

Compost in Organic Crop Production: A Guide for Inspectors

Resource Purpose

This resource serves two purposes:

1. A guide to the thought process to ensure the correct standard/ comprehensive decision-making approach is being followed.
2. A resource to navigate raw manure and compost requirements.

Background

Compost is a cornerstone of organic farming systems. It recycles plant and animal materials into a stable soil amendment that supplies nutrients, builds organic matter, and supports biological activity. By transforming raw manure and other residues into a safer, more balanced input, compost reduces pathogen risks, protects water quality, and strengthens long-term soil fertility.

Because of its dual role in fertility and food safety, compost is subject to clear regulatory definitions. Inspectors must be able to recognize when material meets the compost standard versus when it remains raw or aged manure. This distinction is critical for both compliance and the integrity of organic production. Therefore, a clear understanding and consistent application of these rules are critical for inspectors.

On-Site Assessment

During an inspection, you identify that the operation applied "compost." Remember that many operations are not familiar with USDA National Organic Program (NOP) terminology and may use the term "compost" when they have instead used aged manure that does not meet composting criteria. Your risk-based decision approach should begin with a review of the **application date**, **harvest date**, and the **composition** of the material.

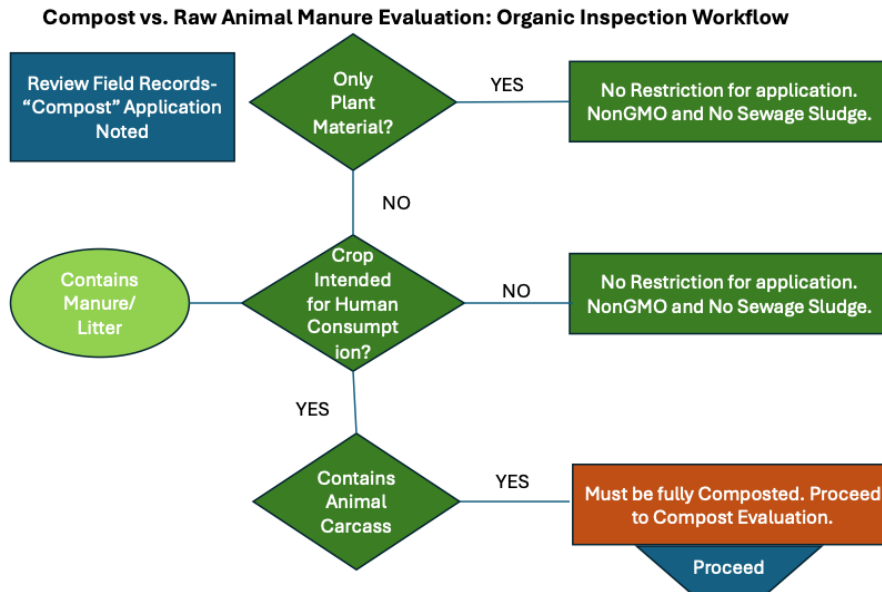
If the material is only **plant material**, there are no restrictions beyond confirming that it is non-GMO, not irradiated, and does not include sewage sludge per § 205.105. No further evaluation is needed.

If the material contains **manure or animal parts**, you must determine if it was a true compost or raw manure based on the application method and timing.

If the material was bought-in (purchased) compost containing animal manure, litter, or animal parts- the compost should have been reviewed by the agency for acceptability prior to application. If applied without prior approval of a bought-in product, note application dates, information about product, composition, and source, and note the product as an issue of concern for further follow-up by the certifying agent. On farm evaluation of a purchased product is not a field decision for an inspector to evaluate.

Decision-Making Flowchart

Use this flowchart to determine the next steps based on the operation's records.



Compost vs. Raw Manure Evaluation

If the material contains manure/animal matter, determine the intended use of the crop.

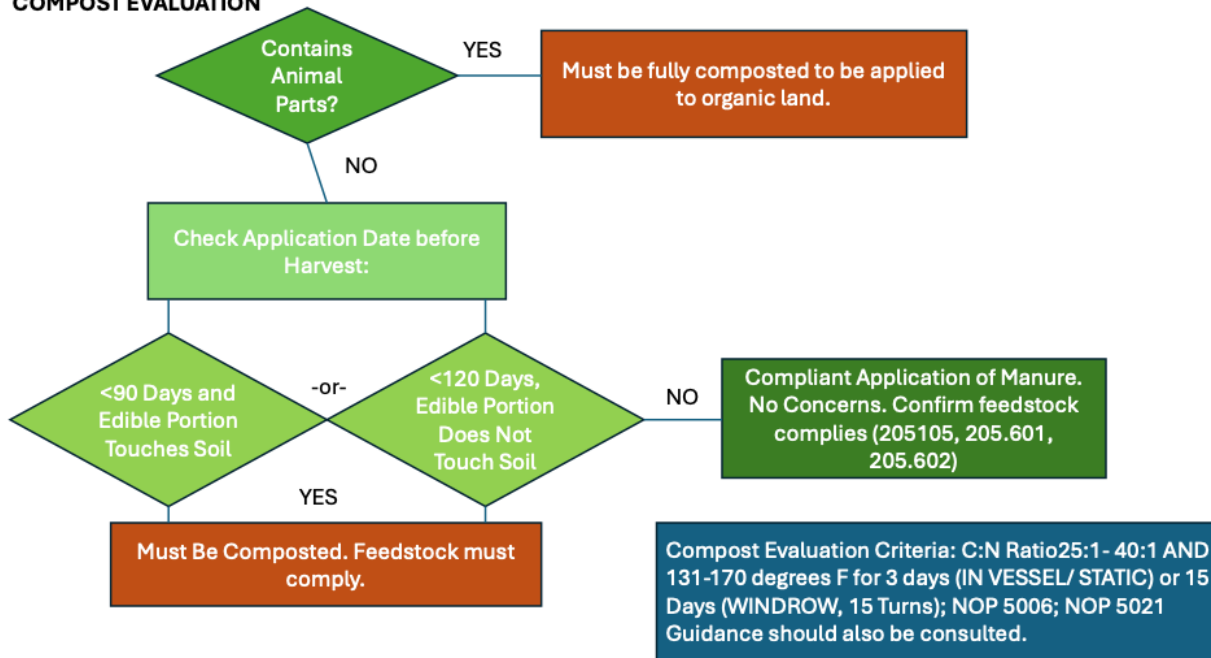
- **If the crop is not intended for human consumption:** No further evaluation is necessary.
- **If the crop is intended for human consumption:**
 - **90-Day Rule:** Raw animal manure must be incorporated into the soil not less than **90 days** prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles (e.g., corn, wheat).
 - **120-Day Rule:** Raw animal manure must be 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., beans, cucumbers, strawberries).
 - **If the application falls within these timeframes,** the material must be evaluated as **compost**.

Note: If the material includes animal parts (carcass, etc.), it must be a fully composted product, regardless of the application date.

Official NOP Compost and Manure Requirements

Use this flowchart to evaluate whether applied material containing manure, bedding, or litter meets NOP requirements.

COMPOST EVALUATION



To evaluate the material as compost, it must meet the following criteria from **§205.203(c)(2)**.

Compost is produced through a process that:

- Established an initial C:N ratio of between **25:1 and 40:1**; and
- Maintained a temperature of between **131 °F and 170 °F** for 3 days using an in-vessel or static aerated pile system; **or**
- Maintained a temperature of between **131 °F and 170 °F** for 15 days using a windrow composting system, during which period the materials must be turned a minimum of **five times**.

Regulatory Definitions

- **Compost** (§205.2): The product of a managed process through which microorganisms break down plant and animal materials into more available forms suitable for application to the soil or as a component of mushroom substrate.
- **Manure** (§205.2): Feces, urine, other excrement, and bedding produced by livestock that has not been composted.



Prohibited Materials

The producer must not use any material containing a synthetic substance not on the National List, or **sewage sludge** (biosolids) as defined in 40 CFR part 503. The National List should be referenced for compost feedstocks, specifically **§ 205.601** and **§ 205.602**, which allow for materials like newspapers or other recycled paper without glossy or colored inks.

For additional guidance, refer to **NOP 5006** (Processed Animal Manures in Organic Crop Production) and **NOP 5021** (Compost and Vermicompost in Organic Crop Production).

FSMA (FDA Produce Safety Rule) Allowances for USDA NOP approach to Manure and Compost

The Food Safety Modernization Act (FSMA) Produce Safety Rule (21 CFR Part 112, Subpart F) regulates the use of “biological soil amendments of animal origin” (BSAAO), which includes raw manure and compost.

- **Untreated Manure (raw BSAAO):** FDA has **not established a specific pre-harvest interval** for untreated manure. Instead, FDA is conducting a comprehensive risk assessment. In the interim, FDA states that it **“does not object” to growers following the USDA National Organic Program (NOP) requirements:** 120 days before harvest for crops in contact with soil and 90 days before harvest for crops not in contact with soil.
- **Compost / Treated BSAAO:** When manure is processed using scientifically valid methods (e.g., static or turned composting systems with required time/temperature parameters) and meets FDA’s **microbial standards** (no detectable *E. coli* O157:H7, *Salmonella*, etc.), the Produce Safety Rule allows for application **with no minimum interval** before harvest, provided it is applied in a manner that minimizes contact with the harvestable portion of the crop.
- **Compatibility with NOP:** These provisions are broadly **compatible with USDA organic standards**, which already prescribe similar composting parameters (§205.203(c)(2)) and the 90-/120-day raw manure rules (§205.203(c)(1)).

Reference: FDA, *FSMA Final Rule on Produce Safety – Biological Soil Amendments of Animal Origin* (updated guidance and compliance policy, including deferral to NOP intervals for untreated manure).

