



COMMUNITY



4-H & YOUTH



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AGRICULTURE



FOOD

Soil Fertility

Using Manure and Compost with Produce Safety in Mind

Raw manure and compost are excellent sources of fertility and organic matter, but proper precautions must be taken to avoid contamination of produce. Raw or improperly composted manure can contain pathogens (bacteria, viruses, and parasites that can make people sick), so it is important to avoid contact between manure and the edible portions of the crop during growing, harvesting, packing, and processing of produce. Proper composting techniques can significantly reduce the number of pathogens in manure. Under no circumstances should human manure be on-farm composted and used on food crops.

Manure Management

- Keep records of manure application & incorporation.
- Allow a minimum of 120 days between manure incorporation and harvest. **[Note: this may differ for some certifications and buyers or if your farm falls under the Food Safety Modernization Act].**
- Cover and store raw manure down slope or with sufficient buffer between produce fields and production buildings to prevent runoff from contaminating crops and building surfaces.
- Do not spread raw manure on windy days when nearby crops or waterways could be affected.
- Do not apply raw manure before anticipated heavy rain events, to fields prone to flooding or run-off, or to saturated, frozen or snow/ice covered fields. Vermont’s manure spreading ban is typically from December 15—March 1, but may be altered by the Agency of Agriculture based on immediate weather conditions.
- Leave buffer strips of perennial vegetation (at least 10 feet wide) between fields and surface water to avoid contaminating the water with raw manure, particularly if the water is used for irrigation.
- Avoid side dressing or foliar application with raw manure or manure teas once crops are planted.
- Do not use raw manure on crops whose edible parts touch or are near the soil such as salad greens and root vegetables that may be eaten raw. Raw manure can splash up on crops from rain drops. Instead, opt for other fertilizers such as properly managed compost.
- Be aware of manure application on neighboring fields. If possible, do not plant greens and herbs in fields next to areas where raw manure is applied (consider time to harvest, distance, and physical barriers). This is especially important if the neighboring field is uphill from your farm.
- “Aged” manure should be treated as raw manure until actively composted.



Photo source: USDA NRCS.

Manure-based Compost Management:

- Composting should only take place down-slope from produce fields and packing areas to prevent compost runoff from contaminating produce. If not possible, use physical barriers such as berms and buffer strips to contain compost and runoff. They should be sufficient to hold back or divert water flow in a significant rain.
- Manage piles so that all parts of the pile reach a temperature of at least 131° F for at least 3 days to kill pathogens. Turn or mix the piles so that all of the pile components reach 131° F. Windrows need to reach at least 131° F for a minimum of 15 days, during which turning at least 5 times is required. **[Note: this may differ for some certifications or if your farm falls under the Food Safety Modernization Act].**
- Do not add new raw materials once the heating and turning process has begun.
- Keep compost management records or request management and pathogen test information from producers who supply your compost.
- Store finished compost in an area protected from leachate or runoff from active compost piles and raw materials (e.g., manure), to avoid pathogen and weed contamination after the heating period.
- Passive (i.e., not actively managed) piles and anaerobic systems do not reach the high temperatures necessary to kill pathogens, and should be managed as raw manure (see reverse).
- Only make compost tea from compost you are certain has been properly composted. If making worm casting tea, do not use manure or animal products as worms do not necessarily kill off pathogens. Teas can promote pathogen growth, if present. Avoid applying teas to the edible portion of the crop.



For technical resources on siting, recipe development, and monitoring see the Highfields Center for Composting Technical Materials Page at:
<http://highfieldscomposting.org/techmaterials.htm>



Livestock Management

- Do not allow livestock to have direct access to surface waters (especially those used for irrigation) or areas prone to flooding.
- Do not allow livestock and discourage wild animals where produce is currently being grown. Allow a minimum of 120 days between the rotation of livestock in crop production areas (fields or hoop houses) and harvesting crops.

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