# Commitment to Food Safety and Quality

# (COMPANY NAME)

**Insert Logo**

#### Mango production at (Name of company) is maintained and operated under the program of good agricultural practices. This program provides a series of standards and procedures that the company uses to improve and document the production practices of safe mangoes. The standards are consistent with the current guidelines on Good Agricultural Practices (GAP), harmonized for fresh products.

**(Name of company)** recognizes that mango safety and quality is its obligation and the company is proactive in implementing fresh food safety and quality programs. These programs are intended to minimize the risks of contamination of their food products in order to benefit consumers.

The management of the company is responsible for communicating to all (name of company) employees and partners what the standards and guidelines for food safety and quality are, as well as providing all the tools, equipment, training and resources that are necessary to produce safe and healthy products. For their part, the employees have the responsibility of attending all training sessions that are offered in the company, as well as following the policies and standard operating procedures proposed and approved for the preparation of foodstuffs.

At (name of company) we believe that food quality and safety is a responsibility of all employees. The programming of the workload and the responsibility for the process lies with management, the production team and the supervisors. All of our employees have been trained and instructed to report any situation they encounter during their work that puts the safety and/or quality of the mangoes harvested by (name of company) at risk to their supervisor in order to take appropriate action to ensure compliance with the quality and safety requirements.

All production records are kept on file in the company's offices for two years.

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General Manager/Administrator/Owner

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**DISCIPLINARY MEASURES POLICY**

##### OBJECTIVE

CODE:

POL- DISIPLINE-1.1.3

To establish corrective action for compliance with the procedures, rules and regulations established by the orchard/farm/estate.

##### CONTROL MEASURES

A corrective action is applied to those orchard/farm/estate workers that commit a food safety offense when:

* The operating procedures are violated.
* The rules and regulations set within the safety plan are violated.
* Some kind of intentional contamination occurs.

In addition, the corresponding corrective action is recorded.

* First violation: transgressor is asked to follow the procedure immediately (verbal warning).
* Second violation: transgressor will be issued a written warning.
* Third violation: transgressor will be assigned 3 days of time off.
* Fourth violation: transgressor will be dismissed or relocated to another area where his activities do not affect the safety of the product.

Corrective action is determined by the supervisor of the orchard/farm/estate and is documented in the Register of Disciplinary Measures (REG-DISCIPLINE-1.1.3).

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CODE

REG-DISCIPLINE-1.1.3

**DISCIPLINARY MEASURES**

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| Date | Name of the person  involved | Misconduct | Corrective action | Signature of employee | Performed |
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##### OBJECTIVE

* 1. To establish a documented Food Safety Plan that monitors and verifies the implementation of Good Agricultural Practices (GAP) for mango production.

##### GENERAL CONSIDERATIONS

**Technical Manager of the Safety Plan**

The farm/orchard/estate has technical personnel responsible for the implementation of and follow-up to the Food Safety Plan.

##### RESPONSIBLE TECHNICAL PERSONNEL

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| **Name** | **Position** | **Phone 24hours/7 days** |
| Enter the name of the manager | Manager/supervisor | Indicate the telephone available 24 hours a day and 7 days a week |
| Enter the name of the alternate | Alternate/supervisor | Indicate the telephone available 24 hours a day and 7 days a week |

The manager and the alternate have the experience and the training necessary to carry out all the activities, controls and monitoring that are essential to the fulfillment of the Food Safety Plan.

##### Review of the Food Safety Plan

The Food Safety Plan is reviewed annually by the plan manager and the review procedure is documented, as are any changes made to it, in accordance with the procedure for the revision of the safety plan (SOP-REVPLN-1.2.2).

##### Documentation

We have the records and The Standard Operating Procedures (SOP), which describe the operations carried out in the company. We have the written policies required by the food safety standard "Harmonized Produce Safety Standard (HPSS)".

The documents and records used in the company's operations and procedures are kept and monitored for a minimum period of two years in accordance with the document control procedure (SOP-DOC-1.3).

##### Land selection and location

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The orchards/farms/estate, roads and irrigation canals that surround them are free of foreign material such as plastic bags, pesticide containers, glass containers and materials different from those native to a crop field.

We avoid having a border with land with possible sources of contamination that might receive runoff of contaminated water such as landfills or industrial areas.

We have all the information relating to the physical description of the type of terrain, production history, previous use and improvements to the soil.

We ascertain that there is no risk of microbiological hazards. This information is documented in the land history and evaluation register (REG-LDEVAL-2.1.2) and is reevaluated once a year.

##### Risk evaluation of animal intrusion activities

Periodic evaluations of the mango orchards/farms/estates are performed focused on the activity of domestic and wild animals, taking into account the proximity to the orchards/farms/estate and water sources, among other factors. SOP-EVANIMA-2.5.1

##### Soil improvers

The organic fertilizers and manure that are used in the mango crop go through a treatment that destroys the possible microbiological pathogens present in such materials.

All manure and sewage sludge from treatment plants that are used as fertilizer are composted before they are applied.

The compost is kept enclosed and in appropriate areas, removed from the fields of vegetable production and packaging in such a way that it presents no risk of contamination to crops, water sources and stored products. All this is documented in the register of soil improvers (REC-SOILIMP-2.6.1).

##### Pre-harvest evaluation

An evaluation is carried out prior to the mango harvest to look for conditions in the orchards/farms/estates that could result in a physical, chemical, or biological contamination of the product (POE-EVPREC-3.1.1). The result of this evaluation, as well as any corrective action that has been taken, is documented (REG-EVPREC-3.1.1)

##### Mango washing process

The mangoes receive a washing treatment prior to packing, taking care that this process does not become a source of contamination according to the procedure specified in the POE of the mango washing process (SOP-MWP-5.2.3).

##### Use of disinfectants in the mango washing water

There is documentation (DOC-MATERIAL-5.1.1) which shows that the antimicrobial agents used in the wash water of the immersion system, in the sprinkler line or for other purposes of contact with food are approved by the EPA (US Environmental Protection

Agency or the FDA (US Food and Drug Administration). (Make sure you have these documents in the indicated area (DOC-MATERIAL-5.1.1))

##### Cleaning equipment and utensils

The equipment, utensils and tools used to clean or disinfect, receive sufficient maintenance to prevent them from becoming a source of product contamination and they are stored away from the product handling areas as indicated in the maintenance procedure of cleaning and disinfection utensils (SOP-MPCDU-5.4.5).

##### Cleaning and disinfection of food contact surfaces

There is a cleaning program for the harvest utensils and containers that have direct contact with the mangoes in accordance with the manual of cleaning and disinfection procedures (SOP-SSOP- 2.5.2).

##### Water use

The water used for irrigation of the orchards/farms/estate is free of microorganisms that can affect human health and that may have an impact on the safety of the product.

Water is not used that may represent a latent pollution danger, such as wastewater discharged from villages, (sewage with industrial waste) or where there may be a presence of dead animals in the source of supply of irrigation water.

Water care and control is documented in accordance with the Water Control and Management Procedure (SOP-CONTROAGUA-2.4.3.)

##### Chemicals

The control of potentially hazardous chemicals used in the mango orchard/farm/estate includes pesticides, cleaners, disinfectants, fuels, paints and solvents.

All chemicals are perfectly identified with their label according to the manufacturer's specifications, and they are stored securely to prevent mango contamination. All recommendations and government regulations relating to the application, use or conservation of said products are followed as is explained in the Control of Chemicals Procedure. SOP-CHEM-2.3.1

##### Hygiene and Health of the employees

We monitor the hygiene practices of all employees who work in the areas where the mangoes are handled. The orchard/farm/estate has all the facilities necessary to fulfill the hygiene objectives, such as washbasins and toilets. All this according to the Employee Hygiene and Health Procedure POE-HYGIENE-2.2.1).

##### Transport of the mangoes from the orchard/farm/estate to the packing house

Measures are taken to prevent contamination during harvest and during the transfer to the truck, or to the warehouse. In accordance with the Transport Cleanliness Procedure and the Transport and Security Control/Loading and Unloading (POE-TRANSP-4.1.1)

##### Traceability and product recall

There is a traceability system within the orchard/farm/estate from pre-harvest to post-harvest. SOP-TRACE-1.6.1

##### Equipment maintenance and calibration

There is a preventive maintenance and calibration program to ensure that the equipment and tools used operate properly and are not a means of contamination. The equipment maintenance is carried out according to the Maintenance Procedure (POE-MAINT-2.5.1).

##### \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Signature of the owner or manager of the company**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date it was approved**

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**Date:**

**Time: Location:**

**Food Safety Equipment**

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| Name | Position and department | Attendance signature |
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| **Name of the area/ document being changed** | **Changes made** | **Reason for the change** | **Results expected with the change** |
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Signature of the owner or facilities manager

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| **REVIEW OF THE SAFETY PLAN** | CODE SOP-REVPLN-1.2.2 |
| Reviewed and approved by: | Version:  Review date: |

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**OBJECTIVE**

To keep the safety plan that the company follows updated to ensure that the plan is current and up-to-date with industry practices, the plant practices and the current scientific knowledge.

**PROCEDURE FOR THE REVIEW OF THE SAFETY PLAN**

The food safety plan is reviewed at least once a year by the food safety team. This review is documented in the Food Safety Plan’s revision register. (REG-REVPLN-1.2.3).

The members of the food safety team are the only people with access to the electronic files and that can make modifications to the plan. Any modification, correction or update to the plan must be made and/or authorized by the company's food safety team.

After any change is made, a copy of the modified document is printed and delivered to the end user of the document and to the corresponding manager or supervisor to verify that the changes are correct.

Once the changes to the food safety plan are approved, the company owner or manager signs and dates it. All copies of the old plan are destroyed and the signed copy is used immediately. The digital files of the old safety plan are also deleted.

All of the changes are recorded in the food safety plan's revision register. (REG-REVPLN-1.2.3).

##### OBJECTIVE

To establish an effective system for the safeguarding and conservation of the Food Safety Plan documents.

##### CONTROL MEASURES

* + - All the original documentation is kept in ring binders inside of plastic protectors to ensure their conservation and readability.
    - The manager of the Food Safety Plan is responsible for distributing copies of the documents required in different areas, such as registers and procedures of the tasks to be performed. He is also responsible for removing any obsolete documentation, inspecting, collecting and archiving all registers that are full.
    - The documents are safeguarded for two years.
    - All of the documentation for the Food Safety Plan system (procedures, records, reference documents, manuals, policies, guidelines, etc.) will remain where the company so designates, either on-site or outside of the farm/orchard/estate.
    - For better control of the documentation there is a master list of documents of all of the SOP's, records, programs, and policies that indicates their name and code.
    - All documentation relating to laboratory analysis, studies and calibration is safeguarded for audit purposes.

##### Audits

* + - * In the event of an audit, the documents required by the visitor and/or auditor may be submitted in PDF format to avoid any accidental or intentional modification of the document, or in printed form in the appropriate folder of original documents.

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##### OBJECTIVE

To establish an effective system for the safeguarding and conservation of the food safety plan documents.

##### DOCUMENT LIST

|  |  |  |
| --- | --- | --- |
| **Point** | **Name** | **Code** |
| 1.1.1 | Commitment to Food Safety and Quality |  |
| 1.1.3 | Disciplinary Measures Policy | POL- DISCIPLINE-1.1.3 |
| 1.1.3 | Disciplinary Measures | REG-DISCIPLINE-1.1.3 |
| 1.2 | Food Safety Plan | PLAN-SAFETY-1.2 |
| 1.2.2 | Document Review | SOP-REV-1.2.2 |
| 1.3 | Document Control | SOP-DOC-1.3 |
| 1.3 | Document List | SOP-DOC-1.3 |
| 1.4.1 | Employee Training Procedure | SOP-EMPTRN-1.4.1 |
| 1.4.2 | Training attendance register | REG-TRNATT-1.4.2 |
| 1.4.2 | Documents of personnel with responsibilities  for food safety | DOC-PFSAFE-1.4.2 |
| 1.4.3 | Rules for visitors and subcontractor personnel | SOP-VISITORS-1.4.3 |
| 1.4.4 | Visitor and contractor register | REG-VIS/CONT-1.4.4 |
| 1.5.1 | Program of tests to be performed | PRO-TESTS-1.5.1 |
| 1.5.2 | Sampling procedure | SOP-SAMPRO-1.5.2 |
| 1.5.3 | Sampling results register | REG-RESULTS-1.5.3 |
| 1.6.2 | Traceability | SOP-TRACE-1.6.2 |
| 1.6.4 | Traceability register | REG-TRACE-1.6.4 |
| 1.6.2 | Supplier list | REG-SUPLIST.1.6.2 |
| 1.6.5 | Customer contact information | REG-CUSTINFO-1.6.5 |
| 1.7.1 | Recall program | SOP-RECALL-1.7.1 |
| 1.7.1 | Product recall | REG-RECALL-1.7.1 |
| 1.8.1 | Corrective action | SOP-CORREC-1.8.1 |
| 1.8.1 | Corrective Action | REG-CORREC-1.8.1 |
| 1.9.1 | Internal Audit | SOP-INTAUD-1.9.1 |
| 1.10.1 | Employee hygiene/Employee health/  Hand washing and sanitary services | SOP-HYGIENE-1.10.1 |
| 1.10.6 | Bathroom cleaning | REG-BATH-1.10.6 |
| 1.10.8 | Hand washing signage | 1.10.8 |
| 1.11.1 | Handling and application of chemicals. | SOP-CHEM-1.11.1 |

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| 1.11.1 | Register of pre-harvest and post-harvest chemicals | REG-PREPOSCHEM-1.11.1 |
| 1.11.1 | Control of chemicals and inputs (Inventory) | REG-CHEM-1.11.1 |
| 1.11.3 | Personnel trained in the handling of chemicals | DOC-CHEM-1.11.3 |
| 2.1.1 | Land history and evaluation | SOP-LDEVAL-2.1.1 |
| 2.1.1 | Land history and evaluation | REG-LDEVAL-2.1.1 |
| 2.2.1 | Description of the water system | DOC-WATERSYST-2.2.1 |
| 2.2.3 | Water control and management | SOP-CONTROWAT-2.2.3 |
| 2.2.3.1 | Control of water sources | SOP-CONTWATSS-2.2.3.1 |
| 2.5.2 | Animal monitoring and prevention | REG-MONANI-2.5.2 |
| 2.5.2 | Evaluation for animal control | REG-EVANIMA-2.5.2 |
| 2.5.1 | Risk evaluation of animal activities | SOP-EVANIMA-2.5.1 |
| 2.4.1 | Soil improvers | SOP-SOILIMP-2.4.1 |
| 2.4.1 | Application of soil improvers | REG-APSOILIMP-2.4.1 |
| 2.4.1 | Monitoring soil improvers | REG-SOILIMP-2.4.1 |
| 2.5.1 | Maintenance | SOP-MAINT-2.5.1 |
| 2.5.1 | List of equipment and surfaces in contact with  food | REG-EQUIP-2.5.1 |
| 2.5.2 | Maintenance | REG-MAINT-2.5.2 |
| 2.5.2 | Sanitation standard operating procedures | SOP-SSOP-2.5.2 |
| 2.5.3 | Procedure for Spills and Leaks | SOP-SPILLS-2.5.3 |
| 2.5.4 | Cleaning and disinfection of equipment, utensils,  tools and vehicles | REG-CLNDIS-2.5.4 |
| 2.5.6 | Water tanks sanitation procedures | SOP-SANTANK-2.5.6 |
| 2.5.6 | Cleaning inspection | REG-CLNDIS-2.5.6 |
| 3.1.1 | Pre-harvest evaluation | SOP-PREHARV-3.1.1 |
| 3.1.2 | Pre-harvest evaluation | REC-PREHARV-3.1.2 |
| 3.2.1 | Water quality control and measurement | SOP-WATER-3.2.1 |
| 3.3.1 | Storage and handling of containers | SOP-STRCONT-3.3.1 |
| 3.4.1 | Post-harvest management and control | SOP-PSTHARMC-3.4.1 |
| 3.4.1 | List of lots harvested and shipped | REG-HARVSHP-3.4.1 |
| 4.1.1 | Transport, cleaning, loading and unloading, control and  safety of the cargo | SOP-TRANSP-4.1.1 |
| 4.1.1 | Transport, cleaning, loading and unloading, control and  safety of the cargo | REG-TRANSP-4.1.1 |
| 5.1 | Program of Approved Suppliers | SOP-APPSUPP-5.1 |
| 5.1 | Receipt of raw material | REG-RRM-5.1 |
| 5.1.1 | Documents relevant to raw materials,  ingredients and chemicals used | DOC-MATERIAL-5.1.1 |

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| 5.1.1 | List of approved suppliers | REG-APPSUPP-5.1.1 |
| 5.1.2 | List of emergency suppliers | REG-EMERSUPP-5.1.2 |
| 5.2.1 | Description of packing house water system | DOC-WATERSYST-5.2.1 |
| 5.2.1 | Evaluation of the water system | REG-EVWASYS-5.2.1 |
| 5.2.2 | Control of water sources in the packing house | REG-CTRLWAPP-5.2.2 |
| 5.2.3 | Mango washing procedure | SOP-MWP-5.2.3 |
| 5.2.4 | Quality Control and Measurement of  packing House Water | SOP-PPWATER-5.2.4 |
| 5.2.6 | Control and Management of Antimicrobial Agents in the  Water | SOP-AMAWA-5.2.6 |
| 5.2.7 | Monitoring of the Concentration of Disinfectant in the  water | REG-MCDAW-5.2.7 |
| 5.3 | Storage and handling of containers in the  packing house | SOP-CONTPP-5.3 |
| 5.4 | Preventive maintenance in the packing house | SOP-MAINT-5.4 |
| 5.4 | Preventive maintenance in the  packing house | PROG-MAINT-5.4 |
| 5.4 | Maintenance work order | REG-MWO-5.4 |
| 5.4.1 | Preoperative evaluation | REG-PREOP-5.4.1 |
| 5.4.3 | Master cleaning plan | PROG-MPC-5.4.3 |
| 5.4.4 | Cleaning and disinfection procedure | SOP-PROCLDIS-5.4.4 |
| 5.4.5 | Procedure for the maintenance of  cleaning and disinfection utensils | SOP-MPCDU-5.4.5-5.4.5 |
| 5.4.9 | Equipment calibration list | PROG-CAL-5.4.9 |
| 5.4.9 | Equipment calibration | REG-ECAL-5.4.9 |
| 5.5.4 | Allergen control program | SOP-ALLER-5.5.4 |
| 5.5.5 | Specifications for packing materials and  labels | SOP-SPML-5.5.5 |
| 5.6.5 | Storage of inputs and finished product | SOP-STOR-5.6.5 |
| 5.9.1 | Glass and brittle plastic | SOP-GLASS.5.9.1 |
| 5.14 | Pest Control Program | SOP-PEST-5.14 |
| 5.14 | Integrated Pest Management | PROG-PEST-5.14 |
| 6.2 | Transport, cleaning, loading and unloading; control and  safety of the cargo | SOP-TRANSPT-6.2 |
| 6.2 | Transport, cleaning, loading and unloading; control and  safety of the load of packed product | REC-TRANSPT-6.2 |
| 7.0 | Food Protection Plan | SOP-FOODPRO-7.0 |
| 7.0 | Complaints | REG-COMPS-7.0 |
| 7.0 | Monthly complaints report | REG-MRC-7.0 |

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| 8.0 | Food Protection Plan | SOP-FOODPRO-8.0 |

**OBJECTIVE**

To keep the company documentation up-to-date, thus avoiding the generation of copies that generate conflict between the different documents used in the company.

**PROCEDURE FOR DOCUMENT REVIEW**

Any modification, correction or update of an SOP, SSOP, work instructions, policies, registries or any other document must be made and/or authorized by the coordinator(s) or manager(s) of the company's food safety. The members of the food safety team are the only people with access to the electronic files and that may make modifications to the program.

After any change is made, a copy is printed and delivered to the end user of the document and/or to the food safety coordinator to verify that the changes are correct.

Once the change to the document is approved, the company manager signs it and dates it. All copies of the old document are destroyed and the signed copy is used immediately. The digital files of the old document are also deleted.

All changes are recorded in the appropriate SOP in the following manner:

The new version and date of the document are updated as shown in the following box, indicating the version of the document (*in italics*) and the date (**in bold**)

|  |  |
| --- | --- |
| **DOCUMENTS REVIEW** | CODE SOP-REV-1.2.2 |
| Reviewed and approved by: | *Version: 3*  **Review date: 7/17/2015** |

At the end of the SOP a summary of the changes made is included in the following manner (following the directions in bold):

Date of the original document: Version 1 - 9/1/12 **(Indicate the date of the original document)**

Reviews included in version 2 - 1/3/13: The flow charts were modified to update them. Some verbs were changed to follow the auditor's observations. **(Standard text, version number and date of the modification: Followed by a summary of the modifications made).**

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Revisions included in version 3 - 1/1/14: The numbering of the steps was modified and the diagrams were updated to reflect these modifications. **(Standard text, version number and date of the modification: Followed by a summary of the modifications made).**

**The use of bold and italics in this document is for demonstrative use only; in the original SOPs regular fonts are used.**

CODE: SOP-EMPTRN-1.4.1

**EMPLOYEE TRAINING PROCEDURE**

##### OBJECTIVE

To train employees to understand and carry out the principles of food safety in mango production as well as the sanitation practices corresponding to the activities of their position within the farm/orchard/estate.

##### CONTROL MEASURES

* All employees, including those newly hired, temporary and contractors receive training once a year on the following topics:

1. Food Safety
   * What is food safety?
   * Food-borne illnesses
   * Types of contaminants
2. Personal hygiene practices
3. Hand washing and use of gloves
4. Cross-contamination

* All participants in our training and coaching classes sign the Training Attendance List (REG-TRNATT-1.4.2), which indicates the date, topics addressed, attendees and the person in charge of providing the training.
* Reinforcement training is provided at least every six months.
* The supervisor of the orchard/farm/estate is responsible for filing the workers’ attendance lists for the different courses they receive.

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CODE

DOC-PFSAFE-1.4.2

**DOCUMENTS OF THE PERSONNEL WITH FOOD SAFETY RESPONSIBILITIES**

**DOCUMENTS OF THE PERSONNEL WITH FOOD SAFETY RESPONSIBILITIES**

**CODE:**

**SOP-VISITORS-1.4.3**

**RULES FOR VISITORS AND SUBCONTRACTOR PERSONNEL**

##### OBJECTIVE

Every visitor, contractor or supplier who enters the plant must comply with the rules and policies of the orchard/farm/estate to maintain mango security and safety.

##### CONTROL MEASURES

* Check in at the entrance or with the personnel responsible for the farm/orchard/estate and fill out the visitor/contractor registration.
* Sign the regulations and/or policy for visitors/contractors.
* Visitors should always be accompanied by the person they are visiting.
* Entry is forbidden wearing huaraches, miniskirts, dresses and/or Bermuda shorts.
* Smoking is forbidden in the orchard other than in the designated area.
* Eating, chewing gum, spitting or drinking is not allowed (drinking water is permitted only in the authorized water jug stations within the orchard/farm/estate).
* Eat only in the specified area.
* Do not bring glass onto the premises.
* Use the bathroom.
* Wash your hands after using the bathroom.
* Do not take mangoes or any harvesting equipment or utensil.
* If a visitor or subcontractor is found to be in violation of the above requirements it will be reported to the person responsible for his entrance and he will be removed from the area.

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CODE:

PRO-TESTS-1.5.1

**SCHEDULE OF TESTS TO BE PERFORMED**

##### OBJECTIVE

To maintain a schedule of tests to be performed, determining the frequency, the type of sample and the person responsible.

##### SCHEDULE OF TESTS TO BE PERFORMED

The company uses laboratories that have at least gone through Good Laboratory Practice (GLP) audit or are participating in a proficiency testing program and use the FDA's Bacteriological Analytical Manual (BAM), AOAC International or test methods that have been validated to detect or quantify the organisms and/or chemical compounds listed in the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample** | **Test to be performed** | **Frequency** | **Responsible party** |
| Water | Total coliforms | Semi-annual | Write the name of the manager of the safety plan or of the person responsible for the analyses’ follow-up. |
| Water | Physico-chemical | Annual |
| Water | Pesticides | Annual |
| Soil | Physico-chemical | Annual |
| Mango |  | Season |
| Mango | Pesticides | Annual |

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CODE

SOP-SAMPRO-1.5.2

**SAMPLING PROCEDURE**

##### OBJECTIVE

To perform physico-chemical and microbiological analyses through an accredited laboratory.

##### PREVENTIVE MEASURES

* All the analyses that are performed on the mangoes, soil and water are carried out by an external laboratory, which is accredited by a good laboratory practice (GLP) audit or with validated methods such as the FDA's Bacteriological Analytical Manual (BAM), the AOAC International or other validated test methods.
* The laboratory has the necessary documentation to prove the validity of the procedures and techniques it used.
* There is a schedule of tests to be performed (PRO-TESTS-1.5.1)

##### Sample collection

* The supervisor of the farm/orchard/estate schedules the appointment time for the sample collection with the external laboratory.
* The external laboratory is responsible for collecting the samples on the site and handling them properly during the journey to the laboratory.
* For microbiological samples, the external laboratory submits the protocol for the sample collection.

##### Results

* The manager of the safety plan analyzes the results to determine if they are within the permissible limits that mark the norm or the specifications of the external client.
* When the results are within the limits, it is considered that what has been analyzed is controlled.
* When results are outside of the parameters or limits, the manager of the safety plan reschedules another sampling to verify or assess that it is not a matter of a false alarm. In the case that it yields results that are outside permissible limits the manager of the safety plan must conduct an investigation that allows him to make the right decision to implement control measures for the analyzed sample.
* All results and/or corrective actions related to the samples are recorded in (REG-RESULTS-1.5.3).
* The manager of the safety plan for audit purposes safeguards the original documents.

CODE:

REG-RESULTS-1.5.3

**SAMPLE RESULTS REGISTER**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Test to be performed | Analysis performed | Results | Indicate if it is within the  limits | Corrective action taken |
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#### Comments

Manager of the Safety Plan \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Supervisor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CODE SOP-TRACE-1.6.2

**TRACEABILITY**

##### OBJECTIVE

To have the ability to identify and track the harvested mangoes as well as all inputs used during the pre-harvest and post-harvest.

##### PREVENTIVE MEASURES

**Traceability exercise**

* Once a year traceability exercises are done backwards and forwards.
* The maximum amount of time to accomplish traceability shall not be greater than 4 hours
* You must have 100% of the product to be traced.
* In the case of not having all 100%, corrective action should be taken and the exercise should be rescheduled.
* The results of the exercise are registered in (REG-TRACE-1.6.4)

##### Traceability of chemicals and inputs in pre-harvest and post-harvest

* The supervisor of the farm/orchard/estate registers each input or chemical used during the mango pre-harvest and post-harvest in (REG-CHEM-2.3.1).
* The list of lots harvested and shipped is recorded in (REG-HARVSHP-3.4.1) to keep track of the traceability of the mangoes inside of the farm/orchard/estate.
* Each lot is identified with a label that displays its number. This was released by the supervisor of the farm/orchard/estate and sent to the packing house.

##### Backward traceability

* All inputs are traceable from their arrival at the farm/orchard/estate/packing house, using registers with date information, provider name, commercial product name, lot, volume purchased and person responsible for receipt (REG-RRM-5.1).
* There is an updated directory of suppliers with the name of the company, service or product offering, address, telephone number and email address.
* There are data sheets of all the inputs and products acquired.

##### Forward traceability

* Each lot is identified with a code and with the origin of the product on labels that are placed on the boxes/baskets.
* There are registers of the transport vehicles used for the distribution of the product to the packing houses.
* There is a list of clients such as packing houses, destinations, distributors and middlemen.
* The list of lots harvested and shipped (REG-HARVSHP-3.4.1) is a means of keeping track of the boxes shipped, the lots, the destination, the name of the orchard/farm/estate and the section or block.

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CODE:

REG-SUPLIST.1.6.2

**SUPPLIER LIST**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Supplier | Location/Cd: | Indicate with an X | | | Name of contact | Telephone | E-mail |
| Chemicals/inputs | Service | Contractor/other |
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CODE:

REG-CLIENTES-1.6.5

**CUSTOMER CONTACT INFORMATION**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Customer/company name | Location/Cd: | Indicate with an X | | | Name of contact | Telephone | E-mail |
| Packer | Wholesaler | Retailer |
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CODE: SOP-RECALL-1.7.1

**RECALL PROGRAM**

##### OBJECTIVE

To establish a recall program of mangoes involved in health contingencies.

##### PROCEDURE

**Product recall**

* The exercises or drills of product recall from the market are carried out once a year and allow testing of the tracking procedures.
* The supervisor of the farm/orchard/estate begins the drills by selecting one or more lots at random.
* The persons responsible for the documentation and the recall of the product are the manager of the food safety plan as coordinator of the recall; the supervisor and the owner of the farm/orchard/estate as assistants.
* All of the data included in the registry must be identified (REG- RECALL- 1.7.1)

##### Recall notification

* When there is a possible recall of mangoes for import, the Office of Regulatory Affairs of the Food and Drug Administration of the United States must be notified. They will help in the recall process and determine both the extent of the recall as well as the measures to be taken.
* In the case of a recall at the national level, the local regulatory agency should be notified (COFEPRIS). They will evaluate the type of tracking, assessing the damage that can be caused to consumers.
* The coordinator is responsible for making the call for the notification.

1 of 1

CODE:

REG-RECALL-1.7.1

**PRODUCT RECALL**

##### Date/Time\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Recall coordinator\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Contact information\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Reason for recall:***Describe the reason for the recall (biological, chemical or physical) and how the product deficiency was discovered*

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|  | | **SENT TO** | | |  | |
| **Product** | **Farm/block/code or/date** | **Quantity**  **of product** | **Name/location** | **Date sent** | **Amount left at the farm/orchard/estate** | **Quantity shipped that requires recall** |
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|  | | | | | **TOTAL=** | |

#### Final amount physically recovered

REV/00

**CORRECTIVE ACTION**

##### OBJECTIVE

CODE

SOP-CORREC-1.8.1

To continually improve safety in the field, through the implementation and follow-up of corrective action.

##### CONTROL MEASURES

When there is a problem or critical situation during the land evaluation, the pre-harvest, harvest and post-harvest, the manager of the Safety Plan and the supervisor of the farm/orchard/estate determine and evaluate one or more corrective actions to resolve the problem.

Different situations of deviations may occur that affect mango safety. The following are the most common.

* Land contamination because of a bad evaluation.
* Water sources outside of permissible limits for microbiological analysis and heavy metals.
* Misapplication or misuse of soil improvers.
* Animal activity within the farm/orchard/estate.
* Bad hygiene practices by the employees.
* Poor health in the field.
* Bathrooms in poor condition and/or the lack of them.
* Lack of machinery maintenance.
* Lack of personnel training
* Cross-contamination
* Complaints by the customer or consumer.
* Self-audits with deviations found.
* External audits with deviations.
* All corrective action is documented in (REG-CORREC-1.8.1).
* All corrective action must include:
  + Who will be responsible for carrying it out.
  + What will be done.
  + When will it be done.

CODE

REG-CORREC-1.8.1

**CORRECTIVE ACTION**

##### Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Deviation that occurred**

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**Corrective action taken (**Include who will be responsible for carrying it out, what is going to be done and when)

##### \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Cause of the problem**

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**Comments**

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|  |  |
| --- | --- |
| **Signature of responsible personnel** | **Signature of the personnel involved in the deviation** |

CODE

SOP-INTAUD-1.9.1

**INTERNAL AUDIT**

**OBJECTIVE**

To perform internal audits to find areas of opportunity in the application of Harmonized Good Agricultural Practices (Harmonized GAP).

##### CONTROL MEASURES

* Internal audits are performed in order to evaluate and monitor all areas of the farm/orchard/estate in food safety issues.
* Internal audits are performed on an annual basis using the standard "Harmonized Good Agricultural Practices for fresh farm products".
* The results of internal audits are stored by the manager of the Safety Plan.
* The audits are carried out by the supervisor and the manager of the Safety Plan.

##### Corrective action

* There are defined corrective and preventive actions for deviations found as a result of internal audits that are registered in (REG- CORREC-1.8.1).
* The supervisor of the farm/orchard/estate designates those responsible for the corrective action according to its area or nature.
* The implementation of the corrective action will be verified during follow-up.
* Any corrective action that is not taken must be justified and will be rescheduled.

##### OBJECTIVE

To ensure that personnel comply with the hygiene necessary to avoid cross-contamination that could affect the safety of the mangoes.

##### CONTROL MEASURES

The following control measures for hygiene, health, hand washing and the use of bathrooms are required for entry into the orchards/farms/estates and all employees, visitors and contractors must follow them.

##### Hygiene

* + The personnel are trained in security and food safety in order to avoid contamination of the product and to have a good performance during work.
  + All personnel that have contact with the mangoes, equipment and utensils have to be clean, wear clean clothes and closed footwear.
  + There is a program to inspect the conditions employees show up to work in on a daily basis.
  + Nails should be short and clean.
  + The personnel working inside the farm/orchard/estate should cover their head with a cap or a hat.
  + Bringing personal objects such as portable music players, cell phones, bags, clothing not required for work or food, among others, is forbidden.
  + Working with short pants, shorts or without a shirt is for bidden.
  + Smoking, chewing gum, eating, drinking, or spitting on the farm/orchard/estate and while placing the mangoes in the transport is forbidden.
  + Wearing jewelry, piercing, earrings, rings, bracelets, watches, necklaces or others is forbidden. Only small fasteners and pins may be used to secure the hair when they are used under a protection.
  + Urinating or defecating within cultivation areas is forbidden.

##### Diseases and body fluids

* + Any person having a contagious disease should notify his/her supervisor or manager immediately to avoid contact with the product.
  + Working with signs of diarrhea, fever, vomiting, jaundice, and/or skin infections is forbidden.
  + Cuts or wounds must be covered with an impermeable material; contaminated product or tools must be washed and disinfected, respectively.
  + If the product is contaminated with any body fluid, the food safety manager must indicate how the mangoes will be disposed of.
  + In the event of a larger injury with signs of infection that cannot be adequately protected with bandages and/or gloves, the worker will be sent to his/her home or reassigned to other tasks until the wound heals.

##### Rest areas and personal objects

* + All employees remain in their respective work area until they receive an order from the supervisor.
  + The workers’ breaks should be taken in the areas assigned for this purpose.
  + There is an area for storing personal items.

##### First aid kit

* + The orchards have a first aid kit available to all employees.

##### Hand washing

* + All workers are trained in appropriate hand washing, in accordance with the following particulars:
    - Wet your hands with clean running water.
    - Apply hand soap.
    - Scrub the surface of the fingers, the tips of the fingers, under the nails, on the back of the hands and the exposed portions of the arms vigorously for at least 10 to 15 seconds.
    - Rinse thoroughly with clean running water.
    - Dry hands with a paper towel.
    - The minimum time required for washing hands is approximately 20 seconds.
  + Workers wash their hands before starting work, after each break, after using the bathroom, using a handkerchief, using contaminated material, eating or drinking, and at any time when the hands may be dirty or contaminated (for example, after coughing, sneezing, or smoking).

##### Sanitary services

* + There are bathrooms available (State whether the bathrooms are fixed or mobile) differentiated by sex, in sufficient quantity (one for every 20 people). Equipped with drinking water, disposable paper, soap, hand sanitizer and trash cans with lids.
  + They are located in places that do not represent a danger of contamination to the orchard or to water supply sources.
  + The bathrooms are cleaned on a daily basis and this is verified on the form for bathroom and water supply cleaning (REG-BATH-1.10.6).

##### Water for human consumption

* + There are drinking water dispensers for workers, which are changed and stocked in accordance with the hygiene register.
  + When the company requires drinking water from a provider, he is asked to provide the water analysis to show that the water is drinkable.

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CODE: REG-BATH-1.10.6

**BATHROOM CLEANING**

##### Orchard/farm/orchard Week \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**INDICATE (** ) **IF IT IS CORRECT OR (X) INCORRECT AS OBSERVED**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **M** | **T** | **W** | **Th** | **F** | **Sa** | **Su** | **Corrective action** | **Performed** |
| Toilet clean |  |  |  |  |  |  |  |  |  |
| Washbasin clean |  |  |  |  |  |  |  |  |  |
| There is soap |  |  |  |  |  |  |  |  |  |
| There is disinfectant |  |  |  |  |  |  |  |  |  |
| There are towels |  |  |  |  |  |  |  |  |  |
| Trash cans clean and  litter free |  |  |  |  |  |  |  |  |  |
| There is toilet paper in  all bathrooms |  |  |  |  |  |  |  |  |  |
| The bathrooms post the reminder  to wash your hands |  |  |  |  |  |  |  |  |  |
| They are odor  free |  |  |  |  |  |  |  |  |  |
| Walls and ceilings free  of spider webs |  |  |  |  |  |  |  |  |  |
| Soap, disinfectant and paper dispensers  are in good condition |  |  |  |  |  |  |  |  |  |
| Doors in good  condition |  |  |  |  |  |  |  |  |  |
| All bathrooms have  a trash can |  |  |  |  |  |  |  |  |  |
| There are no leaks or spills |  |  |  |  |  |  |  |  |  |

##### Inspected by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CODE SOP-CHEM-1.11.1

**HANDLING AND APPLICATION OF CHEMICALS**

##### OBJECTIVE

Prevention of chemical contamination during the pre-harvest and post-harvest.

##### PREVENTIVE MEASURES

* Chemicals are handled in such a way as to ensure that the product has not been exposed to banned pesticides and does not contain pesticide residue that exceeds the legal tolerances.
* Only workers who are properly trained to use the chemicals handle them and documents are maintained to show their training in case of an audit (DOC-CHEM-1.11.3).
* Chemicals are used using the safety equipment necessary for their application and preparation.
* Each application is recorded in the register of pre-harvest and post-harvest chemicals form (REG-PREPOSCHEM-1.11.1).
* The workers apply the chemicals in accordance with the manufacturer's specifications.
* Each chemical has its own material safety data sheet (MSDS) and they are available so that all employees can review them.
* There is a chemicals warehouse and all chemicals are labeled and identified.
* The warehouse is always locked and only authorized personnel have access to it.
* The chemicals warehouse is clean, orderly and dry.
* There is an inventory of all the chemicals in the warehouse.
* Rounds are made to avoid the presence of pesticides coming from adjacent fields, contamination by improperly cleaned tanks and application of any product that is not allowed.
* If there is surplus formulation, it should be sprayed on roads far away from the areas of application in a uniform, moderate manner, allowing it to dry in contact with the ground. The surplus formulation is never sprayed as a surplus on the mango crops. Nor should they be emptied into the storm drains or water sources.
* Empty chemical containers are rinsed using triple washing, are punctured to prevent reuse and are placed in a special receptacle for chemical containers.
* When a mixture is prepared for the application of chemicals the water used comes from reliable and controlled sources (POE-CONTROWAT- 2.2.3).
* If it is known during post-harvest handling that the product is intended for export, the use of chemicals takes into consideration the admission requirements of maximum residue limits (MRLS) of the country(ies) where the product will be marketed.

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CODE

REG-PREPOSCHEM- 1.11.1

**REGISTER OF PRE-HARVEST AND POST-HARVEST CHEMICALS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Date | Chemical  name | Lot | Dose  applied | Equipment  used | If you used mixtures, detail the dose | Place of application | Name of the  person responsible |
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CODE: DOC-CHEM-1.11.3

**PERSONNEL TRAINED IN THE HANDLING OF CHEMICALS**

##### DOCUMENTS THAT DEMONSTRATE THE TRAINING OF PERSONNEL WHO HANDLE CHEMICALS

CODE

SOP-LDEVAL-2.1.1

**LAND HISTORY AND EVALUATION**

**OBJECTIVE**

Evaluate the farm/orchard/estate to determine that there is no risk of mango contamination.

##### PREVENTIVE MEASURES

* All the orchards/farms/estates are evaluated before purchase or lease, as well as prior to the mango pre-harvest season (once a year).
* Each farm/orchard/estate is assessed annually to determine if there is any risk of contamination that would interfere with the safety of the mangoes.
* The farm/orchard/estate that is purchased or leased is one that has been used successfully for the cultivation of goods for human consumption, without any incident.
* Special attention is paid to the land that could be used to dispose of chemical or biological substances.
* The farms/orchards/estates used for mango cultivation were not previously used as a landfill, a toxic waste site or for grazing.
* If there are septic tanks, they are more than 30 feet from the mango farm/orchard/estate.
* After evaluating a piece of land, a plan of corrective action is made to reduce the risks that respond to the information obtained during the process.
* When risks are detected in neighboring farms a plan for monitoring and control is put into effect.
* If the evaluation identified an uncontrollable danger critical for health, it is best to reject the piece of land for agricultural production.
* All this information is documented in the land history evaluation register (REG-LDEVAL-2.1.1).

CODE

REG-LDEVAL-2.1.1

**LAND HISTORY AND EVALUATION**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name of the producer | | | | Date | | |
| SITE INFORMATION | | | | | | |
| Name of the farm/orchard/estate | | | Location of the farm/orchard/estate | | | |
|  | | |  | | | |
| SITE CHARACTERISTICS | | | | | | |
| Total surface area | m2 | | Soil type | Sandy |  | |
| Clay |  | |
| Total constructed area | m2 | | Loam |  | |
| Other |  | |
| Cultivation area and/or number of trees. | m2  No. | | Type of vegetation |  | | |
| LAND HISTORY | | | | | | |
| Previous use of the land |  | | Microbiological analysis of the soil |  | | |
| Previous crops |  | | Presence of contamination/chemical or  biological |  | | |
| Time with the current crop |  | | Adjacent land use |  | | |
| WATER | | | | | | |
| Water sources | River |  | Contamination of water sources | Sewage canal | |  |
| Dam |  | Industrial  discharges | |  |
| Well |  |  |
| Municipal network |  | Animal  remains | |  |
| Other |  | Other | |  |
| Water use | Human |  | Water use | Irrigation | |  |
| PHYSICAL CONDITIONS OF THE LAND | | | | | | |
| Presence of garbage/animals nearby |  | | Neighboring housing areas |  | | |
| There are dirt roads (conditions) |  | | Fences or divisions |  | | |
| Chemical waste noted |  | | There are cattle guards |  | | |
| RESULT OF THE PHYSICAL INSPECTION OF THE LAND | | | | | | |
| Complies | | | Does not comply | | | |
| CORRECTIVE ACTION TAKEN | | | | | | |
| SIGNATURES | | | COMMENTS | | | |
|  |  | |
| Supervisor/manager | Owner | |

CODE

DOC-WATERSYST-2.2.1

**DESCRIPTION OF THE WATER SYSTEM**

**DESCRIPTION OF THE DRINKING WATER SYSTEM**

##### (Using: maps, photos, drawings (hand-drawings are acceptable) or other means to describe the location of the water source(s), permanent installations and the flow of the water system (including restraint systems, reservoirs or any collection of water for reuse), wells, gates, valves, return lines, and other configurations that constitute a complete ground irrigation system).

CODE

SOP-CONTROWAT-2.2.3

**WATER CONTROL AND MANAGEMENT**

**OBJECTIVE**

* To avoid water being a source of contamination as a carrier of pesticides, irrigation, disinfectant preparation.
* To ensure that the employees’ water is safe.

##### CONTROL MEASURES

* All water sources, underground or deep, are free of any contamination from runoff, presence of animal and/or nearby human settlements, among others.
* If necessary, the water is treated for purification.
* The surface water sources are treated to meet the chemical and microbiological values allowed.
* There is a location map of the water sources and the blocks where they are supplied, as well as the storage system or deposits.
* Once a year a microbiological analysis of the well water is performed to identify possible causes of chemical and microbiological contamination.
* The analyses are performed by a third party laboratory.
* All results are archived for audit and history purposes.
* When the water source does not comply with the microbiological standards, its use is suspended and corrective action is taken until it is shown that the water is suitable for use.
* All the water used for irrigation, pesticide mixing, equipment cleaning, handwashing and drinking is within the limits permitted by the regulation.
* The result of each water sample sent to analysis is recorded in the form (REG-RESULTS-.1.5.3).
* When there are sources of contaminated water, a chlorination system is implemented as a possible control measure.
* All the information is documented in the Register and Control of Water Sources (REG-CONTWATSS-2.2.3.1).
* There are drinking water dispensers for workers, which are changed and stocked in accordance with the hygiene register.
* When the company acquires drinking water from a supplier, he is asked to provide the water analysis to show that the water complies with the rule.

CODE

REG-EVANIMA-2.5.2

**EVALUATION FOR ANIMAL CONTROL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name of the producer | | | | Date | | |
| SITE INFORMATION | | | | | | |
| Name of the farm/orchard/estate | | | Location of the farm/orchard/estate | | | |
|  | | |  | | | |
| PRESENCE OF WILD ANIMALS | | | | | | |
| Types of wild animals observed during the  evaluation |  | | Evidence of wild animals observed during the evaluation | Tracks |  | |
| Feces/urine |  | |
| Approximate number of animals |  | | Downed fences |  | |
| Chewed plants |  | |
| Type of animals observed |  | |  | Other: | | |
| PRESENCE OF DOMESTIC ANIMALS | | | | | | |
| Types of domestic animals  observed during the evaluation |  | | Barriers between domestic  animals and crop field |  | | |
| Approximate number of animals |  | |  |  | | |
| Proximity to the crop field |  | |  |  | | |
| WATER SOURCES | | | | | | |
| Water sources | River |  | Contamination of water sources | Sewage canal | |  |
| Dam |  | Industrial discharges | |  |
| Well |  |  |
| Municipal network |  | Animal remains | |  |
| Other |  | Other | |  |
| Water use | Human |  | Water use | Irrigation | |  |
| ADJACENT LAND | | | | | | |
| Presence of garbage/animals nearby |  | | Proximity to the crop field |  | | |
| grazing operations/  feeding operations for confined animals |  | | Fences or divisions |  | | |
| Type of animals observed |  | | There are cattle guards |  | | |
| RESULT OF THE EVALUATION FOR ANIMAL CONTROL | | | | | | |
| Complies | | | Does not comply | | | |
| CORRECTIVE ACTION TAKEN | | | | | | |
| SIGNATURES | | | COMMENTS | | | |
|  |  | |
| Supervisor/manager | Owner | |

CODE

REG-MONANI-2.5.2

**ANIMAL MONITORING AND PREVENTION**

**Farm/orchard/estate** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Section/square \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Week** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Season ( ) Not season ( )**

**Indicates:** () Complies ( X) does not comply (NA) not applicable.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ACTIVITY** | **M** | **T** | **T** | **Th** | **F** | **Sa** | **Su** | **Corrective**  **action** | **Signature of**  **responsible party** |
| There is trash/debris/machinery in disuse or other conditions that favor animal habitats. |  |  |  |  |  |  |  |  |  |
| Domestic animals are observed within the productive areas. |  |  |  |  |  |  |  |  |  |
| The domestic animals that exist in the area are separated by a fence. |  |  |  |  |  |  |  |  |  |
| There are feed remnants inside of the productive areas that may serve as a habitat for the animals. |  |  |  |  |  |  |  |  |  |
| There are signs of animal, rodent and avian activity (such as traps, tracks, droppings, nests, or urine) |  |  |  |  |  |  |  |  |  |
| There are capture boxes/traps  with no animal activity. |  |  |  |  |  |  |  |  |  |
| There are boxes/traps with bait without animal activity. |  |  |  |  |  |  |  |  |  |
| The boxes with bait are located at a distance of at least 20 feet from the productive areas. |  |  |  |  |  |  |  |  |  |
| There are no boxes with bait  near the open water sources |  |  |  |  |  |  |  |  |  |
| It is necessary to change the  the bait in the boxes |  |  |  |  |  |  |  |  |  |
| There is stagnant water inside of the productive areas |  |  |  |  |  |  |  |  |  |

Supervisor's signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

CODE

POE-EVANIMA-2.5.1

**RISK EVALUATION OF ANIMAL ACTIVITIES**

##### OBJECTIVE

* To evaluate and control animal activity so there is no risk of mango contamination.

##### PREVENTIVE MEASURES

* Before each production season the fields and the adjacent land areas are evaluated, focusing on the activity of domestic and wild animals, including grazing operations and confined animal feeding, noting the characteristics of the crop, the type and approximate number of animals, the proximity to the crop field, the water sources and other relevant factors (REG-EVAANIM-2.5.1).
* The habitat around farms/orchards/estates is prevented and eliminated, eliminating the trash, debris, agricultural machinery in disuse, old tires, etc., that can accommodate and attract insects, rodents, wild animals and/or reptiles, among others.
* Domestic animals are not allowed entrance to the productive areas. If the house on the orchard/farm/estate has domestic animals, they must have a defined fenced area so that they do not enter the production areas.
* Eating in the harvest areas is not permitted to avoid attracting or serving as habitat for animals and pests.
* Daily rounds are carried out across the surface area of the farm/orchard/estate to monitor the signs or evidence of animal, rodent and bird activity (traps, tracks, droppings, urine etc).
* When there are wild animals that put the safety of the mangoes at risk, their population is controlled using chemicals, biological products or cultural practices.
* Capture boxes are introduced when it is necessary and/or during growing seasons.
* Capture devices are reviewed on a daily basis.
* All monitors are recorded in the monitoring and prevention of animals formREG-MONANI-2.5.2)
* When there is abnormal activity, it is necessary to implement a corrective action and evaluate its efficiency.

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CODE

SOP-SOILIMP-2.4.1

**SOIL IMPROVERS**

##### OBJECTIVE

* To avoid soil improvers being a risk to mango food safety.

##### CONTROL MEASURES

* Biosolids and soil improvers without treatment, with incomplete processes and/or non-heat-treated manure cannot be applied in the orchards/farms/estates.
* Soil improvers should pass through a validated process with microbiological tests.
* To prevent cross contamination, the equipment used for the handling, preparation, distribution and application of the improvers are separated.
* When soil improvers are purchased, we request letters of guarantee regarding the compost and manure through certificate of analysis, including negative results of *0:157 E.coli* and *Salmonella* spp from the manufacturer.
* When a soil improver is applied, the manager of the Food Safety Plan is notified,
* When organic soil improvers are handled or used, their certificate indicating that they do not contain animal manure is requested.
* Piling compost/manure in a place where the wind moves in the direction of the crops is not permitted.
* Compost/manure is stored in such a way as to avoid cross contamination of the adjacent fields.
* No soil improver of animal origin or manure is directly applied on the mangoes.
* When using soil improvers are used they are monitored on a daily basis and this is recorded on the form Monitoring Soil Improvers (REG-MONSLIMP- 2.4.1)
* Each application is recorded on the Application of Soil Improvers form (REG-APSLIMP-2.4.1)

CODE

REG-APSLIMP-2.4.1

**APPLICATION OF SOIL IMPROVERS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Date** | **Section /block** | **Type of improver** | **Dose** | **Form of application** | **Manager's Signature** |
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##### Supervisor's Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



CODE

SOP-CONTWATSS-2.2.3

**CONTROL OF WATER SOURCES**

**Producer**

**Orchard Surface ha.**

SEMI-ANNUAL

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Origin of the water** | **Irrigation water** | | **Water for application of**  **foliar fertilizers** | | | **Water for**  **washing hands** | | | **Drinking water** | **Dates of analysis (attach copies)** | | |
| **Dam or reservoir** |  | |  | | |  | | |  | **Microbiological**  **Heavy metals** | |  |
| **Well Covered**  **Not Covered** |  | |  | | |  | | |  |  |
|  |
| **Tank (water tank)** |  | |  | | |  | | |  |  |
| **Treated or gray water** |  | |  | | |  | | |  |  |
|  |
| **River, canal, lagoon** |  | |  | | |  | | |  |  |
| **Describe the corrective action to the water** | **Sanitizer** | | | | | **Dose** | | | | **Frequency** | | |
| **Potential risks to adjacent plots** | **To the north** | | | **To the south** | | | | **To the east** | | | **To the west** | |
| **Identify the irrigation system** | **Rolled or gravity**  **Spray** | | | | **Drip Surface**  **Buried** | | | | **Other** | | | |
| **Signatures** | | | | | | | **Comments/Corrective action** | | | | | |
|  | |  | | | | |
| Executed | | Inspected | | | | |

Page **1** of **1**

DATE:

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Equipment** | **Location/Area where the equipment is used** | **Brief description of the equipment** |
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Supervisor’s signature

CODE SOP-MAINT-2.5.1

**MAINTENANCE**

##### OBJECTIVE

* To maintain vehicles, utensils and tools in good hygienic condition to prevent mango contamination.

##### PREVENTIVE MEASURES

* There is a list of equipment, vehicles, tools and utensils used in the farm/orchard/estate (REG-EQUIP-2.5.1).
* Tools and vehicles are checked on a daily basis to ensure their perfect operation and that they are not a cause of product contamination.
* Utensils are checked on a daily basis to verify that they are in good condition and are not a cause of contamination.
* The cutting tools should be kept sharp and without any damage, such as irregular edges.
* Knives are inspected periodically and damaged work tools are replaced.
* The tools and equipment used in the orchard/farm/estate are removed after the maintenance of the equipment is performed.
* Roads are maintained so that they don't constitute a source of contamination.
* Proper storage of equipment, the disposal of garbage and waste, and cutting weeds are part of maintenance, preventing them from being a means of contamination or proliferation of pests or animals.
* The facilities, such as the house in the orchard/farm/estate, warehouses, sanitary facilities, rest areas or dining room and restrooms are reviewed on a daily basis to avoid any risk of contamination due to a lack of maintenance or cleaning.
* Spills or leaks must be repaired immediately.
* If there is a leak or spill within the crop, it must be repaired in the area and the product protected so that it will not be affected. In the event that is affected, you must assess whether or not it is to be disposed of.
* Any leakage should be cleaned properly.
* All repairs, inspections, maintenance or calibrations that are carried out in the orchard/farm/estate are recorded in the equipment maintenance log (REG-MAINT-2.5.2).

CODE REG-MAINT-2.5.2

**MAINTENANCE**

*Write down the activities required and a brief description of why and how to perform the activity.*

\* **Activity Code: 1** - Calibration **2** - Maintenance **3** - Repair

**4** – Cleaning / Sanitation **5** - Inspection **6** - Other (Specify)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Employee who**  **performs the activity** | **Equipment/utensil/building the activity is performed on** | **\* Activity code:** | **Brief description of the activity** |
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Supervisor's signature

##### OBJECTIVE

* To maintain an appropriate cleaning and disinfection to prevent cross-contamination that could affect the safety of the mangoes.

##### PREVENTIVE MEASURES

**Cleaning and disinfection procedures for surfaces with direct contact with the mangoes (no.1)**

* All utensils used for harvesting should be washed and disinfected on a daily basis at the end of the day.
  + Knives.
  + Nets.
  + Baskets/boxes**.**
* Cleaning and disinfection is carried out in the assigned area and separated from the crops, supplied with water, soap and disinfectant.

1. Eliminate all residue or dirt from the utensils.
2. Rinse with water
3. Scrub all surfaces with soap and water using enough friction or force to remove the dirt, paying special attention to the parts that are difficult to wash.
4. Rinse with water
5. Disinfect, your supervisor will give you a sprinkler with a disinfectant or the utensils are placed in a tray with water and 200 ppm chlorine for disinfection.
6. Allow to dry.
7. Store them in the appropriate area.
8. The tray or tank used to wash utensils should be washed and disinfected in the same way.
9. The cleaning is recorded in the Maintenance Form REG-MAINT2.5.2 and REG-CLNDIS-2.5.2

**Cleaning and disinfection procedures for surfaces with direct contact with the mangoes (no.2)**

* + Pallets (if there are plastic ones).
  + Sprayers.
  + Tools.
  + Trash cans.
* All used equipment and tools are washed and disinfected on a daily basis, at the end of the day or after use.

1. Eliminate all residue or dirt from the utensils.
2. Rinse with water
3. Scrub all surfaces with soap and water using enough friction or force to remove the dirt, paying special attention to the parts that are difficult to wash. Remember not to let the scrubber or brush used to wash the equipment come in contact with the mangoes.
4. Rinse with water
5. Your supervisor will give you a sprayer with disinfectant or the utensils are placed in a tray with water and 200 ppm chlorine for disinfection.
6. Allow to dry.
7. Store them in the appropriate area.
8. The tray or tank used to wash utensils should be washed and disinfected in the same way.
9. The cleaning is recorded in the Maintenance Forms REG-MAINT2.5.2 and REG-CLNDIS-2.5.2
10. For the trash cans, carefully remove the bag and gather up the residue that may be in the bottom of the can, dispose of the garbage and scrub the can with a scrubber used only for trash cans and a soap solution on the inside and out, rinse and disinfect with the sprayer to 200 ppm, allow it to dry, and put in a clean bag.

##### Verification of the cleaning procedure

* The effectiveness of the cleaning procedure is monitored and evaluated visually.
* The verification is carried out using the Inspection List. REG-CLNDIS- 2.5.6
* The supervisor of the farm/orchard/estate or the leader of the crew who will be in charge of that team during that day signs the verification list

##### Disinfection

* Disinfection uses a solution with a maximum of 200 ppm total chlorine or with an alternative disinfectant (pH 6.5 to 7.5).
* The supervisor or the manager of the food safety plan is responsible for maintaining the concentration and preparing the solution.
* The water should be changed daily or when it is murky.
* The reading of the concentration that is measured is recorded in the Inspection List. REG-CLNDIS-2.5.6

CODE SOP-SPILL-2.5.3

**PROCEDURE FOR SPILLS AND LEAKS**

##### OBJECTIVE

* + To protect the product from contamination due to spills or leaks in the equipment.

##### PREVENTIVE MEASURES

In case of a spill:

* Analyze the toxicity and other characteristics of the substance spilled. These can be found on the product's safety data sheet.
* If necessary, use protective equipment.
* Contain the spill, with diatomaceous earth or sand.
* Keep the spill covered with absorbent material or neutralize it, in the case of acid (sodium bicarbonate) or base (acetic acid diluted to 50%, citric acid or boric acid) until it is totally permeated.
* With a shovel and broom or brush pick up the material and place it in a bag to dispose of it as a hazardous waste.
* All product that has had contact with the spill should be disposed of.

##### Orchard/farm/estate/packing house\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section/block\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

##### Week\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Crew No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CLEANING AND DISINFECTION** | | | | | | | | |
| **Equipment, utensil, tool,**  **vehicle** | **M** | **T** | **W** | **Th** | **F** | **Sa** | **Su** | Performed |
| Knives |  |  |  |  |  |  |  |  |
| Nets |  |  |  |  |  |  |  |  |
| Baskets/Boxes |  |  |  |  |  |  |  |  |

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| Pallets |  |  |  |  |  |  |  |  |
| Tools |  |  |  |  |  |  |  |  |
| Sprayers |  |  |  |  |  |  |  |  |
| **INDICATE THE EQUIPMENT USED** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
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| **CONCENTRATION OF CHLORINE** | | | | | | | | |
| Indicate the ppm |  |  |  |  |  |  |  |  |

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Signature of supervisor/manager of food safety**

**OBJECTIVE**

* + To maintain an appropriate cleaning and disinfection of the water tanks to prevent cross-contamination that could affect mango safety.

##### PREVENTIVE MEASURES

**Cleaning and disinfection procedures**

* All water tanks and containers used in the orchard/farm/estate/packing house should be washed and disinfected according to the following procedure.
  + Water storage tanks.
  + Wash tubs.
  + Hydrothermal
  + Water cooled
* Cleaning and disinfection is carried out in the assigned area and separated from the crops, using water, soap and disinfectant.

1. Eliminate all residue or dirt found in the tank.
2. Rinse with water
3. Scrub all surfaces with soap and water using enough friction or force to remove the dirt. Put special emphasis on the parts that are difficult to wash.
4. Rinse with water
5. Disinfect, your supervisor will give you a sprinkler with a disinfectant or the utensils are placed in a tray with water and 200 ppm chlorine for disinfection.
6. Allow to dry.
7. In case of using a tray or small tank for washing, it should be washed and disinfected in the same way.
8. The cleaning is recorded in the Maintenance Forms REG-MAINT2.5.2 and REG- CLNDIS-2.5.2

##### Verification of the cleaning procedure

* The effectiveness of the cleaning procedure is visually monitored and evaluated.
* The visual verification is carried out using the Inspection List. REG- CLNDIS-2.5.6
* The supervisor of the farm/orchard/estate or the leader of the crew who will be in charge of that equipment that day signs the verification list

##### Disinfection

* The disinfection is achieved using a solution with a maximum of 200 ppm of total chlorine

or with an alternative disinfectant (pH 6.5 to 7.5).

* The supervisor or the manager of the food safety plan is responsible for maintaining the concentration and preparing the solution.
* The water should be changed daily or when it is murky due to the dirt.
* The concentration is recorded in the inspection list (REG-CLNDIS-2.5.6)

CODE

SOP-PREHARV-3.1.1

**PRE-HARVEST EVALUATION**

##### OBJECTIVE

* To carry out an evaluation to determine if there is any risk that may contaminate the mangoes or the cultivation areas.

##### PREVENTIVE MEASURES

* + Before starting work, an inspection of the equipment to be used during the day is performed.
  + The equipment is inspected to verify that it is clean and in good working condition.
  + All areas of potential sources of physical and chemical hazards are inspected such as:
    - Drip trays are in place and firmly secured.
    - Chemicals, oils, fats and combustibles should be kept out of the crop field.
* The hydraulic hoses, motors and fittings must be tight; they should not leak and must not have any signs of leaks or drips.
* The pieces of equipment that are loose or damaged are removed or repaired immediately.
* Any foreign material (glass, metal, wood, etc.) embedded in the pieces of the harvesting equipment should be removed.
* The evaluation is documented and corrective actions are entered in the document REG-PREHARV3.1.2).

CODE

REC-PREHARV-3.1.2

**PRE-HARVEST EVALUATION**

##### Farm/orchard/estate\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Week\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area, equipment, utensils, etc.** | **M** | **T** | **T** | **Th** | **F** | **Sa** | **Su** | **Performed** |
| Vehicles/leaks/spills |  |  |  |  |  |  |  |  |
| Trailers |  |  |  |  |  |  |  |  |
| Boxes/baskets |  |  |  |  |  |  |  |  |
| Nets. |  |  |  |  |  |  |  |  |
| Condition of the utensils |  |  |  |  |  |  |  |  |
| Area free of physical, chemical or biological contamination. |  |  |  |  |  |  |  |  |
| Comments |  |  |  |  |  |  |  |  |
| Corrective action |  |  |  |  |  |  |  |  |

Signature of supervisor

CODE SOP-WATER-3.2.1

**WATER QUALITY CONTROL AND MEASUREMENT**

**OBJECTIVE**

* To avoid water being a means of biological and chemical contamination for the mangoes.

##### PREVENTIVE MEASURES

* + All water used in the equipment and contact surfaces or during the harvest or product washing comes from a reliable and approved water source.
  + During use, the source is assessed on a monthly basis. The analysis is carried out before the beginning of the season and a microbiological test for *generic E. coli* should be done.
  + All water sources are protected from animals, runoff and chemical substances.
  + When deep well water is used it’ quality is analyzed annually based on the NOM-003-CNA1996.
  + The physico-chemical activity of the water is assessed according to the NOM-127- SSA1-1994) without exceeding the permissible limits.
  + When it does not comply with the regulations, corrective action must be implemented.
  + The water used for spraying of chemicals and human consumption complies with the standards.
  + All results are recorded on the form Sampling Results REG-RESULTS-1.5.3)
  + The rinse water is taken from a qualified, approved source.
  + The water storage tanks are kept clean and hygienic.
  + The tanks are cleaned and disinfected at least twice a year.
  + Visual inspections and microbiological analysis are performed at appropriate intervals to monitor conditions.
  + If recirculated water is used, it is treated with (Please provide the antimicrobial agent used to treat recirculated water) at a concentration of (indicate the concentration) to prevent it from becoming a source of contamination.
  + The water supply systems are maintained in such a way that they are not a source of contamination with pathogens to the product, water sources or equipment, nor do they create anti-sanitary conditions (REG-MAINT- 2.5.2).

CODE

SOP-STRCONT-3.3.1

**STORAGE AND HANDLING OF CONTAINERS**

##### OBJECTIVE

* To establish a good system of managing and storing containers/boxes/baskets.

##### PREVENTIVE MEASURES

* The containers/boxes with product are covered during storage and transport to prevent cross-contamination while they are being stacked or placed.
* All containers/boxes are inspected before the start of the harvest.
* The containers or receptacles should be identified for each use.
* The inside of boxes/baskets that are returned from packing should be inspected to avoid any type of cross contamination.
* The damaged containers are repaired so that they do not become a source of contamination.
* Containers, receptacles and other harvest containers designated at harvest should not be used for other purposes.
* There is a designated area for placing containers/baskets, etc.

The inspections are recorded in maintenance register (REG-MAINT-2.5.2)

* Only baskets/containers that meet the following specifications will be used:

(Describe the containers used in your company)

|  |  |  |
| --- | --- | --- |
| Material | Color | Dimensions |
|  |  |  |
|  |  |  |
|  |  |  |
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CODE

SOP-PSTHARMC-3.4.1

**POST-HARVEST MANAGEMENT AND CONTROL**

##### OBJECTIVE

* To establish an adequate control during the post harvest to prevent contamination of the mangoes.

##### PREVENTIVE MEASURES

* + All personnel are trained to identify mangoes that have the appropriate quality for the customer or designated use.
  + Damaged or contaminated mangoes, which could be a food safety hazard, are not harvested and are disposed of. The supervisor indicates how the product is to be disposed of.
  + During the harvest, keep the farm/orchard/estate free of trash, old tools, fallen fruit and material extraneous to the harvest.
  + Agrochemicals are not applied by irrigation or spraying during the harvest period.
  + Do not apply any type of fertilizer during the harvest.
  + Remove any stagnant water.
  + The manager of the Food Safety Plan ensures that the products to be harvested do not contain chemical substances beyond what is allowed.
  + During the harvest, workers avoid picking up mangoes from the ground and emptying on the ground. The mangoes that come into contact with the ground are discarded.
  + Avoid placing food or other things on the mangoes that have been cut.
  + The mangoes are placed carefully in the harvest containers, avoiding throwing them, banging them and/or rubbing them.
  + Only containers/baskets or packing materials approved for use are used (SOPSTRCONT-3.3.1).
  + If they not packed immediately the mangoes are kept in the shade and covered.
  + Avoid placing baskets with mangoes in them directly on the ground; a drag basket can be used.
  + Containers with mangoes are placed in the transport vehicle only when it has been evaluated and approved for cleanliness.
  + The mangoes are transported as soon as possible.
  + Any product contaminated by any type of body fluid is disposed of.
  + The monitoring of the harvest is recorded in the register of lots harvested and shipped (REG-HARVSHP-3.4)
  + The everyday garbage generated during the workday is placed in garbage bags and these are deposited in the garbage container.
  + The garbage container is emptied three times a week (in season) by the company hired to do so and once a week when it isn't season.

CODE

REG-TRANSP-4.1.1

**TRANSPORT/CLEANING/LOADING AND**

**UNLOADING/CONTROL AND SECURITY OF THE CARGO**

Orchard/farm/mango\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lot\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Week\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Inspections** | **M** | **T** | **W** | **Th** | **F** | **Sa** | **Su** | **INSPECTED** |
| The truck is clean. |  |  |  |  |  |  |  |  |
| There are no bad odors. |  |  |  |  |  |  |  |  |
| There are no pests or other evidence of animals |  |  |  |  |  |  |  |  |
| There is no hazardous waste |  |  |  |  |  |  |  |  |
| There are no exhaust fumes that may affect the mangoes |  |  |  |  |  |  |  |  |
| The cargo is secure. |  |  |  |  |  |  |  |  |
| If it is a trailer or there is no box, it is covered with a tarp. |  |  |  |  |  |  |  |  |

Supervisor’s signature

CODE

SOP-TRANSP-4.1.1

**TRANSPORT/CLEANING/LOADING AND UNLOADING/CONTROL AND SECURITY OF THE CARGO**

##### OBJECTIVE

* To keep the trucks clean and in good condition for the transfer of the mangoes from the field to the warehouse; this ensures the safety of the product in accordance with the GAP.

##### PREVENTIVE MEASURES

* The transport trucks are used exclusively for the transport of mangoes.
* The truck and/or trailer is inspected to prevent the floor of the flatbed or the engine exhaust pipe from contaminating the product.
* Drivers must follow the policies of good hygiene practices and local laws with regard to the safe operation of the vehicle.
* Once the cargo is picked up in the field, the driver goes directly to the reception area of the cooling facilities.
* The refrigerated trucks are pre-cooled prior to loading the product.
* The platforms and the floor of the platforms of the trailers are cleaned as often as necessary to remove all foreign matter.
* All outgoing transport vehicles are inspected to ensure that they comply with the necessary hygiene for transporting the mangoes, and to verify that the physical conditions are not a means of contamination such as odors, cleanliness, that they are free of hazardous waste and evidence of pests. The results of the inspection are documented in the Register Transport/cleaning/loading and unloading/control and security of the cargo (REG-TRASNP-4.1.1).
* The load is authorized based on the results of the transport inspection
* In open transport vehicles a tarp is used to prevent the product from being contaminated by rain or any other contaminant.
* Each load is secured properly. The boxes, cartons, and containers are tied or fastened using the appropriate straps.
* If the driver needs to enter into a mango packing area, he has to follow all the good manufacturing practices including, but not limited to:
* No smoking.
* No eating or drinking.
* Avoid contact with the raw material or exposed finished product.

##### OBJECTIVE

Avoid the introduction of raw materials and packing materials that pose a risk to the quality and safety of the product through the implementation of a program of approval and monitoring of suppliers.

##### PROCEDURE

**General**

* + The company's suppliers are chosen based on the quality of the product, the ability of supply and the price they can offer.
  + The company only purchases raw materials and inputs from approved suppliers.

##### Suppliers of raw material

* + For the approval of the suppliers of raw material, the process begins when the person in charge of Quality Control makes a visit to the facilities of the supplier to see the conditions of the product.
  + (This is a requirement for GLOBAL GAP audits, If your interest is to implement a food safety program but does not require the GLOBAL GAP certification, remove it from the document, otherwise only delete these instructions) The supplier demonstrates that he implements GAP in the production, storage and transportation of their products. This can be done through documentation indicating their certification with GLOBAL G.A.P., IFA, PSS, HPSS or some other standard that meets the requirements.
  + Based on the results shown, Quality Control analyzes whether or not to use the raw material that the supplier offers and makes the decision together with the General Manager.

##### Suppliers of packing material

* + Suppliers provide the documentation that certifies that the materials are suitable for food production, including their origin and date of purchase.
  + The suppliers send a certificate of quality of the product that they are sending.
  + Quality Control evaluates the quality certificates of each receipt of raw material to corroborate its validity.
  + In order to accept a supplier, the product must not be adulterated and it must meet the specifications contained in the technical sheet.
  + The approval process for suppliers is the following:
* The supplier makes an appointment to submit his proposal.
* The supplier meets with the Quality Control manager and the General Manager.
* If necessary, the supplier provides samples and tests are done.
* The supplier negotiates the price and conditions of sale.
* The sale is made and, if necessary, the corresponding certificates are delivered.

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O The supplier is added to the list of approved suppliers (REG- APPSUPP-5.1.1).

* In addition to the master list of suppliers, there is a group of emergency suppliers (REG-EMERSUPP-5.1.2) that raw material or inputs may be purchased from when the product requested is not available from the main supplier. Always seek to obtain the same product with the appropriate certificates and documentation.
* If the packing materials from the master list require a certificate of analysis, the emergency provider will be asked to compare it with the product specification during the reception process and to ensure its compliance.

##### Corrective Action

* + - If a supplier sends product out of specification, it is rejected.
    - If the supplier is a repeat offender in the rejection of raw material, the contract is canceled.

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CODE:

DOC-MATERIAL-5.1.1

**DOCUMENTS RELEVANT TO RAW MATERIALS, INGREDIENTS AND CHEMICALS USED**

## DOCUMENTS RELEVANT TO RAW MATERIALS, INGREDIENTS AND CHEMICALS USED

##### (Attach documents relevant to the raw material, ingredients, chemicals, lubricants, and/or packing material that you use in the orchard/farm/estate/packing house, such as technical sheets, MSDS, safety data sheets, descriptions, etc…)

CODE

DOC-WATERSYST-5.2.1

**DESCRIPTION OF PACKING HOUSE WATER SYSTEM**

**DESCRIPTION OF PACKING HOUSE WATER SYSTEM**

**(Using: maps, photos, drawings (hand-drawings are acceptable) or other means to describe the location of the water source(s), permanent installations and the flow of the water system (including restraint systems, reservoirs or any collection of water for reuse), wells, gates, valves, return lines, and other configurations that constitute a complete ground irrigation system).**

CODE

REG-CTRLWAPP-5.2.2

**CONTROL OF WATER SOURCES IN THE PACKING HOUSE**

 Date

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Origin of the water** | **Product**  **wash water** | | **Cleaning/ disinfecting**  **water** | | **Water from**  **hydrothermal/ cooling tanks** | **Water for washing hands** | **Drinking water** | **Dates of analysis (attach copies)** |
| **Local water supply network** |  | |  | |  |  |  | **Microbiological**  **Heavy metals** |
| **Well Covered**    **Not Covered** |  | |  | |  |  |  |
| **Tank (water tank)** |  | |  | |  |  |  |
| **Treated or gray water (Recirculation)** |  | |  | |  |  |  |
| **River, canal, lagoon** |  | |  | |  |  |  |
| **Corrective action to water** | **Disinfectant** | | | | **Dose** | | **Frequency** | |
| **Signatures** | | | | **Comments/Corrective action** | | | | |
|  | |  | |  | | | | |
| Performed | | Inspected | |  | | | | |

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CODE: SOP-MWP-5.2.3

**MANGO WASHING PROCEDURE**

##### OBJECTIVE

* To ensure the cleanliness of the mangoes to remove the dust and resin that is naturally found in this product so it does not become a source of contamination.

**GENERAL PROCEDURE**

* The water used to wash the mangoes is suitable for this use (REG-CTRLWAPP-5.2.2).
* The water used for washing the mangoes is treated with a disinfectant as indicated in the procedure for the Control and Management of Microbial Agents in the Water (POE-ANTIMICAG-5.2.6)
* The concentration of antimicrobial agents is recorded, using the Register of Monitoring of the Concentration of Disinfectant in the Water (REG-MCDAW-5.2.7).

**WASHING PROCEDURES IN AN IMMERSION TUB**

* The mangoes are submerged in a tub of water and advance through a current produced inside the tub to a series of rollers, boards, or strips that remove them from the tub to then pass to the selection stage.

**WASHING PROCEDURES BY SPRAYING**

* The mangoes are transported through a series of rollers where they are sprayed with a solution of water with disinfectant and then passed to the selection stage.

CODE SOP-PPWATER-5.2.4

**WATER QUALITY CONTROL AND MEASUREMENT IN THE PACKING HOUSE**

##### OBJECTIVE

* + To avoid water being a source of biological and chemical contamination for the mangoes.

##### PREVENTIVE MEASURES

* + - All water used in the equipment and contact surfaces or during the harvest or product washing comes from a reliable and approved water source.
    - The source is evaluated on a monthly basis. The analysis is carried out before the beginning of the season and includes a microbiological analysis for *generic E. coli*.
    - All water sources are protected from animals, runoff and chemical substances.
    - When deep well water is used it is analyzed annually based on the NOM-003-CNA1996.
    - The physico-chemical activity of the water is assessed according to the NOM-127- SSA1-1994) without exceeding the permissible limits.
    - When it does not comply with the regulations, corrective action is taken.
    - All results are recorded on the form Sampling Results RESULTS-1.5.3)
    - The rinse water comes from a qualified, approved source.
    - The water storage tanks are kept clean and hygienic.
    - The tanks are cleaned and disinfected at least twice a year.
    - Visual inspections and microbiological analysis are performed at appropriate intervals to monitor conditions.
    - If recirculated water is used, it is treated with (Please provide the antimicrobial agent used to treat recirculated water) at a concentration of (indicate the concentration) to prevent it from becoming a source of contamination.
    - The water supply systems are evaluated once a year, at the beginning of the season, or when it is considered necessary (REG-EVWASYS-5.2.1) and are maintained in such a way that they do not become a source of contamination with pathogens for the product, the water sources or the equipment, or create anti-sanitary conditions (REG-MAINT-2.5.2).

##### OBJECTIVE

* + To avoid the water being a source of contamination through the inappropriate use of antimicrobial agents.

##### CONTROL MEASURES

* + We rely on the documentation (DOC-MATERIAL-5.1.1) which shows that the antimicrobial agents used in the wash water of the immersion system, or in the sprayer line or for other purposes of contact with food are approved by the EPA (US Environmental Protection Agency) or the FDA (US Food and Drug Administration). (Make sure you have these documents in the indicated area (DOC-MATERIAL-5.1.1))
  + Quality Control performs the preparation of the antimicrobial agent and adds it to the appropriate tank/water tank/water container following the procedures in the following table:

(Please provide the disinfectants used in your plant, the tank/equipment where it is used and the procedure used for the preparation according to the instructions of the supplier or the product label)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Commercial**  **name** | **Type of**  **product** | **Place of**  **application** | **Procedure** | **Conditions** |
| E.g. "Commercial chlorine for food industry use” | Chlorine  (5.25%) | 500 liter  wash tank | Add 4 liters of the  Product “Commercial  chlorine for food industry use” to the tank with 500 liters of water to obtain a concentration of 100ppm of chlorine in the water. | PH of 6.5 to  7.5 |
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* + All the preparations with disinfectant are made according to the supplier's instructions or the directions on the product label.
  + The concentration of disinfectants used in wash water is monitored once every hour and, if necessary, is adjusted (REG-MCDAW-5.2.7).
  + The water in the wash tanks should be changed whenever it is cloudy or full of waste, leaves and stems.

CODE

SOP-CONTPP-5.3

**STORAGE AND HANDLING OF CONTAINERS IN THE PACKING HOUSE**

##### OBJECTIVE

* + To establish a good system of handling and storing the containers/boxes/baskets used in the mango packing house.

##### PREVENTIVE MEASURES

* + The containers/cardboard boxes are stored in a manner that they do not come into contact with the floor by placing them on pallets, tables or shelves and they are covered to prevent contamination.
  + The plastic containers/plastic baskets are washed and disinfected after emptying the product that arrives from the orchards/farms/estates and they are stored in a manner that they do not come into contact with the floor, either on pallets, tables or shelves.
  + All containers/boxes/baskets are inspected before they are used.
  + The containers or receptacles are identified for each use.
  + The inside of the empty boxes/baskets that are received from the orchard/farm/estate should be inspected to avoid any type of cross contamination.
  + The inside of boxes/baskets that are returned from packing should be inspected to avoid any type of cross contamination.
  + The containers should be repaired so that they do not become a source of contamination.
  + Containers, receptacles and other harvest containers are designated for a specific use and should not be used for other purposes.
  + There is a designated area for assembling boxes and packaging.
  + There is a designated area for placing containers/baskets and others.
  + The inspections are recorded in the form Maintenance Register (REG-MAINT-2.5.2).
  + Only baskets/containers that meet the following specifications will be used:

(Describe the containers used in your company)

|  |  |  |  |
| --- | --- | --- | --- |
| Material | Color | Dimensions | Designated use |
|  |  |  |  |
|  |  |  |  |
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##### OBJECTIVE

* + To prevent equipment and facilities failures using the appropriate preventive maintenance activities and to act effectively when there are breakdowns during processing with the aim to reduce or mitigate a negative impact on the quality and safety of the products.



##### PROCEDURE

* + - The company has a maintenance department that is responsible for providing service to the company's facilities and equipment.
    - That department is also responsible for making emergency repairs to equipment that fails during production.
    - To enter the processing areas, maintenance employees must wear the appropriate protective clothing (hair fastener, mask, and gloves if necessary) and exhibit good personal hygiene practices.
    - The company uses only food grade lubricants on surfaces in direct contact with food.
    - The Maintenance department removes all metal burrs or fragments of parts that may exist from the equipment and the work area.
    - The technician who performs maintenance, repair or reassembly activities to any equipment is responsible for removing all lubricant residue and waste generated during the work.
    - The Production Supervisor assigns an operator to clean and disinfect the equipment according to the equipment cleaning and disinfection SOP (SOP- PROCLDIS-5.4.4) before restarting the production tasks. Quality Control is responsible for inspecting and releasing the equipment when it is in adequate sanitation conditions.
    - When the maintenance or repair work is carried out on site, the responsible technician only takes with him the tools and spare parts necessary to do the job and makes sure to remove each of them when he is finished.
    - The parts that are removed from the equipment are placed on a pallet or clean shelf and never directly on the ground.
    - At the end of any kind of maintenance, Quality Control and/or the Production Supervisor, inspects and visually records the following points in the form Maintenance Work Order (REG-MWO-5.4).
      * The equipment repaired.
      * Verification of removal of all the initial tools.
      * Verification that there is no contamination in the equipment/machinery. The equipment/machinery is in normal operation for its use.
      * The cleaning of the equipment.
      * All the screws, nuts and those parts that require it must be tightened correctly and if necessary lock washers added to prevent loosening by the normal vibrations of the equipment.

##### Preventive Maintenance

* + - The company has a Preventive Maintenance Program in the packing house (PROG-MAINT-5.4) designed based on the usage and wear and tear of the equipment.
    - The Maintenance Department is responsible for carrying out the program (PROG-MAINT-5.4) and recording these activities in the form Maintenance Work Order (PROG-CAL-5.4.9).
    - All equipment requiring calibration for its proper use are calibrated at the frequency specified on the list of equipment calibration (MISSING DATA).
    - All equipment calibrations are recorded using the Register of Equipment Calibration (REG-ECAL-5.4.9).
    - Before starting operations every day, the pre-operative evaluation is performed (REG-PREOP-5.4.1) by Quality Control.

|  |  |  |
| --- | --- | --- |
| **Equipment** | **Frequency** | |
|  | **Daily during the**  **production season** | **Intervals in low season**  **or on weekends** |
| **Enter the name of the equipment** | **Mark with an X when the equipment maintenance is carried out** | |
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CODE: REG-PREOP-5.4.1

**PREOPERATIVE EVALUATION**

##### Section\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

##### Week\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area, equipment, utensils, etc.** | **M** | **T** | **W** | **Th** | **F** | **Sa** | **Su** | **Performed** |
| Equipment/leaks/spills |  |  |  |  |  |  |  |  |
| Wash Tanks |  |  |  |  |  |  |  |  |
| Hydrothermal Tanks |  |  |  |  |  |  |  |  |
| Boxes/baskets |  |  |  |  |  |  |  |  |
| Conveyor belts |  |  |  |  |  |  |  |  |
| Condition of the utensils |  |  |  |  |  |  |  |  |
| Area without any kind of  physical, chemical or biological contamination. |  |  |  |  |  |  |  |  |
| Comments |  |  |  |  |  |  |  |  |
| Corrective action |  |  |  |  |  |  |  |  |

Supervisor's signature

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|  |  |  |
| --- | --- | --- |
| **Area, equipment or article to be cleaned** | | **Cleaning frequency** |
|  | **Enter the name of the area, equipment, or article to be cleaned** | **Indicate the frequency (Daily, once a month, etc.)** |
| **1** |  |  |
| **2** |  |  |
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CODE: SOP-PROCLDIS-5.4.4

**CLEANING AND DISINFECTION PROCEDURE**

##### OBJECTIVE

* + To maintain an appropriate cleaning and disinfection of the equipment and work areas of the packing house in appropriate conditions to prevent cross-contamination that could affect the safety of the mangoes.

##### CLEANING AND DISINFECTION PROCEDURES

All equipment used in the orchard/farm/estate/packaging house should be washed and disinfected according to the following procedure.

#### The cleaning and disinfection of the tools and small utensils is carried out in the area designated for this purpose.

* The cleaning and disinfection of the large equipment is performed where the equipment is located removing the products/packing materials using water, soap and disinfectant.

1. Eliminate all residue or dirt found in the equipment.
2. If necessary, disassemble the equipment and remove any dirt that is left in the equipment.
3. Rinse with water
4. Scrub all surfaces with soap and water using enough friction or force to remove the dirt, paying special attention to the parts that are difficult to wash.
5. Rinse with water
6. Disinfect, your supervisor will give you a sprinkler with a disinfectant or the utensils are placed in a tray with water and 200 ppm chlorine for disinfection.
7. Allow to dry.
8. In case of using a tray or small tank for washing, it should be washed and disinfected in the same way.
9. The cleaning is recorded in the Maintenance Form REG-MAINT2.5.2 and REG- CLNDIS-2.5.2

##### VERIFICATION OF THE CLEANING PROCEDURE

* + The effectiveness of the cleaning procedure is visually monitored and evaluated.
  + The visual verification is carried out using the Inspection List. REG- CLNDIS-2.5.6
  + The supervisor of the packing house or the team leader that will be in charge of that team during that day signs the Inspection List

##### DISINFECTION

* + For disinfection a solution is used with a maximum of 200 ppm total chlorine or with an alternative disinfectant (pH 6.5 to 7.5).
  + The supervisor or the manager of the Food Safety Plan is responsible for maintaining the concentration and preparing the solution.
  + The concentration is recorded in the Inspection List. REG-CLNDIS-2.5.6

CODE

SOP-MPCDU-5.4.5

**MAINTENANCE PROCEDURE OF CLEANING AND DISINFECTION UTENSILS**

##### OBJECTIVE

* To identify, maintain and store the tools and utensils used for cleaning and disinfection so that they do not become a source of contamination.

##### PROCEDURE

**General**

* All equipment, tools and utensils used in the orchard/farm/estate/packing house for cleaning and disinfection must be constructed of material which is easy to clean and resistant to the chemicals they will be in contact with.
* All equipment, tools and utensils used in the orchard/farm/estate/packing house for cleaning and disinfection are maintained according to the Maintenance Procedure (POE-MAINT-2.5.1).

**Identification**

|  |  |  |
| --- | --- | --- |
| **Utensils** | **Color Code** | **Use** |
| (Describe the utensils used in your company) | Indicate the color corresponding to the utensil’s use | Describe where these utensils are used |
| Broom | Blue | It is used to remove the  dust from the administrative area |
| Broom | Green | It is used to remove the  dust from the packing area |
| Broom | Red | It is used to remove dust from the bathroom |
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CODE:

REG-ECAL-5.4.9

**EQUIPMENT CALIBRATION**

Mark with a ✔ if the equipment was calibrated correctly or an **X** if the opposite is true.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Date** | **Equipment** | **Serial No.** | **Correct**  **calibration?** | **Calibrated** | **Corrective Action** | **Comments** |
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| **Equipment** | | **Frequency of calibration** |
|  | **Indicate the name of the equipment that requires calibration** | **Indicate the frequency (Daily, once a month, etc…)** | |
| **1** |  |  | |
| **2** |  |  | |
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##### OBJECTIVE

* + Ensure that allergenic foods and ingredients do not have contact with the mangoes or the surfaces that come into contact with the mangoes to prevent possible contamination.

##### PROCEDURE

**Receiving and warehouse**

* + When you receive an allergenic product, SOP is in accordance with the Storage of Inputs and Finished Product (SOP-STOR-5.6.5) but caution should be taken that they apply only to allergenic products:
    - Check that the labels of incoming raw materials contain the appropriate information on allergens.
    - Label each box, pallet, bag, etc. of raw materials, as appropriate, to ensure that the allergens are clearly indicated as the materials are stored and used in the facilities.

ALLERGEN

* + - Properly handle any container of allergenic products to minimize cross-contamination while receiving this material.
    - Store the allergenic ingredients or products separately to prevent cross-contamination.
    - Storage must be of the type "same on same".
    - In the event that the packaging of allergenic ingredients breaks during handling within the warehouse, an operator must repair the damage with adhesive tape and remove the product that has contact with the floor or any dirty surfaces.
    - The handling of these ingredients/products is performed with utensils that are exclusively used with them, in order to avoid cross-contamination.
    - Only pallets are used for allergens.

##### Allergen Control during processing

* + The Production Department schedules all of the production containing allergenic ingredients to minimize product changes.
  + The Production Department schedules the packing of products that do not contain allergens before packing food with allergens.
  + Quality Control limits the traffic of raw material, packing material and employees during the manufacture of products that contain allergens to avoid cross-contamination.
  + Quality Control prohibits the personnel that are working with allergens from passing to other areas of the plant.
  + The Quality Control personnel should have all products that contain allergens throughout the process identified with labels.

##### Allergen Cleaning Program

* + The program is carried out in accordance with the Procedure for Cleaning and Disinfection (SOP-PROCLDIS-5.4.4).
  + The Production Department schedules the cleaning immediately after the production of allergens has finished.
  + Quality Control performs a visual inspection after the cleaning of the equipment that was in direct contact with the product, with an emphasis on critical parts of the equipment or welds to verify that there are no traces of allergens, the visual inspections are recorded in the cleaning inspection form (REG-CLNDIS-2.5.6).

CODE

SOP-SPML-5.5.5

**SPECIFICATIONS FOR PACKING MATERIALS AND LABELS**

##### Fill in the following form with details of your packing materials, if necessary copy and paste the form to fill it with data from different packing materials and labels.

1. **Commercial Name**

(E.g. Food grade cardboard box)

##### Classification

(E.g. Packing of finished product)

##### Use

(E.g. Primary packing of finished product)

##### Size characteristics

|  |  |  |
| --- | --- | --- |
| **Determination** | **Measurements or volume** | **Material** |
| E.g. Cardboard Box | 25x30x15 cm | Cardboard |
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1. **Characteristics of appearance**

|  |  |
| --- | --- |
| **Packing** | **Color/Label/Brand** |
| E.g. Cardboard box | White/Brand name |
|  |  |
|  |  |
|  |  |

1. **Packing and presentation**

|  |  |
| --- | --- |
| **Presentation** | **# Of Units** |
| **Pallet** | 1000 |
|  |  |
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|  |  |

1. **Terms of delivery**

In closed, clean truck

##### OBJECTIVE

* + To establish procedures for receipt, storage and delivery, with the goal of ensuring the safety and security of our products.

##### PROCEDURE

**General**

* + - A space must be left between the stored products, racks, pallets and the walls to allow for a proper inspection.
    - A space must be left between the stored products, racks, pallets and walls to allow for adequate cleaning and disinfection of the facilities, according to the Procedure for Cleaning and Disinfection (SOP-PROCLDIS-5.4.4).

##### Storage of chemicals

* + - The company has an exclusive warehouse for chemicals that is separated physically from the other areas by walls and a door.
    - In this warehouse the temperature is controlled in a range of 15°C to 25°C so that the chemicals are not affected by reactions due to the temperature.
    - The Maintenance Department is responsible for maintaining the warehouse according to the SOP and the Preventive Maintenance Program (SOP-MAINT-5.4).
    - The Storage Assistant is responsible for placing products on the racks that correspond to them.
    - All food grade products or for contact with food are stored on racks or pallets, never directly on the floor.
    - The racks and pallets are in good condition.
    - When a product is required, the warehouse personnel are responsible for filling the order.

##### Storage of packing material

* + - The company has an exclusive warehouse for packing material that is separated physically from the other areas by walls and a door. The door remains closed when it is not in use.
    - The Maintenance Department is responsible for maintaining the warehouse according to the SOP and the Preventive Maintenance Program (SOP-MAINT-5.4).
    - The Storage Assistant is responsible for placing the packing material on the appropriate racks.
    - The packing material is stored on racks or pallets, never directly on the floor.

##### Storage of finished product

* + - The company has an exclusive warehouse for chemicals that is separated physically from the other areas by walls and a door.
    - The Maintenance Department is responsible for the warehouse maintenance according to the SOP and the Preventive Maintenance Program (SOP-MAINT-5.4).
    - Quality Control ensures that all the product that enters the finished product warehouse has its final packing and that it has the correct identification labels with (please provide the identification data used in your company, such as: the name of the product, presentation, parts, caliber, lot number, bar codes, etc…).
    - The Storage Assistant is responsible for placing the finished product on the appropriate pallets and/or racks.
    - The finished product is stored on racks or pallets, never directly on the floor.

CODE SOP-GLASS5.9.1

**GLASS AND BREAKABLE PLASTIC**

##### OBJECTIVE

* + To reduce the risk of contamination by the introduction of glass in the cultivation areas and the mango packing house.

##### PREVENTIVE MEASURES

* + The personnel in the harvesting, packing, maintenance areas, suppliers, contractors, and visitors must comply with the rules of control of glass and/or brittle plastic**:**
* Objects made of glass or brittle plastic may not be brought in to the cultivation areas, to the packing house or to areas adjacent to the areas where materials are handled that come into contact with the product.
* A daily verification inspection is made of glass and brittle plastic and it is recorded on the Pre-harvest Assessment form (REG- PREHARV-3.1.2) in the case of the orchards/farms/estates and on the Pre-operative Evaluation form (REG-PREOP-5.4.1) in the case of the packing plant.
* Workers should immediately inform their supervisors when they see any broken glass or brittle plastic.
* If there is an incident related to the breaking of a glass or brittle plastic utensil, the supervisor must be called for the necessary corrective action to be taken. The area where the glass is should be cleaned up to ensure the complete elimination of the risk.
* All incidents must be reported and recorded on the Corrective Action form (REG-CORRECT-1.8.2).
* All product that has contact with glass or brittle plastic is disposed of.

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##### OBJECTIVE

* + To prevent the entry of harmful fauna in the different areas of the packing house and eliminate those that manage to enter the facilities.

##### PROCEDURE

* + The company has hired the services of (name of the company in charge of the pest control) to design and implement the Pest Control Program. This company is based (address of the company responsible for pest control) and their technicians are trained for pest control in the different areas of the food industry.
  + (Name of the company in charge of the pest control) carries out an annual assessment of the facilities and makes recommendations for the installation of bait stations, traps and frequency of monitoring.
  + (Name of the company in charge of pest control) has all the permissions and licenses of the Ministry of Health and only uses chemicals for fumigation authorized by the Ministry of Health in the company. This contractor delivered a complete program to the packing house that includes (indicate the documents that were received by the company responsible for pest control, this may include: copies of the work permits and appropriate authorizations, certifications, technical sheets on the pesticides and copies of their labels, a map of the plant detailing the location of the devices installed and areas of fumigation, results of the annual analysis and monitoring of the traps) (PROG-PEST-5.14).
  + The pest control program applies to all areas of the packing house: reception of raw material, warehouse, processing, packing, finished product warehouse and common areas.
  + Control of insects, rodents, birds or other animals in all areas of the plant is maintained.
  + The Maintenance Department places the appropriate protections in the buildings to prevent the entry of pests.
  + (Name of the company in charge of the pest control) installed the necessary bait stations in the exterior separated according to the recommendations of use. These stations are monitored by the supplier (indicate the frequency at which are monitored).
  + (Name of the company in charge of the pest control) installed sufficient rubber traps on the inside of the plant for rodent control, which are monitored daily by the quality inspector. Any findings are reported immediately to the department of quality assurance.
  + There are (indicate the method used in your plant: ultraviolet light bulbs or air fans) to prevent the entry of flying insects in the accesses to the areas where the product is handled.
  + The control accessories were placed in such a way that they do not contaminate the raw material, product in processing, product in packing, finished product or any other material in contact with the products. These accessories are identified on the plant map found in the folder on pest control.
  + Any finding of activity of harmful fauna is documented in the folder Integrated Pest Management (PROG-PEST-5.14) which was provided by (name of the company in charge of the pest control).
  + The activities of cleaning and disinfection of the equipment and facilities help to maintain acceptable hygienic conditions according to good manufacturing practices to reduce the possible impact of harmful fauna.
  + (Name of the company in charge of the pest control) keeps a register log that includes the dates of inspection, a report of the inspection, a report of the corrective actions and chemical applications. All of these documents can be found in the folder for the Integrated Pest Control (PROG-PEST-5.14).
  + If the supplier makes any recommendation, Quality Control designates the responsible party for carrying out such corrective action and registers it in the Corrective Action form (REG-CORREC-1.8.1).
  + In the event of a pest problem, (your company name) contacts the service provider to receive directions of what to do and how to solve the problem.
  + Quality Control will immediately dispose of any product that has had contact with pests.

CODE

PROG-PLAGAS-5.14

**INTEGRATED PEST MANAGEMENT**

## INTEGRATED PEST MANAGEMENT

##### (Attach documents provided by the company in charge of pest control)

CODE

SOP-TRANSPT-6.2

**TRANSPORT/CLEANING/LOADING AND UNLOADING/CONTROL AND SECURITY OF THE CARGO**

**OBJECTIVE**

* + To keep the trucks clean and in good condition for the transfer of the mangoes from the packing house or warehouse to the client, ensuring the safety of the product in accordance with the GAP.

##### PREVENTIVE MEASURES

* + The transport trucks are used exclusively for the transport of mangoes.
  + The truck and/or trailer is inspected to prevent the floor of the flatbed or the engine exhaust pipe from contaminating the product.
  + Drivers must follow the policies of good hygiene practices and local laws with regard to the safe operation of the vehicle.
  + Once the cargo is picked up in the field, the drivers go directly to the facilities’ reception area.
  + The refrigerated trucks are pre-cooled prior to loading the product.
  + The platforms and the floor of the platforms of the trailers are cleaned as often as necessary to remove all foreign matter.
  + All outgoing transport vehicles are inspected to verify that they comply with the necessary hygiene for transporting the mangoes, and to verify that the physical conditions are not a means of contamination such as odors, cleanliness, that they are free of hazardous waste and evidence of pests. The results of the inspection are documented in the Register Transport/cleaning/loading and unloading/control and security of the cargo (REG-TRASNPT-6.2).
  + Based on the results of the transport inspection the load is authorized.
  + In open transport vehicles a tarp is used to prevent the product from being contaminated by rain or any other contaminant.
  + Each load is secured properly. The boxes, cartons, and containers are tied or fastened using the appropriate straps so that the mangoes don't experience physical damage.
  + If the driver needs to enter into a mango packing or storage area, he has to follow all the good manufacturing practices including, but not limited to:
* No smoking.
* No eating or drinking.
* Avoid contact with the raw material or exposed finished product.

CODE

REC-TRANSPT-6.2

**TRANSPORT/CLEANING/LOADING AND UNLOADING/CONTROL AND SECURITY OF THE LOAD OF PACKED PRODUCT**

Client\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lot\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Week\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Inspections** | **M** | **T** | **W** | **Th** | **F** | **Sa** | **Su** | **Inspected** |
| The truck is clean. |  |  |  |  |  |  |  |  |
| There are no bad odors |  |  |  |  |  |  |  |  |
| There are no pests or other evidence of animals |  |  |  |  |  |  |  |  |
| There is no hazardous waste |  |  |  |  |  |  |  |  |
| There are no exhaust fumes that may affect the mangoes |  |  |  |  |  |  |  |  |
| The cargo is secure. |  |  |  |  |  |  |  |  |
| If it is a trailer or there is no box, it is covered with a tarp. |  |  |  |  |  |  |  |  |

Supervisor's signature

##### OBJECTIVE

* + To establish guidelines for dealing with complaints made by customers about the company's products, in such a way as to ensure customer satisfaction from the receipt of the complaint to the response to the client.
  + To maintain adequate communication with personnel outside the plant (suppliers, contractors, customers and/or consumers, legal and regulatory authorities) as well as an effective internal communication with the plant personnel.

##### PROCEDURE

**For complaints received**

* + The manager of the sales area receives the complaint by the client.
  + When Sales receives a complaint, they fill in the part corresponding to their department on the Receipt of Complaints form (REG-COMPTS-7.0) and pass it on to the manager of Quality Control, either in print or by email.
  + Quality Control requests information from the client that issued the complaint and compares it with records and information from the plant.
  + Quality Control determines if the complaint is the company's responsibility or not.
  + If the complaint is not the company's responsibility but rather that of another plant or distribution center, the complaint and any other information involved is passed on to the responsible party.
  + Quality Control performs the actions necessary to demonstrate the nature of the response with evidence gathered and notifies the Plant Manager and the Sales Department about the status of the complaint.
  + When the complaint is the company's responsibility, the investigation into the complaint proceeds and Quality Control, with the support of other departments (production, maintenance, etc.), determines and implements the corrective action. Quality Control records everything in the Receipt of Complaints form (REG- COMPTS-7.0).
  + Those responsible for the areas involved receive a copy of the form and in conjunction with Quality Control they analyze the details of the complaint.
  + Quality Control investigates the cause or root of the problem.
  + Quality Control attaches the information used during the process as support and evidence (copies of forms, analysis, certificates, etc.).
  + Quality Control inspects the closure and signs the form as a sign of agreement with the closure and delivers the results to the General Manager.
  + Quality Control keeps copies of the register of Receipt of Complaints (REG- COMPLTS-7.0) and of the supporting documentation. All closed complaints are filed for audit matters.
  + Quality Control communicates the resolution of the complaint to the Sales Department who will in turn send it to the customer.
  + If the follow-up of the complaints does not have the desired results an internal audit according to the appropriate procedure may be conducted.

##### Process of receiving, analysis, and response to customer complaints

* + The complaints received by the Sales Department, related to food quality and safety, are sent to the manager of the Department of Quality Control within a maximum period of two days.
  + Complaints have a maximum closure period of 3 days for quality issues and 5 days for food safety issues from the date of their receipt by Quality Control; except in those cases that justifiably require a longer period (prior review by the manager of Quality Control, who determines whether it is justifiable or not).
  + Once the analysis of the complaint is carried out and it is determined whether or not to proceed, Quality Control is responsible for the closure, who issues a response that it sends to the sales area so they report to the client and/or user, on the status.
  + In case of absence on the part of the person responsible for responding to clients’ complaints, a substitute is assigned to perform the same functions, with the authorization of the General Manager.
  + Quality Control determines and implements the corrective action or preventive measures to eliminate or minimize the recurrence of complaints.

##### From the reception, monitoring and response of the customer complaint Analysis of trends of complaints

* + Quality control performs a trend analysis of complaints on a monthly basis, with the objective of identifying the points of the process of greatest vulnerability. For this purpose the complaints received are recorded in the Monthly Report of Complaints form (REG- MRC-7.0).

##### External and internal communication

* + The company maintains effective communication with the external personnel among these suppliers, contractors, customers and legal authorities. Each time there is a change related to safety of the product (specific storage requirements, intended use, changes in specifications etc.) Quality Control passes on a statement informing about what happened to the personnel who may be affected and/or involved.
  + The company ensures that the food safety team is informed of changes made according to the procedure for Document Review (SOP-REV-1.2.2).

##### OBJECTIVE

* + To take the necessary actions to prevent intentional acts of contamination or sabotage of the mangoes or the company's equipment and facilities of the company.

##### PREVENTIVE MEASURES

**Safety of the facilities**

* + The access to the orchards/farms/estates is restricted and requires the permission of the management to enter.
  + The doors and windows that are not in service are kept locked.
  + Visitors who are allowed a tour of the facilities are accompanied by authorized personnel. All visits must be scheduled and authorized by management.
  + All visitors must follow the hygiene policies and persons are not allowed production/processing area without specific reasons.
  + The use of photographic cameras and video is not permitted without the authorization of the management.
  + The equipment for the supply of gas and water is locked, only responsible parties have access.
  + All the computers that are used in the plant require a password which is known only to the management and the user of the computer to enter information.
  + There is a policy for Visitors and Subcontractor Personnel (SOP- VISITOR-1.4.3), which establishes the rules to follow to enter the plant.

**Safety of the process**

* + The Maintenance Department periodically inspects the water and gas transport lines to detect in a timely manner any leak or situation that compromises the safety of the products.
  + As part of the procedure for the receipt of inputs, the integrity of the packaging of any product that is received is inspected, looking for any violation or situation that may contaminate or affect processing.
  + The inputs received are encoded in order to track them during processing. All products that are processed can be traced by the lot number.
  + Access to control panels is restricted to authorized personnel and is kept under lock and key.

**Safety in the raw material, inputs and final product warehouses**

* + The raw material and final product warehouses are kept locked and access is restricted to the appropriate managers and their operators.
  + All the material that enters or leaves the raw material warehouse is under inventory and is inspected and authorized by the manager.
  + Visitors do not have access to exposed product unless it is a scheduled visit.
  + All the chemicals are protected in an assigned area and are separated from the inputs and packing material. This area remains under lock and key, its management and distribution are controlled by the warehouse manager.
  + The vehicles for transportation of product have not been used for transport of animals, animal by-products or any other material that represents a potential contaminant.
  + Once the product is loaded, the trailer bed is closed and locked with a padlock.
  + The entry of goods returned to the areas of production is not permitted without first having been analyzed by the food safety personnel; who determine the disposal of the product.

##### Water Safety

* + The wells and water pumps are guarded under lock and key to prevent access to unauthorized persons.
  + The sources of water storage for processing are guarded under lock and key to prevent access to unauthorized persons.

##### Personnel Safety

* + During the recruitment process, potential candidates are interviewed after applying for employment*.* The Human Resources Department interviews the candidates looking for experience relevant for the company. Although experience is recommended, it is not a requirement. If applicable, their references are verified. All newly contracted personnel read the internal regulation and any brochure relevant to their activities and position.
  + Before starting work, the new workers receive basic training in hygiene and good manufacturing practices and food defense. It is required that all personnel sign that they understood and accepted the points included in the training.
  + In addition, employees are required to bring a form of identification among their belongings.
  + The personnel are trained to report any suspicious activity in all areas of the company since they receive basic training in food defense.
  + The head of production updates the list of employees he is in charge of daily to control absences and he is responsible for preventing the use of personal items during work hours.
  + The employees are not allowed to remove any protection equipment from the plant.
  + The employees are not allowed to bring personal objects such as keys, phones, etc. into the production areas. These objects must be left in the designated area.

##### Visitor Safety

* + Before entering the plant, outside contractors or suppliers must schedule the job or delivery with an authorized person. These contractors are not accompanied while performing their work, but they are during the planning and the activities that involve the facilities, which may put the product at risk.

**OBJECTIVE**

#### To keep the company documentation up-to-date, thus avoiding the generation of copies that generate conflict between the different documents used in the company.

**PROCEDURE FOR DOCUMENT REVIEW**

Any modification, correction or update of an SOP, SSOP, work instructions, policies, registries or any other document must be made and/or authorized by the coordinator(s) or manager(s) of the company's food safety. The members of the food safety team are the only people with access to the electronic files and that may make modifications to the program.

After any change is made, a copy is printed and delivered to the end user of the document and/or to the food safety coordinator to verify that the changes are correct.

Once the change to the document is approved, the company manager signs it and dates it. All copies of the old document are destroyed and the signed copy is used immediately. The digital files of the old document are also deleted.

All changes are recorded in the corresponding SOP in the following manner:

The new version and date of the document are updated as shown in the following box, indicating the version of the document (*in italics*) and the date (**in bold**)

|  |  |
| --- | --- |
| **DOCUMENTS REVIEW** | CODE SOP-REV-1.2.2 |
| Reviewed and approved by: | *Version: 3*  **Review date: 7/17/2015** |

At the end of the SOP a summary of the changes made is included in the following manner (following the directions in bold):

Date of the original document: Version 1 - 9/1/12 **(Indicate the date of the original document)**

Reviews included in version 2 - 3/1/13: The flow charts were modified to update them. Some verbs were changed to follow the auditor's observations. **(Standard text, version number and date of the modification: Followed by a summary of the modifications made).**

Revisions included in version 3 - 1/1/14: The numbering of the steps was modified and the diagrams were updated to reflect these modifications. **(Standard text, version number and date of the modification: Followed by a summary of the modifications made).**

### The use of bold and italics in this document is for demonstrative use only; in the original SOPs regular fonts are used.

#### 