GAP Practices In the Field: Manure and Compost Management Practices

Good manure/compost management practices in the field

- Storage and treatment facilities are located as far as practical and possible from growing and handling areas.
- Storage and treatment facilities include physical barriers that prevent leakage, run off or wind spread
- There is a manure treatment plan in place.
- Use of manure in any form, during the growing season should be in accordance with USDA and/ or state or organic regulations.
- Equipment that comes in contact with manure in any form is cleaned prior to use in the harvest/transportation of fresh produce.

Animal manure could be a valuable source of plant nutrients. But it also can contain bacteria such as *Listeria, Salmonella,* and *E. coli 0157:H7*. These organisms are known as pathogens because they can cause disease. Pathogens can pass from animal manure to humans.

Animal manures differ from most commercial fertilizer in that the nutrients become available over an extended period of time rather than during the year of application. The rate of decomposition is greatest during the first year with residual manure organic matter becoming available at a slower rate in future years. About 50% of the nitrogen in the manure is available to crops the first year with the balance becoming available in subsequent seasons. A greater portion of potash and phosphorus is available the first year.

What can you do?

☑ Store manure as far away as practical from areas where fresh produce is grown and handled.

☑ Where possible, erect physical barriers or wind barriers to prevent runoff and wind drift of manure.

☑ Actively compost manure. High temperatures achieved by a well-managed, aerobic compost can kill most harmful pathogens. Windrow compost at 131°F for 15 days turning a minimum of 5 times. In an in-vessel system, compost at 131°F for 3 days.

☑ Proper and thorough composting of manure, incorporating it into soil prior to planting, and remember to optimize temperature, turning, and time to produce high quality, stable compost.

☑ If manure is not composted, age the manure to be applied to produce fields for at least six months prior to application.

☑ It is recommended that manure is applied late summer/early fall after harvesting.

☑ Apply manure in the fall or at the end of the season to all planned vegetable ground or fruit acreage, preferably when soils are warm, unsaturated, and cover-cropped.

- ☑ If applying manure in the spring (or the start of a season), spread the manure two weeks before planting, preferably to grain or forage crops.

- ☑ Incorporate manure immediately after application. Although it is known that many harmful pathogens do not survive long in the soil, research is still needed on soil microbes and pathogen interactions.

- ☑ Avoid growing root and leafy crops in the year that manure is applied to a field.

- ☑ DO NOT harvest vegetables or fruits until 120 days after manure application.

- ☑ If the 120-day waiting period is not feasible, such as for short season crops like lettuce or leafy greens, apply only properly composted manure.

- ☑ DO NOT side/top-dress crops with fresh manure.

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