

Food Safety Starts in the Garden



Harvest time is here. There's nothing better than fresh, homegrown fruits and vegetables from the garden, right? But wait - a word of caution is in order. Fruits and vegetables can be carriers of pathogens that cause food-borne illnesses such as E coli, Salmonella and Listeria, especially if animal manure has been used in or is near the garden.

The risk associated with garden produce is small, but it's there. Most outbreaks involve undercooked meat. Rarer modes of disease transmission included raw fruits and vegetables, unpasteurized apple juice, raw milk and water. What does this mean for the home gardener? Use particular care if and when you use animal manure in the garden. To avoid the potential food safety risks, here are some recommendations:

Use recommended food preparation techniques with garden produce. Always wash produce in clean water before eating it. Use a vegetable brush to remove visible soil. Peeling also helps reduce risk. People who are more prone to foodborne illness include young children, pregnant women, older adults and those with cancer, AIDS and other immune-compromising diseases. If a family member is at risk, serve cooked or canned vegetables and fruits for an extra margin of safety. Heating kills bacteria and parasites.

In the vegetable garden, avoid using manure where the edible portion of the crop touches the soil. If you do choose to apply fresh or partially composted manure to the vegetable garden, apply it to a crop with a low pathogen-contamination risk, such as sweet corn. Plant crops whose edible parts contact the soil such as carrots, potatoes, lettuce and melons, in a section of the garden where manure is not applied.

Backyard composting can be an effective way to kill pathogens in manure. But the composting process must be carefully managed. To be certain of pathogen kill, the pile must reach temperatures greater than 130 degrees F. The pile must be turned often to ensure that the cooler material on the edges of the pile gets into the hotter center of the pile. You'll need about five turns during the hot composting phase to assure pathogen kill. After each turn, temperatures greater than 130 degrees for three days are needed to kill human pathogens.

We know that the microorganisms in manure that could be harmful to humans are not adapted for long term survival in the soil. After application to the soil, these pathogens are killed by unfavorable temperatures, pH, desiccation and by predation and competition from native soil organisms. The best advice for using manure in the home garden is: 'When in doubt, leave it out. It is best to keep manure out of a cool home compost pile that is not intensively managed.

This article adapted from Cooperative State Research, Education and Extension Service, USDA. Please contact the Farm Advisor's office at cdcalaveras@ucdavis.edu or 754-6477 with your agricultural questions. Talk to a certified Master Gardener every Wednesday, 10:00-12:00, 754-2880. To speak with a Master Gardener in Tuolumne County, please call 209 533-5696.