

Part 2

FIELD HARVEST AND FIELD PACKING ACTIVITIES

This part relates to harvesting commodities and packing them in the location where they were harvested (field or greenhouse). Many commodities are packed at the same time they are harvested. This reduces the need for a packing building and the equipment that is required to pack at a stationary facility. The emphasis in this part is on worker sanitation and harvesting activities. The auditor must observe the harvest crew(s) of the crops listed. If the same crew(s) is used in harvesting similar crops the observation must be done in at least one of the crop production areas.

Harvesting equipment should be cleaned regularly. Packing equipment that comes into contact with the product should be as clean as possible, depending on the commodity. Auditors must remember that a lettuce field packing operation will be much cleaner than an onion packing operation, because of the nature of the commodity. However, this does not free the onion operation from keeping the equipment as clean as practicable.

	Questions	Points	YES	NO	N/A	Doc
2-1	A documented pre-harvest assessment is made on the crop production areas. Risks and possible sources of crop contamination are noted and assessed.	15				D

The farm operation must have completed a pre-harvest assessment on each production area prior to harvesting any crop being certified by the audit. The auditor shall take care not to interpret the assessment but rather to verify the fact that an assessment has been made. The assessment may include statements which address the following items that are applicable;

- Are toilet and wash facilities properly located?

- Is potable water available for workers?
- Are harvest containers available, clean, well located and protected?
- Is harvest equipment available and in good condition?
- Is there evidence of unauthorized entry in the crop area and if so, has it been investigated?
- Is there evidence of domestic or wild animal crop damage?
- Is there evidence of physical contamination in the crop area?
- Are fuel and chemicals which might contaminate crop areas isolated?
- If areas are contaminated are they isolated for "no-harvest"?
- Are there any other notable sources of biological or physical contamination such as dump sites, manure, burning debris, water that may affect food safety?
- Is transportation equipment clean and available?
- The assessment may include other information such as condition of the weather and or crops.

The date of the assessment and the projected date of harvest along with a signature or initials, must be included. The assessment may be documented in various forms such as a self completed audit checklist or a separate pre-harvest checklist. This question cannot be answered NA.

Worker Sanitation and Hygiene

Operations with poor management of human wastes in the field or packing facility can significantly increase the risk of contaminating produce. Good field sanitation helps reduce the potential for contaminating produce and may reduce the chance of food borne diseases.

Field sanitation laws are prescribed under the Occupational Safety and Health Act, 29CFR, Part 1928.110. This describes the appropriate ratio of toilet facilities to the number of workers, proper hand washing facilities, and maximum worker to toilet facility distance. All facilities should be clean,

accessible to the workers, properly located in relation to irrigation or other water sources and well supplied with paper, soap and waste disposal devices. Sewage from portable toilet facilities should be properly disposed of and facilities should be serviced regularly.

	Questions	Points	YES	NO	N/A	Doc
2-2	The number, condition, and placement of field sanitation units comply with applicable state and/or federal regulations.	10				

Operators should manage their facilities or farms in accordance with the laws and regulations that describe field and facility sanitation practices. The field sanitation laws prescribed under the Federal Occupational Safety and Health Act (OSHA) part 29 CFR 1928.110 describe such regulations and practices. The following is quoted, in part, from the Act:

(a) Scope. *This section shall apply to any agricultural establishment where eleven (11) or more employees are engaged on any given day in hand-labor operations in the field.*

(2) Toilet and hand washing facilities

(i) One toilet facility and one hand washing facility shall be provided for each twenty (20) employees or fraction thereof, except as stated in paragraph (c)(2)(v) of this section.

(ii) Toilet facilities shall be adequately ventilated, appropriately screened, have self-closing doors that can be closed and latched from the inside and shall be constructed to insure privacy.

(iii) Toilet and hand washing facilities shall be accessibly located and in close proximity to each other. The facilities shall be located within a one-quarter-mile walk of each hand laborer's place of work in the field.

(iv) Where due to terrain it is not feasible to locate facilities as required above, the facilities shall be located at the point of closest vehicular access.

(3) Maintenance. *Potable drinking water and toilet and hand washing facilities shall be maintained in accordance with appropriate public health sanitation practices, including the following:*

(ii) Toilet facilities shall be operational and maintained in clean and sanitary condition.

Paragraph (c)(2)(v), referenced in the Act, exempts the operation from providing field sanitation units if the employees work three hours or less during the day, including travel time.

This question can only be indicated as N/A when field sanitation units are not required.

	Questions	Points	YES	NO	N/A	Doc
2-3	When question 2-2 is answered "NA," (sanitation units are not required), a toilet facility is readily available for all workers.	10				

For small farm operations that are not required by applicable local, state, or federal regulations to have field sanitation units on site, a toilet facility and hand washing station is readily available for any workers. Home toilet facilities may need to be observed. When sanitation units are not required, but are provided, this question may be answered yes. This question can only be answered N/A if question 2-2 is answered YES.

	Questions	Points	YES	NO	N/A	Doc
2-3	Field sanitation units are located in a location that minimizes the potential risk for product contamination and are directly accessible for servicing.	10				

The field sanitation units or toilet facilities should not be so located in the field as to contaminate product that will be harvested or product that already is harvested and/or packed. Units should not be located close to where product is harvested or stored, or where there is a possibility of spilled sewage running down hill into the production area or into a packed product storage area.

The OSHA language (29 CFR, 1928.110), in part, is:

*(3) **Maintenance.** Potable drinking water and toilet and hand washing facilities shall be maintained in accordance with appropriate public health sanitation practices, including the following:*

(ii) Toilet facilities shall be operational and maintained in clean and sanitary condition.

(iii) Hand washing facilities shall be refilled with potable water as necessary to ensure an adequate supply and shall be maintained in a clean and sanitary condition; and

(iv) Disposal of wastes from facilities shall not cause unsanitary conditions. The location of the field sanitation units shall not be in a location where any "grey water" can potentially contaminate the crop.

In general, contracted or leased field sanitation units are serviced at a designated servicing facility not located in the production area. In many cases, the farming operation may own the units and will also service them away from the production area.

Auditors should review the accessibility of the location. Locations that are inaccessible would result in a NO answer. Inaccessible locations may include a narrow roadway with no easy access. This question may be answered as N/A when field sanitation units or toilet facilities are not present.

	Questions	Points	YES	NO	N/A	Doc
2-5	A response plan is in place for the event of a major spill or leak of field sanitation units or toilet facilities.	10				P

The operator should have a documented emergency clean-up procedure to follow in case contamination occurs. The procedure should include what will be done to contain the spill and to prevent additional contamination, what will be done to clean it up and what will be done with contaminated product. This question may be answered as N/A when field sanitation units or toilet facilities are not present.

Field Harvesting and Transportation

Microbial contamination or cross-contamination of fresh produce during pre-harvest and harvest activities may result from contact with soils, fertilizers, water, workers and harvesting equipment. Any and all of these may be a means where food contamination may occur.

	Questions	Points	YES	NO	N/A	Doc
2-6	All harvesting containers and bulk hauling vehicles that come in direct contact with product are cleaned and/or sanitized on a scheduled basis and kept as clean as practicable.	10				D

Keep harvest containers as clean as practicable to prevent cross-contamination of fresh produce. Harvest containers used repeatedly during a harvest should be cleaned after each load is delivered and prior to reuse. If the containers are stored outside, they should be cleaned and sanitized before being used to haul fresh produce. Workers should not stand inside bins. Bulk hauling vehicles carrying unwashed crops should be swept out on a regular basis.

Assign responsibility for equipment to the person in charge of the harvesting crews or designated person. The person with assigned responsibility needs to know how equipment is being used during the day, ensure that it is functioning properly, and take steps to ensure proper cleaning and sanitizing of equipment when needed.

Under no conditions should buckets, bags, or other containers that have held hazardous chemicals be used for food contact. Any reused containers should be clean and free from debris. Dirty packing containers that cannot be cleaned should not be used.

Containers, such as picking bins, used as refuse receptacles must be prominently marked for this use and workers must not use these for picking and transporting produce.

For some commodities, containers are not used repeatedly because they are the final shipping containers. Where applicable, the containers should be clean at time of harvest and steps should indicate an attempt to protect final product contact surfaces. This does not require that new containers be intentionally cleaned and sanitized before use. They should be considered clean as arrived from the supplier. This question applies to both final and interim harvest containers and cannot be answered as N/ A.

	Questions	Points	YES	NO	N/A	Doc
2-7	All hand harvesting equipment and implements (knives, pruners, machetes, etc.) are kept as clean as practical and are disinfected on a scheduled basis	10				D

Any hand harvesting implements should be kept as clean as possible, and cleaned on a scheduled basis. The auditee's food safety manual should show what the schedule for cleaning and disinfecting harvesting implements is. It is understandable that these implements are going to get dirty from constant, repeated use during the course of a harvesting day and auditors should not answer NO in this section just because a harvester is using a dirty knife. However, the points should not be given if there is no documented procedure for a scheduled cleaning of the implements.

Auditors should determine if the facility has a policy for cleaning equipment and harvesting aids. This may be verified through questioning of the workers, through a written policy or records of the cleaning process. This question may only be answered as N/A if there is no hand harvesting implements used during harvesting.

	Questions	Points	YES	NO	N/A	Doc
2-8	Damaged containers are properly repaired or disposed of.	5				

Repair or discard damaged containers. Inspect containers for damage on a regular basis. Because damaged container surfaces may harbor pathogenic microorganisms and cause damage to the surface of fresh produce, they should not be used.

New, unused containers are the lowest risk; however, if containers are reused, they shall be clean and or sanitized, and air-dried before use. Buckets, bags, or other containers that have held hazardous chemicals should not be used for food contact. Any reused containers should be clean and free from debris. Dirty packing containers that cannot be cleaned should not be used.

This question applies both to harvesting containers such as bins, packing containers and the bulk container part of vehicles when the product is placed directly into them during harvest. Auditors should determine what the company does to repair or dispose of damaged containers. Damaged harvesting containers should not be used.

	Questions	Points	YES	NO	N/A	Doc
2-9	Harvesting equipment and/or machinery which comes into contact with product is in good repair.	10				

Field equipment and/or machinery shall be kept in good repair. Field equipment/machinery that

is leaking fluids or has loose or damaged parts can be a source of physical contamination. If this question is answered NO, auditors should pay special attention to questions 2-10,2-11, and 2-12. This question may be answered "NA" if no equipment or machinery comes into contact with the product during harvest.

	Questions	Points	YES	NO	N/A	Doc
2-10	Light bulbs and glass on harvesting equipment are protected so as not to contaminate produce or fields in the case of breakage.	10				

Any exposed glass fixtures (including flood lights or brake/driving lights) on harvesting equipment should be protected to reduce the potential for contamination of the crop. This question is meant to cover mechanical harvesters for root crops, or machinery that sits directly over the un-harvested crop. Protection can include such practices as using plastic or wire covers, or enclosed fixtures. This question may be answered N/A if no glass is on harvesting equipment.

	Questions	Points	YES	NO	N/A	Doc
2-11	There is a standard operating procedure or instructions on what measures should be taken in the case of glass/plastic breakage and possible contamination during harvesting operations.	5				P

The auditee food safety plan should outline an SOP or instructions documenting the procedures that will take place in the case of glass/plastic breakage contaminating the crop. This question is most relevant for crops that are mechanically harvested, although it can apply to any commodity.

	Questions	Points	YES	NO	N/A	Doc
2-12	There is a standard operating procedure or instructions on what measures should be taken in the case of product contamination by chemicals, petroleum, pesticides or other contaminating factors.	5				P

The auditee's food safety plan should outline an SOP or instructions documenting the procedures that will take place in the case of contamination by chemicals, petroleum, or pesticides on the crop.

	Questions	points	YES	NO	N/A	Doc
2-13	For mechanically harvested product, measures are taken during harvest to inspect for and remove foreign objects such as glass, metal, rocks, or other dangerous/toxic items.	5				

For products that are mechanically harvested, measures should be taken to inspect for non produce ending up in the product. Auditors should either observe the harvesting process or interview harvesters to determine if these inspections are taking place.

	Questions	points	YES	NO	N/A	Doc
2-14	Harvesting containers, totes, etc. are not used for carrying or storing non-produce items during the harvest season; farm workers are instructed in this policy.	5				P

Workers shall not carry personal food items or other non-produce items in their harvesting containers. Auditors should verify this through observation and questioning. The question would be answered NO if it is determined that any equipment used to haul garbage, manure, or other potentially contaminating items is used to hold fresh produce. This statement cannot be answered as N/A.

	Questions	points	YES	NO	N/A	Doc
2-15	Water applied to harvested product is microbially safe.	15				R

Washing fresh produce (also known as surface treatment) can reduce the overall potential for microbial food safety hazards. This is an important step since most microbial contamination is on the surface of fruits and vegetables. If pathogens are not removed, inactivated, or otherwise controlled, they can spread to surrounding produce, potentially contaminating a greater proportion of the produce.

Water quality needs may vary depending on where the water use falls within the series of processes and whether a particular process is followed by additional cleaning processes. For example, water quality needs may be greater for water used for a final rinse before packaging compared with water in a dump tank where field soil from arriving produce quickly mixes with the water. The Environmental Protection Agency (EPA) established a standard for reclaimed water (treated effluent) used on nonprocessed fresh produce of less than 2.2 fecal coliforms per 100 milliliters (mls) of water. This is considered free of pathogens for non potable agricultural purposes." (*"Food Safety Begins on the Farm"* Cornell University.) Water used in the final rinse or overhead irrigation shortly before packaging shall be microbially safe. If the water is reused, its quality and/or content of antimicrobial agents should be monitored.

Water quality consistent with U.S. EPA requirements for drinking water, or similar standards, is recommended by the *FDA Guide*. While water quality management may vary throughout all operations, packers should follow good manufacturing practices to minimize the potential for the

introduction or spread of pathogens via processing water. Water that meets the microbial standards for drinking water is considered "safe and sanitary."

Municipal water supplies are regulated by law and are required to be potable. Well water may or may not be potable but should be microbially safe. Surface water is subject to various uncontrollable influences and should be considered unsafe without further testing. Surface water should not be applied to the finished product. Auditors must review water tests in order to determine that the water is microbially safe. This question may be answered as N/A when water is not applied to field harvested product.

	Questions	points	YES	NO	N/A	Doc
2-16	Efforts have been made to remove excessive dirt and mud from product and/or containers during harvest.	5				

Every effort should be made to keep the crop and containers as clean as possible. In the event that the crop or containers are covered with excessive dirt and/or mud, efforts are taken to remove the excess dirt/mud from the products and containers to prevent the spread of potential contamination to other areas of the farming operation.

	Questions	points	YES	NO	N/A	Doc
2-17	Transportation equipment used to move product from field to storage areas or storage areas to processing plant which comes into contact with product is clean and in good repair.	10				

It is wise to prevent unnecessary contamination. If using an open truck bed to haul unprotected produce, line it and cover the food with clean washable covers. Truck beds

should be washed or otherwise cleaned whenever they become dirty.

Ensure that transportation vehicles are clean. Dirty vehicles can contaminate produce with harmful microbes. Auditors should review equipment in order to verify this factor. Some operations may establish standard procedures and logs in order to ensure clean equipment. Auditors should review records and documentation to verify that a schedule is being followed. This question may be answered as N/A.

	Questions	Points	YES	NO	N/A	Doc
2-18	There is a policy in place and has been implemented that harvested product being moved from field to storage areas or processing plants are covered during transportation.	5				P

Products that are transported in bulk from the field or from storage for further packing may be contaminated during this time. Steps should be taken to reduce the possible contamination by other vehicles on the roads, overhead contamination from overpasses, from birds or other means. Using tarps, enclosed trailers or other means to cover loads are examples of good practices. Products being moved in enclosed containers (boxes, cartons, etc.) would not be considered covered.

Auditors must question company personnel to determine if loads are covered as the are transported from the field to the packing operation. Auditors should also observe loads being delivered to confirm the answers to their questions.

	Questions	points	YES	NO	N/A	Doc
2-19	In ranch or field pack operations, only new or sanitized containers are used for packing the product.	10				D

Packers that use new containers to package products are taking the highest possible means to reduce microbial contamination provided they are stored properly. The use of new containers eliminates the possibility of cross contamination of produce from used containers. Some operations are packing directly into reusable plastic containers (RPC) to meet buyer specifications. These containers are meant to be reused. In the case of RPCs, they should be sanitized prior to each reuse in the field. A cleaning log or record from either the producer or RPC management company shall be reviewed to verify they have been sanitized. This question shall be answered N/A if no field packing occurs.

	Questions	points	YES	NO	N/A	Doc
2-20	Packaging materials used in ranch or field pack operations are properly stored and protected from contamination.	10				

Packing containers and other packing materials that are not used right away should be stored in a way that protects them from contamination by pests (such as rodents), dirt and water. Packing containers stored outside should be covered in some manner to protect against rain, bird droppings, etc. if necessary. Using the top container in a pile for a cover is not sufficient.

Auditors should observe where and how packing containers are stored. This question must be answered NO when containers which are stored in a manner that may lead to contamination.

	Questions	points	YES	NO	N/A	Doc
2-21	Product moving out of the field is uniquely identified to enable traceability in the event of a recall.	10				D

The Bioterrorism Act of 2002 requires certain handlers of foods to keep records that allow the handler to keep trace of produce "one step forward" and "one step back" within the food chain. For producers, keeping

records and uniquely identifying product moving out of the field to its next destination (packing house, storage cellars, end user, etc.) is an important component of a traceability program. For product moving in bulk from the field to a packing house or storage facility, records such as load tickets, field harvest records that move with the load or other similar records that identify where the product originated are examples of identification. For products that are field packed, the individual cartons or master containers needs to be clearly identified with the company information including company name and address and other identifying marks as outlined in the company's traceability program.

Auditors must explain all Questions for which a NO or N/A answer was noted.

Any additional comments pertaining to interviewed individuals or to observations made during the audit should be made here. Auditors must be specific when making comments about YES answers to questions, as an additional statement here may indicate that the question might be better answered NO instead.

Total points earned for PART 2 = _____.

Total Possible \equiv **185** *The total number of points possible for this section.*

Subtract "N/A" - _____ *Enter the additive number of N/A points (+ points) here.*

Adjusted Total = _____ *Subtract the N/A points from the Total possible points.*

X .8 (80%) *Multiply the Adjusted Total by .8 and show it as the Passing Score.*

Passing Score _____

(please circle one) **Pass / Fail**