



Navigating the National Organic Program (NOP)

Organic Crops

Contents

1. Introduction
2. Certification
 - Exemption
 - Transition
 - Land Affidavit
 - Organic System Plan
 - Inspection
 - Continuing Certification
3. Record Keeping - §205.103
4. Compost Production and Manure Use - §205.203
 - Standard Compost Production
 - Vermicompost Production
 - Compost vs. Animal Manure
 - Sources of Commercial Compost
5. Certified Organic Seed and Planting Stock Procurement - §205.204
 - Treated vs. Untreated Seed
 - Conventional Annual Transplants and Treated Seed
 - Commercial Availability
 - Seed Sources
 - Inoculants
6. Material Selection Guidelines - §205.600
 - Pest and Disease Management Materials
7. Noncompliance Issues - §205.660
8. Education vs. Consultation

Acknowledgements

Maryland Department of Agriculture's Organic Certification Program wishes to thank the National Center for Appropriate Technology (NCAT) for permission to adapt its materials in developing this guide. Particular mention should be made of the publication, *NCAT's Organic Crops Workbook: A Guide to Sustainable and Allowed Practices*. ATTRA—the National Sustainable Agriculture Information Service—is operated by the non-profit National Center for Appropriate Technology, through a cooperative agreement with the USDA Rural Business-Cooperative Service. For more information on this workbook and others, visit the ATTRA website at www.attra.org.

1. Introduction

Organic agriculture means many things to many people. The most widely used definition, and one that has been adopted by the National Organic Standards Board, is “an ecological

production management system that promotes and enhances biodiversity, biological cycles, and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain, and enhance ecological harmony.”

As the organic industry expanded during the 1980s, differences among certifier standards, barriers to trade, and incidents of fraudulent marketing led many to believe that more regulation was needed. In 1990, Congress passed the Organic Foods Production Act (OFPA). The OFPA mandated creation of the National Organic Program (NOP) and an advisory body, the National Organic Standards Board (NOSB). The OFPA paved the way for creating a single set of US standards for organic production, labeling, and marketing, which now exists in the form of the National Organic Program (NOP).

The Maryland Department of Agriculture Organic Certification Program (MOCP) was accredited by the USDA for compliance with the NOP in 2002. Prior to this national accreditation, Maryland had a state organic program with its own requirements established by state regulations. ***Navigating the National Organic Program (NOP) - Organic Crops*** was created to address frequently asked questions regarding crop production from organic operations in Maryland. Throughout this guide, you’ll see reference to numbers, i.e. §205.204. These are the section numbers as they relate to the NOP regulations. If there are other issues that need to be addressed in this document, please notify the Organic Certification Program Manager.

If you are considering organic certification, start by becoming familiar with the NOP Regulations, which can be found by [clicking here](#). Subparts A and B contains general information applicable to all certified operations, subpart C (§205.200-205.207) contains crop production requirements, subpart D contain labeling requirements, and subpart G (§205.600-205-602) contains the National List of Allowed and Prohibited Substances for crop production.

2. Certification

In order to sell, label, or represent raw or processed agricultural products as organic, a farm operation must be certified under the National Organic Program (NOP). Producers can obtain certification from a USDA-accredited certifier. There are both public-sector certifiers, such as MOCP, or private-sector certifiers that are accredited by the NOP. Under the NOP regulations, all operations or portions of operations that produce or handle agricultural products that are intended to be sold, labeled, or represented as organic must be certified. Non-certified producers who represent themselves or their products as organic risk prosecution and fines. The only exemption is for producers with organic sales of less than \$5,000.00 annually.

In addition to the NOP regulation of substances used in organic processing and handling, other federal, state, and local laws and regulations apply to protect food safety and public health. The authority of these laws supersedes any organic regulations and organic producers must comply with these other laws pertaining to their organic operation. Other applicable laws do not provide exemption for use of prohibited substances. It is important to recognize that organic certification addresses the *process* involved in producing and handling a product. Organic certification is *voluntary* and it assures the consumer that the product was grown using organic methods, and no synthetic pesticides, fertilizers, and genetically modified organisms were used in production, and that precautions were taken to prevent contamination from the outside.

Exemption

Producers who market less than \$5,000.00 of organic products annually are not required to apply for organic certification, they are considered “exempt.” They must, however, comply with the organic production and handling requirements of the NOP. The products from such non-certified operations cannot be used as organic ingredients in processed products produced by another operation; such non-certified products are also precluded from displaying the USDA organic seal. In Maryland, a producer can register its exempt operation with MOCP for an annual fee of \$30.00.

Transition

A three-year conversion period is required to achieve full organic status for crops. During this transition period, no prohibited substances may be applied to the land for 36 months prior to the harvest of any product that will be labeled or otherwise represented as organic [§205.202(b)].

Land Affidavit

If you are purchasing or renting land that is not currently certified and you wish to document that it has not had prohibited substances applied, you must provide a land use affidavit from the previous landowner or manager. If you are applying for the first time for certification of land that has already gone through transition, you must complete a land use history form.

Organic System Plan

In order to apply for organic certification, you must develop an organic system plan (OSP) specific to your farm operation. The OSP outlines all practices and procedures to document how your operation meets all applicable NOP regulations. MOCP has OSP templates that guide the process of developing your OSP. Your crop production OSP will include a detailed map of your operation, a list of crops to be grown in all fields, soil tests for each field, all seeds/planting stock to be used, soil fertility management practices including production inputs, pest/weed/disease management practices including production inputs, details of your crop rotation, practices that maintain or improve the natural resources of your operation, practices to prevent commingling of organic/nonorganic crops and contamination by prohibited substances during harvest, storage, packaging, and transport, and details of your recordkeeping system. MOCP will review your OSP to determine if it meets NOP regulations. Additional information may be requested by MOCP during the review period as needed.

Inspection

Annual organic certification inspections are part of the certification process. The inspector is an agent of the MOCP. It is the inspector’s responsibility to verify that the operation is operating as outlined in their OSP and all practices are compliant with NOP regulations through a review of documentation and other indicators. The inspector must have complete access to the operation, including all production facilities and offices [§205.400(c)]. Additional inspections may be announced or unannounced at the discretion of the MOCP [§205.403(a)(2)(iii)].

Continuing Certification

Once certification has been granted, it is granted in perpetuity unless the operation’s certification is surrendered, suspended, or revoked. To maintain certification, certified operations must update their OSP annually, pay annual certification fees, be available for an annual inspection, and address/correct any non-compliances per NOP §205.406. Any action to suspend or revoke certification must be handled in the manner prescribed per NOP §205.660–§205.664. If an operation is issued a notice of proposed suspension or proposed revocation,

the operation may request mediation to try and reach a settlement agreement with their certifier as specifically outlined under NOP §205.663.

3. Record Keeping - §205.103

Record keeping is a critical tool for organic crop production. The documentation of how and where a crop was raised, what products were applied and when, which container it was stored in, is very important to establishing and maintaining the organic integrity of the product. If you cannot provide reasonable documentation that your crop was organically grown, that it has not been contaminated with prohibited materials (chemical fertilizers, pesticides, etc.), and that it has not been commingled with a similar nonorganic product, then certification may be denied or a non-compliance may be issued. Records must be available for inspection and be maintained for not less than 5 years beyond their creation. In addition to records required to be maintained for compliance with the NOP, all operations certified must maintain a complaint log as part of MDA's ISO Guide 65 Accreditation. A standard form has been developed by MDA that can be used to fulfill this requirement.

Required to be available during inspection

- Labels of all purchased production inputs
- Materials Safety Data Sheets (MSDS) for all pest management materials
- Receipts/bills of lading for purchased inputs
- Field activity logs or journals and crop health monitoring observations
- Input records for soil amendments, seeds, manure, foliar feeding, pest management materials
- Compost production records (if applicable)
- Field history sheets for previous 3 years
- Documentation of efforts to source organic seed and/or planting stock if any nonorganic seed or planting stock is used.
- Documentation of organic seedlings
- Equipment cleaning records, if required (can be a part of field activity logs)
- Harvest records that show field numbers, date of harvest and harvest amounts
- Storage records that show storage location, storage identification, field numbers, amount stored, inventory control, and cleaning activities
- Clean transport records
- Sales records (purchase order, contract, invoice, cash receipts, cash receipt journal, sales journal) showing your ID system
- Transaction certificate
- Documentation of communication with managers of adjoining land that pose contamination risk

4. Soil Fertility and Crop Nutrient Management - §205.203

All certified organic operations must do the following:

- Implement tillage and cultivation practices that maintain or improve the physical, chemical, and biological condition of soil and minimize soil erosion.
- Manage crop nutrients and soil fertility through rotations, cover crops, and application of plant and animal materials.

- 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.

Below is a summary of NOP regulations and policies on compost production and manure application:

Standard Compost Production

- Must be made from allowed feedstock materials (either nonsynthetic substances not prohibited at §205.602, or synthetics approved for use as plant or soil amendments)
- Must establish an initial carbon to nitrogen ratio between 25:1 to 40:1
- Must mix or manage the compost pile to ensure that all feedstocks heat to a minimum of 131 °F for a minimum of 3 days
- For a windrow composting system, must maintain a temperature between 131 °F and 170 °F for 15 days, during which the materials must be turned a minimum of five times
- For an in-vessel or static aerated pile system, must maintain a temperature between 131 °F and 170 °F for 3 days
- Must keep a log documenting that the above parameters are met

Vermicompost Production (Worm composting)

- Must be made from allowed feedstock materials (either nonsynthetic substances not prohibited at §205.602, or synthetics approved for use as plant or soil amendments)
- Must maintain aerobic conditions by regular additions of layers of organic matter, turning, or employing forced air pipes such that moisture is maintained at 70-90%
- The duration of vermicomposting must be sufficient to produce a finished product that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances.

Compost vs. Animal Manure

If compost contains animal products (manure, animal parts, etc.) and the compost is not produced in accordance with the NOP compost regulations outlined above (or if records are insufficient to document that NOP compost regulations are met), the 'compost' is treated as raw manure regardless of its age and it must adhere to NOP and other state/federal manure application requirements. NOP regulations require that raw manure be:

- Applied to land used for a crop not intended for human consumption; or
- Incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles (e.g., leafy greens, potatoes, carrots, radishes, non-staked tomatoes); or
- Incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles.

Compost Sources of Commercial Compost

- Some sources use sewage sludge which is not allowed in organic production
- Some sources use municipal lawn waste which may have herbicides that have not degraded – this can kill plants and build up residue
- Only use products that have been previously approved for use by MOCP on your operation or that have a current OMRI approval

5. Certified Organic Seed and Planting Stock Procurement - §205.204

Per NOP regulation §205.204, *the producer must use organically grown seeds, annual seedlings, and planting stock* (i.e. onion sets, potatoes, sweet potato slips, and strawberry plugs): Except.....

- *Nonorganically produced, untreated seeds and planting stock may be used to produce an organic crop when an equivalent organically produced variety is not commercially available, Except, That, organically produced seed must be used for the production of edible sprouts;*
- *Nonorganically produced sees and planting stock that have been treated with a substance included on the National List of synthetic substances allowed for use in organic crop production may be used to produce an organic crop when an equivalent organically produced or untreated variety is not commercially available;*

In other words, certified organic producers need to demonstrate and document that they are seeking organic seed and planting stock. If the *Appropriate Form, Quality, or Quantity* (see *Commercial Availability section below*) of certified organic seed or planting stock is not commercially available to the producer, the producer needs to document that they could not find organic seed or planting stock.

Commercial Availability

The NOP has outlined criteria of “commercial availability” in and recordkeeping requirements to document your search for organic seed and planting stock in [NOP Guidance Document 5029 Seed, Annual Seedlings, and Planting Stock in Organic Crop Production](#). Listed below are examples of considerations that could be acceptable to justify the use of non-organic seeds and planting stock as not commercially available:

- Form considerations e.g., treated or non-treated seeds or planting stock, use of pelleted seed, use of bare root nursery stock or container plants, variety desired by your market or optimal for your climate or soil conditions.
 - Quality considerations e.g., seed germination rates, seed purity, shelf life and stability, disease and pest resistance.
 - Quantity considerations e.g., evidence that quantities are not available in sufficiently large or small amounts given the scale of the operation.
1. In your Crop Appendix A: Seeds, Seedlings, and Planting Stock, document the reasons for use for each nonorganically produced seed and/or planting stock that you purchase. **Price is a not an acceptable consideration.**
 2. The organic industry is aware that there is not enough certified organic seed in the marketplace to satisfy the demand by organic farmers. You must present ample documentation (*due diligence*) to support your decision to use nonorganic seed, including a record of attempts to locate organic seed sources. This could entail records of phone calls, letters, or emails to and from seed suppliers documenting your attempts to find an organic source. You need to contact at least 3 seed suppliers. A seed and planting stock commercial availability search record template is available on MOCP’s website.

Treated vs Untreated Seed

Federal Seed Act requires that:

- If the seed is treated, the package must be labeled along with the treatment used and the seeds in the package must be dyed a distinctive color.
- If the seed is untreated, then it does not have to say anything about its treatment status.

If you buy your seed in bulk from a local store, the seed container needs to be labeled according to the Federal Seed Act. If the store cannot or will not provide a label, then contact MDA's Turf & Seed Division at (410) 841-5960.

Conventional Annual Transplants and Treated Seed

Conventional annual transplants and treated seed (there are no synthetic treatments on the National List) cannot be used on an organic operation, unless you want to select a specific area, row or field that would no longer be certified organic that you set aside as a part of your Organic System Plan for trying new varieties of seed that you can only get treated. These products would not be organic, but you can save the seed and you would have conventional, untreated seed for the following year that you developed specifically for your operation, then the products of that crop would be organic as long as they are planted in an organic field and managed organically.

Seed Sources (not a comprehensive list)

- High Mowing Organic Seeds www.highmowingseeds.com
- Fedco Seeds www.fedcoseeds.com
- Johnny's Selected Seeds www.johnnyseeds.com
- Nature and Nurture Seeds www.natureandnurtureseeds.com
- Seed Savers Exchange www.seedsavers.org
- Seeds of Change www.seedsofchange.com
- Harris Seeds www.harrisseed.com
- Southern Exposure Seed www.southernexposure.com
- Albert Lea Seed House www.alseed.com
- Blue River Organic Seeds www.blueriverorgseed.com
- Great Harvest Organics www.greatharvestorganics.com
- Welter Seed and Honey Co www.welterseed.com
- SeedWay www.seedway.com
- Filaree Farm www.filareefarm.com
- Sow True Seed www.sowtrueseed.com

Inoculants

Inoculants may not be and they cannot be grown on genetically modified substrate or irradiated substrate. You can get an affidavit for this from the manufacturer. If the manufacturer will not provide this information, please provide a label for the inoculant to the MOCP and the manufacturer will be contacted. All seed inoculants must be approved for organic use by MOCP prior to use.

6. Material Selection Guidelines - § 205.600-205.602 – The National List

As an organic producer, you must be diligent in ensuring that all material inputs are approved for organic use prior to use. Not doing so can risk your certification by inadvertently applying a prohibited material to your land, which would then require a 36 month transition period. Include all material inputs to be used for organic production on your Crop Appendix B: Material Inputs List. MOCP will review your list of submitted inputs and determine if they are allowable for

organic use or not, and then will provide you with an approved inputs list with all approved inputs and any applicable restrictions. You can submit additional materials for review and inclusion on your approved list at any time.

The 'National List of Allowed and Prohibited Substances' outlines any synthetic materials that are allowed for use in organic crop production (§205.601) and any nonsynthetic substances prohibited for use in organic crop production (§205.602).

Note that in addition to the NOP regulation concerning substances used in organic production, other Federal, State, and local laws and regulations may apply. The authority of these laws supersedes any organic regulations and organic producers must also comply with these laws. Other applicable laws do not provide exemption for use of prohibited substances.

Many products and materials represented as “natural” or “organically acceptable” may not be allowed under NOP regulations. When considering commercial products, you need to be aware of all ingredients, including inert ingredients, to determine that none are prohibited. If a full disclosure of ingredients is not found on the label, details need to be obtained from the distributor or manufacturer. This may involve a lengthy process and you might be better off obtaining a different material. Always ensure that all products and materials have been approved by MOCP prior to use.

The MDA's State Chemist regulates the sale and distribution of pesticides, animal feeds, pet foods, fertilizers, compost, soil conditioners and agricultural liming materials in order to enhance and promote agricultural production; protect consumers, animals, and the environment from unsafe products; ensure the sale of effective products and provide the regulated industry with a competitive marketplace. The State Chemist section provides a searchable pesticide registration database, submitted by companies who wish their products to be sold in the state of Maryland and it's combined with data from the EPA with regard to ingredients, pests, and sites. You can find the database at <http://www.kellysolutions.com/md/>. Registration by the State Chemist **does not** ensure the product is approved for organic use.

Organic Materials Resource Institute (OMRI) (www.omri.org) is a non-profit organization that evaluates products for suitability in organic production and processing. OMRI does not have status as a regulatory body. It is a resource and its acceptability of commercial products is highly respected. You should be aware, however, that there are many acceptable products in the marketplace that have not been evaluated by OMRI and do not carry the OMRI Listed seal.

Pest and Disease Management Materials

The term *pesticide* refers to any agent used to kill or repel a pest; for example, insecticides kill insects, fungicides kill fungi, and herbicides kill plants.

Usually, pesticides derived from natural materials or living organisms are allowed in organic production, *only* if they do not contain synthetic additives/inert ingredients or are not specifically dis-allowed (or mentioned) in the National List under §205.602. Most synthetic pesticides are not allowed; a few synthetic pesticides are allowed to be used in organic production and they can be found in the National List under §205.601.

There are several general classes of pesticides that cover most of the materials allowed in organic production. The largest classes are botanicals, biologicals, oils, fatty acids, minerals, and pheromones.

- **Botanicals:** Botanical pesticides are those derived from plants. They include pyrethrum, rotenone, sabadilla, neem, ryania, and garlic. Strychnine and nicotine are also botanicals, but are expressly prohibited in organic production [§205.602(e) and §205.602(f)]. Since botanical pesticides are relatively non-selective and can affect both natural predators and parasites in the field, they should be used minimally. Botanicals can also affect other non-target organisms. Rotenone, for example, is highly toxic to fish.
- **Biologicals:** Biological pesticides contain disease organisms or toxins derived from disease organisms effective in pest control. Among the better known biologicals are *Bacillus thuringiensis* (Bt), *Beauveria bassiana*, *Trichoderma harzianum*, and Spinosad. Usually, biologicals are more selective and safer to use than botanical insecticides. However, insect pests have been observed to develop resistance to biologicals, as they have to most synthetic pesticides. Therefore, biologicals should also be used sparingly to preserve them as tools for the long term.
- **Spray Oils:** Vegetable- or animal-derived oils are generally allowed as suffocating (stylet) oils, summer oils, dormant oils, and surfactants. Also, some petroleum-derived oils, referred to as narrow range oils, are allowed for the same purposes. Spray oils are commonly used to control scale and mite pests.
- **Insecticidal Soaps:** Fatty acid insecticidal soaps are synthetic pesticides specifically allowed in organic production [§205.601(e)(6)]. Insecticidal soaps can be hard on beneficial predatory mites, are mildly phytotoxic, and should be used with caution.
- **Minerals:** Mineral-based pesticides include sulfur, copper products, diatomaceous earth, and kaolin clay. Arsenic, lead, and sodium fluoaluminate are minerals that are specifically prohibited [§205.602(b), §205.602(c), and §205.602(d)]. While mineral-based pesticides are allowed, caution is required in their use. Sulfur can reduce the populations of some beneficial insects and may also burn plants if used during hot weather. Since copper may accumulate in some soils, monitoring of soil copper levels is advisable. Diatomaceous earth can cause respiratory problems in people and animals. Note also that some formulations of mineral products—particularly coppers—may not be allowed in organic production.
- **Pheromones:** Pheromones are hormones generally used in products called mating disrupters. Being totally natural, the hormones themselves are allowed in organic production. However, most (perhaps all) commercial mating disrupter products contain prohibited inert ingredients. Some of these inerts—BHT specifically—have been recommended for addition to the National List in the future. Because the status of mating disrupters is uncertain, consult MDA before using them.

7. Noncompliance Procedures -- §205.660

If MOCP identifies that a certified operation is not in compliance with NOP regulations, a noncompliance may be issued. Noncompliances are described as either major

noncompliances or minor noncompliances. Based on NOP guidance, minor and major noncompliances are outlined below:

1. **Major noncompliances include:** systemic failure of the OSP design or implementation that demonstrates inability to comply with the regulations; accidental or otherwise un-willful application of a prohibited substance to land; willful sale, labeling or representation of conventional agricultural products as organic; willful sale, labeling or representation of agricultural products as organic in violation of the regulations; willful application of prohibited substances or use of prohibited practices; falsification or concealment of records; refusal to provide access to a unit, facility, or site for an inspection or access to records applicable to organic operation; continuing noncompliance with the regulations following a proposed suspension.
2. **Minor noncompliances include:** noncompliant practices that indicate no systemic failure in OSP design or implementation but are significant enough in nature or in scope to require a corrective action plan to ensure and verify compliance; inconsistencies or omissions in records that indicate no systemic failure in OSP design or implementation but are significant enough in nature or in scope to require a corrective action plan to ensure and verify compliance.

When a Notice of Noncompliance is issued to an operation, MOCP will cite all regulation numbers identifying the regulation the operation is not in compliance with as well as details of the noncompliance. The aggrieved operation must submit a written response to MOCP with either a corrective action plan outlining how they will correct the noncompliance or a rebuttal to the noncompliance outlining why they believe they are not out of compliance.

MOCP may issue a combined Notice of Noncompliance and Notice of Proposed Suspension/Proposed Revocation/Denial of Certification due to a major noncompliance, as appropriate.

8. Information vs. Consultation

Producers commonly sought the advice of certifying agents and organic inspectors on matters ranging from pest control strategies and livestock treatments, to crop rotation schemes and the best sources of purchased inputs, prior to the implementation of NOP regulations. Such advice is now considered a conflict of interest and is not allowed. The key to sorting out this problem is recognizing the basic difference between information and consultation. Certifiers must make essential information about their certification process, their fees, and similar matters available to the public. The certifier must tell an applicant how and why he or she is out of compliance. However, the certifier cannot advise the applicant on how to rectify the problem; that would be giving advice or consultation, e.g., informing a farmer of the availability of cost-share funds through the NRCS to help fence their animals out of a creek on their land. Similarly, the certifier can tell a producer whether or not a particular pest control product is permitted for use. However, the certifier may not advise about how to use the product or where to buy it. Certifiers may distribute publicly available information that provides advice and recommendations, such as Extension bulletins or suggest that clients consult these sources; they may also provide producers with lists of private consultants, but may not recommend a specific one.