers would have the potential to be stacked *and* used in a realistic manner *and* such use would have the potential to exceed the recommendation. We'd like to hear responses to the NOSB's question, "*At what point does the use of highly soluble nitrogen fertilizers cross the line to being the primary source of nitrogen, with other soil organic building practices being a minor part of the fertility program?*" Guidance could be developed to help certifiers and growers assess this aspect, as well as assess other important aspects of the entire fertility program, including soil organic matter content, use of micronutrients, other macronutrients, excess manure use, liquid manure use, etc. There could be other ways to achieve the desired result, such as a nitrogen (or complete nutrient) mass balance audit. We appreciate the NOSB's intent to make the rules such that certifiers just follow along, rather than make subjective decisions, but we're just not convinced yet that the work being proposed makes sense in all instances.

We agree that the NOP should determine the most suitable location for an overarching proposal. As the NOSB explained, several standards could be suitable locations for this recommended regulation. We appreciate that the NOSB is attempting to solve concerns before they may develop, but without an apparent present concern it's hard to justify the need for the proposed solution. In our work, we have not experienced sodium nitrate being used in a manner that is concerning nor do we have any clients using a natural ammonia extract product. From our perspective, it looks like the proposal will impact guano (and sodium nitrate) in use by MOSA certified clients, and would create additional steps in our review work but not change the inputs MOSA clients use, since they would not exceed the 20% restriction anyway. We want to maintain our ability to discern when organic integrity is negatively impacted or threatened.

Thank you for your attention to topics that impact the organic community.

Respectfully submitted,

The MOSA Certification Team