

PrimusGFS Audit GAP (Module 2) Guidelines

***Used in conjunction with PrimusGFS V2.1-2c audit
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Module 2 GAP

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These guidelines help interpret/support the principles, requirements and expectations of the PrimusGFS v2.1-2 Modules 1, 2 and 3 as noted in the Scheme normative documents. These guidelines are neither exhaustive nor exclusive and detail minimum requirements only by means of statements related to audit questions and expectations. There will be variations in applicability to an operation based on the process(es) and commodities involved. Auditors and auditees should interpret the questions and criteria in different situations, with the food safety and risk minimization being the key concerns.

The operation's practices, policies and procedures should be pertinent to the situation at hand and be able to stand up to any challenge by an auditor or other relevant interested party (including law enforcement). Where laws, customer requirements and specifications, commodity specific guidelines and/or best practice recommendations exist and are derived from a reputable source these practices and parameters should be followed if they present a higher level of conformance/compliance than those included in the audit scheme system.

Website links shown in this document are there to aid understanding and provide assistance by way of example (link listings are not exhaustive). These links are not a sign of endorsement by Azzule. Furthermore Azzule Systems accepts no liability for the content of these links.

Please be aware that there is additional information on the PrimusGFS website including the audit checklist templates. The Primusgfs website also has access to the official PrimusGFS General Regulations which explains the overall scheme scoring systems and other details of the scheme.

The following is a modified excerpt from PrimusGFS General Regulations v2.1-2. It is provided here as an introduction to the audit notes. For full and current text please refer to the most recent version of PrimusGFS General Regulations at <http://www.primusgfs.com/documents.aspx>.

Audit Execution

The audit should be performed using the most recent version of the PrimusGFS normative documents. The PrimusGFS Standard is divided into three Modules:

- Module 1 - Food Safety Management System
- Module 2 - GAP and/or GMP options
- Module 3 – HACCP program

Each Module is divided into sections, related to the specific Module and each section includes questions that detail the requirements for the specific section.

Please note, with all operations it is imperative that the facility is running product i.e. processing, packing, cooling (whatever functions are usually occurring as on a “normal” day) and that a normal compliment of personnel are on site when the audit occurs in order for the auditor to complete a valid assessment.

Scoring System

The audit format is updated as needed. This may include the layout, the questions themselves and point assignments. The following is the scoring system used for the PrimusGFS audits:

| Module 1 | Module 2 | | Module 3 |
|---|--|---|---|
| Food Safety Management System | GAP Option | GMP Option | HACCP |
| Possible answers: <ul style="list-style-type: none"> • Total Compliance • Minor Deficiency • Major Deficiency • Non Compliance • Non Applicable | Possible answers: <ul style="list-style-type: none"> • Yes • No • Not Applicable | Possible answers: <ul style="list-style-type: none"> • Total Compliance • Minor Deficiency • Major Deficiency • Non Compliance • Non Applicable | Possible answers: <ul style="list-style-type: none"> • Total Compliance • Minor Deficiency • Major Deficiency • Non Compliance • Non Applicable |

For questions in Module 1, Module 2 – GMP option and Module 3, the amount of deficiencies and the associated risks have to be considered to assign the severity of the finding, which can be Minor Deficiency, Major Deficiency and Non Compliance. When no deficiencies are found, a Total Compliance is given. Some general statements for the scoring decision are described in the table below. These statements are superseded by the criteria described in the question's expectations and users should be aware that some questions do not follow these general statements e.g. automatic failure questions. The possible answers to the questions in each Module are listed in the following table:

| Scoring system for questions in Module 1, Module 2 – GMP option and Module 3 | | | | |
|---|---|-----------|----------|----------|
| Possible answer | Possible Points for the question | | | |
| Total compliance | 15 points | 10 points | 5 points | 3 points |
| Minor deficiency | 10 points | 7 points | 3 points | 2 points |
| Major deficiency | 5 points | 3 points | 1 points | 1 points |
| Non-compliance | 0 points | 0 points | 0 points | 0 points |
| Not applicable | 0 points | 0 points | 0 points | 0 points |

For questions in Module 2 GAP option, the scoring system is described in the table below:

| Scoring system for questions in Module 2 – GAP option | | | | | | | | |
|--|---|-----------|-----------|----------|----------|----------|----------|----------|
| Possible answer | Possible Points for the question | | | | | | | |
| Total compliance (may be Yes or No) | 20 points | 15 points | 10 points | 7 points | 5 points | 3 points | 2 points | 0 points |
| Non-compliance (may be Yes or No) | 0 points | 0 points | 0 points | 0 points | 0 points | 0 points | 0 points | 0 points |
| Not applicable | 0 points | 0 points | 0 points | 0 points | 0 points | 0 points | 0 points | 0 points |

Each question and compliance has to be looked at individually and scored according to the severity of the deficiency, the number of deficiencies and the associated risks. Detailed compliance requirements are noted in this Auditor Guidelines document, but some general statements are described below. These statements are superseded by the compliance criteria and users should be aware that some questions do not follow the general statements below e.g. automatic failure questions.

| Compliance for questions in Module 1, Module 2 – GMP option and Module 3 | |
|---|--|
| Answer | Criteria used |
| Total compliance | To meet the question and/or compliance criteria in full. |
| Minor deficiency | To have minor deficiencies against the question and/or compliance criteria. To have single or isolated non-severe deficiencies (usually up to three) against the question and/or compliance criteria. To have covered most of the question compliance criteria, but not all. |
| Major deficiency | To have major deficiencies against the question and/or compliance criteria. To have numerous non-severe deficiencies (usually more than three) against the question and/or compliance criteria. To have single or isolated severe deficiencies against the question and/or compliance criteria. To have covered some of the question compliance criteria, but not most of it. |
| Non-compliance | To have not met the question and/or compliance criteria requirements at all. Having systematic deficiencies against the question and/or compliance criteria (severe or non-severe issues). |
| Not applicable | The requirement described in the question is not applicable for the operation being audited. Justification should be provided in the auditor's comments. Be aware that there are some questions that do not allow a non-applicable response. |

For questions in Module 2 – GAP option, if deficiencies for the question and/or the applicable expectations for that question are found, assign the answer to each question as described below in the general statement of the table. These statements are superseded by the criteria described in the question’s expectations and applicants and users should be aware that some questions do not follow these general statements e.g. automatic failure questions

| Compliance for questions in Module 2 – GAP option | |
|---|--|
| Answer | Criteria used |
| Total compliance (can be Yes or No, depending on the question) | To meet the question and/or compliance criteria in full. This is when the answer Yes or No is the same as the “earning points answer”. |
| Non-compliance (can be Yes or No, depending on the question) | The question or compliance criteria has not been fully met. This is when the answer Yes or No is NOT the same as the “earning points answer”. |
| Not applicable | The requirement described in the question is not applicable for the operation being audited. Justification should be provided in the auditor’s comments. Be aware that there are some questions that do not allow a not applicable response. |

Automatic Failure

There are some questions that if down scored will lead to an automatic failure and an overall score of 0% for the corresponding Module. On being immediately informed of the automatic failure by the auditor during the audit, the auditee has the option to have the auditor continue to complete the audit or to have the audit halt at that point (all charges will apply).

Special Circumstances For Not Certifying

Please also note, that under special circumstances and upon finding serious food safety risks a “not certified” decision can be attributed. The auditee should be immediately informed of the automatic failure by the auditor during the audit. The auditee has the option to have the auditor continue and complete the audit or to have the audit halt at that point (all charges will apply).

There are other Special Circumstance that are not technical in nature, examples of these include detection of deliberate illegal activities like deliberate mislabeling, discovery of falsified records, attempting to bribe an auditor/CB officer, threatening behavior towards an auditor/CB officer, etc.

Audit Termination

Once an audit has been started, should the auditee wish to stop the audit for any reason, the auditor will complete the report for as many questions as they were able to verify. PrimusGFS audits cannot be converted into a pre-assessment audit once the audit has been started. If an audit is terminated early then questions that the auditor was unable to verify, will be marked as non-compliance and receive a score of zero. For questions unable to be verified the auditor will indicate the audit was terminated at the request of the auditee before the auditor could verify whether or not the audit conformed to the

compliance criteria of the question. A report will be created on the database and issued and all charges will apply.

Documentation Requirements

Organization's Food Safety Systems:

When an Organization and its associated Operations are being audited the auditor is checking the systems (SOP's, policies etc. in Module 1 FSMS) and the implementation of these systems (Module 2).

While usually auditees often create and implement their own systems, they can also use systems that have been created by other entities, for example, their customers technical manager, their consultants etc or a combination of resources.

For example, an Organization may opt to create their own SOP's, in other instances utilize SOP's templates provided by other entities. As long as the systems meet the requirements of the PrimusGFS questions and expectations and these systems are being implemented properly, the auditee should receive full points for their efforts. The auditee is responsible for ensuring that the systems they use are reviewed, maintained and up to date. If the auditor detects any inconsistency, it will result in a down score.

New Auditees/First Time Auditees

- **In operation for more than three consecutive months** – auditee should have at least three months of documentation available for review. If the auditee has less than three months of most of their documentation available for review a pre-assessment audit is strongly advised. If the auditee has less than three months of most of their documentation available for review and decides to have a regular audit, they should be aware that they **cannot receive full conformance for paperwork questions relating to monitoring and that the down score will be based on the amount of paperwork available.**
- **Short season operation, in operation for less than three consecutive months** - auditee should have at least three months of documentation available for review (this may include last season's documentation). Where an operation does not have three months of records available (e.g. one month of operation per year) auditee should have at least the previous season's records available for review. If the auditee has less than three months of most of their documentation available for review and decides to have a regular audit, they should be aware that they **may not receive full conformance for paperwork questions relating to monitoring and that the down score will be based on amount of paperwork available.**

Existing Auditees

- **In operation for more than three consecutive months** – auditee should have documentation available from the date of the prior audit.
- **Short season operation, in operation for less than three consecutive months** – auditee should have at least three months of documentation and documentation at least since the last audit (which includes the last season). Where an operation does not have three months of records available (e.g. 1 month of operation per year) auditee should have at least the previous season's records available for review.

| | Operates <three months/year | Operates >three months/year |
|------------------|--|---|
| New Auditee | Three months of records (may include last season's records) | Three months of records (may include last season's records) |
| Existing Auditee | Records at least since last audit (or longer) to meet minimum requirement of three consecutive months of records | Records since last audit |

Visual versus Verbal Confirmation

Visual confirmation is the default method of auditing, whether on the visual inspection portion or the paperwork section. Scores and comments are assumed to have been visually confirmed, unless otherwise stated. Verbal confirmation should be the exception to the rule and, if auditing properly, these should be rarely used. If a verbal confirmation is accepted, the auditor should write this in the comments section of the question.

How to Use Point Assignment Guidelines

The following sections of this guidance manual are designed to help the users choose the right score for each question, thereby helping to ensure consistency. This document does not cover all situations and is intended to be a guideline, as opposed as a rule. Auditors are expected to follow the guidelines as much as possible, but it is understood that there will be situations where an auditor should use their discretion. If an auditor does have to make a judgment call and/or tackle a situation not covered by this manual, then the auditor should note the circumstances in the audit report with full justifications. (The auditor should also forward these details to Azzule in a separate note, so that this can be accounted for in the next version of the manual.)

In order to be consistent with the voluntary nature of requesting a third party audit, and in order not to seem to be a legal document, the requirements within the questions are written as “should”, and can be scored against. In other questions that use the term “ideally”, these statements cannot be scored against, but give the auditee an opportunity for improvement.

Notes in “red” are where the questions and/or conformance criteria have changed significantly since the previous version. Many of the changes are to improve clarification, but some are changes to the actual requirements. Please read carefully to see if these changes impact your particular situation.

Glossary

Agricultural Inputs

Materials used in the production of crops including seeds, transplants, rootstock, cuttings, fertilizers, crop protection products, adjuvants, growth promoters, predator additions, irrigation water and any other material inputs into the growing process.

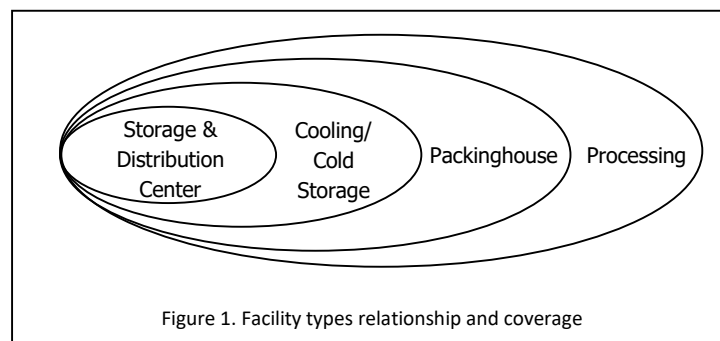
Cooling Cold Storage

This type of facility is where they are not only receiving and storing finished goods but performing some kind of pre-cooling and/or cooling activities. In this type of facility, no packing or processing activities are being performed, if so, a different type of facility operation shall be used. A Cooling Cold Storage facility covers the activities involved in the Storage & Distribution Center type.

Facility operation

A handling operation carried out in one or several buildings where product is being handled. The type of Facility operation can be classified as: "Storage & Distribution Center", "Cooling Cold Storage", "Packinghouse" or "Processing".

The following image describes the scope of each one of the facility types described in this certification scheme:



Auditees should not apply for multiple GMP audits of different operation types at the same address, unless there is different ownership.

Field operation

A growing operation carried out in an open or in a covered area for the production of fresh produce for human consumption. The type of Field operation can be classified as: "Ranch" or "Greenhouse", they can both include or not include a "Harvest Crew". In addition, standalone "Harvest Crew" audits can also be performed that do not need to be performed in conjunction with a "Ranch" or "Greenhouse" audit.

Greenhouse

A greenhouse is defined as a temporary or permanent enclosed structure where crops are grown in a controlled environment. Does not include shade or hoop houses. Product grown under this type of operation is marketed as "Greenhouse grown".

Harvest Crew

A "harvest crew" is defined as a crew of harvest personnel under common management.

Packinghouse

This type of facility is where whole commodities are sorted and/or sized, may be minimally trimmed (not altered in form), washed or not washed, possible post-harvest fungicide treatments applied (e.g. wax treatments) and packed for commercial distribution and use by consumer or retail establishment. In this type of facility, no processing activities are being performed, if so, a different type of facility operation shall be used. A Packinghouse facility covers the activities involved in the Storage & Distribution Center and Cooling/Cold Storage facilities.

Processing

This type of facility is where whole commodities are minimally processed and altered in form by peeling, slicing, chopping, shredding, coring, or trimming, with or without washing, prior to being packaged for use by the consumer or a retail establishment (e.g., pre-cut, packaged, ready-to-eat salad mixes). In this type of facility, processing activities are being performed, if not, a different type of facility operation shall be used. A Processing facility covers the activities involved in the Storage & Distribution Center, Cooling/Cold Storage and Packinghouse facilities.

Ranch

A "ranch" is defined as a parcel of ground (not necessarily a "lot" for production purposes) with the following characteristics: common management, common water supply and contiguous grounds. For the purpose of farm or ranch audits, a ranch or farm is defined as contiguous ground that is under common management.

Storage & Distribution Center

This type of facility is where they are only receiving and storing finished goods for further shipment e.g. regional distribution warehouses.

In this type of facility, no cooling, packing or processing activities are being performed, if so, a different type of facility operation shall be used.

Module 2 GAP

General GAP

2.01.01: Is there a designated person responsible for the food safety program in the field?

Total points 10: There should be an appropriate person, preferably a manager, assigned responsibility for the field's food safety program.

2.01.02: Is there documented evidence of the internal audits performed to the audited operations, detailing findings and corrective actions?

Total points 10: There should be records of the internal audits performed at each operation with the frequency defined in the program. The records should include date of the audit, name of the internal auditor, justification for the answers, detailing any deficiencies found and the corrective action(s) taken. An audit checklist should be used in each operation as an aid to ensure the inspection covers all areas.

2.01.03: Are the necessary food security controls implemented in the operation?

Total points 5: The operation should have implemented the necessary controls for preventing intentional contamination (food defense, also known as food security). See section 1.08 of Module 1, FSMS. These measures should be based on the risk associated with the operation. Some high risk areas of the field could be water sources, storage areas for chemicals, equipment, packaging, utensils or other items used in the field, handling facilities, inside the farm, etc. The auditor should down score if there are any unprotected water sources, a lack of signage to prevent trespassing, etc.

Site Identification

2.02.01: Is the growing area(s) adequately identified or coded to enable trace back and trace forward in the event of a recall?

Total points 15: Coding details (e.g. farm name or reference code, blocks of the growing area(s), greenhouse/building code or number(s)) should be in sufficient detail to enable trace back and trace forward through the distribution system. There should be field maps available demonstrating the coding details. Coding should link to the record keeping system (e.g., pesticide, fertilizer records, microbiological testing reports, etc.).

Ground History

2.03.01: Were farming area(s) used for growing food crops for human consumption last season?

Total points 0:

Land should be purchased or leased that has previously been successfully utilized for growing produce for human consumption without incidence.

2.03.02: Has the growing area(s) been used for any non-agricultural functions? If No, go to 2.03.03.

Total points 7: Purchase or lease of ground previously used for non-agricultural functions (e.g., toxic waste site, landfill, mining, extraction of oil or natural gas) should be avoided. Land should be purchased or leased that has previously been successfully utilized for growing produce for human consumption without incidence. <http://www.epa.gov/superfund/health/index.htm>.

2.03.02a: If the land had been used previously for non-agricultural functions have soil tests been conducted showing soil was negative or within an appropriate regulatory agency's approved limits for contaminants?

Total points 15: If the land had been used previously used for non-agricultural functions, soil testing should be conducted to determine if the soil is free of contaminants (e.g. heavy metals, residues of persistent organic contaminants) that may still be present in the soil.

2.03.03: Has the growing area(s) been used for animal husbandry or grazing land for animals? If No, go to 2.3.04.

Total points 7: If the land was used previously for animal husbandry or grazing land for livestock, there should be a sufficient buffer time before growing a crop for human consumption. A risk evaluation should be documented that includes recording the details of the animal grazing (commercial or domestic) and any risk reduction steps.

2.03.03a: If the land was used previously for animal husbandry or grazing land for livestock, has a risk evaluation been performed?

Total points 10: A risk evaluation should be documented that includes recording the details of the animal grazing (commercial or domestic) and any risk reduction steps.

2.03.04: Is there evidence of animal presence and/or animal activity in the audited area? If answer is NO, go to Q 2.03.05.

Total points 15: Animals can represent potential contamination to the growing area, to the crop, to the field equipment and other areas; therefore, animals should not be present in the operations. Evidence of animal presence includes tracks, fecal matter, feathers, etc. If answer is No, go to Q 2.03.05.

2.03.04a: Is the evidence of animal presence and/or animal activity found, in the form of fecal contamination? If answer is No, go to Q 2.03.05.

Total points 20: Animal fecal matter has the potential of representing contamination to the product being grown. Produce that has come into direct contact with fecal material is not to be harvested. A "no harvest zone" approx. 5ft (1.5 m) radius should be implemented unless or until, adequate mitigation measures have been considered. If evidence of fecal material is found, a food safety assessment should be conducted by qualified personnel. This question is "no" if the grower has already noted this issue and performed adequate corrective actions. Consideration of the maturity stage and type of crop involved is required. If answer is No, go to Q 2.03.05.

2.03.04b: Is the fecal matter found in the audited area, a systematic event (not sporadic)? A 'YES' ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Animal fecal matter has the potential of representing contamination to the product being grown. Produce that has come into direct contact with fecal material is not to be harvested. A "no harvest zone" approx. 5ft (1.5 m) radius should be implemented unless or until adequate mitigation measures have been considered. If evidence of fecal material is found, a food safety assessment should be conducted by qualified personnel. This question is "no" if the grower has already noted this issue and performed adequate correct actions. Consideration of the maturity stage and type of crop involved is required. If this question is answered Yes, an automatic failure of this audit will result.

2.03.05: Has flooding from uncontrolled causes occurred on the growing area(s) since the previous growing season? If No, go to 2.3.06.

Total points 0: Uncontrolled causes includes the uncontrolled flowing or overflowing of a field with water that is reasonably likely to contain microorganisms or chemicals of significant public health concern and is reasonably likely to cause adulteration of edible portions of fresh produce in that field.

<http://www.fda.gov/food/guidanceregulation/guidancedocumentsregulatoryinformation/emergencyresponse/ucm287808.htm>

2.03.05a: If the growing area(s) and product was affected from the flood waters, is there documented evidence that corrective measures were taken to affected land and product?

Total points 15: If the growing area, growing facility(ies) and/or product was affected from the flood waters, there is documented evidence (archived for 2 years) that corrective measures were taken with affected land and/or product (e.g. photographs, sketched maps, etc.). On file should be proof that affected product and product within approximately 30ft (9.1m) of the flooding was not harvested for human consumption and that replanting on formerly flooded production ground did not occur for approximately 60 days; unless testing as noted in 2.03.05b has occurred. *

2.03.05b: Have soil tests been conducted on the flooded area(s) showing soil was negative or within an appropriate regulatory agency's approved limits for contaminants?

Total points 20: If flooding has occurred on the property in the past, soil clearance testing may be conducted prior to planting. If performed, testing must indicate soil levels of microorganisms lower than the standards for processed compost. Suitable representative samples should be collected for the entire area suspected to have been exposed. If results indicate no issues, then the replanting time line can be reduced from approximately 60 days to approximately 30 days.*

2.03.06: Is the growing operation under organic principals? If No, go to 2.3.07

Total points 0: Definition for "organic principles": A system that relies on ecosystem management rather than external agricultural inputs. <http://www.fao.org/docrep/003/ac116e/ac116e02.htm>.

2.03.06a: Is current certification by an accredited organic certification organization on file and available for review?

Total points 0: Current certification by an accredited organic certification organization (national/local) should be on file and available for review.

2.03.07: Has a documented risk assessment been undertaken for the growing area with appropriate corrective actions to minimize identified hazards where necessary?

Total points 10: A risk assessment of the growing area must be performed and documented. This should include assessment of microbial, chemical and physical risks covering at least: previous use of the growing area, adjacent land, water sources (chemical hazards e.g. heavy metals, perchlorate, etc., and microbial hazards e.g. pathogenic *E. coli*), fertilizers, crop protection chemicals, worker hygiene, equipment and tools used for harvest, storage, transportation and any other applicable areas. If risks are identified in the assessment, actions to minimize them should be taken and recorded.

Adjacent Land Use

2.04.01: Is the adjacent land to the growing area a possible source of contamination from intensive livestock production (e.g. feed lots, dairy operations, poultry houses, meat rendering operation)? If No, go to 2.04.02.

Total points 10: Adjacent refers to all parcels of land next to the growing operation and within a distance where the crop in question may be affected. Examples of intensive livestock production are cattle feed lots, dairy operations, poultry houses, etc. Consideration should be made for the topography of the land for runoff, potential flooding issues, and prevailing winds for manure related dust issues.

2.04.01a: Have appropriate measures been taken to mitigate this possible contamination source onto the growing area (e.g. buffer areas, physical barriers, foundation, fences, ditches, etc.)?

Total points 15: Animal or potential contaminant movement should be restricted with acceptable buffer zones, proper fencing and/or other physical barriers. A buffer zone of approximately 400 ft. (122m) from the edge of the growing area which may increase or decrease depending on the risk variables i.e., topography (uphill from the crop or downhill from the crop) is needed. Rain induced runoff of animal waste should be diverted by trenching or similar land preparation. Leaking animal waste should be diverted by trenching or similar land preparation. *

2.04.02: Are, or is there evidence of domestic animals, wild animals, grazing lands (includes homes with hobby farms, and non-commercial livestock) in proximity to growing operation? If No, go to 2.04.03.

Total points 10: Examples include chicken coops, dogs, horses, homes with hobby farms, wild pigs, etc. Auditor must consider the maturity stage and type of crop involved. For example, pig activity around a ground level berry crop is different from a high level tree crop.

2.04.02a: Have physical measures been put in place to restrain domestic animals, grazing lands, (includes homes with hobby farms, and non-commercial livestock) and their waste from entering the growing area (e.g. vegetative strips, wind breaks, physical barriers, berms, fences, diversion ditches.)?

Total points 15: Mitigating measures should include a buffer area of approximately 30 ft. (9.1m) from the edge of the crop which may increase or decrease depending on the risk variables e.g. topography (uphill from the crop or downhill from the crop). Other measures may be used such as vegetative strips, wind breaks, physical barriers, berms, fences, diversion ditches to prevent or control runoff, mitigate particulates, etc. *

2.04.02b: Is there a written policy, supported by visual evidence that domestic, livestock, or wild animals are not allowed in the growing area? Note: This includes any packaging or equipment storage areas.

Total points 10: There is a written policy supported by visual evidence that domestic, livestock, or wild animals are not allowed in the growing area as well as any packaging, sanitizer or equipment storage areas. Animals of significant risk include deer, wild pigs, cattle, goats and sheep.

2.04.02c: Are measures in place to reduce or limit the animal intrusion (i.e., monitoring field perimeter for signs of intrusion)?

Total points 15: Proper controls and measures should include monitoring animal and wildlife activity in and proximate to fields and production environments. Produce that has come into direct contact with fecal material is not be harvested and a "no harvest zone" of approximately 5ft (1.5 m) radius should be implemented unless or until adequate mitigation measures have been considered. If evidence of fecal material is found, a food safety assessment must be conducted by qualified personnel. *

2.04.03: Are untreated animal manure piles, compost, biosolids, or non-synthetic amendment stored and/or applied on adjacent land? If No, go to 2.04.04.

Total points 10: Adjacent refers to all parcels of land next to the growing operation or within a distance where the crop in question may be affected by untreated animal manure piles, compost, biosolids, or non-synthetic amendment stored and/or applied on adjacent land.

2.04.03a: Have physical measures been taken to secure untreated animal manure piles, compost, biosolids, or non-synthetic amendment stored and/or applied on adjacent land?

Total points 15: Mitigating measures should include a buffer area of approximately 400 ft. (122 m) from the edge of the crop which may increase or decrease depending on the risk variables e.g. topography (uphill from the crop or downhill from the crop). Other measures may include tarping systems, physical barriers, fences, ditches, etc. Implementing systems to redirect run off that may contain untreated manure, compost, or biosolids. *

2.04.03b: If biosolids are stored and/or applied on adjacent land, has the adjacent landowner supplied paperwork confirming the biosolids meet prevailing guidelines, governmental, or local standards?

Total points 10: The adjacent landowner of where the biosolids are applied or stored should supply paperwork detailing sufficient information regarding the class of biosolids (e.g., Class AA, A, B): Information should be available that would make it possible to trace back to the source if needed. Information should be available to prove the materials meet prevailing guidelines, governmental, or local standards. Biosolid applications should be timed to avoid conflicts with growing schedules in adjacent fields.

2.04.04: Is the growing area situated in a higher risk location where contamination could occur from nearby operations or functions (e.g. leach fields, runoff or potential flooding from sewers, toilet systems, industrial facilities, labor camps)? If No, go to 2.04.05.

Total points 10: "Higher risk" refers to any nearby activities or operations that could pose a threat to the growing area or facility(s). These might include chemical, microbiological, or physical contamination or pollution. Examples include, but are not limited to run-off or potential flooding from sewers, toilet systems, industrial facilities, labor camps (issues of trash).

2.04.04a: Have appropriate measures been taken to mitigate risks related to nearby operations?

Total points 15: Mitigating measures should include a buffer area around the crop. For example with a properly designed leach field a buffer zone of approximately 30 ft. (9 m). Very high risk issues should consider approximately 400ft (122 m) or higher buffer zones. Buffer zone distances should be determined by considering the risk variables (e.g. topography, type of crop). Other mitigating measures may include physical barriers, fences, ditches, etc. *

2.04.05: Is there evidence of human fecal matter in the adjacent land to the audited area? If NO, go to 2.05.01 (Greenhouse Audit) or 2.07.01 (Ranch Audit) (Greenhouse Audit) or 2.07.01 (Ranch Audit)

Total points 15: Evidence of human fecal matter represents potential of contamination to the growing area, the crop and field equipment. If NO, go to 2.05.01

2.04.05a: Does the human fecal matter found in the adjacent area, represents a high risk to the crop for potential of contamination due to conditions as: lack of access controls (barriers), closeness to the growing area and equipment, crop type and maturity, land condition, and others?

Total points 20: If the fecal matter found combines with conditions that can increase the potential of contamination to the growing area, the crop or the field equipment, this represents a high risk situation that has to be addressed.

Pest and Foreign Material Controls (Applicable for greenhouses only)

2.05.01: Is there a written policy supported by visual evidence that domestic and wild animals, livestock, or birds are not allowed in the growing facility; including grounds and any packaging or equipment storage areas.

Total points 10: There is a written policy supported by visual evidence that domestic or wild birds and animals or livestock are not allowed in the growing facility(s) as well as any packaging or equipment storage areas to prevent possible physical or microbiological contamination. All areas should be free of recurring/existing external pest activity. Specifically there should be:

- No recurring/existing rodent or animal (e.g. dogs, humans, etc.) activity/spoors (significant burrows, trails, feces, tracks) in active areas within operation's property perimeter e.g. storage (packaging, bone yards), outbuildings (e.g. shade structures), etc.
- No bird nesting/activity observed around the exterior perimeter of the facility or external storage/outbuildings e.g. pallets, trailers/containers, bone yards, etc.
- No decomposed rodent(s) or other animals (frogs, lizards, etc.) in pest control devices or along perimeter.

2.05.02: Are all entry points to growing facility(s), storage and packaging areas protected to prevent entry of rodents or birds?

Total points 10: Growing facility, storage and packaging areas should be adequately constructed to prevent entry of rodents or birds. Walls, windows and screens should be maintained, doors should have no gaps greater than approximately 1/8 inch (3 mm).

2.05.03: Has the operation implemented a pest control program in the growing facility (greenhouse) based on the need for it? If answer is NO, go to 2.05.04.

Total points 0: There should be a documented risk assessment assessing the need and scope of a pest control program, including target pests and frequency of checks. The requirements for this question might be included in the documentation for site risk assessment in 2.03.07. Check to verify.

Grower should also consider customer pest control requirements for example supplier requirements and specifications.

If the grower has determined the pest control program is needed then the proper devices and controls measures should be implemented in the growing facilities.

If no program is needed the answer to this question is NO. If the answer to this question is NO go to 2.05.04.

2.05.03a: If used, are pest control devices (inc. rodent traps and electrical fly killers) located away from exposed food products? Poisonous rodent bait traps are not used within the growing facility or inside any storage or packaging areas?

Total points (5 points): Care should be taken to place pest control devices in such a manner that they do not pose a threat of contaminating product, packing or raw materials. This includes the following restrictions:

- Poisonous bait stations and other pesticides should only be used outside the greenhouse.
- There should be no domestic fly sprays used within the production and storage areas.
- Block bait as opposed to grain and pellet bait should be used (except for the external use of National Organic Program approved materials).
- If used, insect light traps (ILTs), electrical fly killers (EFKs) or pheromone traps should be regularly cleaned out (kept free from a build-up of insects and debris). Sticky type ILTs should be monitored at least monthly and the sticky board replaced if ineffective. ILTs that use sticking as opposed to zapping methods (EFKs) are preferred.
- If used, insect light traps or electric fly killers should not be placed above or in close proximity (10 feet, 3 meters) to product, food contact surfaces, equipment, or packaging material. Electric fly killers or insect light traps should not be located above dock doors (due to potential forklift damage) or in front of doorways (so attracting insects into the greenhouse). Hallways or dock areas where product passes through are exempt from these distances, as long as product does not stop or is not stored in hallway or dock.
- If used, insect light trap bulbs should be replaced at least every 12 months (this should be recorded), or as more frequently if directed by manufacturers.
- No fly swatters should be evident in production or storage areas.
- No bait should be found outside of bait stations.
- Snap traps can only be used when monitoring traps e.g. tin traps show that there is a serious problem and eradication steps are required. Snap traps should be placed inside a trap box and checked daily (and recorded). Snap traps should not use allergen containing baits e.g. peanut butter. Snap traps are only allowed as a short term emergency eradication solution since they present several risks.
- Any indoor use of chemicals e.g. knock down sprays should be done without contaminating food, packaging, and equipment (see the next bullet point regarding poisonous rodent baits). All applications should be recorded properly (scored 2.05.03g), detailing where and when the application occurred and any special methods used to avoid contamination. All applications should be made by experienced, licensed operators following any and all legal requirements and best practices.
- The use of poisonous rodent bait within the greenhouse should not occur. If this use is required, then the area that is being trapped should have all the product and packaging removed prior to the use of the poisonous baits.

2.05.03b: If used, are pest control devices maintained in a good working condition and marked as monitored (or bar code scanned) on a regular basis?

Total points 5: All pest control devices should be maintained in working condition and replaced when damaged. Date of inspections (at least monthly) should be posted on the devices (unless barcode scanned) as well as kept on file.

2.05.03c: If used, are pest control devices adequate in number and location?

Total points 5: As a minimum, traps should be placed on both sides of doorways. The distance between traps should be determined based on the activity and the needs of the operation. As a reference, the following GMP facility guidelines can be used to locate traps. Inside pest control: mechanical traps every 20 to 40 feet (6 to 12 meters). Outside building perimeter: mechanical traps and/or bait stations every 50 to 100 feet (15 to 30 meters).

2.05.03d: If used, are all pest control devices identified by a number or other code (e.g. barcode)?

Total points 5: All traps should be clearly identified (e.g. numbered) to facilitate monitoring and maintenance. All internal traps should be located with wall signs (that state the trap number and also that it is a trap identifier) in case they are moved.

2.05.03e: If used, are all pest control devices properly installed and secured?

Total points 5: All traps should be correctly orientated with openings parallel with and closest to wall. Bait traps should be locked and tamper resistant in some way (e.g. locks, screws, etc.). Bait traps should be secured to prevent removal and only block bait (no pellets) should be used. If mounted on patio stones or have integrated weight, then wall signs should be used to aid location.

2.05.03f: Is there a schematic drawing of the plant showing numbered locations of all traps and bait stations, both inside and outside the buildings?

Total points 5: Schematic drawing or trap map is on file, current and details internal and external traps. All devices should be numbered and clearly identified on the map. Map numbers should match physical placement.

2.05.03g: Are service reports created for pest control checks detailing inspection records, application records, and corrective actions (if issues were noted) (in-house and/or contract)?

Total points 5: Inspection reports are necessary for the identification and correction of pest problem areas. Records should include service(s) performed, date of service, signs of activity, corrective actions and chemicals use details:

- Product name of materials applied
- The EPA or product registration number (as required by law)
- Target pest
- Rate of application (percent of concentration)
- Location or site of application
- Method of application (if applicable)
- Amount of pesticide used
- Date and time of application
- Signature of applicator

National Pest Management Standards, Pest Management Standards for Food Plants
https://www.nmapestworld.org/documents/Foodplantstandards2010_000.pdf

2.05.04: Has the facility eliminated or controlled any potential glass, metal or hard plastic contamination issues?

Total points 10: All foreign material risks must be removed or accounted for and controlled. Examples include glass from the greenhouses, lights, hard plastic from any source, staples, metal filings, etc.

2.05.05: Is there a written glass policy (including glass breakage procedure and where necessary a glass register)?

Total points 5: Document should include site glass and brittle plastic policy; breakage procedure and if certain glass items are allowed, then a glass register should exist describing each item, location and quantity. The glass register should only list items that could not be replaced with a less dangerous material. The glass register should not be abused by allowing glass items on site that are usually viewed as poor GMP e.g. allowing glass drinking bottles into production areas, unprotected glass light bulbs. Glass register items should be checked on a routine basis (at least monthly) to ensure they are not damaged/cracked etc. Checks should be documented.

- Glass breakage procedure including requiring recording what happened, recording what happens to potentially affected product, recording future preventative actions and especially where to record the incident details e.g. in the NUOCA log.
- Clean-up procedure after glass breakage should indicate what equipment to use and include boot and tool checks/decontamination procedures to ensure broken glass is not unintentionally transported out of the area.

2.05.06: Are the growing facility(s), including grounds and any packaging and storage areas clean and well maintained?

Total points 10: All facility areas should be kept clean and free from debris and other extraneous materials. This helps avoid pest attraction and contamination of products or packaging. Pest activity is easier to detect in a clean area. Litter, waste, refuse, uncut weeds or grass and standing water inside, or within the immediate vicinity of the building may constitute an attractant or breeding place for rodents, insects or other pests, as well as microorganisms that may cause contamination.

2.05.07: If applicable, are compost and/or substrate receiving and storage areas adequately separated from crop production and packaging and other storage areas?

Total points 10: Adequate separation of compost and substrates from growing and other storage areas is essential to prevent possible cross contamination.

Growing Media (Substrate) Use (Applicable for greenhouses only)

2.06.01: Is soil used in the growing operation?

Total points 0: Information gathering question.

2.06.02: Is a hydroponic system used?

Total points 0: Information gathering question.

2.06.03: If a hydroponic system is used, is it a "closed" hydroponic system (excess solution is captured and reused)?

Total points 0: Information gathering question.

2.06.03a: If used, are records available detailing how the solution is treated for recycling?

Total points 15: This refers to wastewater from the roots that is recaptured, sterilized, and reused to reduce environmental waste and contamination, and to conserve water. Growers should sterilize the recycled nutrient water by heating it to approximately 90°C (194°F), U.V., ozonation, etc.

2.06.04: Are substrates (e.g. sand, gravel, vermiculite, rockwool, perlite, peat moss, coir, etc.) used?

Total points 0: Information gathering question.

2.06.04a: If substrates are heat/steam sterilized, have the location, date of sterilization, time/temperature readings, operator's name and pre-plant interval been recorded?

Total points 15: When the substrates are sterilized on-site, the name or reference of the facility is recorded. If sterilized off-site then name and location of company performing service should be recorded. Information should include: date of sterilization, time/temperatures used, machinery and method operator's name and pre-planting interval.

Fertilizer/Crop Nutrition

2.07.01: Is untreated human sewage sludge used in the growing cycle? A 'YES' ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Untreated human sewage sludge is not to be used in the growing cycle. If used, automatic failure of this audit will result. Treated biosolids are covered by questions later in this section.

2.07.02: Is compost produced from animal derived materials used by the grower? If No, go to 2.07.03.

Total points 0: This question is specifically targeting compost produced from raw animal manures, as opposed to green waste.

2.07.02a: Are compost applications incorporated into the soil prior to planting or bud burst for tree crops and not applied during the growing season?

Total points 10: If used, the applications should be incorporated into the soil prior to planting.

2.07.02b: Are there compost use records available for each growing area, including application records which shows that the interval between application and harvest was not less than 45 days (unless validation studies prove a shorter interval is acceptable)?

Total points 15: Compost records showing the date of application, the lot code of compost applied, method of application and where the compost was applied should be available. Records should show a 45 day interval between compost application and harvesting unless more stringent national or local legislation/guidelines exist. A shorter interval is possible if the compost material has been through a physical/chemical/biological process to inactivate human pathogens and the auditee has validation study documentation that shows that the material is safe and at least meets the microbial parameters as per q 2.07.02c. Validation studies must applicable to situation at hand and care should be taken not to over extrapolate. There should be confirmation that monitoring records of the validation study's key requirements are being kept and that these monitoring records are being verified. There should be sufficient information in the records that would make it possible to trace an application back if needed.

2.07.02c: Are there Certificate(s) of Analysis (CoA) from the compost supplier(s) that covers pathogen testing (plus any other legally/best practice required testing) and does the grower have relevant letters of guarantee regarding SOP's and logs?

Total points 20: Certificates of analysis should be available for each lot of compost (containing animal materials) used. Tests should include microbiological analysis for pathogens: *Salmonella*, *E. coli* O157:H7

and Fecal Coliforms using approved sampling and testing methods (e.g., AOAC and an accredited laboratory). Where legally allowed, a reduced sampling rate is possible if the compost material is produced by the auditee (e.g. mushroom growing operations with in-house compost production) and has been through a physical/chemical/biological process to inactivate human pathogens and the auditee has validation study documentation that shows that the material is safe and proper process control records e.g. time/temperature records and calibration records e.g. temperature probe are maintained and available to audit. Validation studies must be applicable to situation at hand and care should be taken not to over extrapolate. All local and national legislation should also be followed. The grower should have proof that compost suppliers have cross contamination SOP's and temperature/turning logs. *

2.07.02d: Are there Certificate(s) of Analysis (COA), letters of guarantee or some other documents from the compost supplier(s) that covers heavy metal testing?

Total points 10: Certificate(s) of Analysis (COA), letters of guarantee or some other documents from the compost supplier(s) that covers heavy metal testing should be available. Concerns are for heavy metals that may affect human health (e.g., Cadmium (Cd) Arsenic (As), Chromium (Cr), Lead (Pb), Mercury (Hg), Nickel (Ni), and Vanadium (V).). See Section 17868.2. Maximum Metal Concentrations for reference levels for an example of local State laws. All local and national legislation should also be followed. <http://www.calrecycle.ca.gov/laws/Regulations/Title14/ch31a5.htm>

2.07.03: Are biosolids used? If No, go to 2.07.04. NOTE: Special attention to commodity specific guidelines rules (e.g., Californian Leafy Greens) which ban the use of biosolids, see 2.07.03d.

Total points 0: This refers to organic materials resulting from the treatment of domestic sewage at a wastewater treatment facility. See http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr503_main_02.tpl

2.07.03a: Are biosolids incorporated into the soil prior to planting or bud burst for tree crops and not applied during the growing season?

Total points 15: Applications should be incorporated into the soil prior to planting. Maximizing time between the application and harvest is recommended; see local legislation and best practice guidelines, e.g. EPA Biosolid regulations in the US. http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr503_main_02.tpl

2.07.03b: Are the grower's biosolids use records available for each growing area, especially application records?

Total points 15: There should be sufficient information in the records that would make it possible to trace an application back if needed. Application records should include at least the date, lot code and application method. Examples of supporting records may include invoices that contain lot numbers, delivery location, delivery date, etc. The documentation should be current and available for review.

2.07.03c: Is there a Certificate(s) of Analysis (COA) from the biosolid supplier(s) certifying compliance with prevailing national/ local standards and guidelines (microbiological analysis)? A 'NO' ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Microbiological analysis should correlate with the product lot use reports (e.g. lot numbers, delivery location, delivery date). Only approved suppliers should be used limited to those firms demonstrating consistent compliance with prevailing national/ local standards and guidelines (e.g. heavy

metal and microbiological testing) including classification AA, A, B, etc., or additional tests that may be required.

2.07.03d: Are there Certificate(s) of Analysis (COA), letters of guarantee or some other documents from the biosolid supplier(s) certifying compliance with prevailing national/ local standards and guidelines (heavy metal test analysis)?

Total points 10: Certificate(s) of Analysis (COA), letters of guarantee or some other documents from the biosolid supplier(s) that covers heavy metal testing should be available. Concerns are for heavy metals that may affect human health (e.g. Cadmium (Cd) Arsenic (As), Chromium (Cr), Lead (Pb), Mercury (Hg), Nickel (Ni), and Vanadium (V).).

2.07.03e: Are biosolids being applied to crops where the country of production regulations/guidelines ban the use such materials e.g. Leafy Green Commodity Specific Guidelines in California? A 'YES' ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Some commodity specific guidelines have rules regarding use of biosolids, e.g. Californian Leafy Green Commodity Specific Guidelines bans the use of biosolids.

2.07.04: Is untreated animal manure used? If No, go to 2.07.05. NOTE: Special attention to commodity specific guidelines rules (e.g., Californian Leafy Green Commodity Specific Guidelines) which ban the use of untreated animal manures. See 2.07.04d.

Total points 15: Untreated animal manure refers to manure that is raw and has not gone through a treatment process. Note that some commodity specific guidelines have rules regarding use of untreated manures (e.g. Californian Leafy Green Commodity Specific Guidelines bans the use of untreated manures).

2.07.04a: Is untreated animal manure incorporated into the soil prior to planting or bud burst for tree crops and not applied during the growing season?

Total points 20: If used, the applications should be incorporated into the soil prior to planting.

2.07.04b: Are there untreated animal manure records available for each growing area including application records which shows that the interval between application and harvest was not less than 120 days (unless more stringent laws or guidelines exist)?

Total points 15: There should be sufficient information in the records that would make it possible to trace an application back if needed. Application records should include at least the date, lot code and application method. Examples of supporting records may include invoices that contain lot numbers, delivery location, delivery date, etc. The documentation should be current and available for review.

2.07.04c: Are there Certificate(s) of Analysis (COA), specification or some other document available for review provided by the untreated animal manure supplier stating the components of the material?

Total points 20: There should be sufficient identification information that would make it possible to trace back to the source if needed therefore only approved suppliers should be used limited to those firms demonstrating consistent compliance with prevailing national/ local standards and guidelines.

2.07.04d: Are untreated animal manures being used where the country regulations/guidelines ban the use such materials (e.g., Californian Leafy Green Commodity Specific Guidelines)? A 'YES' ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Some commodity specific guidelines have rules regarding use of untreated animal manures, (e.g., Californian Leafy Green Commodity Specific Guidelines) bans the use of untreated animal manures.

2.07.05: Are other non-synthetic crop treatments used (e.g. compost teas, fish emulsions, fish meal, blood meal, "bio fertilizers")? If No, go to 2.07.06.

Total points 0: Examples include but are not limited to compost teas, fish emulsions, fish meal, blood meal, and "bio fertilizers" that are produced from animal materials.

2.07.05a: Are non-synthetic treatments that contain animal products or animal manures applied to the edible portions crops?

Total points 15: Non-synthetic treatments that contain animal products or animal manures should not be applied to the edible portions of crops.

2.07.05b: Are nonsynthetic crop treatment records available for each growing area including application records demonstrating the interval between application and harvest was not less than 45 days (unless validation studies prove a shorter interval is acceptable)?

Total points 15: Non-synthetic crop treatment records should be available for each growing facility(s) including application records demonstrating the interval between application and harvest was at least 45 days, unless more stringent national and local legislation/guidelines exist. A shorter interval is possible, if the non-synthetic material has been through a physical/chemical/biological process to inactivate human pathogens and the auditee has validation study documentation that shows that the material is safe and at least meets the microbial parameters as per Q 2.07.05c. Validation studies must be applicable to situation at hand and care should be taken not to over extrapolate. There should be confirmation that monitoring records of the validation study's key requirements are being kept and that these monitoring records are being verified. There should be sufficient information in the records that would make it possible to trace an application back if needed. Application records should include at least the date, lot code and application method. *

2.07.05c: Are there Certificate(s) of Analysis available from the non-synthetic crop treatment suppliers that covers pathogen testing (plus any other legally/best practice required testing)?

Total points 20: Certificates of analysis should be available for each lot of non-synthetic crop treatment (containing animal materials) used. Tests should include microbiological test analysis. Microbial testing should include Salmonella and *E. coli* O157:H7 using approved sampling and testing methods, e.g. AOAC, and an accredited laboratory. Where legally allowed, a reduced sampling rate is possible if the compost material is produced by the auditee (e.g. mushroom growing operations with in-house compost production), has been through a physical/chemical/biological process to inactivate human pathogens and the auditee has validation study documentation that shows that the material is safe and proper process control records (e.g. time/temperature records and calibration records (such as, temperature probe) are maintained and available during the audit. Validation studies must be applicable to the situation at hand and care should be taken not to over extrapolate. All local and national legislation should also be followed. *

2.07.05d: Are there Certificate(s) of Analysis (COA), letters of guarantee or some other documents from the non-synthetic crop treatment suppliers that covers heavy metal testing?

Total points 10: Certificate(s) of Analysis (COA), letters of guarantee or some other documents from the non-synthetic crop treatment supplier(s) that covers heavy metal testing should be available. Concerns are for heavy metals that may affect human health (e.g. Cadmium (Cd) Arsenic (As), Chromium (Cr), Lead (Pb), Mercury (Hg), Nickel (Ni), and Vanadium (V).).

2.07.06: Are any soil or substrate amendments (except inorganic nutrients/fertilizers) used that do not contain animal products and/or animal manures? If No, go to 2.07.07.

Total points 0: This refers to soil or substrate amendments (except inorganic nutrients/fertilizers) used that do not contain animal products and/or animal manures. Examples include but are not limited to plant by-products, humates, seaweed, inoculants, and conditioners.

2.07.06a: Are the grower's soil or substrate amendment (except inorganic nutrients/fertilizers that do not contain animal products and/or animal manures) records available for review including application records?

Total points 10: Records should legible and at least detail date of application, type of fertilizer, amount, method of application (drip, bulk, etc.) and operator name. There should be sufficient identification information in the records that would make it possible to trace an application back to the site if needed.

2.07.06b: Are there Certificate(s) of Analysis (COA) and/or letters of guarantee stating that the materials used are free from animal products and/or animal manures?

Total points 20: There should be Certificate(s) of Analysis and/or letters of guarantee from the fertilizer supplier, stating that the materials they are supplying are free from animal products and/or animal manures. A statement of ingredients or letter from suppliers attesting this fact is acceptable. Auditor should match the names of the materials being used with the COA's and/or letters of guarantee.

2.07.07: Are inorganic fertilizers used? If No, go to 2.07.08.

Total points 0: Examples of manufactured inorganic fertilizers include ammonium nitrate, ammonium sulfate, chemically synthesized urea, etc. These are sometimes called synthetic fertilizers.

2.07.07a: Are the grower's inorganic fertilizer records available for review including application records?

Total points 10: Records should be legible and at least detail date of application, type of fertilizer, amount, method of application (drip, bulk, etc.), and operator name. There should be sufficient identification information in the records that would make it possible to trace an application back to the site if needed.

2.07.07b: Are there Certificate(s) of Analysis (COA), letters of guarantee or some other documents from the inorganic fertilizer supplier(s) that specifies the all the ingredients including inert materials?

Total points 7: Certificate(s) of Analysis (COA), letters of guarantee or other formal documentation from the fertilizer manufacturer's or supplier(s) should be current and state any inert or active ingredient substances used as "fillers" (e.g., clay pellets, granular limestone). Concerns are for heavy metals that may affect human health (e.g. Cadmium (Cd) Arsenic (As), Chromium (Cr), Lead (Pb), Mercury (Hg), Nickel (Ni), and Vanadium (V).).

2.07.08: If fertilizers and/or fertilizer containers are stored on the property, are they stored in a manner to prevent contamination to the growing area(s), product or any of water sources?

Total points 3: Fertilizers and/or fertilizer containers should be stored securely to prevent contamination issues.

Irrigation/Water Use

Note: this section includes water used in the mixing of fertilizers and pesticides. If contracted sprayer operations are utilized then the water they used when diluting materials should be considered in this section, even if mixed off site.

2.08.01: Does the growing operation practice dryland farming? If No, go to 2.08.02.

Total points 0: This refers to crop production that relies only on direct rainfall.

2.08.01a: If the growing operation practices dryland farming, are there water systems used in the growing operation to supply for crop needs such as crop protection/fertilizer applications, and frost or freeze prevention program? If No, go to 2.08.02.

Total points 0: Water systems used in the growing operation to supply for crop needs such as crop protection/fertilizer applications, and frost or freeze prevention program.

2.08.01b: Are microbiological tests, including generic *E. coli* conducted on the water? If No, go to 2.08.01d.

Total points 20: Microbial water testing including generic *E. coli* should occur for all water sources used for any growing activities like crop protection/fertilizer and frost or freeze prevention programs. The score for this question is "No" if test records are older than 12 months.

2.08.01c: Are the microbiological tests current and conducted at the required and/or expected frequencies?

Total points 15: One sample per water source should be collected and tested prior to use and then ideally monthly, or at frequency relative to the associated risks. * For commodities under the CA Leafy Greens agreement, one sample per water source should be collected and tested prior to use if >60 days since the last test of the water source. Routine sampling should be collected no less than 18 hour apart and at least monthly during use.

2.08.01d: Do written procedures (SOPs) exist covering proper sampling protocols which include where samples should be taken and how samples should be identified?

Total points 10: There should be documented procedures in place detailing how water samples are taken in the field including stating how samples should be identified i.e. clearly naming the location that the sample was taken, the water source and the date (this is important in order to be able to calculate geometric means). Samples should be taken at a point as close to the point of use as possible where water contacts the crop, so as to test both the water source and the water distribution system.

2.08.01e: Do written procedures (SOPs) exist covering corrective measures for unsuitable or abnormal water testing results?

Total points 10: Written procedures (SOPs) should exist covering corrective measures not only for the discovery of unsuitable or abnormal water results but also as a preparation on how to handle such findings.

2.08.01f: If unsuitable or abnormal results have been detected, have documented corrective measures been performed?

Total points 20: For generic *E. coli* (unless more stringent guidelines/laws in existence) <126MPN (or CFU)/100mL (rolling geometric mean n=5) and <235MPN (or CFU)/100mL for any single sample. Where thresholds have been exceeded there should be recorded corrective actions including investigations, water retests and crop testing (*E. coli* O157:H7 and Salmonella - zero tolerance). *

2.08.02: Is the water used for the growing operation sourced from municipal or district water pipeline systems? If No, go to 2.08.03.

Total points 0: Information gathering question.

2.08.02a: Are microbiological tests, including generic *E. coli* conducted on the water? If No, go to 2.08.02c.

Total points 20: Microbial water testing including generic *E. coli* should occur on a routine basis. All water sources should be tested that are used for direct contact with the edible portion of a crop as well as non-contact water sources. The score for this question is "No" if test records are older than 12 months.

2.08.02b: Are the microbiological tests current and conducted at the required and/or expected frequencies?

Total points 15: One sample per water source should be collected and tested prior to use and then ideally monthly, or at frequency relative to the associated risks. * For commodities under the CA Leafy Greens agreement, one sample per water source should be collected and tested prior to use if >60 days since the last test of the water source. Routine sampling should be collected no less than 18 hour apart and at least monthly during use.

2.08.02c: Do written procedures (SOPs) exist covering proper sampling protocols which include where samples should be taken and how samples should be identified?

Total points 10: There should be documented procedures in place detailing how water samples are taken in the field including stating how samples should be identified i.e. clearly naming the location that the sample was taken, the water source and the date (this is important in order to be able to calculate geometric means). Samples should be taken at a point as close to the point of use as possible where water contacts the crop, so as to test both the water source and the water distribution system.

2.08.02d: Do written procedures (SOPs) exist covering corrective measures for unsuitable or abnormal water testing results?

Total points 10: Written procedures (SOPs) should exist covering corrective measures not only for the discovery of unsuitable or abnormal water results but also as a preparation on how to handle such findings.

2.08.02e: If unsuitable or abnormal results have been detected, have documented corrective measures been performed?

Total points 20: For generic *E. coli* (unless more stringent guidelines/laws in existence) <126MPN (or CFU)/100mL (rolling geometric mean n=5) and <235MPN (or CFU)/100mL for any single sample. Where thresholds have been exceeded there should be recorded corrective actions including investigations, water retests and crop testing (*E. coli* O157:H7 and Salmonella - zero tolerance). *

2.08.02f: Are the crops irrigated by a micro irrigation or drip system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.02g: Is overhead irrigation used to irrigate the crop or as part of a frost or freeze prevention program? NOTE: "Irrigating the crop" refers to irrigation during the mature growing cycle. This does not include pre-planting or just after planting to create a stand.

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.02h: Are the crops irrigated by flood irrigation or a furrow system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.02i: Are the crops sub irrigated (also known as seepage irrigation)?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.03: Is the water used in the growing operation sourced from wells? If No, go to 2.08.04.

Total points 0: Information gathering question.

2.08.03a: Are all well heads at adequate distance from untreated manure?

Total points 15: There should be approximately 200ft (61m) separation of untreated manure from wells. Distance may increase or decrease depending on the risk variables e.g. topography (uphill or downhill). *

2.08.03b: Is the well designed to prevent contamination?

Total points 10: If wells are used they must be designed to prevent contamination. Closed wells should be sealed and protected against contamination issues.

2.08.03c: Is it evident that the well(s) is free from contamination issues and are measures taken to minimize contamination of wells?

Total points 10: A routine maintenance and program should be in place that includes removal of all inappropriate materials (e.g. plant material, trash, animal carcasses). Filtration, disinfection systems, etc. also may be part of the measures taken to minimize contamination. Well heads should be free from cracks in the concrete.

2.08.03d: Are records kept for periodic inspections and treatment of wells (if performed) available for review?

Total points 7: "Records" may include calendar books with commentary regarding what was checked, the condition, unusual occurrences, and any action taken. If using a disinfection injection system (e.g. chlorination), there should be monitoring logs completed on at least a daily basis. Any well "shocking" should be recorded. The appropriate support documentation should be available for review.

2.08.03e: Are microbiological tests, including generic *E. coli* conducted on the water? If No, go to 2.08.03g.

Total points 20: Microbial water testing including Generic *E. coli* should occur on a routine basis. All water sources should be tested that are used for direct contact with the edible portion of a crop as well as non-contact water sources. The score for this question is "No" if test records are older than 12 months.

2.08.03f: Are the microbiological tests current and conducted at the required and/or expected frequencies?

Total points 15: One sample per water source should be collected and tested prior to use and then ideally monthly, or at frequency relative to the associated risks. * For commodities under the CA Leafy Greens agreement, one sample per water source should be collected and tested prior to use if >60 days since the last test of the water source. Routine sampling should be collected no less than 18 hour apart and at least monthly during use.

2.08.03g: Do written procedures (SOPs) exist covering proper sampling protocols which include where samples should be taken and how samples should be identified?

Total points 10: There should be documented procedures in place detailing how water samples are taken in the field including stating how samples should be identified i.e. clearly naming the location that the sample was taken, the water source and the date (this is important in order to be able to calculate geometric means). Samples should be taken at a point as close to the point of use as possible where water contacts the crop, so as to test both the water source and the water distribution system.

2.08.03h: Do written procedures (SOPs) exist covering corrective measures for unsuitable or abnormal water testing results?

Total points 10: Written procedures (SOPs) should exist covering corrective measures not only for the discovery of unsuitable or abnormal water results but also as a preparation on how to handle such findings.

2.08.03i: If unsuitable or abnormal results have been detected, have documented corrective measures been performed?

Total points 20: For generic *E. coli* (unless more stringent guidelines/laws in existence) <126MPN (or CFU)/100mL (rolling geometric mean n=5) and <235MPN (or CFU)/100mL for any single sample. Where thresholds have been exceeded there should be recorded corrective actions including investigations, water retests and crop testing (*E. coli* O157:H7 and Salmonella - zero tolerance). *

2.08.03j: Are the crops irrigated by a micro irrigation or drip system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.03k: Is overhead irrigation used to irrigate the crop or as part of a frost or freeze prevention program? NOTE: "Irrigating the crop" refers to irrigation during the mature growing cycle. This does not include pre-planting or just after planting to create a stand.

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.03l: Are the crops irrigated by flood irrigation or a furrow system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.03m: Are the crops sub irrigated (also known as seepage irrigation)?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.04: Is the water used in the growing operation sourced from ponds, reservoirs, watersheds or other surface water source? If No, go to 2.08.05.

Total points 0: Water sourced from ponds, reservoirs, watersheds or other surface water systems may carry more of a risk for contamination than closed water sources. For surface waters, consider the impact of storm events on irrigation practices. Bacterial loads in surface water are generally much higher than normal, and caution should be exercised when using these waters for irrigation.

2.08.04a: Is surface water in adequate distance from untreated manure?

Total points 15: There should be approximately 100ft (30 m) separation for sandy soil and 200ft (61 m) separation for loam or clay soil (slope less than 6%; increase distance to 300ft (91 m) if slope is greater than 6%). Distance may increase or decrease depending on the risk variables e.g. topography (uphill or downhill). *

2.08.04b: Do animals (domestic, livestock, or wild) have access to the water source?

Total points 7: Animals (domestic, livestock, or wild) should not have access to the system due to the possibility of contamination occurrences.

2.08.04c: Is it evident that the water source is free of contamination issues and are measures taken to minimize contamination of the water source?

Total points 10: A routine maintenance program should be in place that includes removal of all inappropriate materials (e.g. plant material, trash, animal carcasses). Filtration, documentation of animal intrusion, disinfection systems, etc. also may be part of the measures taken to minimize contamination.

2.08.04d: Are records kept for the periodic visual inspections and disinfection treatments (if used) available for review?

Total points 7: "Records" may include calendar books with commentary regarding what was checked, the condition, unusual occurrences, and any action taken. If using a disinfection injection system (e.g. chlorination), there should be monitoring logs completed on at least a daily basis. The appropriate support documentation should be available for review.

2.08.04e: Are microbiological tests, including generic *E. coli* conducted on the water? If No, go to 2.08.04g.

Total points 20: Microbial water testing including generic *E. coli* should occur on a routine basis. All water sources should be tested that are used for direct contact with the edible portion of a crop as well as non-contact water sources. The score for this question is "No" if test records are older than 12 months.

2.08.04f: Are the microbiological tests current and conducted at the required and/or expected frequencies?

Total points 15: One sample per water source should be collected and tested prior to use and then ideally monthly, or at frequency relative to the associated risks. * For commodities under the CA Leafy Greens agreement, one sample per water source should be collected and tested prior to use if >60 days since the last test of the water source. Routine sampling should be collected no less than 18 hour apart and at least monthly during use.

2.08.04g: Do written procedures (SOPs) exist covering proper sampling protocols which include where samples should be taken and how samples should be identified?

Total points 10: There should be documented procedures in place detailing how water samples are taken in the field including stating how samples should be identified i.e. clearly naming the location that the sample was taken, the water source and the date (this is important in order to be able to calculate geometric means). Samples should be taken at a point as close to the point of use as possible where water contacts the crop, so as to test both the water source and the water distribution system.

2.08.04h: Do written procedures (SOPs) exist covering corrective measures for unsuitable or abnormal water testing results?

Total points 10: Written procedures (SOPs) should exist covering corrective measures not only for the discovery of unsuitable or abnormal water results but also as a preparation on how to handle such findings.

2.08.04i: If unsuitable or abnormal results have been detected, have documented corrective measures been performed?

Total points 20: For generic *E. coli* (unless more stringent guidelines/laws in existence) <126MPN (or CFU)/100mL (rolling geometric mean n=5) and <235MPN (or CFU)/100mL for any single sample. Where thresholds have been exceeded there should be recorded corrective actions including investigations, water retests and crop testing (*E. coli* O157:H7 and Salmonella - zero tolerance). *

2.08.04j: Are the crops irrigated by a micro irrigation or drip system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.04k: Is overhead irrigation used to irrigate the crop or as part of a frost or freeze prevention program? NOTE: "Irrigating the crop" refers to irrigation during the mature growing cycle. This does not include pre-planting or just after planting to create a stand.

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.04l: Are the crops irrigated by flood irrigation or a furrow system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.04m: Are the crops sub irrigated (also known as seepage irrigation)?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.05: Is the water used in the growing operation sourced from canals, rivers, ditches, or other open flowing water systems? If No, go to 2.08.06.

Total points 0: Water sourced from canals, rivers, ditches or other open flowing water systems may carry more of a risk for contamination than closed water sources. For surface waters, consider the impact of storm events on irrigation practices. Bacterial loads in surface water are generally much higher than normal, and caution should be exercised when using these waters for irrigation.

2.08.05a: Is surface water in adequate distance from untreated manure?

Total points 15: There should be approximately 100ft (30 m) separation for sandy soil and 200ft (61 m) separation for loam or clay soil (slope less than 6%; increase distance to 300ft (91 m) if slope is greater than 6%). Distance may increase or decrease depending on the risk variables e.g. topography (uphill or downhill). *

2.08.05b: Is the water source under the direction of a water authority or district?

Total points 5: Water sources from rivers, canals, etc., should be managed from a central authority charged with maintaining adequate water quality. Evidence like permits, invoices, etc., are useful compliance evidence.

2.08.05c: Do animals (domestic, livestock, or wild) have access to the water source?

Total points 7: Animals (domestic, livestock, or wild) should not have access to the system due to the possibility of contamination occurrences.

2.08.05d: Is it evident that the water source is free of contamination issues and are measures taken to minimize contamination of the water source?

Total points 10: A routine maintenance program should be in place that includes removal of all inappropriate materials (e.g. plant material, trash, animal carcasses). Filtration, documentation of animal intrusion, disinfection systems, etc. also may be part of the measures taken to minimize contamination.

2.08.05e: Are records kept for periodic visual inspection and disinfection (if occurring) of the water source and available for review?

Total points 7: "Records" may include calendar books with commentary regarding what was checked, the condition, unusual occurrences, and any action taken. If using a disinfection injection system (e.g. chlorination), there should be monitoring logs completed on at least a daily basis. The appropriate support documentation should be available for review.

2.08.05f: Are microbiological tests, including generic *E. coli* conducted on the water? If No, go to 2.08.05h.

Total points 20: Microbial water testing including generic *E. coli* should occur on a routine basis. All water sources should be tested that are used for direct contact with the edible portion of a crop as well as non-contact water sources. The score for this question is "No" if test records are older than 12 months.

2.08.05g: Are the microbiological tests current and conducted at the required and/or expected frequencies?

Total points 15: One sample per water source should be collected and tested prior to use and then ideally monthly, or at frequency relative to the associated risks. * For commodities under the CA Leafy Greens agreement, one sample per water source should be collected and tested prior to use if >60 days since the last test of the water source. Routine sampling should be collected no less than 18 hour apart and at least monthly during use.

2.08.05h: Do written procedures (SOPs) exist covering proper sampling protocols which include where samples should be taken and how samples should be identified?

Total points 10: There should be documented procedures in place detailing how water samples are taken in the field including stating how samples should be identified i.e. clearly naming the location that the sample was taken, the water source and the date (this is important in order to be able to calculate geometric means). Samples should be taken at a point as close to the point of use as possible where water contacts the crop, so as to test both the water source and the water distribution system.

2.08.05i: Do written procedures (SOPs) exist covering corrective measures for unsuitable or abnormal water testing results?

Total points 10: Written procedures (SOPs) should exist covering corrective measures not only for the discovery of unsuitable or abnormal water results but also as a preparation on how to handle such findings.

2.08.05j: If unsuitable or abnormal results have been detected, have documented corrective measures been performed?

Total points 20: For Generic *E. coli* (unless more stringent guidelines/laws in existence) <126MPN (or CFU)/100mL (rolling geometric mean n=5) and <235MPN (or CFU)/100mL for any single sample. Where thresholds have been exceeded there should be recorded corrective actions including investigations, water retests and crop testing (*E. coli* O157:H7 and Salmonella - zero tolerance). *

2.08.05k: Are the crops irrigated by a micro irrigation or drip system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.05l: Is overhead irrigation used to irrigate the crop or as part of a frost or freeze prevention program? NOTE: "Irrigating the crop" refers to irrigation during the mature growing cycle. This does not include pre-planting or just after planting to create a stand.

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.05m: Are the crops irrigated by flood irrigation or furrow system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.05n: Are the crops sub irrigated (also known as seepage irrigation)?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.06: Is reclaimed water used in the growing operation? NOTE: This refers to wastewater that has gone through a treatment process. If No, go to 2.08.07.

Total points 0: Wastewater that has been gone through a treatment process. Reclaimed water shall be subject to applicable local and national regulations and standards. Prior to using this water for agricultural purposes growers should check with regulatory bodies to determine the appropriate parameters and tolerances to be used.

2.08.06a: Is the reclamation process under the direction of a water reclamation management or authority?

Total points 10: Reclaimed water should be treated with adequate disinfection systems and tested frequently, ideally under the direction of a water reclamation authority or other management body. Reclaimed water shall be subject to applicable local and national regulations and standards. Prior to using this water for agricultural purposes growers should check with regulatory bodies to determine the appropriate parameters and tolerances to be used.

2.08.06b: Are microbial control measures for reclaimed water utilized?

Total points 15: Reclaimed water should be treated with adequate disinfection systems and tested frequently to ensure water quality standards are met. Reclaimed water shall be subject to applicable local and national regulations and standards. Prior to using this water for agricultural purposes growers should check with regulatory bodies to determine the appropriate parameters and tolerances to be used.

2.08.06c: Are microbiological tests, including generic *E. coli* conducted on the water? If No, go to 2.08.06e.

Total points 20: Microbial water testing including generic *E. coli* should occur on a routine basis. All water sources should be tested that are used for direct contact with the edible portion of a crop as well as non-contact water sources. The score for this question is "No" if test records are older than 12 months.

2.08.06d: Are the microbiological tests current and conducted at the required and/or expected frequencies?

Total points 15: One sample per water source should be collected and tested prior to use and then ideally monthly, or at frequency relative to the associated risks. * For commodities under the CA Leafy Greens agreement, one sample per water source should be collected and tested prior to use if >60 days since the last test of the water source. Routine sampling should be collected no less than 18 hour apart and at least monthly during use.

2.08.06e: Do written procedures (SOPs) exist covering proper sampling protocols which include where samples should be taken and how samples should be identified?

Total points 10: There should be documented procedures in place detailing how water samples are taken in the field including stating how samples should be identified i.e. clearly naming the location that the sample was taken, the water source and the date (this is important in order to be able to calculate geometric means). Samples should be taken at a point as close to the point of use as possible where water contacts the crop, so as to test both the water source and the water distribution system.

2.08.06f: Do written procedures (SOPs) exist covering corrective measures for unsuitable or abnormal water testing results?

Total points 10: Written procedures (SOPs) should exist covering corrective measures not only for the discovery of unsuitable or abnormal water results but also as a preparation on how to handle such findings.

2.08.06g: If unsuitable or abnormal results have been detected, have documented corrective measures been performed?

Total points 20: For generic *E. coli* (unless more stringent guidelines/laws in existence) <126MPN (or CFU)/100mL (rolling geometric mean n=5) and <235MPN (or CFU)/100mL for any single sample. Where thresholds have been exceeded there should be recorded corrective actions including investigations, water retests and crop testing (*E. coli* O157:H7 and Salmonella - zero tolerance). *

2.08.06h: Are the crops irrigated by a micro irrigation or drip system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.06i: Is overhead irrigation used to irrigate the crop or as part of a frost or freeze prevention program? NOTE: "Irrigating the crop" refers to irrigation during the mature growing cycle. This does not include pre-planting or just after planting to create a stand.

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.06j: Are the crops irrigated by flood irrigation or a furrow system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.06k: Are the crops sub irrigated (also known as seepage irrigation)?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.07: Are tail water (run off water) systems used in the growing operation? If No, go to 2.08.08.

Total points 0: Tail water return systems catch spilled or runoff water and pump the water back to the top of the field.

2.08.07a: Is surface water in adequate distance from untreated manure?

Total points 15: There should be approximately 100ft (30 m) separation for sandy soil and 200ft (61 m) separation for loam or clay soil (slope less than 6%; increase distance to 300ft (91 m) if slope is greater than 6%). Distance may increase or decrease depending on the risk variables e.g. topography (uphill or downhill). *

2.08.07b: Do animals (domestic, livestock, or wild) have access to the tail water systems?

Total points 7: Animals (domestic, livestock, or wild) should not have access to the system due to the possibility of contamination occurrences.

2.08.07c: Is it evident that the water source is free of contamination issues and are measures taken to minimize contamination of the tail water system?

Total points 10: A routine maintenance program should be in place that includes removal of all inappropriate materials (e.g. plant material, trash, animal carcasses). Filtration, documentation of animal intrusion, disinfection systems, etc. also may be part of the measures taken to minimize contamination.

2.08.07d: Are records kept for periodic visual inspection and disinfection (if occurring) of the water source and available for review?

Total points 7: "Records" may include calendar books with commentary regarding what was checked, the condition, unusual occurrences, and any action taken. If using a disinfection injection system (e.g. chlorination), there should be monitoring logs completed on at least a daily basis. The appropriate support documentation should be available for review.

2.08.07e: Are microbiological tests, including generic *E. coli* conducted on the water? If No, go to 2.08.07g.

Total points 20: Total points 0: Microbial water testing including generic *E. coli* should occur on a routine basis. All water sources should be tested that are used for direct contact with the edible portion of a crop as well as non-contact water sources. The score for this question is "No" if test records are older than 12 months.

2.08.07f: Are the microbiological tests current and conducted at the required and/or expected frequencies?

Total points 15: One sample per water source should be collected and tested prior to use and then ideally monthly, or at frequency relative to the associated risks. * For commodities under the CA Leafy Greens agreement, one sample per water source should be collected and tested prior to use if >60 days since the last test of the water source. Routine sampling should be collected no less than 18 hour apart and at least monthly during use.

2.08.07g: Do written procedures (SOPs) exist covering proper sampling protocols which include where samples should be taken and how samples should be identified?

Total points 10: There should be documented procedures in place detailing how water samples are taken in the field including stating how samples should be identified i.e. clearly naming the location that the sample was taken, the water source and the date (this is important in order to be able to calculate geometric means). Samples should be taken at a point as close to the point of use as possible where water contacts the crop, so as to test both the water source and the water distribution system.

2.08.07h: Do written procedures (SOPs) exist covering corrective measures for unsuitable or abnormal water testing results?

Total points 10: Written procedures (SOPs) should exist covering corrective measures, not only for the discovery of unsuitable or abnormal water results but also as a preparation on how to handle such findings.

2.08.07i: If unsuitable or abnormal results have been detected, have documented corrective measures been performed?

Total points 20: For generic *E. coli* (unless more stringent guidelines/laws in existence) <126MPN (or CFU)/100mL (rolling geometric mean n=5) and <235MPN (or CFU)/100mL for any single sample. Where thresholds have been exceeded there should be recorded corrective actions including investigations, water retests and crop testing (*E. coli* O157:H7 and Salmonella - zero tolerance). *

2.08.07j: Are the crops irrigated by a micro irrigation or drip system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.07k: Is overhead irrigation used to irrigate the crop or as part of a frost or freeze prevention program? NOTE: "Irrigating the crop" refers to irrigation during the mature growing cycle. This does not include pre-planting or just after planting to create a stand.

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.07l: Are the crops irrigated by flood irrigation or furrow system?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.07m: Are the crops sub irrigated (also known as seepage irrigation)?

Total points 0: Information gathering question. Reducing contact with edible portion of the crop is believed to reduce microbial risk.

2.08.08: Are check valves, anti-siphon devices, or other back flow prevention systems in use when and where necessary?

Total points 10: Irrigation systems should utilize effective devices which can minimize the potential risk of accidentally allowing any injected chemical/fertilize to flow back into the irrigation well, surface water source, or to discharge onto the land where not intended.

2.08.09: Is irrigation equipment not in use free from pest contamination and stored clean, off the ground?

Total points 10: Irrigation equipment that is not in use should be stored in a hygienic manner, free of pest contamination and clean. Growers should check the unused irrigation periodically to make sure that it has not become a pest harborage area or become dirty due to rains.

Crop Protection

2.09.01: Is there a documented procedure for the mixing/loading of crop protection materials?

Total points 5: There should be a documented procedure describing how to mix and load crop protection products (e.g. insecticides, fungicides, herbicides, plant growth regulators, etc.). The procedure should include adhering to the requirements of the crop protection product labels. Water used to dilute pesticides should meet the criteria noted in section 2.8, Irrigation/Water Use. This also applies to any mixes that occur off site when using contracted spraying services.

2.09.01a: If observed, is the mixing/loading of crop protection materials performed according to the procedure and label instructions?

Total points 7: Mixing and loading of crop protection materials should adhere to the procedure and label instructions. All agricultural chemical additions, dilutions, etc., should be performed safely and within a distance where crop, growing areas and any water source may not be affected. This question should be answered N/A if this activity is not observed.

2.09.02: Is there a documented procedure for the application of crop protection materials?

Total points 5: There should be a documented procedure describing how to perform the application of crop protection materials e.g. insecticides, fungicides, herbicides, plant growth regulators, etc. the procedure should include adhering to the requirements of the crop protection product's label (e.g. use of PPE, re-entry intervals, excessive winds, posting of treated areas, etc.).

2.09.02a: If observed, is the application of crop protection materials performed according to the procedure and label instructions?

Total points 7: Application of crop protection materials should adhere to the procedure and label instructions e.g. personal protective equipment, re-entry intervals, excessive wind, posting of treated areas, etc.). This question should be answered N/A if this activity is not observed.

2.09.03: Is there a documented procedure for the rinsing and cleaning of crop protection equipment?

Total points 5: There should be a documented procedure describing how to perform the rinsing and cleaning of crop protection equipment (measuring containers and devices, mixing containers, application equipment, etc.). The procedure should include adhering to the requirements of the crop protection product labels (e.g. disposal of spray mixture and rinsate, etc.).

2.09.03a: If observed, is rinsing and cleaning of crop protection equipment performed according to the procedure and label instructions?

Total points 7: Rinsing and cleaning of all crop protection equipment should adhere to the procedure and label instructions e.g. disposal of spray mixture and rinsate, etc. Care should be taken so that such activities are performed safely and within a distance where land and water sources may not be affected. This question should be answered N/A if this activity is not observed.

2.09.04: Is there documentation that shows the individual(s) making decisions for crop protection applications are competent?

Total points 10: Current valid certificates, licenses, another form of proof of training recognized by prevailing national/local standards and guidelines should be available for the individual(s) making decisions on crop protection application (e.g. choice of crop protection materials, application timings, rates etc.).

2.09.05: Is there documentation that shows workers who handle crop protection materials are trained or are under the supervision of a trained individual?

Total points 15: Current valid certificates, licenses, or another form of proof of training recognized by prevailing national/ local standards and guidelines should be available for supervisors/ workers handling, mixing/loading/and applying crop protection products.

2.09.06: Are there up-to-date records of all crop protection products applied during the growing cycle? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: The growing operation should follow a crop protection products application record keeping program that at least includes the following: date and time of application, crop name, treated area (must be traceable), crop protection product trade name, crop protection product code (e.g., EPA Registration number in the U.S. - different systems are used in different countries), active ingredient, amount applied (rate/dosage), applicator name, pre-harvest interval and any other information required by local regulations. Ideally records should also include: equipment used, target pest and size of treatment area. Records should include biopesticides (see, <http://www2.epa.gov/pesticides/biopesticides>).

2.09.07: Are the plant protection products registered and/or authorized by a government agency for use in the target crops in the country of production? If No, go to 2.09.08.

Total points 0: Grower should be aware of the crop protection products registered and/or authorized by a government agency for use in the country of production (including biopesticides, see <http://www2.epa.gov/pesticides/biopesticides>). A “No” answer is allowed only if there are no crop protection products registered/authorized for the target crops in the country of production, in which case 2.09.08 must be answered. If this question is answered No, go to 2.09.08.

2.09.07a: Does the growing operation have the information available for the plant protection products registered and/or authorized for use for the target crops in the country of production? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Grower should have information for the plant protection products registered and/or authorized by government agencies in the country of production for the target crops, where such information is available. Having approval under organic (status) legislation (e.g. National Organic Program in the U.S.) as an allowable input that can be applied to transitional or organic crops is not usually the same as being legally registered as a crop protection chemical (pesticide) that is safe for use on specified crops following label instructions. Organic approval of a chemical should not be confused with being approved as a registered crop protection chemical. N/A is allowed only when registration/authorization information does not exist for plant protection products to be used in the target crops in the country of production. Where registration information exists and it is not available at the growing operation, then answer this question NO and automatic failure of the audit will result.

2.09.07b: Are crop protection applications restricted by the guidelines established by the product label, manufacturer recommendation, or by prevailing national/ local standards and guidelines. A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Information should at least detail: ingredients, target pest(s)/organism(s), sites where the product may be used, application methods that are required or preferred, how much chemical should be applied, rate of application, whether there are any restrictions on use (such as temperature, time of day, season of the year, contamination of sensitive areas, exposure of non-target species, application methods that are prohibited, how often the pesticide should or may be applied, all restricted entry intervals (REI's) pertaining to existing uses, as applicable), maximum application rates per treatment and per year, pre-planting intervals (PPI's), pre-harvest intervals (PHI's) and storage and disposal guidelines.

2.09.07c: Where harvesting is restricted by pre-harvest intervals (as required on the crop protection chemical product labels, manufacturer recommendations and/or by prevailing national/ local standards) is the grower adhering to these pre-harvest interval time periods? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: There should be documented evidence that the grower adhered to required pre-harvest interval timeframe specified between application and crop harvest. Application records and harvest information should be verified.

2.09.08: If applicable, for those plant protection products that are not registered for use on target crops in the country of production, if the country has no or a partial legislative framework to cover plant protection products, can the grower show that they have registration information, label information, MRL tolerances, etc., for the country of destination? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT. If N/A, go to 2.09.08.

Total points 20: In the situation that the country of production has no or a partial legislative framework covering plant protection products and the use of crop protection products that are registered for the target crop in another country (extrapolation) is not prohibited, the grower must have information for the plant protection products in the country(ies) of destination (that information must be in the form of: registration for the specific crop, product labels Maximum Residue Limit tolerances and could also include chemical banned lists, an any other relevant guidelines or legislations). If there are not plant protection products being used in this situation, the answer to this question is not- applicable (N/A). If there is no information available for the plant protection product used that are not registered in the country of production or it's use based on registration, label and other pertinent guidelines of the destination country (extrapolation) is prohibited by the country of production, the answer is NO and automatic failure of the audit will result. If N/A, go to 2.09.08.

2.09.09: Is there evidence available that the grower is taking all the necessary measures to comply with the country(ies) of destination expectations regarding crop protection products used (e.g. registration information, label information, MRL tolerances or any other guidelines applicable)? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 10: The grower should be able to provide evidence (practices and/or documentation) that shows that he is in compliance with the food safety related information that the operation is adhering to in the country(ies) of destination for the plant protection products being applied. That evidence may be in the form of: chemical application methods, rates and dosage, compliance with pre-harvest intervals, compliance with MRL tolerances and or any other relevant information. This question is not applicable (N/A) if the product is sold only in the country of production (domestic market). If this question is answered No, automatic failure of this audit will result.

2.09.10: If crop protection containers are stored on the property (even temporarily), are they stored in a manner to prevent contamination and disposed of responsibly?

Total points 10: Crop protection containers should be stored securely even if temporarily stored. Empty crop protection containers, excess crop protection rinsate should be disposed of safely according to the product label, manufacturer recommendation or by prevailing national/ local standards and guidelines.

2.09.11: Have documented policies and/or procedures been developed for the monitoring of crop protection application equipment (e.g. calibration procedures, inspections, replacement)?

Total points 10: Procedures may include regular calibration, inspections, replacement, and maintenance of the crop protection equipment.

2.09.11a: Is it evident that the equipment used for crop protection applications is in good working order?

Total points 10: All equipment used in crop protection applications should be in good working order so correct applications can be made thus reducing potential crop contamination or drift issues.

Field Worker Hygiene (applies to on-the-farm or greenhouse workers, not the harvesting workers)

2.10.01: Does the growing operation have a documented and implemented policy for dealing with workers who appear to be physically ill, or become ill while working?

Total points 10: There should be a written policy supported by visual evidence that workers who appear to be physically ill or become ill while working are prohibited from contact with product. This policy should require workers to immediately report illness or symptoms of illness to the management. If labor is supplied by a contractor, a copy of the policy used by the contractor should be available.

2.10.02: Does the growing operation have a documented and implemented policy regarding workers with open sores and wounds?

Total points 10: There should be a written policy supported by visual evidence that workers with exposed boils, sores, infected wounds, or any other source of abnormal contamination should be prohibited from contact with product. All bandages must be covered with a non-porous covering such as nitrile or plastic gloves. If labor is supplied by a contractor, a copy of the procedures should be available.

2.10.03: Does the growing operation have documented and implemented procedures describing the disposition of product that has come into contact with blood or other bodily fluids? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Written procedures should be in place describing the disposition of product that has come into contact with blood or other bodily fluids. If labor is supplied by a contractor a copy of the policy should be available. If this question is answered No, automatic failure of this audit will result.

2.10.04: Does the growing operation have documented and implemented policies prohibiting eating, drinking (including gum chewing) using tobacco in the growing area?

Total points 10: There should be a written policy supported by visual evidence that eating (including chewing gum, drinking (other than drinking water (avoiding glass)), and tobacco use must be restricted to areas away from the growing area(s). If labor is supplied by a contractor, a copy of the policy should be available.

2.10.05: Is there a food safety hygiene training program covering new and existing workers and are there records of these training events?

Total points 15: There should be a formal training program to inform workers of the current policies and requirements of the company regarding hygiene. Frequency should be at the start of the season and then at some topics covered at least quarterly, but ideally monthly. Training material covering the content of the company policies and requirements regarding hygiene should be available. Food safety training should cover at least the basic topics such as toilet use, hand washing, food consumption/taking breaks, clothing requirement, foreign material requirements (including jewelry policy), etc. Note: this audit contains several questions on food safety topics that require specific training such as dropped product, blood & bodily fluids, etc.

2.10.06; Are there operational toilet facilities provided? If NO, go to 2.10.07. A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Toilet facilities should be available for workers. Privies (unplumbed outhouses) may be allowed only if they are in suitable condition, meeting prevailing national/ local standards and guidelines. The term “operational” means that the toilets have water if they are flushing and that they flush. Public restrooms do not meet the requirements of this question. If no employees are present at the time of the audit, the auditor should review the toilet(s) in the yard/shop area or review the contract with the toilet supplier and any information that can demonstrate that toilets are present when workers are present. In the latter case, score this question as Y/N and then score the additional daughter questions as N/A.

2.10.06a: Are toilet facilities placed within ¼ mile or 5 minutes walking distance of all workers?

Total points 10: Toilet facility placement should be within 1/4 mile or 5 minutes walking distance of where workers are located or if more stringent, as per prevailing national/ local guidelines. A 5 minute drive is not acceptable.

2.10.06b: Are toilet facilities in a suitable location to prevent contamination to product, packaging, equipment and growing areas?

Total points 15: Placement of toilet facilities should be in a suitable location to prevent contamination to product, packaging, equipment and growing areas.

2.10.06c: Is a minimum of one toilet facility provided for each group of 20 workers?

Total points 5: At least one toilet per 20 workers should be provided or if more stringent, as per prevailing national/ local guidelines.

2.10.06d: Do toilet facilities have visuals or signs, written in the appropriate languages, reminding workers to wash their hands before returning to work?

Total points 20: Toilet facilities should have visuals or signs written in the appropriate languages, reminding workers to wash their hands before returning to work. The visuals or signs should be placed in key areas where workers can easily see them.

2.10.06e: Are the toilets maintained in a clean and sanitary condition and are there records showing toilet cleaning, servicing and stocking is occurring regularly?

Total points 10: Toilets should be maintained in a clean and sanitary condition. Servicing records (either contracted or in-house) should be available for review showing toilet cleaning, servicing and stocking is occurring regularly. Toilet paper should be available at each toilet location and maintained in a hygienic manner (held on rolls, not placed in urinals, sinks or on the floor). Soiled tissue should not be placed in trash cans and/or on the floor.

2.10.06f: Are the catch basins of the toilets designed and maintained to prevent contamination (e.g. free from leaks and cracks)?

Total points 5: Catch basins from toilets must be designed and maintained properly to prevent contamination. Catch basins should be free of leaks, cracks and constructed of materials that will not degrade or decompose. NOTE: This includes flooring of the portable toilet units where contamination could be a potential issue.

2.10.06g: Is there a documented and implemented procedure for emptying the catch basin in a hygienic manner and also in a way that prevents product, packaging, equipment, water systems and growing area contamination?

Total points 5: If self-contained toilets are used, the toilet basins should be emptied, pumped, and cleaned in a manner to avoid contamination to product, packaging, equipment, water systems and growing area(s). Equipment used in emptying/pumping must be in good working order. A documented policy should exist and if occurring at the time of the inspection, the policy should be followed. The policy should include a response plan for major leaks or spills.

2.10.07: Is there evidence of human fecal contamination in the growing area(s)? A “YES” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: There should be no evidence of human fecal contamination in the growing area, proximity to the growing area (within a distance where the crop in question may be affected), or any of the storage areas. **A “YES” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.**

2.10.08: Are there operational hand washing facilities provided? If No, go to 2.10.09.

Total points 15: Hand wash stations should be provided for workers to wash their hands as needed. The term “operational” meaning that there is potable water and a drainage system.

2.10.08a: Are the hand washing facilities placed within ¼ mile or 5 minutes walking distance of all workers?

Total points 10: Hand washing facilities should be within 1/4 mile or 5 minutes walking distance of where workers are located or if more stringent, as per prevailing national/ local guidelines.

2.10.08b: Are hand wash stations clearly visible (e.g. situated outside the toilet facility) and easily accessible to workers?

Total points 5: Hand wash stations should be clearly visible (i.e. situated outside the toilet facility) and easily accessible to workers to verify workers hand washing activities.

2.10.08c: Are hand wash stations properly stocked with soap, paper towels and trash can?

Total points 5: All hand washing facilities must be stocked with soap. Soap is liquid/foam/powder with single use pump dispenser method rather than communal bar type. To reduce the spreading of germs, single-use towels available at all hand washing facilities. Trash cans are provided for soiled paper towels.

2.10.08d: Are the hand wash stations designed and being maintained to prevent contamination onto the growing area(s) (i.e. spent water does not go straight to the ground)?

Total points 5: Hand wash stations should be free of clogged drains, designed and maintained properly to capture or control rinse water that could cause contamination onto product, packaging, equipment and growing area(s).

2.10.08e: Does the growing operation have a documented and implemented policy and procedure in place requiring workers to wash their hands (e.g. prior to beginning work, after breaks, after toilet use)?

Total points 10: There should be a written policy supported by visual evidence that workers are required to wash their hands prior to beginning work, after breaks, after using the toilets, etc. Other times when hand washing might be appropriate especially if around the growing crop, include after using a tissue,

after touching chemicals and at any point where hands maybe contaminated with a substance that if this substance was to come into contact with the edible portion of the crop, it would be a food safety concern.

2.10.09: Is fresh potable drinking water provided for workers? If No, go to 2.10.10.

Total points 10: Fresh potable water meeting the quality standards for drinking water should be available for workers on site to prevent dehydration. The term “potable” meaning that the water is of drinking water quality, e.g. the EPA Drinking Water Standard. Auditors should verbally verify the source of the water at the time of the audit.

2.10.09a: If used, are water containers maintained in a clean condition?

Total points 5: Water containers should be maintained in a clean condition, free from residues and contamination to ensure workers are not adversely affected by contaminated water from unclean containers. Auditors should open the container to observe the cleanliness of the inside of the container.

2.10.10: Are first-aid kits available and is the inventory maintained properly?

Total points 5: There should be a first-aid kit available that is stocked with inventory (e.g. disposable gloves, bandages) and accessible for workers. All date coded materials are within expiry dates.

2.10.11: Are there trash cans available on the field placed in suitable locations?

Total points 5: There should be adequate measures for trash disposal so that the growing and storage areas are not contaminated. Containers (e.g. dumpsters, cans) should be available and placed in suitable locations for the disposal of waste and trash, e.g., near toilets. N/A option available if there is no work taking place at the time of the audit.

2.10.12: Are there any foreign material issues observed that are or could be potential risks to the product in the growing area(s)?

Total points 5: There should be no foreign material issues that are or could be potential risks to the product in the growing area(s) (e.g. glass, jewelry, etc.).

2.10.13: Is there a documented and implemented policy that infant or toddler aged children are not allowed in the growing area? NOTE: This includes any packaging or equipment storage areas.

Total points 10: There is a written policy supported by visual evidence that infant or toddler aged children are not allowed in the growing operation as well as in or around any packaging, chemical or equipment storage areas.

Harvesting Inspections, Policies and Training

2.11.01: Have self-audits been completed for this harvest crew?

Total points 5: Self-audits should be done to identify problems and/or situations which need improvement. Frequency of inspections should be established depending on the type of harvesting activity associated risk pressures. Self-audits are designed to identify problems and/or situations which need improvement in advance. Records should show where corrective actions have been made.

2.11.02: Was a pre-harvest inspection performed on the block being harvested and was the block cleared for harvest? If No, go to 2.11.03.

Total points 5: A pre-harvest block inspection should have been performed and if harvesting is occurring, it should show if there are any harvesting restrictions etc. The harvest crew might not have a copy of the actual inspection, but they should have a document indicating which blocks have been inspected and cleared for harvest. If answer No, go to 2.11.03.

2.11.02a: Where pre-harvest inspections have discovered issues, have buffer zones been clearly identified and at the time of the audit, are these buffer zones being respected?

Total points 15: Where pre-inspections have discovered issues e.g. flooding, animal intrusion issues, have the buffer zones been implemented e.g. 30ft (9.1m) from flooded areas, 5ft (1.5m) from evidence of pest activity - use larger buffer zones if national and local laws are more stringent.

2.11.03: Are there records of daily pre-operation inspections that check key aspects of equipment hygiene, personal hygiene, etc.?

Total points 5: Recorded pre-inspections should be designed to cover the key basic issues attributed to the type of harvesting and particular crop being harvested. Aspects to be considered would include equipment hygiene, tool hygiene, and personnel hygiene. Use of ATP is ideal practice and if used should be recorded properly along with any required corrective actions.

2.11.04: Is there a documented and implemented policy that when commodities are dropped on the ground they are discarded? (Non-applicable for commodities such as tubers, root crops, etc.).

Total points 5: There should be a documented policy that if products are dropped on ground the products are discarded. Staff should trained regarding this policy and records of training maintained. Not applicable for tubers and root crops.

2.11.05: Is there a food safety hygiene training program covering new and existing workers and are records of these training events?

Total points 15: There should be a formal training program to inform workers of the current policies and procedures and requirements of the company regarding hygiene. Frequency should be at the start of the season and then some topics covered at least quarterly, but ideally monthly. Training material covering the content of the company policies/procedures (which includes those items asked in this audit) and requirements regarding hygiene should be available. Food safety training should cover at least the basic topics such as toilet use, hand washing, food consumption/taking breaks, clothing requirement, foreign material requirements (including jewelry policy), etc. Note: this audit contains several questions on food safety topics that require specific training such as dropped product, blood & bodily fluids, animal intrusion, etc.

2.11.06: Is there a documented and implemented policy stating what happens when harvesters find evidence of animal intrusion e.g. fecal material?

Total points 5: There should be a documented and implemented policy stating what happens if harvesting staff find evidence of animal intrusion e.g. fecal material. The policy should cover recorded training of staff regarding this policy, potential corrective actions e.g. product disposal, buffer zones, equipment cleaning and recording of the correctives actions.

Harvesting Worker Activities & Sanitary Facilities (Applies to harvesting workers)

2.12.01: Does the harvesting operation have written and implemented policies and procedures regarding workers with open sores and/or wounds and for dealing with workers who appear to be physically ill, or who become ill while working?

Total points 5: There should be written policies and procedures supported by visual evidence that workers with exposed boils, sores, infected wounds, or any other source of abnormal contamination should be prohibited from contact with product. All bandages must be covered with a non-porous covering such as vinyl or nitrile gloves. There should be written policies and procedures supported by visual evidence that workers who appear to be physically ill or become ill while working are prohibited from contact with product. These policies should require workers to immediately report illness or symptoms of illness to the management. If labor is supplied by a contractor, copies of the policies used by the contractor should be available.

2.12.02: Are any workers eating and drinking (other than water) in active harvest areas, areas yet to be harvested, near harvested product or storage areas?

Total points 5: Eating and drinking (other than water), including gum chewing must be restricted to areas away from production to prevent contamination of product, packaging, equipment, and the growing area.

2.12.03: Does the harvesting operation have written and implemented policies and procedures covering workers using tobacco products in active harvest areas, areas yet to be harvested, near harvested product or storage areas? Spitting is not allowed in any areas?

Total points 5: Smoking or chewing tobacco must be restricted to areas away from production to prevent contamination of product, packaging, equipment, and the growing area. There should be no evidence of spitting (this should be mentioned in policies and procedures). Cigarette butts should be disposed of appropriately (butt cans for example).

2.12.04: Is it evident the clothing harvesters are wearing is not posing a cross contamination risks?

Total points 5: Harvesters clothing should not be a cross contamination issues in terms of cleanliness.

2.12.05: Is it evident that workers are free of exposed jewelry (except for a single plain wedding band) and other items that may be a source of foreign contamination issue?

Total points 5: There should be no workers wearing loose objects, e.g. jewelry except for a single plain wedding band. Other examples of foreign items maybe a source of foreign material contamination include sequins, studs, false finger nails and finger nail polish, false eye lashes, eye lash extensions and badges. Top pockets can also be a source of foreign material issues, especially if used to store things like pens and other items.

2.12.06: Where gloves are required to be used by the auditee, are they appropriate for the type of harvesting (e.g., not using cotton gloves for harvesting a product such as lettuce) and are they in good working order?

Total points 5: If the operation requires the use of gloves for the harvesting crew workers, then the gloves need to be fit for the purpose intended. For example, cotton gloves trap moisture and get dirty easily, therefore are not ideal for an activity such as lettuce harvesting.

2.12.06a: Where gloves are used, are they latex-free?

Total points 0: Information gathering question. Some people are allergic to latex proteins. Using alternatives to latex gloves (especially powdered latex gloves) should be considered.

2.12.07: If any protective clothing is used by the auditee (e.g., gloves, aprons, sleeves) are they removed prior to using restrooms, going on breaks, etc.?

Total points 5: If outer garments (e.g., gloves, aprons) are used, these should be removed prior to using the restrooms, going on break, etc. The use of outer garments is mandated if "in-field processing" is performed. See question 2.13.09c for further details.

2.12.07a: Are secondary hand sanitation stations (e.g., hand dip, gel or spray stations) adequate in number and location? Are the stations maintained properly? NOTE: Secondary hand sanitation does not replace hand washing requirements (lack surfactant qualities).

Total points 5: Secondary hand sanitation stations (non-perfumed) should be located near hand washing and other easily accessible areas. Secondary hand sanitizers are optional for crops with an inedible skin (e.g. onions) or a commodity that requires cooking prior to eating. Hand gel / spray stations should be well stocked. Hand dips where used should be tested regularly to ensure they are at the required strength - checks should be recorded. Secondary hand sanitizers lack surfactant qualities, therefore does not replace hand washing requirements.

2.12.08: Are there operational toilet facilities provided? A "NO" ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT. If No, go to 2.12.09.

Total points 20: The term "operational" means that the toilets have water if they are flushing toilets i.e. they flush, etc. Toilet facilities should be adequately ventilated, appropriately screened, have self-closing doors that can be closed. Privies (unplumbed outhouses) may be allowed only if they are in suitable condition meeting prevailing national/ local standards and guidelines. Public restrooms do not meet the requirements of this question. If no employees are present at the time of the audit, the auditor should review the toilet(s) in the yard/shop area or review the contract with the toilet supplier and any information that can demonstrate that toilets are present when workers are present. In the latter case, score this question as Y/N and then score the additional daughter questions as N/A.

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10959

http://www.who.int/water_sanitation_health/hygiene/om/linkingchap8.pdf

2.12.08a: Are toilet facilities located in a suitable area and within ¼ mile or 5 minutes walking distance of all workers?

Total points 10: Placement of toilet facilities should be in a suitable location to prevent contamination to product, packaging, equipment, and growing areas. Toilet facility placement should be within 1/4 mile or 5 minutes walking distance of where harvesting crews are located or if more stringent, as per prevailing national/ local guidelines. A 5 minute drive is not acceptable.

2.12.08b: Are toilet facilities in a suitable location to prevent contamination to product, packaging, equipment, and growing areas?

Total points 15: Placement of toilet facilities should be in a suitable location to prevent contamination to product, packaging, equipment, and growing areas. Consideration should be given when portable units are used that they are not parked (if on trailers) too close to the edge of the crop.

2.12.08c: Are separate toilet facilities provided for men and women in groups larger than 5 workers?

Total points 5: There should be separate toilet facilities provided for men and women in groups larger than 5 workers, or if more stringent per prevailing national/ local guidelines.

2.12.08d: Is a minimum of one toilet facility provided for each group of 20 workers?

Total points 10: At least one toilet per 20 workers should be provided or if more stringent, as per prevailing national/ local guidelines.

2.12.08e: Do toilet facilities have visuals or signs, written in the appropriate languages, reminding workers to wash their hands before returning to work?

Total points 5: Toilet facilities should have visuals or signs written in the appropriate languages, reminding workers to wash their hands before returning to work. The visuals or signs should be permanent and placed in key areas where workers can easily see them.

2.12.08f: Are toilets supplied with toilet paper and is the toilet paper maintained properly (e.g. toilet paper rolls not stored on the floor or in the urinals)?

Total points 5: Toilet paper should be provided in a suitable holder in each toilet facility. Toilet paper should be maintained properly (e.g. toilet paper rolls not stored on the floor, sink or in the urinals).

2.12.08g: Are the toilets maintained in a clean condition?

Total points 10: Toilet facilities shall be operational and maintained in clean and sanitary condition. Soiled tissue should not be placed in trash cans, urinals, or on the floor. Effective odor control should be practiced at all toilet facilities.

2.12.08h: Are toilets constructed of materials that are easy to clean?

Total points 2: Toilet facilities should be constructed of non-porous materials that are easy to clean and sanitize.

2.12.08i: Are the toilet's construction materials of a light color allowing easy evaluation of cleaning performance?

Total points 2: Toilets should be constructed of materials light in color allowing easy evaluation of cleaning performance.

2.12.08j: Is there a documented and implemented policy that if portable toilets are used, waste is disposed of properly and the units are cleaned in an appropriate location?

Total points 5: For portable toilets, there should be a documented and implemented procedure available covering emptying and cleaning. The concern is that waste might be disposed of inappropriately, causing

contamination in or near the growing area, equipment and storage areas. If there is an on-the-farm designated "wash out" and waste disposal site, then the area must be in a suitable condition meeting prevailing national/ local standards and guidelines and pose no threat for contamination.

2.12.08k: Are there toilet cleaning records and for portable toilets, are there servicing records?

Total points 2: There should be cleaning records available for toilets. Frequency depends on use, but usually the baseline is daily for regular harvest crews. Portable toilets should be emptied and serviced regularly to prevent overflow. Servicing records (either contracted or in-house) should be available for review.

2.12.08l: If used, are catch basins of the toilets designed and maintained to prevent contamination (e.g. free from leaks and cracks)?

Total points 5: Catch basins from toilets must be designed and maintained properly to prevent contamination onto field, product, packaging, and equipment. Catch basins should be free of leaks, cracks and constructed of durable materials that will not degrade or decompose such as wood.

2.12.08m: Are the toilet catch basins emptied properly?

Total points 5: If self-contained toilets are used, the toilet basins should be emptied/ pumped in a manner to avoid contamination to product, packaging, equipment, and growing areas. Equipment used in emptying/pumping must be in good working order.

2.12.09: Is there evidence of human fecal contamination in the harvesting area? A "YES" ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: There should be no evidence of human fecal contamination in the harvesting area, area being harvested, packaging area, equipment area, or in any other area that would cause a contamination issue.

2.12.10: Are operational hand washing facilities provided? If No, go to 2.12.11. A "NO" ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: The term "operational hand washing facility" means a facility providing a basin, container, or drainage outlet with an adequate supply of potable water.

2.12.10a: Are the hand washing facilities placed within ¼ mile or 5 minutes walking distance of all workers?

Total points 15: Toilet and hand washing facilities should be accessible, located in close proximity to each other. Hand washing facilities should be provided and placed within 1/4 mile or 5 minutes walking distance of the harvest crew or if more stringent, as per prevailing national/ local guidelines.

2.12.10b: Are hand wash stations clearly visible (e.g. situated outside the toilet facility) and easily accessible to workers?

Total points 2: Hand wash stations should be clearly visible (i.e. situated outside the toilet facility) and easily accessible to workers to verify hand washing activities.

2.12.10c: In the event of running out of toilet materials (e.g., water, soap, toilet tissue, hand paper towels) are there extra supplies readily available so that toilets can be restocked quickly?

Total points 5: Stocks of fresh water, soap, toilet paper and paper towels, etc., should be readily available in the event that replenishment is needed while harvesting is occurring.

2.12.10d: Is soap made available at all hand washing facilities? If No, go to 2.12.10f.

Total points 10: All hand washing facilities must be stocked with soap. Soap is liquid/foam/powder with single use pump dispenser method rather than communal bar type.

2.12.10e: Is **unscented soap available?**

Total points 5: Soap should be **unscented** and have emulsifying capabilities to aid in the hand washing procedure.

2.12.10f: Are single-use towels available at all hand washing facilities and trash cans for them?

Total points 10: To reduce the spreading of germs, single-use towels available at all hand washing facilities. Trash cans are supplied for used towels.

2.12.10g: Are the hand wash stations designed and maintained properly (e.g. ability to capture or control rinse water to prevent contamination onto product, packaging, and growing area, free of clogged drains, etc.)?

Total points 5: Hand wash stations should be free of clogged drains, designed and maintained properly to capture or control rinse water that could cause contamination onto product, packaging, equipment and growing area.

2.12.10h: Are the workers washing their hands prior to beginning work? Score N/A if this discipline is not observed at the time of the audit.

Total points 10: To prevent contamination to product, packaging, and equipment, workers should wash their hands prior to beginning work. Also after sneezing, placing their hands in their pockets and at any other point when cross contamination could occur. It also must be evident that worker's fingernails are kept clean and trimmed.

2.12.10i: Are the workers washing their hands after break periods? Score N/A if this discipline is not observed at the time of the audit.

Total points 10: To prevent contamination to product, packaging, and equipment, workers should wash their hands after break periods. It also must be evident that worker's fingernails are kept clean and trimmed. If worker's hands come into contact with mucous, hands must be washed.

2.12.10j: Are the workers washing their hands after using the toilet facilities? Score N/A if this discipline is not observed at the time of the audit.

Total points 15: To prevent contamination to product, packaging, and equipment, workers should wash their hands after using toilet facilities. It also must be evident that worker's fingernails are kept clean and trimmed.

2.12.10k: Is it evident that corrective action is taken when workers fail to comply with hand washing guidelines?

Total points 5: It should be evident that corrective action is taken by a supervisor in charge when workers fail to comply with hand washing requirements.

2.12.11: Is fresh potable drinking water readily accessible to workers? If No, go to 2.12.12.

Total points 7: Water should be suitably cool and in sufficient amounts, taking into account the air temperature, humidity and the nature of the work performed, to meet the needs of all workers. Potable water should be provided and placed in locations readily accessible to all workers. The term “potable” meaning that the water is of drinking water quality, e.g. the EPA Drinking Water Standard. Auditors should verbally verify the source of the water at the time of the audit.

2.12.11a: Are the water containers maintained in a clean condition?

Total points 5: Water containers should be maintained in a clean condition, free from residues and contamination to ensure workers are not adversely affected by contaminated water from unclean containers. Auditors should open the container to observe the cleanliness of the inside of the container.

2.12.11b: Are single use cups provided (unless a drinking fountain is used) made available near the drinking water?

Total points 7: Water should be provided so that cross contamination issues are avoided from person to person. Examples include single-use paper cups, drinking fountains, etc.

2.12.12: Are first-aid kits available and is the inventory maintained properly?

Total points 5: There should be a first-aid kit available that is stocked with inventory (e.g. disposable gloves, bandages) and accessible for workers. All date coded materials are within expiry dates.

2.12.13: If observed, are all commodities that come in contact with blood and/or other bodily fluids destroyed? A 'NO' ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Any commodity that comes into contact with blood and/or other bodily fluids must be destroyed. If this occurs during the time of inspection, auditor must witness that product is destroyed.

2.12.13a: Does the harvesting operation have written and implemented policies and procedures in place for all commodities that come in contact with blood and other bodily fluids, stating that they must be destroyed? Are these policies and procedures available to harvest crew workers?

Total points 5: There should be written policies and procedures communicated to harvest crew workers detailing that if product has come into contact with blood and/or other bodily fluids, all affected product must be destroyed. Special attention should be given to those crops where tools /equipment (e.g., knives, scissors) are used.

2.12.14: Is garbage disposed of properly in the harvesting areas?

Total points 10: Waste and garbage must be removed on a frequent basis to prevent contamination from occurring. Receptacles should be kept covered or closed to prevent contamination and attraction of pests.

2.12.15: Are garbage containers provided in the field for the disposal of food and beverage containers, cups, and paper towels? If No, go to 2.12.16.

Total points 5: Garbage containers should be provided in the field for the disposal of food and beverage containers, cups, and paper towels.

2.12.15a: Are garbage containers constructed and maintained (e.g. bags, lids) to protect against pre harvest or post-harvest contamination of the crop?

Total points 5: Garbage containers should be constructed and maintained in such a manner with liners, bags, lids, etc.) that protects against pre-harvest or post-harvest contamination of the crop. Receptacles should be kept covered or closed to prevent attraction of pests. Liners are important so trash can be removed easily.

2.12.16: Have any potential metal, glass, or plastic contamination issues been controlled?

Total points 5: Examples include but are not limited to glass bottles, unprotected lights on equipment, staples on wooden crates or bins, hair pins, using "snappable" blades instead of one piece blades, broken and brittle plastic issues on re-useable totes.

2.12.17: Are there any infant or toddler aged children observed in active harvest areas, areas yet to be harvested, near harvested product or storage areas?

Total points 10: Infant or toddler-aged children must be restricted to areas away from production including chemical or equipment storage areas, to prevent contamination of product or packaging.

Harvest Practices

2.13.01: Is there evidence of animal presence and/or animal activity in the harvesting area? If answer is No, go to Q 2.13.02.

Total points 15: Animals can represent potential contamination to the harvesting area, to the crop, to the field equipment and other; therefore, animals should not be present in the operations. Evidence of animal presence can be tracks, fecal matter, feathers and many others. If answer is No, go to Q 2.13.02.

2.13.01a: Is the evidence of animal presence and/or animal activity found, in the form of fecal contamination? If answer is NO, go to Q 2.13.02.

Total points 20: Animal fecal matter has the potential of representing contamination to the product being grown. Produce that has come into direct contact with fecal material is not to be harvested. A "no harvest zone" approx. 5ft (1.5 m) radius should be implemented unless or until adequate mitigation measures have been considered. If evidence of fecal material is found, a food safety assessment should be conducted by qualified personnel. This question is "no" if the grower has already noted this issue and performed adequate corrective actions. Consideration of the maturity stage and type of crop involved is required. If answer is No, go to Q 2.13.02.

2.13.01b: Is the fecal matter found in the audited area, a systematic event (not sporadic)? A "YES" ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Animal fecal matter has the potential of representing contamination to the product being grown. Produce that has come into direct contact with fecal material is not to be harvested. A "no harvest zone" approx. 5ft (1.5 m) radius should be implemented unless or until adequate mitigation measures have been considered. If evidence of fecal material is found, a food safety assessment should be conducted by qualified personnel. This question is "no" if the grower has already noted this issue and performed adequate correct actions. Consideration of the maturity stage and type of crop involved is required. If this question is answered Yes, an automatic failure of the audit will result.

2.13.02: Is the product harvested and transported to a facility for additional handling and/or final packing?

Total points 0: This question refers to product that is harvested in the field and then taken to a facility for handling and or packing.

2.13.03: Is the product packed in the final packing unit in the field? If No, go to 2.13.04.

Total points 0: This question refers to product packed in the field that is in the final unit for shipping (i.e. clamshell, wrapped products, carton boxes, etc.), that usually bypasses any selection packing lines in a facility i.e. goes to a cooling process as opposed to a packing line.

2.13.03a: Is packing material (e.g. cartons, bags, clamshells, sacks, RPCs) intended for carrying product used for that purpose only?

Total points 5: All containers intended for product should not be used for any other purpose than product storage.

2.13.03b: Is packing material free from evidence of pest activity, foreign materials and other signs of hazardous materials? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Packing material should be free from evidence of pest activity, foreign materials and other signs of hazardous materials.

2.13.03c: Is packed product free from evidence of pest activity, foreign materials, hazardous materials and any adulteration issues? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Packed product should be free from evidence of pest activity, foreign materials, hazardous materials and any adulteration issues.

2.13.03d: Is product and packing material free from exposure to the ground and or any handling contamination?

Total points 5: Avoid stacking soiled bins on top of each other if the bottom of the bin has had direct contact with soil. Product and packing materials used in the harvesting process should be placed with protection underneath and handled in a manner to eliminate contamination from the ground or from inappropriate handling, which includes commodities where it is industry practice to place the products on the ground after harvest (e.g., asparagus). Crops down scored for exposure to the ground do not include root crops that are grown underground (e.g., carrots, potatoes, etc.) or crops that are grown on the ground. Handling contamination could also be caused by the use of cloths or towels to remove dirt and/or debris from product. 2.13.03c automatic fail question should be used when observing evidence of product or packaging foreign material, hazardous materials or adulteration issues.

2.13.03e: Does the operation inspect packaging prior to use and is packed product inspected after packing; where contamination issues are found is corrective action taken and record?

Total points 5: The operation should be actively inspecting packaging materials prior to use and also checking packed product after the packing process. If any contamination issues are found, then corrective actions should be enacted and recorded.

2.13.03f: If packing material is left in the field overnight is it secured and protected?

Total points 5: All containers, cartons, packing material should be stored in a protected area to reduce the risk of contamination and tampering that can occur if cartons are left in field overnight.

2.13.03g: Does finished product packaging display information to enable proper storage and use of the product within the food supply chain?

Total points 3: Finished product containers, cartons or other packaging material should display information about recommended storage conditions and usage. Applicable labeling regulations should be observed.

2.13.04: Are grading and packing tables used? If No, go to 2.13.05.

Total points 0: This refers to food contact surfaces used to grade, inspect, re-pack, or pack product.

2.13.04a: Does the surface allow for easy sanitation?

Total points 5: Packing surfaces should be made of materials suitable for food contact that can be easily cleaned. Surfaces that are porous, trap debris, badly damaged should be replaced. Wood for example, is porous and can trap moisture.

2.13.04b: Are grading and packing tables subject to a documented cleaning program including stating the frequency of cleaning and cleaning procedures? If No, go to 2.13.05.

Total points 5: There should be evidence of a sanitation program in place for packing tables, bins, etc. The program should state the frequency of cleaning and the cleaning procedures.

2.13.04c: Is an anti-microbial solution (e.g. chlorinated or equivalent) used to sanitize the grading and packing tables after cleaning has occurred?

Total points 5: Anti-microbial solutions, if properly managed help ensure that surfaces are sanitized after the cleaning process. The strength of sanitizers (fit for food use) should be checked on a regular basis and recorded.

2.13.04d: Are records of grading and packing table equipment cleaning being maintained?

Total points 5: There should be cleaning and sanitizing records showing that the sanitation program is being maintained.

2.13.05: Are re-useable containers (e.g. buckets, field totes, lugs, bins) used in the harvesting operation? If No, go to 2.13.06.

Total points 0: This refers to any re-useable containers used in the harvesting operation (e.g., buckets, field totes, lugs, bins, gondolas) used in the harvesting operation.

2.13.05a: Are re-useable containers made of easy to clean materials?

Total points 5: All re-useable containers (totes, bins, buckets, etc.) should be made of easy to clean, smooth seamed materials that do not flake or oxidize. Efforts should be made to eliminate wooden surfaces because of its porous nature. Where wood containers are used they should be in a state of good repair and covered by a documented repair program.

2.13.05b: Are re-useable containers subject to a documented cleaning program including stating the frequency of cleaning and cleaning procedures? If No, go to 2.13.05e.

Total points 5: There must be evidence that a sanitation program is in place for re-useable containers. The program should state the frequency of cleaning and the cleaning procedures.

2.13.05c: Is an anti-microbial solution (e.g. chlorinated or equivalent) used to sanitize the re-useable containers after cleaning has occurred?

Total points 5: Antimicrobial solutions, if properly managed ensure that surfaces are sanitized after the cleaning process. The strength of sanitizers (fit for food use) should be checked on a regular basis.

2.13.05d: Are records of re-useable containers cleaning being maintained?

Total points 5: There should cleaning and sanitizing records showing that the sanitation program is being maintained.

2.13.05e: Are re-useable containers free from any handling contamination?

Total points 5: Re-useable containers used in the harvesting process should be managed to eliminate contamination from inappropriate handling practices. While efforts should be made to eliminate wooden surfaces, if wood is used it is in good repair.

2.13.06: Are tools (e.g. knives, clippers, scissors, etc.) used in harvesting? If No, go to 2.13.07.

Total points 0: This refers to harvest tools (e.g. knives, clippers, scissors, etc.) used in harvesting.

2.13.06a: Are harvest tools (e.g. knives, coring rings, holsters) being used, made of non-corrosive and easy to clean materials (e.g. no wood or fabric parts)?

Total points 5: To prevent foreign contamination issues, harvest tools (e.g., knives, coring rings, etc.) should be constructed of easy to clean materials. Tools should be shard free, smooth seamed that do not have ability to flake or oxidize.

2.13.06b: Are harvest tools not being taken into break or toilet areas or used for any other purpose other than product harvesting?

Total points 5: In order to prevent contamination, harvest tools (e.g., knives, coring rings, etc.) should not be taken into break/toilet areas or used for any other purpose other than product harvesting.

2.13.06c: Are harvest tools free from exposure to the ground and or any handling contamination?

Total points 5: Harvest tools (knives, clippers, scissors, etc.) should be free from exposure to the ground and or any handling contamination.

2.13.06d: Is there equipment and utensil (e.g. knives) storage and control procedures when not in use?

Total points 5: Workers should not take tools such as knives from the work area and should be required to use knife scabbards that can easily be cleaned i.e. non-porous. Leather scabbards should not be used.

2.13.06e: Are harvest tools subject to a documented cleaning program including stating the frequency of cleaning and cleaning procedures? If No, go to 2.13.06h.

Total points 5: There must be evidence that a sanitation program is in place for harvesting tools. The program should state the frequency of cleaning and the cleaning procedures. Dipping of harvest tools in anti-microbial solution in the harvesting process might also be required, please see later question.

2.13.06f: Is an anti-microbial solution (e.g. chlorinated or equivalent) used to sanitize the harvesting tools after cleaning has occurred?

Total points 5: Anti-microbial solutions, if properly managed ensure that surfaces are sanitized after the cleaning process. The strength of sanitizers (fit for food use) should be checked on a regular basis and recorded. Solutions too weak may be ineffective, while those too strong might cause residue issues.

2.13.06g: Are records of harvesting tools cleaning being maintained?

Total points 5: There should cleaning and sanitizing records showing that the sanitation program is being maintained.

2.13.06h: Are harvesting tool dips being maintained properly in terms of anti-microbial solution strength and are records of the solutions checks being maintained? AUDITORS SHOULD REQUIRE A TEST AT THE TIME OF THE AUDIT.

Total points 5: There should be records to show that the knife dip solutions are being maintained on a regular basis. The strength of sanitizers should be checked on a regular basis e.g. hourly and recorded, minimum strength for a chlorinated system is >1ppm free chlorine or >650mV. Total chlorine does not measure the "available chlorine" after the dip has started to be used. Auditors are required to have the auditee check the strength of anti-microbial chemicals during the audit.

2.13.07: Is machinery used in the harvesting process? If No, go to 2.13.08.

Total points 0: This includes equipment with the potential to affect product (e.g., conveyor belts, mechanical harvesting units, field packing rigs, coring rigs and any "in-field" processing rigs). Please note that there are some more specific questions for coring rigs and any "in-field" processing rigs in a later section.

2.13.07a: Are all food contact surfaces on the machinery used in the harvest process constructed of food grade materials or stainless steel?

Total points 5: Food contact surfaces on equipment should be free of flaking paint corrosion, rust, and other materials. Food contact surfaces should be made of non-toxic, non-porous materials. Surfaces should be maintained in good condition.

2.13.07b: Does the packing surface allow for easy sanitation?

Total points 5: Packing surfaces should be made of sanitary, food grade material that can be easily cleaned. Efforts should be made to eliminate wooden surfaces.

2.13.07c: Is the harvesting equipment subject to a documented cleaning program including stating the cleaning frequency and cleaning procedures? If No, go to 2.13.07f.

Total points 5: There must be evidence that a sanitation program is in place for specialist harvest equipment, etc., i.e. subject to a cleaning program. The program should state the frequency of cleaning and the cleaning procedures. Frequency should reflect the type of machinery, type of harvesting practice

and risk associated with the crop involved. For "in-field" processing, clean and core, etc., at least daily cleaning should be performed.

2.13.07d: Is an anti-microbial solution (e.g. chlorinated or equivalent) used to sanitize the harvesting equipment after cleaning has occurred?

Total points 5: Anti-microbial solutions, if properly managed help ensure that surfaces are sanitized after the cleaning process. The strength of sanitizers (fit for food use) should be checked on a regular basis and recorded.

2.13.07e: Are records of harvesting equipment cleaning being maintained?

Total points 5: There should cleaning and sanitizing records showing that the sanitation program is being maintained.

2.13.07f: Is equipment designed and used properly to minimize product contamination (e.g. drip pans utilized, lights protected)?

Total points 5: Overhead contamination from materials such as hydraulic fluid can result in product and packaging contamination; equipment should be fitted with catch pans.

2.13.07g: Are only food grade lubricants used on the critical parts of the harvesting machinery that have the potential to contaminate product?

Total points 3: In order to prevent or reduce contamination to product/packaging, food grade lubricants (i.e. incidental food contact compounds or H1 materials) should be used on critical areas equipment where product exposure exists. Proof must be available that food grade lubricants are being used.

2.13.07h: Are all glass issues on harvesting machines, in-field trucks, and tractors protected in some manner?

Total points 3: Glass located on the harvesting machinery (e.g. lights) that may pose a threat of contamination onto product, packaging, and re-useable containers should be protected. Machinery includes tractors and other equipment that may come into contact with product. There should be no evidence of cracked lenses.

2.13.07i: Are all platforms above product, packaging, or food contact surfaces (e.g. belts) on the harvest machinery, in-field trucks fitted with protection to prevent product contamination?

Total points 3: Measures should be taken to eliminate or reduce potential contamination by fitting protection on exposed equipment above product, food contact surfaces, and belts.

2.13.08: Is water used directly on product contact (e.g. re-hydration, core in field)? If No, go to 2.13.09.

Total points 0: This refers to water that is used directly on product contact. Examples may include but are not limited to re-hydration, core in field.

2.13.08a: Are microbial tests conducted including Generic *E. coli* on water used for washing, hydrating, etc. harvested crops (e.g. re-hydration, core in field)? If No, go to 2.13.08c.

Total points 10: Water that directly contacts edible portions of harvested crop should meet microbial standards set forth in the U.S. EPA National Drinking Water Regulations, and/or contain an approved disinfectant at a sufficient concentration to prevent cross contamination.

2.13.08b: Are the microbiological tests current and conducted at the required and/or expected frequencies?

Total points 10: One sample per water source should be collected and tested prior to use and then ideally monthly, or at frequency relative to the associated risks. Sample water sources should be as close to the point-of-use as possible.

2.13.08c: Do written procedures (SOPs) exist covering corrective measures for unsuitable or abnormal water testing results?

Total points 10: Written procedures (SOPs) should exist covering corrective measures, not only for the discovery of unsuitable or abnormal water results but also as a preparation for how to handle such findings.

2.13.08d: If unsuitable or abnormal results have been detected, have documented corrective measures been performed?

Total points 15: For generic *E. coli* there should be negative or < detection limit (MPN or CFU/100mL). Where thresholds have been exceeded, there should be recorded corrective actions including investigations, water retests and crop testing (*E. coli* O157:H7 and Salmonella < detection limits or negative- zero tolerance).

2.13.08e: Are the anti-microbial parameters clearly documented and correct for the type anti-microbial being used?

Total points 10: Anti-microbial standards should be indicated in an SOP and/or on the recording documentation. For chlorine, the criteria should be >1ppm free chlorine or ORP >650 mV for recycled water systems. Total chlorine records are not viewed as acceptable for recycled water systems. Single pass systems must have stated anti-microbial level. Other anti-microbials include ozone, peracetic acid, etc.

2.13.08f: Are anti-microbial checks being performed on a routine basis?

Total points 10: Anti-microbial checks should be performed on a routine basis. For manual microbial additions, for "single pass" systems, this should be every batch of anti-microbial solution that is mixed, for recycled systems the minimum testing frequency is hourly. If direct continuous injection (pumping) of the anti-microbial is used, then minimum of hourly verification checks should occur.

2.13.08g: Are corrective actions recorded where anti-microbial results are less than the stated minimum criteria?

Total points 10: Documented corrective actions are required when anti-microbial results are less than the stated minimum. These corrective actions should indicate what happens to the products as well as how changes to the process e.g. adding more chemical.

2.13.09: Is the harvested product "in-field processed" or "In-field semi-processed" (e.g. core in field, top & tail, florets)? If No, go to 2.14.01.

Total points 0: "In-field processed" products are subject to the all the questions in this audit and these extra requirements below. "In-field processed" usually refers to product having multiple cut surfaces created in the field e.g. coring in field, topping & tailing, florets.

2.13.09a: Does the process flow, machine layout, worker control, utensil control, etc., ensure that processed products are not contaminated by unprocessed products?

Total points 5: The design, personnel management, utensil management and general practice should avoid contact between processed and unprocessed product, contact surfaces and tools.

2.13.09b: Do all workers that come in contact with the product being harvested wear clean protective outer garments (e.g. hairnets, plastic gloves, sleeves and aprons)?

Total points 5: An outer garment policy considering potential cross contamination and foreign material risks should be established.

2.13.09c: Do all workers that wear protective outer garments remove and keep them in a clean and secure area during breaks or when using the toilet facilities?

Total points 5: Protective outer garments should be removed and kept clean and in a secure area during breaks and when using the toilet facilities.

2.13.09d: Are all plastic bin liners closed immediately after harvest to avoid contamination of the harvested product?

Total points 3: All plastic bin liners should be closed immediately and appropriately secured after harvest to avoid product contamination.

2.13.10: Is there any post-harvest treatments performed to the product in the fields?

If No, go to 2.14.01.

Total points 0: This refers to any post-harvest treatments taking place in the field.

2.13.10a: Are there up to date records of all crop protection products applied in the field to the harvested product? A 'NO ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total Points 20: The operation should follow a crop protection product application record keeping program for all post-harvest treatments that at least includes the following: Date of application, treated product, crop protection product trade name, amount applied (rate/dosage) and any other information required by local regulations. Ideally, records should also include: Applicator's name, equipment used, active ingredient and the amount of product treated.

2.13.10b: Are there plant protection products registered and/or authorized by a government agency for use in the post-harvest period to the target crops in the country of production?

Total points 0: Grower should be aware of the crop protection products registered and/or used by a government agency for use in the target crops in the country of production. A "No" answer is allowed only if there are no crop protection products registered/authorized for the target crops in the post-harvest period in the country of production, in which case 2.13.10e must be answered. If this question is answered No, go to 2.13.10e.

2.13.10c: Does the operation have the information available for the plant protection products registered and/or authorized for use in the post-harvest period for the target crops in the country of production? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Grower should have information for the plant protection products registered and/or authorized by government agencies in the country of production for the target crops in the post-harvest period, where such information is available. N/A is only allowed when registration/authorization information does not exist for plant protection products to be used in the post-harvest period for the target crops in the country of production. Where registration information exists, and it is not available at the growing operation, then the answer to this question is NO and automatic failure of the audit will result.

2.13.10d: Are applications or treatments to the harvested product restricted by the guidelines established by the products label, manufacturer recommendation, or by prevailing national/local standards and guidelines? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Information should at least detail: ingredients, target pest(s)/organism(s) or disease(s), application methods that are required or preferred, how much chemical should be applied, rate of application, whether there are any restrictions on use (such as temperature, time of day, season of the year, contamination of sensitive areas, exposure of non-target species, application methods that are prohibited, how often the pesticide should or may be applied, all restricted entry intervals (REIs) pertaining to existing uses, as applicable), maximum application rates per treatment and per year, pre-planting intervals (PPI's), pre-harvest intervals (PHI's) and storage and disposal guidelines.

2.13.10e: If applicable for those plant protection products that are not registered for use in the post-harvest period on target crops in the country of production, if the country has no framework to cover plant protection products, can the grower show that they have registration information, label information, MRL tolerances, etc., for the country of destination? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 20: Where the country of production has no or a partial legislative framework covering plant protection products, and the use of crop protection products are registered for the crop in another country (extrapolation) is not prohibited, the grower must have information for the plant protection products in the country(ies) of destination (in the form of registration for the specific crop, product labels, maximum residue limit tolerances and could also include chemical banned lists, and any other relevant guidelines or legislation). If there are no post-harvest treatments being used in this situation, the answer to this question is not applicable (N/A). If there is no information available for the post-harvest treatments used that are not registered in the country of production or it is used based on registration, label and other pertinent guidelines of the destination country (extrapolation) is prohibited by the country of production, the answer is NO and an automatic failure of the audit will result. If N/A, go to 2.09.08.

2.13.10f: If there evidence available that the grower is taking all the necessary measures to comply with the country(ies) of destination expectations regarding the post-harvest treatments used (e.g. registration information, label information, MRL tolerances or any other guidelines applicable)? A “NO” ANSWER TO THIS QUESTION RESULTS IN AN AUTOMATIC FAILURE OF THE AUDIT.

Total points 10: The grower should be able to provide documented evidence to show compliance with the food safety related information that the operation is adhering to the country(ies) of destination for the post-harvest treatments being applied. That evidence may be in the form of: chemical records, application

methods, rates and dosage, compliance with MRL tolerances or any other relevant information. This question is not applicable (N/A) if the product is sold only in the country of production (domestic market). If this question is answered NO, automatic failure of this audit will result.

Transportation and Tracking

2.14.01 Are the vehicles transporting fresh produce from field to facility limited to this function only and maintained in proper condition?

Total points 5: Vehicles transporting product should be limited to this function only. Vehicles should be in a good state of repair, clean, odor free, free from personal items, and free from chemical and microbiological contamination. If loads are tied down, tarps, belts, ropes, etc., should also be in good working order, without contamination risk to product.

2.14.02 Is there a system in place to track product from the farm? If No, go to 2.15.01.

Total points 20: There should be a tracking system in place to ensure product can be traced back to each exact growing location and harvest date (e.g. grower identification, farm identification, block, harvesting date, etc.). Answer to this question should be NO if there are not at least coding details indicated on pallet tags, bins, trip ticket, or other accompanying load documentation.

2.14.02a If product is being packed in the field, are the cartons, boxes, RPC's or any other packaging material used, identified with the harvesting date and growing location information on them? This question does not apply for raw material/bulk product destined for further handling in a packinghouse or processor facility.

Total points 10: For finished goods packed in the field there should be date coding on each external package, as cartons, boxes, reusable plastic containers or any other. The information should be enough to identify the date of harvest and the exact location of where the product was grown. This question is Non-applicable for raw material/bulk product destined for further handling in a packinghouse or processor facility.

2.14.02b If product is being packed in the field and individual packing units are used (e.g., clamshells, bags, baskets or others), are these individual units identified with the harvesting date and growing location information on them? This question does not apply for raw material/bulk product destined for further handling in a packinghouse or processor facility.

Total points 10: For finished goods packed in the field there should be date coding on each individual unit package, as clamshells, bags, baskets or others. The information should be enough to identify the date of harvest and the exact location of where the product was grown. This question is Non-applicable for raw material/bulk product destined for further handling in a packinghouse or processor facility.

On-site storage

2.15.01 Is there an on-site storage for items and/or equipment used in the harvest process (e.g., packing material, cartons, clamshells, re-usable containers, disinfectants, grading/packing tables, RPCs, harvesting equipment, etc.)? If No, skip the rest of the questions in this section.

Total points 0: On-site carton/container storage areas must be secure, clean, and maintained properly to reduce pest and foreign material contamination.

2.15.02 Are packaging, containers, and harvesting equipment stored to prevent cross contamination (this includes RPCs, cartons, clamshells, bins, and other harvesting type of containers that are single use or reusable, etc.)?

Total points 5: Packaging, containers, etc., should be stored away from farm chemicals, sanitizers, fertilizers, etc. All packaging materials should be stored off the ground (i.e. on racks, pallets, shelves, etc.). Cartons and other packing materials should be properly protected during storage to prevent contamination.

2.15.03 Is the storage area under a sanitation program?

Total points 5: All storage areas should have a sanitation program in place and there should be records of the cleaning and sanitation activities performed, including areas cleaned, dates and person performing the activity.

2.15.04 Has the operation implemented a pest control program in the storage area? If answer is NO, skip the sub-questions.

Total points 20: There should be a pest control program implemented in the storage areas. The proper devices and controls should be in place to control and monitor the potential pests. If answer to this question is NO, there is no need to answer the subsequent sub-questions.

2.15.04a Are pest control devices (inc. rodent traps and electrical fly killers) located away from items and/or equipment used in the harvest process (e.g., packing material, cartons, clamshells, re-usable containers, disinfectants, grading/packing tables, PRCs, harvesting equipment, etc.)? Poisonous rodent bait traps are not used inside the storage areas?

Total points 5: Pest control devices should be located away from items or equipment with food contact surfaces to prevent any physical or microbial contamination. Poisonous rodent bait traps should not be used inside any storage areas.

Care should be taken to place pest control devices in such a manner that they do not pose a threat of contaminating product, packing or raw materials. This includes the following restrictions:

- There should be no domestic fly sprays used within the storage areas.
- Block bait as opposed to grain and pellet bait should be used (except for the external use of National Organic Program approved materials).
- If used, insect light traps (ILTs), electrical fly killers (EFKs) or pheromone traps should be regularly cleaned out (kept free from a build-up of insects and debris). Sticky type ILTs should be monitored at least monthly and the sticky board replaced if ineffective. ILTs that use sticking as opposed to zapping methods (EFKs) are preferred.
- If used, insect light traps or electric fly killers should not be placed above or in close proximity (10 feet, 3 meters) to product, food contact surfaces, equipment, or packaging material.
- If used, insect light trap bulbs should be replaced at least every 12 months (this should be recorded), or as more frequently if directed by manufacturers.
- No fly swatters should be evident in the storage areas.
- No bait should be found outside of bait stations.
- Snap traps can only be used when monitoring traps e.g. tin traps show that there is a serious problem and eradication steps are required. Snap traps should be placed inside a trap box and checked daily (and recorded). Snap traps should not use allergen containing baits e.g. peanut butter. Snap traps are only allowed as a short term emergency eradication solution since they present several risks.

2.15.04b Are pest control devices maintained in good working condition and marked as monitored (or bar code scanned) on a regular basis?

Total points 5: All pest control devices should be maintained in a working condition and replaced when damaged so they will accomplish their intended use. Date of inspection (at least monthly) should be posted on the devices as well as kept on file (unless bar code scanned).

2.15.04c Are pest control devices adequate in number and location?

Total points 5: Inside pest control devices every 20-40 feet, outside building perimeter devices every 50-100 feet. Traps should always be placed at both sides of doorways.

2.15.04d Are all pest controls devices identified by a number or other code (e.g. barcode)?

Total points 5: All traps should be clearly identified (e.g. numbered) to facilitate monitoring and maintenance. All traps should be located with wall signs (that state the trap number and also that they are trap identifier signs).

2.15.04e Are all pest control devices properly installed and secured?

Total points 5: All traps should be correctly orientated with openings parallel with and closest to wall. Bait traps should be locked and tamper resistant in some way (e.g. locks, screws, etc.). Bait traps should be secured to prevent removal and only block bait (no pellets) should be used. If mounted on slabs, then wall signs should be used to aid location.

2.15.04f Is there a schematic drawing of the storage area(s) showing numbered locations of all traps and bait stations, both inside and outside the storage area?

Total points 5: Schematic drawing or trap map is on file, current and details internal and external traps. All devices should be numbered and clearly identified on the map. Map numbers should match physical placements.

2.15.04g Are service reports created for pest control checks detailing inspection records, application records, and corrective actions (if issues were noted) (in-house and/or contracted)?

Total points 5: Inspection reports are necessary for the identification and correction of pest control problem areas. Records should include service(s) performed, date of service, chemicals used (including EPA# if in the US), signs of activity and corrective actions.