

Make Food Safety a Priority at Your Farmers Market Booth



Farmers markets are increasing in number. The [USDA reports](#) more than three million consumers shop yearly at farmers markets, with approximately 30,000 small-scale farmers earning some or all of their income selling their produce locally. Customers like the appeal of connecting with the farmer and knowing where their food comes from.

The research findings about farmers market customers' beliefs can be summarized as "it's locally-grown ... I know that farmer ... I can assume it is fresh, healthy, and safe." This assumption however, is one that farmers market vendors need to continuously address to retain consumers' confidence and trust. Newer research is showing fresh produce can be a vehicle for transmission of harmful microorganisms to people, which can cause illness. In fact, a study by the [Center for Disease Control and prevention \(CDC\) in 2013 led by John A. Painter, Ph.D.](#) found that almost half (46 percent) of reported food borne illnesses were from fresh produce and nuts. Regardless of whether produce is grown locally or is a global product, there are important steps to be taken from farm to fork.

The way in which produce is grown and handled prior to the farmers market is a matter of trust for consumers; they do not see the process used to get products ready for market but trust the local grower has taken the appropriate precautions. Good Agricultural Practice (GAP) guidelines help producers understand and follow good on-farm food safety standards, thereby ensuring the trust placed in them by consumers.

Many customers are mindful of handling practices at the market. Today's consumers are more aware of food safety risks associated with fresh produce than in years past. Because of this, it's imperative for growers to use best practices to mitigate risks as a way to retain current customers and attract new followers. Non-verbal actions by the grower or the market stand staff communicate to the customer whether food safety practices have been appropriately used. In this publication, ways in which producers can demonstrate and assure customers that food safety is a priority are presented for before, during, and after market.

Before the Market

Steps taken before produce arrives at the market will affect the quality and safety of the product. In addition to post-harvest handling practices that comply with GAPs, the actions after the product is cleaned and packed are also important. Everything that will come in contact with the produce items at market should be cleaned prior to leaving the production facilities. This includes the delivery vehicle, display crates, and tables. Consumers perceive

Food Safety

Vendors at farmers markets can maintain product quality and keep the produce safe by following the steps outlined in this publication before, during, and after market.

DID YOU KNOW?

Chlorine bleach is a commonly used and readily available sanitizer. A common recipe for a chlorine-based sanitizing solution (using a 5-6 percent household chlorine bleach concentration) is one tablespoon bleach (non-scented) per one gallon of room temperature water and two teaspoons per gallon for concentrated (8 percent) bleach. Sanitizers exposed to air lose concentration over time so it is best to only mix the amount of sanitizer needed for that day. Remember to keep cleaning and sanitizing agents away from the food.

cleanliness visually – appearances do matter. Access to water may be limited once you are at the market, so make sure items for display and sampling are not only cleaned and sanitized but also protected during transit (i.e. covered with clean tarp or bags or stored upside down). Remember that there is a difference between clean and sanitized; clean means free of any visible soil, whereas a sanitized surface will further reduce the presence of any harmful microorganisms.



Cleaning steps:

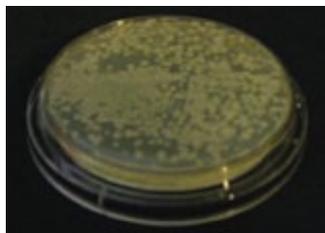
- Rinse or brush off soil or other residue
- Wash with soap and water (be sure water is from a clean source)
Clean water and clean wiping cloths are used
- Rinse to remove any remaining residue and detergent.

Sanitizing procedure:

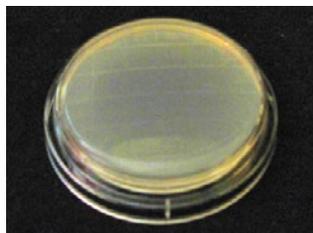
- Apply a fine spray of the sanitizer (at the appropriate concentration) to the clean surface. See ISU Extension and Outreach publication [‘On-farm Food Safety: Cleaning and Sanitizing Guide’](#) (PM 1974C).
- Allow to air dry, do not wipe off or rinse.



Soiled cloth in bucket. Cloths and cleaning solution should be changed periodically as they can become soiled.



Microorganisms from soiled cloth used to “clean” the table top.



No microorganisms present after sanitizing surface.



Microorganisms can be transferred from boxes to other surfaces.



Keep produce cool during transport to ensure its quality.

Maintaining product quality during transport and at the market is important for its safety. Always transport food to its destination in a cooled, covered, protected vehicle – the optimum situation is a refrigerated vehicle. Coolers with lids kept closed and out of direct sunlight until product is needed for sale can also be used. Inexpensive refrigerator thermometers can help ensure that products are kept cool. Growers must know ideal temperatures for each type of produce item and recognize the fact that some fruits, vegetables, and herbs are cold sensitive. The key is to protect product from contaminants during transit and market set-up.

During the Market

There are several simple, and often inexpensive, actions farmers market vendors can take while at market related to display and sales that will demonstrate their attention to food safety, and improve merchandising effectiveness of their stand.

Tent or canopy. Vendors and customers can appreciate the shade of a tent for protection from the weather, but the cover serves the additional purpose of covering and protecting produce from dust, birds, and other contaminants. It also shades the produce to help retain its freshness.

Clean tables and table coverings. All tables used to display the food items should be cleaned and sanitized. A clean, washable or disposable table covering helps keep the food surface clean and presents well at the market. It covers table surfaces that may be stained or difficult to clean, or clean tables that have gotten dirty during transit to market.

The look. Uniform containers and boxes enhance a nice display, however, they must be thoroughly cleaned and sanitized. Clear, plastic box liners can be used if baskets and wooden boxes are used for displays (the liner protects the food from the rough textured surfaces which can harbor bacteria). Be consistent about which produce items go in specific containers; for example, don't put leafy vegetables and fruits in boxes that have held root crops such as potatoes. An elevated display on the table not only makes it convenient for customers to see the product but also for you to handle. This attention to display practices sends a message about your awareness of ways to protect the quality and safety of the product. Keep extra product in a secure area and avoid placing it directly on the ground. Storing produce behind the display table keeps the food in your control and prevents the food from being damaged.

Keep it cool. Some fruits and vegetables lose their quality quickly when set on a display table. It may be a good idea to put just a limited number of those items, such as Romaine lettuce or raspberries, on the table and continuously restock from a nearby cooler or use a few for display purposes only and sell pre-packed items. Some herbs can be held in jars or buckets of drinking-quality water to reduce wilting.

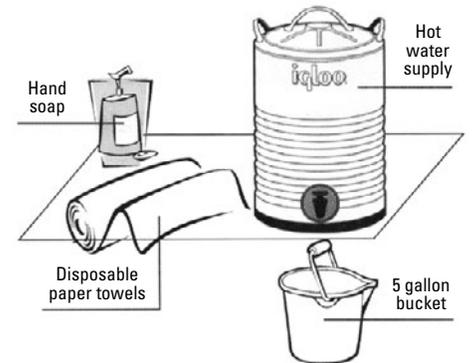
Handling. Think through how and when patrons can select from produce on display. Grape tomatoes, green beans, leaf lettuce, and other bulk items can be pre-boxed or bagged and sold by specific volumes or weights to reduce the amount of handling and save time while maintaining its temperature and quality. It is hard to know whether all customers have followed good hygiene practices, so for produce sold individually it is best to have customers show or vocalize what they want and bag it for them at point of sale.

Keep it clean. Another approach is to set up a portable hand-washing station (remember hand sanitizers don't kill all types of germs so it is best to go with hand-washing) and encourage customers with signage (and role modeling) to use the station prior to selecting their products. Having deli tissues to grab green beans, snap peas, or leaf lettuce also reduces potential contamination.

Handling money and produce at the same time is perceived by consumers as a food safety risk. Research in [Antimicrobial Resistance and Infection Control](#) has shown that bacteria survives on paper currency. Part of marketing is management of perceptions. Some vendors designate staff who only handle produce while others handle monetary transactions.



The display layout, containers, and produce quality tells customers a lot about your commitment to food safety.



Temporary food stand hand-washing set-up.



Bacteria survives on paper currency.



Washing hands after touching soiled surfaces and before handling produce minimizes the risk of illness from food.



Nicole Jonas of Red Granite Farms greets customers at her farmers market stand.

Hand-washing and hand sanitizers. Vendors should wash their hands frequently. It is a good idea to have more than one person working at each stand so there is time for hand-washing to be a priority. Having a portable hand wash station at your farmers market booth sends a powerful message that you are walking the talk in regards to food safety. Hand sanitizers are not a substitute for good hand washing (20 second process using soap and water) but they don't hurt and can help reduce contamination.

Gloves are also not a substitute for proper hand washing but can be a strategy to use if conditions don't allow for ease in hand washing as they can avoid bare hand contact with food. Note that gloves should be used for single types of tasks without interruption – touching a dirty container with a gloved hand moves the contamination to the glove. Plastic disposable gloves are inexpensive and avoid allergies some may have with latex or rubber.

Food with a face. There is only one opportunity for a first impression. Appearance, personal hygiene, and the health of market workers demonstrates attention to cleanliness and food safety.

Clothes worn for farm work can be a source of contamination and don't portray a professional sales image at the market. Hair restraints also demonstrate a conscientious effort to avoid contamination of food and present a cleaner image. Some farmers market vendors provide matching aprons for workers to wear. This promotes the booth and provides an additional layer of protection. Always remember to remove the apron when leaving the booth. A minimal amount of jewelry should be worn by sales staff because it can also be a source of physical contamination, as well as possibly damaging the produce.

Those working at the farmers market booth should be trained on proper hygiene practices. Common courtesies are expected, such as sneezing or coughing into one's arm or sleeve and not touching one's hair, face or clothing. Eating and drinking do not convey a professional image and these actions present potential risks to the food being sold. All food and beverages should be consumed away from the produce display and hands washed thoroughly after eating. It is best to have sufficient help at the market to allow for breaks. If circumstances do not allow for this, closed-lid beverage containers can be used discreetly. Even healthy people are carriers of *Staphylococcus aureus*, a bacteria found in throat and nasal passages; it is hard to avoid transmission of saliva when eating and drinking.

The health of workers is also important as humans carry microbial pathogens on their skin, in their hair, on their hands, and in their digestive systems or respiratory tracts. They may appear healthy, but be shedding harmful bacterial or viral cells. Workers who are vomiting or have diarrhea should stay home and not work around food. Further, a worker should be free of vomiting, upset stomach, and diarrhea for at least 24 hours (check local restrictions as some states specify 48 hours or more) before returning to work. If an employee has been diagnosed with a specific illness, it is advisable to report this to the health department as certain viruses (Hepatitis A and Norovirus) are easily transmitted to others. Even someone with a cold, sore throat, or fever doesn't project a healthy image to customers so it is best to assign them alternate duties

Do not work around food if you have:

- vomited or had diarrhea the last twenty-four hours,
- a cold or sore throat,
- been diagnosed with Hepatitis A or Norovirus.

that do not come into contact with food or food containers. Open cuts or sores on hands also pose a health threat so be sure they are covered with a bandage and a single-use glove.

Product samples. Many vendors at a farmers market provide samples to customers to showcase their produce and stimulate sales. There are steps that need to be taken to ensure and demonstrate the safety of those samples. However, check with your market manager, farmers market organization or local health inspectors prior to coming to market because they may prefer samples be prepared onsite.

- Prepare the samples at home, not at the market, because it may be difficult to find a cleaning station for equipment as well as hand-washing facilities. It is likely easier to keep knives and cutting boards clean and sanitized at home as there are greater controls in place.
- Before cutting, always clean produce by rinsing it under running water that is safe for drinking. For items with textured skins or rinds, some rubbing with clean hands or a designated clean brush used only for produce will help loosen soil.
- Store cut samples in a cooler with a freezer gel pack or nestled in ice to maintain it at a temperature no greater than 41°F. Use a refrigerator thermometer to be sure cool temperatures are maintained throughout the market. Keeping cut product cool is good for safety while also maintaining quality.
- Handle samples with freshly washed hands or single-use gloves. When on display, cut samples should be kept covered to prevent contamination from insects and other contaminants.
- Avoid the potential for multiple handlings by customers by inserting a toothpick into each piece or by serving samples in an individual serving cup. A utensil such as tongs can also be available for the customers to select a sample without touching product with their hands.
- Record and keep track of how long samples have been on the display table. To avoid presenting produce that doesn't look fresh, discard any cut samples that have been sitting out for more than two hours. In extremely hot weather (temperatures above 90°F) don't keep samples displayed for more than one hour.
- Have a waste basket nearby to discard used sample litter (i.e., plates, toothpicks, cups, and spoons).

After market

Many farmers market vendors participate in food security efforts by donating unsold product to food pantries. There are potential tax advantages to these contributions and those who take advantage of these offerings are appreciative of the fresh, quality products. While those making donations are protected under the Good Samaritan Law, some organization that accept fresh produce may ask about product handling and transit, with attention to temperature and risk of contamination. This request for information is to ensure their clients do not become ill from a food borne illness. For more information see ISU Extension and Outreach publication '[Food Pantry Produce Donations](#)' (PM 1974E).



Providing samples of your product is a good way to increase sales, however, it is vital to prevent contamination. Toothpicks in individual pieces takes time but prevents their reuse.



Samples should not be cut at the booth, have them prepared and cooled prior to the market.



The way in which produce is displayed and packaged will minimize unnecessary handling and potential contamination by customers.



This institution is an equal opportunity provider. For the full non-discrimination statement or accommodation inquiries, go to www.extension.iastate.edu/diversity/ext.

Additional training

Additional information and training is available through an online course ‘Farmers Market Food Safety Training’, developed by ISU Extension and Outreach food safety and horticulture specialists. It is an excellent training tool for new and experienced farmers market vendors and an ideal way for market managers to ensure vendors are knowledgeable about safe practices. The training consists of four online modules designed to provide science-based information on safe food production and handling of products at farmers markets, with a focus on specialty foods and good agricultural practices. Participants will receive a Certificate of Completion that can be displayed at a vendor booth or market stall after they have watched all four modules. Registration information for the course can be accessed at: <https://www.safeproduce.cals.iastate.edu/farmers-market-food-safety-training>.

Resources

Visit iowafoodsafety.org for food safety topics from farm to fork and a complete list of resources. Listings under the producer tab also include several free, downloadable publications as well as links to online resources and trainings.

The North Central Regional (NCR) Center for FSMA Training, Extension, and Technical Assistance was selected by the USDA Food and Drug Administration (FDA) to represent the 12 states in the Midwest region of the United States (Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Ohio, and Wisconsin). The Center's purpose is to establish a network of educators and produce growers and processors to assist with conducting a regional needs assessment and identifying gaps in knowledge related to the FSMA Produce Safety Rule and Preventive Control Rule. It will develop and implement a food safety program that addresses the needs of small-scale growers/processors and educators in the North Central Region. For more information and resources go to: www.ncrfsma.org.



North Central Region
Center for FSMA Training, Extension
and Technical Assistance

No endorsement is intended by Iowa State University Extension and Outreach of companies or their products mentioned nor is criticism implied of similar companies or their products mentioned.

Prepared by Catherine Strohbehn, adjunct professor, Apparel, Events and Hospitality Management, and Linda Naeve, program specialist, Value Added Agriculture, Iowa State University Extension and Outreach. Reviewed by Angela Shaw, assistant professor, Food Science and Human Nutrition.

Photo credits: Page one (top photo) by tfoxfoto/thinkstock, page two (top photo) by Denzil Mann/thinkstock, page three (bottom photo) by wherelifeishidden/thinkstock, page four (top photo) by gangliu10/thinkstock, and other photos by Linda Naeve.