

Part 1 — Farm Review

All questions covered in the General Questions Section are applicable to this section. If the farming operation does not pass the General Questions Section then the farm does not meet the minimum requirements for a Farm Review and cannot pass an audit.

Water Usage

This section describes the source of water used for irrigation, applications of pesticides and fertilizers, cooling and frost protection and how each source is applied. The method of application and the type of crop can have an effect on the potential for microbial contamination and the spread of individual pathogens. List all the methods used in the different operations.

Several pathogens can be transported in water including *E. coli*, *Salmonella* species, *Shigella* species, *Giardia*, *Cyclospora*, etc. Any of these can cause serious foodborne illness if the produce becomes contaminated. In addition, once the produce is contaminated it is difficult, if not impossible, to completely remove the pathogen.

Describe all irrigation sources. If municipal water is used, an annual report from the locality that identifies the presence and levels of organisms should be obtained. Farm well water should be tested twice each year and treated if fecal coliforms are present. If the water source is from surface water, tests should be carried out three times during the growing season – at planting, at peak use and near harvest. All tests must include fecal coliform and should be tested for *E. coli* with a count of the number of *E. coli* units not just a presence or absence. Corrective procedures to be employed when required should be noted in the Grower Food Safety Manual (See *Water source testing log*). The report from the testing laboratory is sufficient for documentation. Note spray water must be from a good water source that does not contain pathogens above an acceptable level.

No matter what the source---if it is well maintained, wildlife and livestock excluded and manure storages isolated from the recharge and pumping area---the risk of contamination is reduced. All sources should be protected from potential direct and indirect contamination.

Sewage Treatment

Indicate what type of sewage system the farm uses. If a septic tank is used, identify the location of the tank or drain field and whether there is a sewage treatment facility adjacent to the farm. The auditor will ask to be shown the drainage field.

Animals/Wildlife/Livestock

It is not possible to exclude all wildlife from production fields, but every effort should be made to reduce or exclude the population when possible. Domestic animals should be excluded from production fields during the growing season. This includes pet dogs and cats! Domestic animal waste from adjacent fields or storage areas must be excluded. This has been the source of several foodborne illness outbreaks.

Indicate whether the crops are located near dairy or poultry operations with lagoons that could leak or overflow and cause runoff into the fields. Any stored manure should be contained to prevent crop contamination. Measures should be taken to assure that livestock do not have access to ponds used for irrigation. There is no documentation needed for these questions, but the auditor will observe if efforts are being taken in this area. Crop areas should be monitored for the presence or signs of wild or domestic animals in the field. This is especially important just prior to harvest. Walk through or around fields daily and note signs of animals that may pass through or feed in fields (*See Animal monitoring log*).

Manure and Municipal Biosolids

Manures can represent a significant source of human pathogens if not handled properly. In some states, such as New Jersey, municipal biosolids are not recommended for use on small fruit and vegetable crops or bearing fruit trees. This is especially important if

the crop is grown close to the soil. Indicate whether the operation uses manure or municipal biosolids. If raw manure (uncomposted) is used, apply and incorporate it in the fall preferably when the soil is warm on a cover crop. Raw manure must be applied at least two weeks prior to planting and at a minimum of 120 days prior to harvest. If the 120-day waiting period is not feasible, apply only properly composted manure. Application of manure or biosolids must be documented in the Grower Food Safety Manual. Record the rate, dates and location of applications. (*See Manure application log*)

Properly composted manure lowers the level of pathogens. If composted manure is applied, records must be maintained as to the type of composting (passive or active), composting time, temperature of pile (if active), and microbial testing reports for active treatment. If storing compost prior to application, growers must use some type of containment to reduce the chance of runoff, leaching, wind spread or recontamination. If composted manure or treated biosolids are purchased, documentation of analysis reports must be maintained for each shipment and made available for review.

Soils

Include a short narrative history of the farm or farms in the Grower Food Safety Manual and describe what the land was used for previously. If the land history indicates a recent possible source of contaminants from dairy, feedlots, other waste or flooding, the soil should be tested for microbial contaminants. The results must be available for review and any corrective action taken to prevent product contamination must be documented.