



Guidance

Materials for Organic Crop Production

Links and References Updated March 20, 2024

1. Purpose

This guidance clarifies specific natural and synthetic materials that are allowed for organic crop production. This guidance is a compilation of decisions on the status of materials (e.g. fertilizers, soil amendments, and pest control materials) in organic crop production. The guidance is not intended to be comprehensive, but rather serve as a tool for organic producers to understand the input materials that NOP has reviewed. This guidance provides an illustrative list of allowed materials for producers interested in organic crop production.

2. Scope

This guidance applies to all accredited certifying agents, material evaluation programs, and operations that are certified or exempt from the requirement of certification.

3. Background

3.1 The National List of Allowed and Prohibited Substances

The Organic Foods Production Act of 1990 (OFPA) authorizes the USDA to establish the National List of Allowed and Prohibited Substances (National List). The National List is implemented in the USDA organic regulations at 7 CFR 205.600-607. The National List identifies the synthetic substances that may be used and the nonsynthetic (natural) substances that are prohibited in organic production. The OFPA, and USDA organic regulations, in section 205.105, specifically prohibit the use of any synthetic substance in organic production unless the synthetic substance is on the National List.

Although allowed synthetic substances are required to be included on the National List at section 205.601, there is no similar requirement for allowed nonsynthetic (natural) substances used in organic crop production. Nonsynthetic substances are permitted for organic crop production unless they have been specifically prohibited at section 205.602 of the National List. “Material” is commonly used within the organic community in place of the word “substance.” Accordingly, for the purposes of this guidance, the words “material” and “substance” are synonymous and interchangeable.

The National List does not contain a comprehensive list of allowed nonsynthetic (natural) materials for organic crop production. Organic producers and certifying agents rely on the NOP to clarify which materials are allowed under the USDA organic regulations.

Prior to the publication of this guidance, NOP clarified the allowance of materials for organic crop production on a case-by-case basis. This guidance provides two lists: an illustrative list of allowed



materials, and an illustrative list of prohibited materials. These lists guide organic producers – and those interested in organic production – on compliance with the USDA organic regulations.

In addition, this guidance informs the industry on the materials that are allowed for organic crop production, with the intent to improve the industry’s application of the standards.

3.2 Materials for Organic Crop Production

The table included in the guidance, Materials for Organic Crop Production, NOP 5034-1, provides guidance to the organic industry regarding materials for use in organic production, including materials which are considered nonsynthetic (natural), and are not required to be included on the National List. The table of materials is consistent with the National List and does not include materials which are prohibited under the USDA organic regulations.

The table of Materials for Organic Crop Production implements, and is consistent with, NOP 5033, Classification of Materials, which provides guidance on how NOP approaches the classification of materials as synthetic or nonsynthetic.

The table sorts the materials alphabetically and cross-references the other names for the same material, when appropriate. Each listing contains the classification of the material (nonsynthetic or synthetic) and the regulatory or other reference citation to the USDA organic regulations. The listing also contains clarifying information on manufacturing information, allowed source materials, or restrictions for use, as applicable.

As noted, the table of materials is not part of the National List, although it also includes materials on the National List. There may be nonsynthetic (natural) materials which are not included in the guidance, but which meet the requirements for use in organic production and handling. Producers should always check with their certifying agent regarding the status of any materials prior to their usage.

3.3 Appendix of Prohibited Materials for Organic Crop Production

The Appendix of Prohibited Materials for Organic Crop Production (NOP 5034-2) contains a list of materials that have been petitioned for use in organic production, but have been rejected by the National Organic Standards Board (NOSB) as synthetic and failing to meet the criteria at section 205.600(a). The appendix also contains nonsynthetic materials that are specifically prohibited at section 205.602 of the National List.

4. Policy

4.1 General Policy for Materials

All materials used by certified organic operations must comply with the USDA organic regulations.

A list of substances used must be included on a producer’s organic system plan. Accredited certifying agents evaluate this list to determine compliance with USDA organic regulations and communicate acceptance of the materials to the operation prior to use.



Many materials on the National List have associated annotations which specify the source, identity, or use for which the material is permitted. These restrictions are specific to the material as annotated. There are other restrictions, however, which apply to classes of materials. These restrictions are contained in sections 205.203 and 205.206 of the USDA organic regulations. Some of these general restrictions are described under 4.2 and 4.3 below.

4.2 Plant and Animal Materials for Soil Fertility and Crop Nutrient Management

Under section 205.203(c) of the USDA organic regulations, the producer must manage plant and animal materials to maintain or improve soil organic matter content 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. The use of crop input materials included in the guidance must comply with this requirement.

4.3 Pest Control Materials

Under section 205.206(e) of the USDA organic regulations, biological and botanical pesticides and pesticides containing materials in section 205.601 are permitted for use in organic crop production, provided that the use of cultural, physical, and mechanical management practices for pest, weed, and disease control proves insufficient to prevent or control the target pest.

5. Procedure

5.1 Evaluation of Materials

To determine the acceptability of an input material for organic crop production, producers and certifying agents should refer to the 7 CFR 205.600-606 (National List); NOP 5033 (Classification of Materials); and NOP 5034-1 (Materials for Organic Crop Production). All ingredients within a formulated input material must be evaluated and determined compliant with the USDA organic regulations. NOP Interim Instruction NOP 3012 (Material Review) provides guidance on reviewing and approving materials in organic production.

5.2 Nonsynthetic (Natural) Materials

Allowed nonsynthetic (natural) materials for organic crop production are identified as nonsynthetic (natural) materials on NOP 5034-1, Materials for Organic Crop Production. The use of the material must comply with any restrictions noted. Nonsynthetic (natural) materials included on the National List at section 205.602 are prohibited for organic crop production, with the exception of any annotations provided. Prohibited nonsynthetic materials are included in NOP 5034-2, Appendix of Prohibited Materials for Organic Crop Production.

5.3 Synthetic Materials

Synthetic materials are permitted for organic crop production only if included on the National List, section 205.601, and used in accordance with any annotations provided. Allowed synthetic materials are identified as synthetic in NOP 5034-1, Materials for Organic Crop Production. Materials previously



classified as synthetic that were not recommended by the National Organic Standards Board for inclusion on the National List, are included in NOP 5034-2, Appendix of Prohibited Materials for Organic Crop Production.

5.4 Materials Not Included

Materials not included on the National List (§ 205.600 *et seq.*), Materials for Organic Crop Production (NOP 5034-1), or Appendix of Prohibited Materials (NOP 5034-2) may not have been reviewed by NOP or petitioned to the National Organic Standards Board. Any producer who identifies a nonsynthetic material not included in the guidance Materials for Organic Crop Production (NOP 5034-1) should check with their certifying agent to determine if it may be allowed as a nonsynthetic (natural) input material.

Certifying agents and NOP evaluate materials for allowance in organic crop production. The guidance NOP 5033, Classification of Materials, describes the classification of nonsynthetic or synthetic materials. If a material is nonsynthetic and is not prohibited under section 205.602, the certifying agent notifies the producer that the material may be used. NOP may include the allowed nonsynthetic material in a future revision to NOP 5034-1.

6. References

6.1 USDA Organic Regulations

[§ 205.2 Terms defined.](#)

Allowed synthetic. A substance that is included on the National List of synthetic substances allowed for use in organic production or handling.

National List. A list of allowed and prohibited substances as provided for in the Act.

Nonsynthetic (natural). A substance that is derived from mineral, plant, or animal matter and does not undergo a synthetic process as defined in section 6502(21) of the Act (7 U.S.C. 6502(21)). For the purposes of this part, nonsynthetic is used as a synonym for natural as the term is used in the Act.

Synthetic. A substance that is formulated or manufactured by a chemical process or by a process that chemically changes a substance extracted from naturally occurring plant, animal, or mineral sources, except that such term shall not apply to substances created by naturally occurring biological processes.

7 CFR 205.105, Allowed and prohibited substances, methods, and ingredients in organic production and handling.

7 CFR 205.201, Organic production and handling system plan.

7 CFR 205.203, Soil fertility and crop nutrient management practice standard.

7 CFR 205.600-607, The National List of Allowed and Prohibited Substances



6.2 Organic Foods Productions Act of 1990 (as amended)

Sec. 2109 [7 U.S.C. 6508] PROHIBITED CROP PRODUCTION PRACTICES AND MATERIALS
Sec. 2118 [7 U.S.C. 6517] NATIONAL LIST

6.3 NOP Program Handbook: Guidance and Instructions for Accredited Certifying Agents and Certified Operations

NOP 5033: Classification of Materials (Guidance)

NOP 5033-1: Synthetic / Nonsynthetic Decision Tree (Guidance)

NOP 5033-2: Agricultural / Nonagricultural Decision Tree (Guidance)

NOP 5033-3: Response to Comments

NOP 5034-1: Materials for Organic Crop Production (Guidance)

NOP 5034-2: Appendix of Prohibited Materials for Organic Crop Production (Guidance)

NOP 5034-3: Response to Comments

NOP 3012: Material Review - Interim Instruction, August 30, 2016