



## Response to Comments Materials for Organic Crop Production

Links Update: September 5, 2018

This document summarizes comments received on the draft guidance document, “Materials for Organic Crop Production (NOP 5034),” which was posted on the NOP website for public comment. The public was notified in a Federal Register notice (78 FR 19637) on April 2, 2013.

- ***CHANGES MADE IN RESPONSE TO COMMENTS***

- 1) **Phase-In Period for Compliance.** One commenter requested a phase-in period for compliance that would apply if changes to current practices are needed to comply with the guidance. The commenter did not specify an appropriate length for phase-in period. NOP agrees that a phase-in period may be appropriate because, in the absence of guidance, different interpretations on the status of materials may have been made in good faith by certifying agents and material review organizations. As such, we have allowed for a one year phase-in period from the date of publication of this document. This one year period is intended to allow for certifying agents to notify organic crop producers of the guidance and for organic crop producers to make updates to their Organic System Plans if needed.
- 2) **Instructions for NOP 5034-1.** Some commenters requested that NOP 5034-1 include introductory information on how to use this document, as is provided in NOP 5034. We agree with the commenters that it would be useful to also include this at the beginning of document NOP 5034-1 and we have amended the document to include a reference to NOP 5034 for ease of use.
- 3) **Use of Examples.** Some commenters requested that NOP amend the guidance to clarify that when the term “includes” is used to provide examples, it is not intended to exclude other substances in that category. In response, NOP has amended several listings to read “includes, but not limited to,” as appropriate.
- 4) **Changes to Specific Materials, NOP 5034-1.** In response to comments received, NOP has amended the following material listings in the final guidance NOP 5034-1:
  - **Agricultural Substances.** We amended this listing to clarify that agricultural substances are permitted unless specifically prohibited at section 205.602 and have also clarified the reference to section 205.606 to avoid confusion. The text was also amended to clarify that agricultural substances used in organic crop production do not need to be organic. We have not adopted a suggestion by one commenter to clarify whether commercial availability is applicable for agricultural substances used in crop production. We believe the regulations are sufficiently clear on this issue whereby commercial availability only



applies to agricultural materials listed on section 205.606 and used in organic handling. We have not included any reference to commercial availability within guidance on crop materials to avoid any confusion on this issue.

- **Aquatic Plant Products.** We have amended this listing to clarify that nonsynthetic plant extracts include products extracted with nonsynthetic materials.
- **Azadirachtra Indica.** We have amended the description provided at the cross-reference to “Neem and Neem Derivatives” to distinguish between azadirachtra and neem.
- **Bagasse.** We have accepted a commenter’s suggestion to delete a portion of the text which was not needed to clarify the identity of the substance.
- **Biochar.** We have amended the listing for biochar to clarify its description and use. We have eliminated the term “terra preta” in the description based on comments that indicated terra preta is carbon-rich soil, but is not biochar itself. We have included the suggestion made by commenters to describe biochar as “biomass that has been carbonized or charred.”

We have also replaced the term “feedstocks” with “sources,” and included “animal material” as an allowed source, as requested by commenters. We have considered that the inclusion of “animal material” may raise questions about the allowance of manure as a feedstock for biochar, since the use of ash from manure burning is prohibited under section 205.602(a) of the USDA organic regulations. Although the pyrolysis process for biochar production is different than burning, we clarified in NOP 5033, Classification of Materials, that, for purposes of classification, pyrolysis may be treated as equivalent to burning or combustion. As the issue of biochar has not been considered by the NOSB, we are not providing clarification at this time on whether the use of biochar derived from manure is appropriate for organic production.

Further, we have not amended the listing to specify “gasification” as production process for biochar. This was suggested by a commenter to align with NRCS Conservation Practice Code 735 entitled “Waste Gasification Facilities.” We have also not accepted the suggestion to reference the International Biochar Initiative (IBI) Standards or additional information on prohibited additives, such as specifying no more than 2% contaminants by dry weight, as is done under the IBI Biochar standards. We feel that this level of detail and prescriptive guidance would first need evaluation by the NOSB. Parties interested in further evaluation of biochar are encouraged to submit a petition to the NOSB according to the current National List petition guidelines so that this material may be further considered.

- **Biodynamic Preparations.** We have amended the listing to clarify that horn manure spray is an example of the biodynamic preparations subject to the restrictions for animal manure.



- **Calcium Chloride.** We have amended the listing to clarify that synthetic forms of calcium chloride are prohibited.
- **Cannery Wastes and Cannery Waste Water.** We have amended the listing to clarify that chemical changes caused by naturally occurring biological processes or by heating or burning biological matter are allowed.
- **Chelating Agents.** We have amended the listing to include information on synthetic chelating agents listed at section 205.601 of the National List.
- **Chlorine / Electrolyzed Water.** Several comments indicated that the listing for chlorine be amended to state that electrolyzed water is allowed. One commenter stated that the reference to electrolyzed water in a previous technical evaluation report for chlorine<sup>1</sup> infers that electrolyzed water is an allowed alternative to chlorine. On September 11, 2015, NOP published Policy Memo 15-4, Electrolyzed Water, which is available through the NOP Handbook.<sup>2</sup> This memo clarifies that electrolyzed water (hypochlorous acid) is an allowed form of chlorine under the USDA organic regulations. The listing for chlorine materials in the guidance has been amended to be consistent with the policy memo.
- **Citric Acid.** We have amended the listing to further clarify that synthetic forms of citric acid are prohibited except as specified at section 205.601 of the National List.
- **Cobalt.** This listing was amended to fix a typographical error.
- **Compost.** This listing was amended to clarify that animal materials includes materials besides manure.
- **Compost Inoculants.** We have amended the listing to clarify the allowance of substances listed on section 205.601 used in inoculants.
- **Crab Meal.** We have replaced the description with a cross-reference to a new broader listing for “Shellfish Meal.”
- **Diatomaceous Earth.** We have amended the listing to clarify that calcined diatomaceous earth is also nonsynthetic, as is described in the 1995 Technical Advisory Panel review for diatomaceous earth for organic handling.
- **Fulvic Acid.** We have amended the listing to clarify that fulvic acids extracted with nonsynthetic acids are also nonsynthetic.

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<sup>1</sup> Chlorine/Bleach, Technical Evaluation Report, 2011. Available on the NOP website at <http://www.ams.usda.gov/sites/default/files/media/Chlorine%20%20TR%202011.pdf>.

<sup>2</sup> Available on the NOP website at <https://www.ams.usda.gov/rules-regulations/organic/handbook>



- **Growth Regulators.** We have amended the listing to distinguish between synthetic and nonsynthetic growth regulators and to fix a typographical error.
- **Gums.** We have amended the listing for gums to remove xanthan gum as explained under the entry for “xanthan gum” below.
- **Homeopathic Preparations.** We have amended the listing to further clarify that synthetic materials used in homeopathic preparations for crop production must be included at section 205.601 of the National List.
- **Inoculants / Compost Inoculants / Microbial Biopesticides / Microbial Products.** We have amended these listings to provide consistent information as to whether growth media for products of and/or with microbes is relevant to determining compliance.
- **Humic Acid.** In response to several comments that humic acids may be either nonsynthetic or synthetic, we have amended the classification to indicate “Synthetic or Nonsynthetic.” We agree with commenters that stated that water extracted and naturally occurring deposits may be considered nonsynthetic. We did not adopt the commenters’ suggestions to distinguish between forms that are synthetic and nonsynthetic within the listing. This was requested to clarify an issue with products intended for export market and has since been resolved under a new trade partnership agreement.
- **Manure.** We have amended the listing to include the definition for manure under section 205.2 of the USDA organic regulations. In addition, we have further clarified that fish feces and insect frass do not fall within the definition of manure. We have also clarified that manure from organic or conventional livestock may be used for organic crop production. In addition, on May 6, 2016, the NOP sent a memo to the NOSB regarding the topic of treated manure products.<sup>3</sup> NOP will consider updates to this entry following any NOSB recommendation on this topic.
- **Mined Minerals.** This listing was amended to correct the regulatory reference. The corrected reference now reads: 7 CFR 205.203(d)(2) & 205.203(d)(3).
- **Molasses.** This listing was amended to clarify that both organic and nonorganic nonsynthetic molasses are permitted. The listing was also amended for clarity.
- **Neem and Neem Derivatives.** This listing was amended to clarify that azadirachtin is an extract of neem, rather than a synonym for this substance.

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<sup>3</sup> Available on the NOP website at <https://www.ams.usda.gov/sites/default/files/media/2016%20NOSB%20Manure%20Treatments%20FINAL.pdf>.



- **Oystershell Lime.** This listing was amended to clarify that calcined oystershell lime is synthetic and prohibited as a fertilizer or soil amendment.
- **Potassium Sulfate.** This listing was amended to clarify that synthetic sources of potassium sulfate are prohibited.
- **Rhizobium spp.** This listing was amended to correct a spelling error.
- **Seed Treatments (Seed Preparations).** The listing for “seed treatments” was changed to “seed preparations” to avoid confusion with conventional seed treatments. We have also clarified that seed preparations refer to materials used prior to planting.
- **Soap and “Soaps, Ammonium”.** The listing for “Soaps, Ammonium” consolidated into the listing for “Soap.” The listing for “Soaps, Ammonium” was also amended for clarity.
- **Streptomycin.** One comment indicated that streptomycin should not be allowed in organic production. Since the listing for streptomycin expired on October 21, 2014, we have removed the entry for streptomycin and listed this substance on NOP 5034-2, Prohibited Materials for Organic Crop Production.
- **Sulfur.** The listing for sulfur was amended to distinguish between nonsynthetic and synthetic sulfur.
- **Tetracycline.** One comment indicated that tetracycline should not be allowed in organic production. Since the listing for tetracycline expired on October 21, 2014, we have removed the entry for tetracycline and listed this substance on NOP 5034-2, Prohibited Materials for Organic Crop Production.
- **Vegetable Protein Hydrolysate.** We have amended the text to clarify that soybean hydrolysate (soy protein isolate) falls within the listing for vegetable protein hydrolysate.
- **Vinasse.** One comment requested deferring inclusion of vinasse pending review of a petition for this substance by the NOSB. Another commenter indicated that vinasse should be classified as synthetic due to the use chemicals used in making molasses, from which vinasse is derived. On May 2, 2014, the NOSB issued a recommendation regarding the classification of this substance, which classifies certain forms of vinasse as nonsynthetic if it does not contain prohibited additives. In response, NOP has amended this listing in order to implement the NOSB recommendation for this substance.
- **Multiple Sources.** Some commenters requested that NOP amend certain listings where both synthetic and nonsynthetic sources are available. The following listings have been amended in response to these comments:



- Acetic acid
- Alcohol
- Calcium chloride
- Chelating agents
- Citric acid
- Growth regulators
- Fish products, liquid
- Gypsum
- Magnesium sulfate
- Micronutrients
- Potassium sulfate
- Potting soil
- Sulfur
- Vegetable protein hydrolysate

**4) Removal of Materials from NOP 5034-1.** In response to comments received, NOP has removed the following materials from the final guidance NOP 5034-1:

- **Agave.** This listing was removed in response to a comment that there is insufficient publicly available information to confirm that the manufacturing process for conventional agave syrup or agave nectar production is nonsynthetic. We encourage stakeholders in further consideration of this substance to submit a petition for the National List.
- **Dextrin.** This listing was removed on the basis that the NOSB has previously classified this substance as synthetic. The cross-reference to dextrose was also removed.
- **Glycerin.** At its April 2015 public meeting, the NOSB voted to reclassify some forms of glycerin as agricultural, nonsynthetic. This recommendation is currently under review by NOP for a future rulemaking action. Pending the outcome of this rulemaking, an entry for glycerin has been removed but will be considered for future addition to NOP 5034-1.
- **Xanthan gum.** This listing was removed on the basis that the NOSB has previously classified this substance as synthetic.

NOP received some comments indicating that dextrin, glycerin, and xanthan gum should be retained in the guidance as nonsynthetic. However, we have deferred to the NOSB's classification for these substances.

NOP understands that accredited certifying agents and material evaluation programs may have approved the use of materials listed above as nonsynthetic based on an independent review of the manufacturing process. In addition, some materials may have more than one method of manufacture.



Accordingly, this guidance is not intended to be exhaustive. Certifying agents and material evaluation programs may use the guidance provided at NOP 5033, Classification of Materials, in evaluating these materials for compliance with the USDA organic regulations. Interested parties may also submit a petition according to the National List petition guidelines for these materials to the NOSB.

**4) New Materials Added to NOP 5034-1.** In response to comments received, NOP has added shell fish meal as a new nonsynthetic material to the final guidance NOP 5034-1.

**5) Changes to Specific Materials, NOP 5034-2.** In response to comments received, NOP has amended the following materials from the final guidance NOP 5034-2:

- **Nickel.** One commenter noted that the petition for nickel which was rejected by the NOSB included only synthetic inorganic salts of nickel and suggested amending the text to clarify. We have accepted the commenter's suggestion and amended the name of the substance to read "nickel salts, synthetic."
- **Kiln dust.** One commenter noted that in a few instances, they have been able to confirm that kiln dust is nonsynthetic. As the NOSB has not classified this substance as synthetic, we have removed this material from NOP 5034-2, pending further review.
- **CHANGES REQUESTED BUT NOT MADE**
  - 1) **Additional Comment Period.** Two comments requested that NOP reissue a revision of the guidance for an additional comment period. NOP has not accepted this request. Instead, the Office of Management and Budget (OMB) Good Guidance Policy allows for commenters to submit comments on guidance at any time; therefore, we did not feel an additional period for consideration of draft guidance was warranted.
  - 2) **Updates.** NOP received one comment indicating that the guidance does not go far enough toward resolving disputes at the "edges" of current understanding and interpretation. In addition, we received a comment urging NOP to keep the guidance document up to date. We understand that new issues may emerge that are not specifically addressed in the guidance document. We encourage certifiers and other interested parties to submit these topics to the NOP at [NOP.Guidance@ams.usda.gov](mailto:NOP.Guidance@ams.usda.gov) as they come up so that they may be considered for future updates.
  - 3) **Excluded Methods Verification.** Two commenters requested specific feedback on areas where certifiers must verify that excluded methods were not used in the production of inputs and/or ingredients of inputs. We understand that certifiers may be taking different approaches on this issue and believe that more information is needed to determine appropriate guidance on this issue. Therefore, we have not included this specific feedback in this document.



- 4) **Ancillary Substances.** Several commenters requested clarification on the use of ancillary substances in crop inputs. This topic is under consideration by the NOSB for substances used in organic handling. As previously stated in NOP memo of November 23, 2011, the use of formulants or “other ingredients” is provided for under section 205.601.<sup>4</sup>
- 5) **Specific Materials.** NOP has not made the following changes in the final guidance NOP 5034-1 or NOP 5034-2 that were requested by commenters:
- **Algae.** One commenter requested that NOP clarify that algae in the microorganism or bacteria form be classified as nonagricultural and nonsynthetic, unless specifically listed as agricultural on section 205.606. The commenter indicated that large aquatic seaweeds remain classified as agricultural as listed on section 205.606. For purposes of NOP 5034, which applies only to substances used in organic crop production, the distinction between agricultural and non-agricultural algae is not applicable; therefore, we have retained the listing as originally proposed.
  - **Animal By-Products and Materials and Meat By-Products and Waste.** One commenter requested further explanation on the source and handling of each of these substances. In the absence of additional information, we have not amended this listing. We suggest that parties interested in further consideration of this issue provide additional information to [NOP.Guidance@ams.usda.gov](mailto:NOP.Guidance@ams.usda.gov).
  - **Clay.** One commenter requested clarification on whether the intent is to have the end user determine when calcined clay becomes synthetic or if all calcined clay should be considered synthetic. We have not made this distinction within the list and encourage certifiers and material evaluation programs to refer to the guidance document NOP 5033, Classification of Materials, when determining whether a material is synthetic.
  - **Compost.** We have not adopted a commenter’s suggestion to clarify whether compost is limited to aerobic composting, or whether it can be derived from anaerobic methods. Additional information may be needed on this topic.
  - **Corn Steep Liquor.** Commenters provided mixed feedback on whether corn steep liquor should be classified as synthetic or nonsynthetic. Consistent with a previous NOP Notice dated January 31, 2011,<sup>5</sup> we have retained the listing as an allowed nonsynthetic substance pending a classification of this substance by the NOSB. One commenter also requested inclusion of the common and usual name, “condensed fermented corn solubles,” to ensure that only nonsynthetic corn steep liquor is used in organic production. We have included this alternative name for clarity.

<sup>4</sup> Memo to NOSB, [Request for Clarification of “Other Ingredients” in Processed Organic Products, November 23, 2011](#).

<sup>5</sup> NOP Notice 11-3. Available on the NOP website at <http://www.ams.usda.gov/sites/default/files/media/NOP-Notice-11-3-CornSteepLiquor.pdf>.





- **Corn Gluten.** One commenter requested that corn gluten produced by wet corn milling be classified as synthetic, rather than nonsynthetic, due to chemical changes that occur during manufacturing. Other comments claimed that corn gluten is nonsynthetic. We have retained classification as nonsynthetic due to the historical consideration of corn gluten as nonsynthetic; however, further consideration of this issue may be warranted by the NOSB. Parties interested in further consideration of corn gluten are encouraged to submit a petition to the NOSB according to the National List petition guidelines.
- **Biodynamic Preparations.** One commenter indicated that the listing for biodynamic preparations should be amended to allow the use of horn manure spray without the pre-harvest interval that is required for raw manure. AMS disagrees with the commenter on this issue. Horn manure spray is produced by filling a horn with raw animal manure, burying the horn in soil for a specified period of time, unburying the horn, and diluting the contents with water for application to crops or fields. In general, this process does not satisfy the requirements for composted manure or processed manure that would exempt the use from the pre-harvest interval requirements that apply to raw manure under section 205.203(c)(1) of the USDA organic regulations or NOP Guidance 5006. Certifying agents may need to review the manufacturing process on a case-by-case basis to determine whether the raw manure restriction applies; however, for purposes of the guidance, we have not amended the listing.
- **Green Waste.** One commenter requested that NOP clarify whether green waste from genetically engineered crops would qualify for use in organic crop production. A proposed rule to address green waste is under development. In the interim, accredited certifying agents must continue to review and approve all materials used by organic producers, including compost, as part of an operation's organic system plan.
- **Guano.** One commenter indicated that fossilized guano should not be subject to the restrictions that apply to raw manure. NOP has not accepted the commenter's suggestion. The term "fossilized guano" is not defined under the USDA organic regulations; therefore, the restrictions that apply to raw manure would apply, unless the material is composted, heat-processed, or fossilized to the extent to which is considered a "mined mineral" under 205.203(d)(2). Producers that use products that are sold, labeled, or advertised as "guano" are expected to comply with the NOP requirements for manure or compost, as appropriate.
- **Indole-3-butyric acid.** One commenter requested that indole-3-butyric acid (IBA) be removed from NOP 5034-2, the list of prohibited substances for crop production. The commenter indicated that IBA should be allowed since the synthetic form is chemically identical to the naturally occurring form. NOP disagrees with the commenter, as the classification of materials guidance classifies substances based on their production method, rather than based on comparison with naturally occurring forms of the substances. Since commercially produced IBA has been previously classified by the



NOSB as synthetic and was not recommended for inclusion on section 205.601 of the National List, we have retained this material on NOP 5034-2, Appendix of Prohibited Materials for Organic Crop Production.

- **Inert Ingredients (EPA List 3 and 4).** Two commenters requested that the outdated reference to inert ingredients (inerts) be amended. The NOSB and NOP are currently working on a process to update the outdated regulatory reference to inert ingredients. This update must occur through the rulemaking process, rather than through guidance. As such, we are unable to update the allowance for inerts through this final guidance.
  - **Mushroom Compost.** One commenter requested clarification to confirm that spent substrate that contained urea that was completely consumed by the (conventional) mushrooms and is not present in the spent substrate would still not be permitted. This interpretation was consistent with our intent; therefore, the listing has not been amended.
- 6) **Additional Materials.** NOP has not included the following additional materials to the final guidance NOP 5034-1 that were requested by commenters:
- **Wood Vinegar.** Two commenters requested clarification on the status of wood vinegar, which is a by-product of biochar production. As this substance was not listed in the draft guidance for public comment, we have not included this substance at this time. Interested parties are encouraged to submit a petition for wood vinegar to the NOSB for review of the manufacturing process so that a determination on its classification can be made.

- ***OTHER CHANGES MADE***

The following additional changes were made to the guidance document. These changes were not based on comments received on the draft guidance, but were made for the reasons described below.

- 1) **Copper Products.** We have amended the listing to correct the reference to the EPA regulations.
- 2) **Peracetic Acid.** The listing for peracetic acid was updated to reflect amendments to two listings for this substance on the National List that became effective May 29, 2013. The amendment for peracetic acid in organic crop production was published as a Final Rule in the Federal Register on May 28, 2013 [78 FR 31815].
- 3) **Materials added to NOP 5034-2.** In response recent reviews of petitions by NOP and the NOSB, the following new materials were added to the Appendix of Prohibited Materials for Organic Crop Production, NOP 5034-2:



- Exhaust gas (carbon monoxide)
- Magnesium dihydrogen phosphite monohydrate
- Polyoxin D zinc salt

**4) Materials Moved from NOP 5034-1 to NOP 5034-2.** The following materials have been moved from NOP 5034-1 to NOP 5034-2 as their allowance under the USDA organic regulations expired on October 21, 2014:

- Streptomycin
- Tetracycline

**5) Corrections to NOP 5034-2.**

- 1,4-Dimethylnaphthalene. The spelling of this substance was corrected.

**6) Other Amendments to NOP 5034-2.** The introductory text for NOP 5034-2 was amended to clarify that the list includes substances whose use has expired from the National List.