

# Food Safety Guide for Colorado Farmers' Market Vendors



## Questions and Answers on Microorganisms on Produce

### ***What are the bacteria that can be on produce?***

Bacteria on produce usually are not harmful and originate from the soil or environment in which the produce is grown, harvested, processed, stored, or distributed. Harmful bacteria and parasites are frequently associated with fecal matter, and if produce contacts fecal waste, harmful microorganisms can contaminate produce and survive for many weeks. These bacteria can grow in many types of cut produce.

Several well-known microorganisms such as E. coli O157:H7, Salmonella, Shigella, and Cyclospora (a parasite) are fecal contaminants that have been associated with produce-borne outbreaks.

### ***How do they get onto produce?***

Large numbers of bacteria are frequently present in soil and in manure used as fertilizer. In addition, unclean hands of farm workers, dirty equipment and facilities used to handle and process produce, and untreated water are all sources of microorganisms.

Some sources of harmful microorganisms include: fresh manure used as fertilizer, polluted irrigated water, workers handling fruits or vegetables without proper hand washing after defecating, using untreated surface water for washing or processing, and using insanitary equipment. Contamination also can occur by food handlers in the home or restaurants.

## Safe Food Handling Tips for Farmers' Market Vendors

- ▲ Watch for signs of spoilage: mushiness, softness, bad odor, light brown or tan spots (indicator of deep decay), gray mold, reddish brown spots on lettuce, and mechanical damage (bruises and ruptures). Toss any spoiled produce.
- ▲ Clean display tables, cases, and shelves. Keep food display areas clean, free of spills, dirt and insects. Discard spoiled foods.
- ▲ Provide plenty of waste containers and empty them often.
- ▲ If you have picnic tables, benches or other areas where people can sit down to have a snack or eat a meal, keep them clean.
- ▲ Train your employees and family members who are involved in your business to understand and practice sound food safety principles. Employees should cover their mouths when they sneeze or cough and hands should be washed immediately after.
- ▲ Cross-contamination of foods should be avoided. Uncooked meats should be kept separate from produce, cooked foods, and ready-to-eat foods. Hands, cutting boards, counters, knives, and other utensils should be washed thoroughly after handling uncooked foods. Hands should be washed before handling any food and between handling different food items.
- ▲ Cutting should be done on sanitized non-absorbent surfaces. Wooden cutting boards and table surfaces are not recommended because they become a reservoir of contamination. Use hard impervious polypropylene materials (similar to meat cutting board). Do not use the same cutting board for raw meats and raw vegetables.
- ▲ Keep fresh-cut produce chilled.
- ▲ Fresh-cut produce should be prepared fresh every morning. Never mix freshly prepared produce with old.
- ▲ Avoid dropping and mishandling fresh-cut produce. It will bruise and become damaged easily.
- ▲ Help your customers keep foods safe. Provide a way for them to wash the produce or offer to do it for them. If you are selling foods that need refrigeration, offer ice for sale or inexpensive coolers.
- ▲ Plastic storage bags, paper towels and other items might be useful and profitable tag-on sales items.
- ▲ Wash raw vegetables and fruit thoroughly before eating.

### **For more information, contact:**

Colorado Department of Agriculture, Markets Division  
700 Kipling St., Suite 4000  
Lakewood, CO 80215  
(303) 239-4114  
[www.coloradoagriculture.com](http://www.coloradoagriculture.com)