

# FOOD SAFETY CREATING A FOOD-SAFE ENVIRONMENT

FACT  
SHEET  
5.1



You likely started your farm or ranch business because you're passionate about providing good quality food for your community. One important aspect of that is making sure the food you produce is safe to eat. No matter your operation's size, you need to be aware of the opportunities for bacteria, viruses, or parasites to contaminate your products, and actively work to prevent that from happening.

## CREATING A CULTURE OF FOOD SAFETY

Everyone in your operation needs to understand the importance of food safety. You as the owner need to establish your expectations and lead by example. When onboarding a new employee, or at the beginning of a new season, you'll need to train everyone in food safe practices and explain why they are important. If you produce a product that makes others sick, your whole farm or ranch could be held liable, be forced to recall all similar products, lose out on major sales, lose customers' trust, or worst case, seriously harm someone or even take their life. Beyond the threat of a food safety issue closing your doors, it also affects the farmers and ranchers around you: if one of your products is recalled, the entire farming and ranching community loses sales when customers avoid that product type. Taking care in your production methods is taking care of your community.

Make sure employees, volunteers, your family members, and others understand this and are working with you to keep your operation safe. Encourage them to report any issues they see immediately so you can work together towards a solution. When you see an issue, address it quickly and work to reduce the situation that caused it. For example, if employees are forgetting to sanitize sinks with chlorine bleach before cleaning produce, buy

several spray bottles for bleach solution and keep them on hooks right by the sink at eye level to serve as a visual reminder and make sure employees don't have to spend valuable time searching for the product they need.

## CLEAN SOIL

Whether you're farming or ranching, you depend on soil. This great asset can also harbor dangers, however. Pathogens like *E. coli*, salmonella, and listeria can be present in our soils, especially those mixed with manure. If you have an integrated system with animals and produce crops, keep them separate as much as possible. Taking steps to exclude wild animals from your fields is important as well. If you rely on animal manures as fertilizer, take steps to avoid contaminating fresh produce with any pathogens that are present. Common strategies include only using manure on non-produce crops, composting all manures before application using a scientifically validated thermophilic (heat) composting process, or waiting 90 days after applying manure before harvesting crops that grow above the ground, and 120 days before harvesting crops that grow in or touch the soil. Fresh or even aged manure should never be used directly on produce crops during the growing season.

## CLEAN HANDS

Clean hands are an essential part of producing clean foods! Make sure everyone on your farm, even visitors, are washing their hands for 20 seconds using potable water after using the bathroom, eating, handling animals, and before harvesting or handling any food products. Make sure you provide soap, clean water, and single-use towels in your facilities, especially adjacent to your restroom facilities.

## CLEAN SURFACES

You need clean working surfaces to process clean food. When sourcing materials, look for surfaces that are smooth and non-porous (i.e. stainless steel or plastic) so they can be thoroughly cleaned and sanitized. Inspect and clean all surfaces thoroughly before using them, including harvest bins. Take care to ensure that bins don't come in contact with the soil, or if they do that those bins are not placed on processing tables. Always clean with potable (drinkable) water and detergent, and then sanitize and dry. The process is not complicated, but effective cleaning and sanitation depends on using the right products for the application and materials. The Produce Safety Alliance and University of Idaho Extension Educators working in food safety can direct you toward additional helpful resources related to cleaning and sanitation on the farm and in packing.

## CLEAN WATER

Water can carry and quickly transfer pathogens. How much risk is associated with your water depends on where you source it and when and how you use it.

The water source you use will affect what considerations you need to take with your water. Water sources are generally: regulated public water (like city water), ground water (from wells), and surface water (like irrigation ditches).

### *Regulated Public Water System*

Municipal drinking water systems can include publicly managed and treatment of wells, groundwater, and surface water. Because this water is regulated by the Environmental Protection Agency (EPA), your local government, and the public water utility, it is frequently tested and has the least amount of risk associated with its use. If you use water from a regulated public water system in your operation, there is no requirement to further test your agricultural water, but you may want to review periodic water testing documents.

### *Ground Water Sources*

Water drawn from wells outside of a publicly regulated system is not as low risk but is generally less likely to be contaminated with pathogens because it typically filters through many layers of ground before it reaches the aquifer. You still need to consider maintenance, construction, and location of your well when assessing the risk of contamination. For example, if your well is not capped, and therefore exposed to rodents, other animals, and the environment, it is essentially an open surface water source. If your property floods and water enters the well, that well water is now as contaminated as surface water. Similarly, if you are pumping groundwater into a pond or ditch, that water is now considered surface water. For your own family's safety as well as that of your customers, you should test your well water annually for nitrates, coliform bacteria, and other contaminants.

### *Surface Water*

Any water source that is open to the environment, including canals, irrigation ditches, ponds, and reservoirs, presents the highest amount of risk. Quality of the water depends on the location, uses and users of the water. If using surface water in your operation, you will want to assess how and when you are using it and consider testing periodically throughout the growing season to understand how the quality might change and what risks are present. Untreated surface water should never be used for any handwashing or post-harvest activities, including cleaning produce or equipment that contacts produce, cooling or ice making.

### *Water Application Methods*

In addition to the source of water used in your operation, the method and timing of water use impacts the potential for contamination. For example, drip irrigation used in an orchard is low risk because it does not directly contact the produce, where a sprinkler application would. Produce grown in the ground will likely always come in contact with your water, so it is at a higher risk for contamination than produce grown off the ground.

### *Timing of Water Use*

The risks associated with contaminated water can be associated with the timing of application. Pre-harvest water is any water used before harvesting, including water for irrigation, mixed into spray applications, and any other situation in which water comes in direct contact with your produce while it is growing. The closer you get to harvest time, the more cautious you should be if using surface water to irrigate produce crops. Harvest and post-harvest water refers to water used during cleaning and sanitation of harvest equipment and tools, harvesting, washing produce, cleaning and sanitizing packing areas, handwashing, making ice, cooling, or any other post-harvest practices. All post-harvest water must be potable. Many farms choose to go the extra step and add a sanitizer to produce wash water to reduce cross contamination of produce by the water, not to sanitize produce.

## **CLEAN HARVEST**

Beyond keeping your growing environment clean, you need to minimize the opportunities for pathogens to be introduced as you are harvesting and processing your produce as well.

### *Harvest Records*

For many reasons, it is a good habit to keep harvest and production records. It is beneficial to record what was harvested, harvest weights or volume, who was responsible for the harvesting, what field or plot was harvested, and the date. Animal production records would include specific information about the animal sold or processed. Many farms develop standardized lot codes to track this information in their records as well as on boxes or packaging. If your product is ever suspected or implicated in a foodborne illness outbreak, you will be able to pinpoint the source of the product and remove associated products quickly if you have a system for tracking this information. Harvest data is also essential for understanding your overall farm yields, sales, and profitability.

### *Manage Produce Quality*

Any damaged produce, like those with cuts, blemishes, bruised spots, etc., should be culled. That damaged area can harbor harmful microorganisms, which can then be transferred to unblemished produce or pose a risk to humans if consumed. Keep “seconds” separate from the products you intend to sell from harvest onward. Don’t pile unsold or blemished produce in the fields, but instead compost them away from your production fields.

### *Cleaning or Washing Produce*

If you’ve ever washed salad greens in a tub of cold water, you’ve probably noticed the greens perk up after the washing. This is because produce can draw water colder than itself into its cells. This phenomenon, called infiltration, is helpful when you’re spritzing greens at a market stand on a hot day, but also a potential source of food safety hazards. If your water is contaminated, the contamination infiltrates the produce with the water. This is why you must only use potable water when washing your produce, change your wash water frequently, or consider adding a sanitizer approved for this use.

Water can also encourage your produce to rot faster. Great care should be taken in how and when you use water to clean your produce. For many crops, like winter squashes or tomatoes, avoid washing with water all together. Knock excess dirt off in the fields with a dry brush or cloth that you clean often.

## **CLEAN STORAGE & TRANSPORTATION**

The packaging, storage, and transportation of your products present additional opportunities to evaluate and take steps to ensure food safety. Unless a package can be cleaned and sanitized adequately, new packaging should be used. Make sure all of your packaging materials are food contact grade and stored off the ground and sealed from insects, rodents, dust, and dirt. In addition to being a good safety practice, this ensures your costly storage materials last! Do your research on what packaging materials work best and are most appropriate for your products and keep them in good repair.

Coolers, refrigerators, walk in coolers, and freezers should be inspected prior to use, cleaned, and sanitized regularly. Use a thermometer or other device to monitor the temperature.

Your vehicles are a hardworking part of your operation's equipment and often serve many purposes. Your truck bed may have transferred dogs, diesel, manure, chemicals, or many other important aspects of your operation. But this can create issues of cross contamination if you are also packing your fresh produce or other food items in the same vehicle before heading to market. Make sure your truck bed or interior of trucks and vans is clean before transferring any food products. If the vehicle cannot be adequately cleaned and sanitized, consider using a liner or some other barrier when transporting produce and food products.

While transferring your products, make sure your products are kept cool. A shade cloth or clean plastic tarp over your truck bed can help keep temperatures low. Many foods, like dairy products and meats, must be kept below certain temperatures. Make sure you have the proper containers to ensure this (coolers with dry ice, ice, or ice packs, for example), or consider investing in a refrigerated truck if transporting large quantities longer distances.