



Fresh Papaya Addendum | Food Safety Programs and Audit Protocol for Fresh Papaya

This Addendum must be completed for PrimusGFS audit farm operations when the Addendum is selected within the application.

Questions & Expectations

Subcategory	Question #	Question	Expectation
1. Management Responsibility	1.1	Does the operation have a current copy of <i>the Plan de Acción Papaya, Food Safety Best Practices Guide for the Growing and Handling of Mexican Papaya</i> , the relevant harmonized food safety standard, and additional food safety documents as required by state and/or federal regulation?	Operation has a current copy of the Guidelines and all other required documents available on ProExport Papaya website. https://proexportpapaya.com/download/ - Papayas’ Best Practice Guide - SENASICA Action Plan - Checklist ProExport Papaya Verifications - List of Permitted Products, etc.
2. Self-Audits	2.1	Does the operation have written procedures for conducting self-audits and does the operation conduct self-audits annually to verify compliance with established policies and procedures?	Self-audits and any necessary corrective actions and follow-ups are documented.
3. Worker health/ hygiene, & Toilet hand-washing facilities	3.1	If hand wash water tanks are used, is the water of appropriate microbiological quality, and are the tanks cleaned and sanitized and the water changed periodically?	Water used for hand washing must meet SENASICA requirements and must comply with NOM-127-SSA1-1994 (Environmental health, water for human use and consumption, permissible quality limits and treatments to which the water must be subjected for its purification) as well as FDA requirements. Water tanks used to provide hand wash water shall be maintained at a prescribed frequency in a clean and sanitary manner.

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	3.2	Are there policies emphasized by management; applicable to employees, outside contractors, inspectors and visitors; requiring hand washing with soap and potable water at the appropriate such as before starting work, after use toilet facilities, after breaks and when hands may have become contaminated?	Operation shall have a written SOP regarding hand washing practices. Operation management reinforces the importance of and compliance with handwashing policy. Sanitizers may not be used in lieu of soap and water hand washing but may be used to supplement. If gloves are used when contacting papayas or food contact surfaces, policies will clearly communicate that gloves are not a replacement for good handwashing practices.
	3.3	Are handwashing and sanitary stations free of leaks, spills, deterioration or damage that could result in contamination of papayas?	Handwashing and sanitary stations are inspected daily during harvesting and weekly during production/packing for leaks, spills, and other damage, and this evaluation is recorded.
	3.4	If gloves are used, is there a written SOP on their use, that includes changing them at least once per working shift?	If gloves are used for product or food contact purposes, operation shall have a written policy and SOP regarding their use, maintenance and disposal, including cleaning of reusable gloves, not taking gloves into restrooms or eating areas, replacing gloves that may be damaged or have become a source of contamination (e.g., after handling papayas that are rotten, or fruit that has visible feces). The SOP should also address limitations of the use of non-sanitary gloves (i.e., work gloves). The SOP will require that reusable gloves shall not be taken home by workers for cleaning and sanitizing.
4. Field History & Pre-harvest Assessment	4.1	Are groves planted away from the shade of taller trees?	Papaya trees are planted away from shade trees to limit the risk of contamination from bird droppings or other animal activity.

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	4.2	Does the operation conduct the required Combined Harmonized Standard (3.1.1) pre-harvest risk assessment within five (5) days or less of the first scheduled harvest date?	<p>The risk assessment is re-performed, and documented, for conditions that reasonably may have changed since the last assessment, including adequacy of water sources for their intended use, adjacent land uses, animal migrations or intrusion, debris, worker health and hygiene, or other potential sources of fruit contamination.</p> <p>Best Practice: Pre-harvest risk assessments should be conducted within 48 hours of the scheduled harvest. If harvest continues in the same grove over the course of multiple weeks, groves should be re-assessed at a minimum of once every 14 days.</p>
5. Pesticides	5.1	Foliar applications: Does the water used for mixing pesticides meet SENASICA requirements as well as the requirements of the intended export destination (e.g., FDA standards for E. coli for water in 21 CFR § 112 no detectable generic E. coli in 100 mL of agricultural water)?	Operation has a written policy requiring foliar-application pesticides to be diluted only with water that meets SENASICA and FDA (export destination) microbial standards for post-harvest agricultural water. Operations will have documentation demonstrating compliance, such as test results for the water source used.
6. Water Used in Growing Activities	6.1	Non- foliar applications: Does the water used in growing activities meet SENASICA requirements as well as the requirements of the intended export destination (e.g., FDA standards for E. coli as described in 21 CFR § 112)?	Written procedure requires a BAM or other testing procedure validated for generic E. coli quantitation in water (e.g., see FDA Equivalent Testing Methodology for Agricultural Water fact sheet). Untreated surface water (e.g., from rivers, ponds, reservoirs etc.) can only be used in irrigation methods where the water does not have contact with the fruit (e.g., drip irrigation).
	6.2	Foliar: Does the water used for growing activities meet SENASICA requirements as well as the requirements of the intended export destination (e.g., FDA standards for water in 21 CFR § 112)?	Written procedure requires a BAM or other testing procedure validated for generic E. coli quantitation in water (e.g., see FDA Equivalent Testing Methodology for Agricultural Water fact sheet). Untreated surface water must not be used for foliar applications.

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7. Sanitizing agents used during harvest	7.1	Are all products used to clean or sanitize containers, tools, utensils, equipment or other food contact surfaces approved for use by COFEPRIS and prevailing agency for the country of destination (e.g., U.S. EPA) and used according to label directions?	Documentation is available to demonstrate that cleaning and sanitizing products are approved for their use and are used according to label directions. Sanitizing chemicals uses shall be documented.
8. Product containers & harvest equipment	8.1	Are reusable bins, trays and product containers made of impervious materials that can be cleaned and sanitized?	Written SOP requires that all re-usable product containers are made of materials that can be sanitized, or clean and single-use sanitary liners are used. Wood is not an appropriate food contact surface. Procedures require damaged containers that are no longer easily cleanable or sanitary shall be removed from service of food contact purposes.
	8.2	Are harvest and transportation containers cleaned at a sufficient frequency to limit contamination?	Operation has a written policy describing the frequency and method for cleaning and sanitation of harvest and transportation containers, including but not limited to trailers, crates, and wheelbarrows.
	8.3	Are containers, tools and equipment stored in a manner that reduces the risk of contamination?	Containers, tools, and equipment are free from animal and bird feces, and excessive dust and dirt. This may include storage away from trees or other areas where wildlife may be present, and/or the use of covers/tarps to protect the containers, tools and equipment prior to use. If used, tarps must be cleaned and sanitized before storage and stored in a manner that prevents contamination. Harvest crates and totes are not placed on drip tape during harvest.
	8.4	Are knives and other harvesting tools used and maintained in a manner that reduces the risk of contamination?	Knives and other tools are not damaged. If placed on the ground, they must be cleaned and sanitized prior to use. Tools are placed in a dip station with adequate antimicrobial level at every break and are cleaned and sanitized after each shift. Records of antimicrobial concentration in dip stations are maintained.

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	8.5	Is new food grade paper used during harvesting and transportation activities used only once, and is packaging material tested every 6 months for microbiological hazards?	Packing material is new, food grade, inspected upon arrival, and stored to prevent contamination. Records of microbiological test results are maintained.
9. Papaya growing & harvest	9.1	Are ladders used in a manner that limits papaya contamination with soil from the ladder?	Ladders are transported separately from the fruits, so the legs/base of the ladder do not come in contact with the fruit. Employees only touch the sides of the ladder, not the rungs/ steps. If gloves are used, they should be sanitized in an antimicrobial solution before cutting papayas if steps are accidentally contacted, as per company policy.
	9.2	Are papayas free of visible soil and are dust control measures implemented?	Papayas in contact with soil (“drops”) must not be harvested. If dust is a problem, papayas should be protected (e.g., by wetting roads, reducing speed limits, by sealing the road, covering papayas in trucks with tarps, etc.)
	9.3	Are visibly contaminated, damaged, or decaying papayas not harvested and discarded so as not to attract animals/pests and do employees handle damaged or visibly contaminated fruit in a manner that prevents cross contamination of harvested fruit?	Damaged, rotten, or visibly contaminated papaya is not harvested. This fruit is removed from the field/growing area or otherwise treated to not serve as an attractant to pests. If harvest workers touch visibly contaminated fruit, they must discard the fruit and wash their hands or change gloves prior to returning to harvest.
	9.4	Are papayas stored to limit potential contamination?	Harvested papayas are not stored under trees. Paper used for lining crates/ wheelbarrows are single- use only. Foam or fabric is not used during harvest, transportation, or storage of papayas.
10. Traceability	10.1	Is the lot identification number labeled on all boxes and clearly legible?	A product coding system is in place where product or raw material shall be labeled with grower and lot identification and coded to enable access to date of harvest and/or packing, origin (name of farm, grower and/or packing location), and country of origin for traceback purposes.

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11. Packinghouse Condition & equipment	11.1	Is the facility constructed/arranged to allow separation of incoming product, in-process product and finished product?	Facilities or processes assure separation and positioning of incoming raw materials so as not to become a source of contamination of in-process and finished product.
	11.2	Does the operation have procedures that minimize the accumulation of standing water?	If floor drains exist, they are adequate, functional, free of obstruction and are properly maintained and cleaned sufficiently to prevent them from becoming sources of contamination. If standing water exists, it is removed from floors and floors cleaned in a manner and at a frequency sufficient to prevent creation of a source of contamination.
	11.3	Are all food contact surfaces made of material and design suitable for easy cleaning and sanitizing and are maintained in good condition?	All papaya contact surfaces and equipment are made of materials, designed or constructed to be easily cleaned and sanitized, all food contact surfaces are free of rust or corrosion, and seams between food contact surfaces are smooth or accessible for cleaning. Foam and fabric are not used.
12. Product wash water management	12.1	<p>In systems where papayas are submerged or dwell in water, are papayas handled to limit infiltration of wash water? is the temperature differential between the water and the average temperature of the papaya pulp when entering the water no greater than 8°C?</p> <p>Best practices: : The water temperature should not be colder than the average temperature of the papayas pulp when entering the water.</p>	<p>Operation shall have methods for determining average pulp temperature of a minimum of 5 papayas taken from the geometric center of the harvest trailer, a procedure for control of water temperature, shall monitor temperature at a prescribed frequency sufficient to assure continuous compliance (minimum of hourly), and shall maintain records of water temperature. Papayas are submerged for no more than 10 minutes, and at a depth no greater than 60 cm. Operation shall have a procedure as to what corrective actions are taken if criteria are not met. Water spray or shower systems, wherein papayas are not submerged or dwell, do not require temperature control.</p> <p>Best Practice: Papayas should not be submerged for more than 2 minutes, or at a depth greater than 30 cm (about 1 layer of papaya).</p>
	12.2	Have operations that utilize spray systems in place of whole papaya immersion	Spray systems shall be designed such that rinse water contacts all surfaces of the papaya.

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		designed the line so that the entire surface of the papaya is rinsed?	
	12.3	If a spray bar system is used, does the operation have a SOP for water use that addresses treatment of that water?	Operation’s water use SOP requires spray bar water to be treated using an approved antimicrobial to maintain a microbially hostile environment on equipment. If water is recirculated or reused, it must meet the requirements of 12.4 and either 12.6 or 12.7.
	12.4	Do all wash water tanks and water that is reused or recirculated have adequate levels of antimicrobials to prevent cross-contamination, and is the water as clean as possible?	Water must meet hygiene standards described in 6.2. A procedure is established describing the type of antimicrobial in each tank or system that limits cross contamination of bacteria, the established critical limit, and other parameters such as pH. Frequencies and methods of verification are described in the procedure.
	12.5	Is stored water treated to prevent contamination, and are tanks cleaned? Does the microbiological quality of the water meet appropriate standards based on its use as defined in this standard or prevailing regulation?	Water stored in tanks, cisterns or closed reservoirs prior to use in the packinghouse must contain antimicrobials to prevent contamination (e.g., 3-5 ppm free chlorine) and be cleaned and sanitized at least every 6 months. Records of antimicrobial concentrations and records of sanitation are maintained.
	12.6	If water quality is based on a chlorine-based sanitizer, is at least 100 ppm free available chlorine (FAC), measured at the exit of the product from the water system and it is maintained at all times, unless validation data is available to demonstrate that a lower FAC level is effective under the company’s operating conditions?	Operation shall have a procedure to manage FAC levels, shall establish process adjustments to not drop below 100 ppm, shall establish corrective actions for when the FAC level drops below the target ppm, and shall maintain records to verify proper management of levels. If FAC levels are determined by test strip or ORP (min 675 mV), monitoring must be conducted at least hourly and must be verified by titration or calibrated probe at least at the start of production and after a water change. pH is maintained between 5.5-7 and is verified. Papayas washed in water less than 100 ppm FAC and/or outside pH 5.5-7 are discarded and not rewashed. Best practice: FAC levels are monitored by titration or calibrated probe on an hourly basis.

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	12.7	If water quality is based on a peroxyacetic, peracetic or peracetic system, are levels maintained above 30 ppm and in accordance with manufacturer's label directions and regulatory requirements?	Operation shall have a procedure to manage peracid levels, shall establish process adjustments so as not to drop below 30 ppm, shall establish corrective actions for when the peracid level drops below the target ppm, and shall maintain records to verify proper management of levels. If PAA levels are determined by test strip or ORP (min 675 mV), monitoring must be conducted at least hourly and must be verified by titration or calibrated probe at least at the start of production and after a water change. pH is maintained below 8 and is verified. Papayas washed in water less than 30 ppm PAA and/or above pH 8 are discarded and not rewashed. Best practice: PAA levels are monitored by titration or calibrated probe on an hourly basis.
	12.8	Is water turbidity monitored to ensure that a sufficient concentration of antimicrobial is maintained sufficient?	Operation shall have a procedure to measure turbidity, and a procedure to adjust turbidity if parameters are exceeded, as established by the measurement method. If turbidity is monitored through visual evaluation, operation shall have verification records demonstrating effectiveness of method in maintaining corresponding antimicrobial concentration. Records of monitoring and corrective action are maintained.
	12.9	Are sponges or other materials used to wash papayas maintained so as not to be a source of contamination?	Sponges must be immersed in an antimicrobial solution between washing papayas. Sponges must be discarded at least once per shift
Packing	13.1	Are papayas dry when packed?	Papayas are dried by air/fans. If cloths are used, they are changed at least every 2 hours and an SOP requires cloths be washed, sanitized, and dried before re-use.
	13.2	Is new food grade paper used for packaging used only once, and is the packaging material tested every 6 months for microbiological hazards?	Packing material is new, food grade, inspected upon arrival, and stored to prevent contamination. Records of microbiological test results are maintained.

**Expectations based on Food Safety Programs and Auditing Protocol for the Fresh Papaya Supply Chain, 2021 Field Production, Harvest, and Packing "*