

This document is for growers who use soil amendments purchased from a third-party supplier. It contains actionable information regarding the use and handling of soil amendments.

## SOIL AMENDMENT PURCHASE AND HANDLING

- Buy soil amendments from a trusted supplier. Verify their compliance with state regulations, FSMA regulations (subpart F), and/or the USDA's National Organics Program, as applicable.
- Use soil amendments made from high-quality, well-documented feedstocks. Avoid use of soil amendments made with materials from unknown sources or from sewage sludge.
- Store soil amendments away from water sources and produce fields. Cover piles of soil amendments if they will not be distributed as soon as they are delivered.
- Have a plan for how you will apply the soil amendment to the field.
  - Use dedicated tools and equipment to handle and spread soil amendments.
  - Use equipment that can safely hold the volume of soil amendments that you will be applying.
  - Determine how the soil amendment will be loaded into the equipment used for application.
  - If the soil amendment will be transferred from point A to point B, plan/map the route taken to reduce the potential for unharvested produce crops and field equipment contamination from unintended exposure to the soil amendment.
- Direct worker and equipment traffic around soil amendment storage or processing areas to reduce cross-contamination risks.
- Apply soil amendments so that they do not come into contact with the harvestable portion of a crop, such as via injection or a drip fertigation system.
- Avoid applying soil amendments during wet conditions to reduce runoff and contamination risks.
- Avoid applying soil amendments during windy conditions to reduce drift and contamination risks.

- Avoid broadcast application of soil amendments to fields adjacent to other fields, orchards or vineyards of produce crops that will soon be harvested.
- When applying soil amendments to the surface of unplanted fields, incorporate the soil amendments into the soil as soon as possible after applying.
- Train workers who handle soil amendments to understand SOPs and use appropriate hygienic practices to avoid cross-contamination of produce (i.e., wash hands after handling SA and ensure clothing, boots, and gloves are clean before handling produce).
- Clean and sanitize tools and equipment used to apply soil amendments and keep them separate from equipment that has contact with crops.
- Keep records of when and where soil amendments are applied.

## CERTIFICATE OF ANALYSIS

A COA is the documented evidence provided by the compost supplier or laboratory to confirm that the compost meets microbiological, chemical, and physical safety standards (See a list of state regulations in the “Resource” section below.). For food safety programs (e.g., LGMA, FSMA Produce Safety Rule), COAs are critical to demonstrate that compost is safe for application. Elements of a COA should include:

### Identification

- Soil amendment supplier name, batch/lot number, and date of production.
- Sampling date and method (grab vs. composite).

### Pathogen testing results

- E. coli O157:H7: (negative / not detected).
- Salmonella spp.: <3 MPN/4 g.
- Fecal coliforms: (meets U.S. Composting Council & EPA 503 criteria, e.g., <1,000 MPN/g).

### Stability & maturity indicators

- Temperature records/ process validation showing required process controls (e.g., 131°F/55°C for 3 consecutive days for in-vessel or 15 days for windrow with turning).

## VERIFICATION ACTIVITIES

In addition, request the following information when conducting verification activities:

- Approved supplier list
- Temperature logs showing compliance with the temperature parameters of the process (i.e., adequate to reduce human pathogens)
- Documentation of turning/aeration schedules
- Lot number on COA to confirm it matches the delivered compost

## RECORDKEEPING

Keep COAs on file for at least 2 years and link them to specific fields/ranches where compost was applied. Verification records should show traceability from supplier to COA to application event

## RESOURCES

### State regulations

- U.S. Composting Council: List of all [State Regulations](#)
- Arizona: [WPD | Solid Waste - Composting | ADEQ](#)
- California: [Permitting Compostable Material Handling Facilities and Operations - CalRecycle Home Page](#)
- Colorado: [Composting | Colorado Department of Public Health and Environment](#)

### FSMA regulations

- Produce Safety Rule subpart F: [Fact Sheet Biological Soil Amendments](#)
- Produce Safety Alliance. FSMA Produce Safety Rule: Documentation requirements for commercial soil amendment suppliers. [FSMA Produce Safety Rule: Documentation Requirements for Commercial Soil Amendment Suppliers](#)
- Produce Safety Alliance. Third-party soil amendment suppliers FSMA Produce Safety Rule model Certificate of Conformance: [CoC-Soil-Amendment.docx](#)

## FOOD SAFETY CONSIDERATIONS FOR SOIL AMENDMENTS

- Compost handling in agriculture systems: Appropriate storage options: [Compost handling in agriculture systems: Appropriate storage options - Agriculture](#)
- Compost handling in agriculture systems: compost transfer and equipment calibration: [Compost handling in agriculture systems: compost transfer and equipment calibration - Agriculture](#)
- Compost handling in agriculture systems: Land application: [Compost handling in agriculture systems: Land application - Agriculture](#)
- Kline W. 2025. Food safety considerations when using manure and composts. Cooperative Extension of Cumberland County. [Food Safety Considerations when using Manure and Composts – RCE of Cumberland County](#)
- Vallotton A, Bardsley C, Edwards A, Strawn L. 2021. Assessing on-farm produce safety risks: Production stage. Virginia Cooperative Extension. [Assessing On-Farm Produce Safety Risks: Production Stage](#)
- University of Massachusetts Amherst, Center for Agriculture, Food and the Environment: [Soil Amendments : Food Safety Resources : Center for Agriculture, Food, and the Environment at UMass Amherst](#)
- Use of Biological Soil Amendments in Organic Agriculture and Food Safety Risks [394833.pdf](#)

## COMPOSTING

- On-farm composting handbook [On-Farm Composting Handbook \(NRAES 54\)](#)
- USDA NRCS. 2010. Part 637 Environmental Engineering National Engineering Handbook. Chapter 2 Composting [15346.pdf](#)
- Cornell Waste Management Institute – Composting: [Composting - Cornell Waste Management Institute](#)
- Cornell Composting: [CORNELL Composting](#)
- The Composting Handbook. 2022. Chapter 3. The composting process: [Chapter 3 - The composting process](#)

# SOIL AMENDMENTS: DOS AND DON'TS

- The Composting Handbook. 2022. Chapter 4. Compost feedstocks: [Chapter 4 - Compost feedstocks](#)
- Produce Safety Project. Authors: Erickson M, Critzer F, Doyle M. Issue brief on composting of animal manures. Composting criteria for animal manure. [Produce Safety Narrative 1](#)
- Produce Safety Project. Composting criteria for animal manure. [Microsoft Word - CompostOverviewFinal.docx](#)
- Washington State University extension, Chapter 7 Soil amendments: [em108-ch7.pdf](#)