

Standard Operating Procedures (SOPs) for on-farm fruit and vegetable drying

Document identification

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Abstract	This manual presents the standard operating procedures required to dry fruits and vegetables under strict hygienic conditions. It includes good practices required to process fruits and vegetables in a small factory setting to comply with HACCP and other certification protocols

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PRODUCTION PROCESS

Introduction

The provision of quality products especially for export is paramount in the success of every food processing business. The products of every organization in this case a factory has to be of good quality and meeting international standards. Meeting international standards means taking internationally recognized healthy steps in terms of actions and provisions need to be adhere to and such best practices should be made available for factory staff to comply during their operations.

Before Staffs are allowed to start working, they will have to undergo medical examination by a recognized health centre to test for TB, Semolina Thyphi, Hepatitis A and Hepatitis B with report endorsed by a certified Health practitioner

Best practices

To be able to produce internationally accepted products, processing has to be done in an internationally accepted manner. There are many international standards available but the preferred and mostly accepted internationally is the Hazard Analysis Critical Control Point System (HACCP). This system has steps that are to be strictly adhered to. These steps should not be compromised as it may affect the quality standards of produce.

Production manager and their supervisors are to ensure that HACCP steps are taken before, during and after any processing activity.

Hazard Analysis Critical Control Point System (HACCP)

HACCP as a technique system is internationally recognized as the most effective means to assure the manufacturer of safe product. It is a technique/ process or a management system for the assurance of food and safety. HACCP system identifies, evaluates and control hazards to ensure food safety. It can be applied throughout the food chain from primary production to final consumption.

HACCP is selected and used in our case as the best practices as it is needed in the success of food processing business. It is needed because



legislation recommends it, it is one of the ways of doing business, and it is an insurance against food bourn incidents and diseases. HACCP has numerous benefits which include:

1. Instills awareness in food safety
2. Set a preventive system for food safety assurance, increase producer and consumer confidence in product safety
3. It is a cost-effective method because defects are preventable
4. One loses less controls are set up and prevents end product to contaminate
5. Reduces loss and waste
6. It has a record system that is part of due diligence.

HACCP Standard Operating practices (SOPs)

Personal Hygiene

Responsibility: Production Manager or Supervisor

PURPOSE: To prevent contamination of fruits by employees.

SCOPE: This procedure applies to employees who handle fresh fruits, prepare fresh fruits for drying, or package dried/processed products.

INSTRUCTIONS:

1. Train production employees on using the procedures in this SOP.
2. Follow the Employee Health Policy.
3. Report to work in good health, clean, and dressed in clean attire.
4. Change apron when it becomes soiled.
5. Wash your hands before starting work in the morning, after lunch or after using the toilet
6. Wash your hands after clearing dirty area.
7. Wash hands properly, frequently, and at the appropriate times.
8. Wash your hands with soap before and after eating.
9. Keep fingernails (short) trimmed, filed, and maintained so that the edges are cleanable and not rough.
10. Avoid wearing artificial fingernails and fingernail polish.
11. Do not wear any jewelry on fingers (including wedding ring) or wristband.
12. Do not wear long or hanging earrings to work.



13. Treat and bandage cuts, wounds and sores immediately. When hands are bandaged, single-use disposable gloves must be worn.
14. Cover a lesion containing pus with a bandage. If the lesion is on a hand or wrist, cover with an impermeable cover such as a finger cot or stall and a single-use glove. Inform management of the condition.
15. Eat, drink, or chew gum only during break-time in designated areas where food or food contact surfaces may not become contaminated.
16. Do not smoke anywhere on the premises.
17. Wear suitable and effective hair cover/net while in the production, drying and packaging areas.

MONITORING:

- A designated Production Manager or Supervisor will inspect employees when they report to work to be sure that each employee is following this SOP.
- The Production supervisor will monitor that all employees are adhering to the personal hygiene policy during all hours of operation.

CORRECTIVE ACTION:

1. Retrain any employee found not following the procedures in this SOP.

VERIFICATION AND RECORD KEEPING:

The production manager will verify that employees are following this SOP by visually observing the employees during all hours of operation.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

SOP 2

Washing Hands

PURPOSE: To prevent food-borne illness by contaminated hands.

SCOPE: This procedure applies to anyone who handles, prepares, or packages fruits or finished products in the factory.

INSTRUCTIONS:

1. Train employees on using the procedures in this SOP.
2. Post hand washing signs or posters in a language understood by all staff near all hand-washing sinks, in food preparation areas, and washrooms.
3. Use designated hand-washing sinks for hand-washing only. Do not use food preparation, utility, and dishwashing sinks for hand washing.
4. Provide running water, soap, and a means to dry hands. Provide a waste container at each hand washing sink or near the door in washrooms.
5. Keep hands washing sinks accessible anytime employees are present.
6. Wash hands:
 - Before starting work
 - Before, during and after food preparation
 - When moving from one production area to another
 - Before putting on or changing gloves
 - After using the toilet
 - After sneezing, coughing, or using a handkerchief or tissue
 - After touching hair, face, or body
 - After eating or drinking.
 - After handling fresh raw material (fruits and vegetables etc)
 - After any clean-up activity such as sweeping, mopping, or wiping tables or surfaces.
 - After touching dirty equipment or utensils
 - After handling rubbish, garbage or waste of peeled fruits and vegetables.
 - After handling money.
 - After any time the hands may become contaminated

INSTRUCTIONS:

7. Follow proper hand washing procedures as indicated below:
 - Wet hands and forearms with running water and apply soap.
 - Scrub soapy hands and forearms, under fingernails, and between fingers for at least 10-15 seconds. Rinse thoroughly under running water for 5-10 seconds.
 - Dry hands and forearms thoroughly with single-use paper towels.



- 8.
- Use hand sanitizer only after hands have been properly washed and dried.
 - Use only hand sanitizers that comply with the *2001 FDA Food Code*. Confirm with the manufacturers that the hand sanitizers used meet these requirements.
 - Use hand sanitizers in the manner specified by the manufacturer.

MONITORING:

1. A designated employee (Production Manager or Supervisor) will visually observe the hand washing practices of the staff during all hours of operation.
2. The designated employee will visually observe that hand washing sinks are properly supplied during all hours of operation.

CORRECTIVE ACTION:

1. Retrain any employee found not following the procedures in this SOP.
2. Ask employees that are observed not washing their hands at the appropriate times or using the proper procedure to wash their hands immediately.
3. Retrain employee(s) to ensure proper hand washing procedures applied.

VERIFICATION AND RECORD KEEPING:

The production manager will complete the Food Safety Checklist daily to indicate that monitoring is being conducted as specified. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

SOP 3

Washing Fresh Produce (Fruits)

PURPOSE: To prevent or reduce risk of food borne illness through contaminated fruits and vegetables.

SCOPE: This procedure applies to employees who handle or process fresh produce

Responsibility: Production Manager or Supervisor

INSTRUCTIONS:

1. Train employees on using the procedures in this SOP.
2. Wash hands using the proper procedure.
3. Remove any damaged or bruised fruit before washing fresh produce.
4. Discard damaged or bruised produce following proper procedure.
5. Wash, rinse, sanitize, and air-dry all food-contact surfaces, equipment, and utensils that will be in contact with produce, such as processing tables, fresh fruit bowls, cutting boards, knives, and sinks.
6. Follow manufacturer's instructions for proper use of chemicals.
7. Wash fresh produce in three (3) stages.
8. a) - Wash fresh produce in cold water with a little soap (general dishwashing detergent)
 - Scrub the surface of firm fruits such as pineapples using a clean brush designated for this purpose.
 - Scrub papaya and mango with designated sponge
- b) Transfer fresh produce to second basin filled with 25 litres (2.5 buckets) cold water and 1 tablet of chlorine (15 ppm) or sodium metabisulphite (1g: 1 litre of water) Soak fruits in solution for 10 minutes.
- c) Final rinse in third basin half-filled with cold water to remove chlorine or sodium metabisulphite residue.
9. Pick produce for peeling into designated baskets and place on peeling tables.
10. Drain wash basin, refill basin and start washing process after every two (2) complete washing cycles.

MONITORING:

1. The production supervisor/ manager will visually monitor that fresh produce are being properly washed during all hours of operation.

CORRECTIVE ACTION:

1. Retrain any employee found not following the procedures in this SOP.



VERIFICATION AND RECORD KEEPING:

The production supervisor/manager will complete the Food Safety Checklist daily to indicate that monitoring is being conducted as specified in this SOP. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

SOP 4

Cleaning and Sanitizing Food Contact Surfaces

PURPOSE: To prevent food borne illness by ensuring that all food contact surfaces are properly cleaned and sanitized.

SCOPE: This procedure applies to fruit processing and packaging employees as well as employees involved in cleaning and sanitizing food contact surfaces.

Responsibility: Production Manager or Supervisor

INSTRUCTIONS:

1. Train production and packaging employees on using the procedures in this SOP.
2. Follow manufacturer's instructions regarding the use and maintenance of equipment and use of chemicals for cleaning and sanitizing food contact surfaces.
3. Wash, rinse, and sanitize food contact surfaces of sinks, tables, chopping boards, equipment, utensils, carts, and equipment:
 - Before each use
 - Any time contamination occurs or is suspected
 - After each use
4. Wash, rinse, and sanitize food contact surfaces of sinks, tables, chopping boards, equipment, utensils, carts, and equipment using the following procedure:
 - Wash surface with detergent solution.
 - Rinse surface with clean water.



- Sanitize surface using a sanitizing solution mixed at a concentration specified on the manufacturer's label. (20g sodium metabisulphite : 20 litres water)
- Soak items in sanitizing solution for 10 minutes
- Place wet items in a manner to allow air drying.
- Spray tables with sanitizing solution and allow to air dry
- Clean basins for washing fresh produce with cleaning detergent
- Rinse basins with sanitizing solution

5. Steps 3 - 4 must be repeated AFTER each production or packaging shift.

MONITORING:

Production and packaging employees will:

1. During all hours of operation, visually and physically inspect food contact surfaces of equipment and utensils to ensure that the surfaces are clean.

CORRECTIVE ACTION:

1. Retrain any employee found not following the procedures in this SOP.
2. Wash, rinse, and sanitize dirty food contact surfaces. Sanitize food contact surfaces if it is discovered that the surfaces were not properly sanitized. Discard food that comes in contact with food contact surfaces that have not been sanitized properly.

VERIFICATION AND RECORD KEEPING:

Employees will record monitoring activities and any corrective action taken on the Food Contact Surfaces Cleaning and Sanitizing Log. The production supervisor/manager will verify that employees have properly cleaned and sanitized food contact surfaces BEFORE and AFTER each production shift and filling the Food Contact Surfaces Cleaning and Sanitizing Log. The log will be kept on file for at least 1 year.

The manager will complete the Food Safety Checklist daily. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

SOP 5

Washing and Sanitizing Napkins

PURPOSE: To prevent food borne illness by ensuring that all napkins used for production and packaging are properly cleaned and sanitized.

SCOPE: This procedure applies to employees involved in production, packaging, as well as those responsible for cleaning, washing and sanitizing food contact surfaces and napkins.

Responsibility: Production Manager or Supervisor

INSTRUCTIONS:

6. Train production, packaging and other employees on using the procedures in this SOP.
7. Follow manufacturer's instructions regarding the use and maintenance of equipment and use of chemicals for cleaning and sanitizing napkins.
8. Wash, rinse and sanitize all **new** napkins before first use.
9. Wash, rinse, and sanitize napkins:
 - After each use
 - Any time contamination occurs or is suspected
10. Wash, rinse, and sanitize napkins using the following procedure:
 - Wash with detergent solution.
 - Rinse with clean water.
 - Sanitize using a sanitizing solution mixed at a concentration specified on the manufacturer's label (chlorine or sodium metabisulphite). (Make a sanitizing solution of 50g sodium metabisulphite : 50 litres water)
 - Soak in sanitizing solution for five ((5) minutes.
 - Place napkins in a manner to allow air drying.
 - Store in designated containers for safe keeping till next use.

MONITORING:

Production and packaging employees will:

2. During all hours of operation, visually and physically inspect all napkins used to ensure that they are clean.

CORRECTIVE ACTION:

3. Retrain any employee found not following the procedures in this SOP.
4. Wash, rinse, and sanitize napkins if it is discovered that napkin(s) were not properly washed or sanitized. Ensure that non washed and sanitized napkins are not used at any level of operation in the entire factory.



VERIFICATION AND RECORD KEEPING:

The production supervisor/manager will verify that employees have properly washed and sanitized napkins BEFORE and AFTER each production shift and filling the Washing and Sanitizing Napkins Log. The log will be kept on file for at least 1 year. The manager will complete the Food Safety Checklist daily. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

SOP 6

Measuring Scales Calibration Log					
Instructions: Employees responsible for drying of fruit after processing will record the calibration and corrective action taken, if applicable, on the Measuring Scales Calibration Log each time a measuring scale is calibrated. The production manager will verify that employees are using and calibrating scales properly by making visual observations of employee activities during all hours of operation. The manager will review and initial the log daily. Maintain this log for a minimum of 1 year.					
Date	Scale Being Calibrated	Reading	Corrective Action	Initials	Manager Initials/Date

SOP 7

Washing and Sanitizing Drying Mesh & Nets

PURPOSE: To prevent food borne illness by ensuring that all nylon mesh and nets used for production and packaging are properly cleaned and sanitized.

SCOPE: This procedure applies to employees involved in production, packaging, as well as those responsible for cleaning, washing and sanitizing food contact surfaces, napkins and drying nets.

Responsibility: Production Manager/Supervisor
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INSTRUCTIONS:

11. Train production, packaging and other employees on using the procedures in this SOP.
12. Follow manufacturer's instructions regarding the use and maintenance of equipment and use of chemicals for cleaning and sanitizing drying nets.
13. Wash, rinse and sanitize all **new** nets before first use.
14. Wash, rinse, and sanitize nets:
 - After each use
 - Any time contamination occurs or is suspected
15. Wash, rinse, and sanitize nets using the following procedure:
 - Soak in detergent solution for 1 hour.
 - Use designated brush to brush off any fruit particles stuck to the net.
 - Rinse in clean water till no trace of soap/detergent is present.
 - Sanitize using a sanitizing solution mixed at a concentration specified on the manufacturer's label (chlorine or sodium metabisulphite). (Make sanitizing solution of 50g sodium metabisulphite : 50 litres water)
 - Soak in sanitizing solution for five ((5-10) minutes.
 - Place nets in a manner to allow air drying.
 - Store in designated containers for safe keeping till next use.

MONITORING:

Production and packaging employees will:

3. During all hours of operation, visually and physically inspect all drying nets used to ensure that they are clean.

CORRECTIVE ACTION:

5. Retrain any employee found not following the procedures in this SOP.



6. Wash, rinse, and sanitize nets if it is discovered that net(s) were not properly washed or sanitized. Ensure that non washed and sanitized nets are not used at any level of operation in the entire factory.

VERIFICATION AND RECORD KEEPING:

The production supervisor/manager will verify that employees have properly washed and sanitized nets BEFORE and AFTER each production shift and filling the Washing and Sanitizing Nets Log. The log will be kept on file for at least 1 year. The manager will complete the Food Safety Checklist daily. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

SOP 8

Receiving Raw Materials (Fresh Fruit)

PURPOSE: To ensure that all raw materials are received fresh and safe when it enters the processing facility and to transfer raw materials to proper storage as quickly as possible.

SCOPE: This procedure applies to employees who handle raw materials in the form of fresh produce for processing.

Responsibility: Raw Material Procurement/Field Officer

INSTRUCTIONS:

1. Train employees on using the procedures in this SOP.
2. Schedule raw material deliveries to arrive at designated times during operational hours.
3. Post the delivery schedule, including fruit type, source (name and location of vendor) total kilogram of raw material received, maturity index of raw material and drivers' name in the appropriate record keeping logs.



4. Establish a rejection policy for on-farm pick-ups and in-house deliveries to ensure accurate, consistent, and effective refusal and return of sub-standard raw materials supplied by vendors.
5. Organize storage space before deliveries.
6. Gather product specification list, calibrated scale, raw material receiving log book and clean loading carts before deliveries. Refer to the Using and Calibrating Measuring Scales SOP.
7. Keep receiving area clean and well lighted.
8. Ensure that crates loaded with fruits are not placed directly on bare floor. An empty crate must be placed on bare floor and then can be stacked with loaded crates of produce.
9. Compare delivery invoice against products ordered and products delivered.
10. Transfer raw materials to their appropriate locations for storage as quickly as possible.
11. Separate organic/conventional raw material and store in designated crates and locations in the storage area.

MONITORING:

1. Inspect the delivery truck when it arrives to ensure that it is clean, free of putrid odors before offloading raw material.
2. Check the maturity of raw material.
3. Ensure driver signs the Raw Material Cartage Log.
4. Check the cleanliness of crates and other shipping containers before accepting products. Reject products that are shipped in dirty crates.

CORRECTIVE ACTION:

1. Retrain any employee found not following the procedures in this SOP.
2. Reject the following:
 - Over-ripe or unripe fruit
 - Bruised fruit
 - Immature fruit

VERIFICATION AND RECORD KEEPING:

The production manager will verify that employees are receiving products using the proper procedure by visually monitoring receiving practices during the shift and reviewing the Receiving Log at the close of each day. Receiving Logs are kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

SOP 9

Washing and Sanitizing Drying Trays & Equipment

PURPOSE: To prevent food borne illness by ensuring that all trays used for drying are properly cleaned and sanitized.

SCOPE: This procedure applies to employees involved in production, packaging, as well as those responsible for cleaning, washing and sanitizing drying trays and equipment.

Responsibility: Production Manager or Supervisor

INSTRUCTIONS:

- Train production, packaging and other employees on using the procedures in this SOP.
- Follow manufacturer's instructions regarding the use and maintenance of equipment and use of detergents for cleaning and sanitizing drying trays and equipment.
- Wash, rinse, and sanitize trays:
 - After each use
 - Any time contamination occurs or is suspected
- Wash, rinse, and sanitize drying trays using the following procedure:
 - Wash with soapy water and designated sponge.
 - Use designated sponge to wash off any fruit particles stuck to the tray.
 - Do not scratch tray with knife or any sharp object
 - Rinse with clean water till no trace of soap/detergent is present.
 - Sanitize using a sanitizing solution mixed at a concentration specified on the manufacturer's label (chlorine or sodium metabisulphite) (Make sanitizing solution of 50g sodium metabisulphite : 50 litres water) as the last rinse.
 - Store in designated area till next use.
- Clean and sanitize dryers:
 - Use designated napkins in cleaning dryers
 - Soak napkin in clean water with no detergent
 - Clean all inside surfaces of dryer
 - Ensure that dried fruit particles are completely removed. Do not scratch with knife or any sharp object.
 - Clean outer surface of dryer with napkin and clean water

Washing and Sanitizing drying trays and equipment, continued



MONITORING:

Production and packaging employees will:

- During all hours of operation, visually and physically inspect all drying trays and dryers used to ensure that they are clean.

CORRECTIVE ACTION:

- Retrain any employee found not following the procedures in this SOP.
- Wash, rinse, and sanitize trays and dryers if it is discovered that these were not properly cleaned or sanitized. Ensure that non-washed and sanitized trays and dryers are not used at any level of operation in the entire factory.

VERIFICATION AND RECORD KEEPING:

The production supervisor/manager will verify that employees have properly washed and sanitized trays and dryers BEFORE each production shift and filling the Washing and Sanitizing Trays & Equipment Log. The log will be kept on file for at least 1 year. The manager will complete the Food Safety Checklist daily. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

SOP 10

Washing and Sanitizing Processing Tools

PURPOSE: To prevent food borne illness by ensuring that all processing tools (knives, graters, strainers, bowls) used for processing fresh fruits are properly cleaned and sanitized.

SCOPE: This procedure applies to employees involved in processing fresh fruits as well as those responsible for cleaning, washing and sanitizing processing tools.

Responsibility: Production Manager or Supervisor

INSTRUCTIONS:

- Train production and other employees on using the procedures in this SOP.
- Rinse and sanitize all **processing tools** before use.

- Wash, rinse, and sanitize processing tools:
- After each use
- Any time contamination occurs or is suspected
- Wash, rinse, and sanitize processing tools using the following procedure:
- Wash with detergent solution and designated sponge.
- Rinse in clean running tap water till no trace of soap/detergent is present.
- Sanitize using a sanitizing solution mixed at a concentration specified on the manufacturer's label (chlorine or sodium metabisulphite) (Make sanitizing solution of 50g sodium metabisulphite : 50 litres water). Soak in solution for 5-10 minutes
- Place processing tools on designated table to allow air drying.
- Store in designated area for safe keeping till next use.

MONITORING:

Production employees will:

- During all hours of operation, visually and physically inspect all processing tools used to ensure that they are clean.

CORRECTIVE ACTION:

- Retrain any employee found not following the procedures in this SOP.
- Wash, rinse, and sanitize processing tools if it is discovered that tools were not properly washed or sanitized. Ensure that non washed and sanitized tools are not used at any level of operation in the entire factory.

VERIFICATION AND RECORD KEEPING:

The production supervisor/manager will verify that employees have properly washed and sanitized processing tools AFTER each production shift and filling the Washing and Sanitizing Processing Tools Log. The log will be kept on file for at least 1 year. The manager will complete the Food Safety Checklist daily. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____



SOP 11 FOOD SAFETY CHECKLIST

Date _____
Observer _____

Directions: Use this checklist daily. Determine areas in your operations requiring corrective action. Record corrective action taken and keep completed records in a notebook for future reference.

PERSONAL HYGIENE	Yes	No	Corrective Action
• Employees wear clean and proper uniform including shoes.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Effective hair restraints are properly worn.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Fingernails are short, unpolished, and clean (no artificial nails).	<input type="checkbox"/>	<input type="checkbox"/>	_____
• No Jewelry is worn – (plain ring, such as wedding band, wrist watch bracelets)	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Hands are washed properly, frequently, and at appropriate times.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Burns, wounds, sores or scabs, or splints and water-proof bandages on hands are bandaged and completely covered with a foodservice glove while handling food.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Eating, drinking, chewing gum are allowed only in designated areas away from processing, storage and washing areas.		<input type="checkbox"/> <input type="checkbox"/>	
• Employees use disposable tissues when coughing or sneezing and then immediately wash hands.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Employees appear in good health.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Hand sinks are unobstructed, operational, and clean.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Hand sinks are stocked with soap, disposable towels, and water.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• A hand washing reminder sign is posted.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Employee washrooms are operational and clean.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Employees do not smoke on any part of the premises		<input type="checkbox"/> <input type="checkbox"/>	

FOOD PROCESSING	Yes	No	Corrective Action
• All produce stored or prepared in facility is from approved sources.	<input type="checkbox"/>	<input type="checkbox"/>	
• Food equipment utensils, and food contact surfaces are properly washed, rinsed, and sanitized before every use.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Procedures are in place to prevent cross-contamination.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Produce is handled with suitable utensils, such as single use gloves.	<input type="checkbox"/>	<input type="checkbox"/>	



- Clean reusable towels are used only for sanitizing equipment and surfaces and not for drying hands, utensils, or floor. ☐ Yes ☐ No _____

FINISHED PRODUCT STORAGE AREA

Action

Yes No Corrective

- Temperatures of storage area is between 15°-18 ° ☐ Yes ☐ No _____
- All cartons are stored 6 to 8 inches off the floor. ☐ Yes ☐ No _____
- The FIFO (First In, First Out) method of inventory management is Used. ☐ Yes ☐ No _____

CLEANING AND SANITIZING

Action

Yes No Corrective

- Water is clean and free of grease and food particles. ☐ Yes ☐ No _____
- If using a chemical sanitizer, it is mixed correctly. ☐ Yes ☐ No _____
- Processing tools and utensils are allowed to air dry. ☐ Yes ☐ No _____
- Napkins are cleaned and sanitized after use. ☐ Yes ☐ No _____
- All food surfaces are clean. ☐ Yes ☐ No _____
- Chemicals are clearly labeled and stored in designated areas. ☐ Yes ☐ No _____
- There is a regular cleaning schedule for all food surfaces. ☐ Yes ☐ No _____
- Floors are cleaned daily ☐ Yes ☐ No _____

UTENSILS AND EQUIPMENT

Action

Yes No Corrective

- All small equipment and utensils, including cutting boards and knives, are cleaned and sanitized between uses and after use. ☐ Yes ☐ No _____
- Small equipment and utensils are washed, sanitized, and air-dried. ☐ Yes ☐ No _____
- Utensils are clean. ☐ Yes ☐ No _____
- Drying trays are clean. ☐ Yes ☐ No _____
- Trolleys are cleaned daily ☐ Yes ☐ No _____
- Clean utensils are handled in a manner to prevent contamination of areas that will be in direct contact with food or a person's mouth. ☐ Yes ☐ No _____

LARGE EQUIPMENT

Action

Yes No Corrective

- Dryers are clean. ☐ Yes ☐ No _____



- Processing tables are clean. ☐ ☐ _____

GARBAGE STORAGE AND DISPOSAL

Yes No Corrective

Action

- Indoor garbage cans are cleaned and sanitized daily. ☐ ☐ _____
- Garbage bins are emptied as necessary. ☐ ☐ _____
- Boxes and containers are removed from site. ☐ ☐ _____

PEST CONTROL

Yes No Corrective

Action

- Outside doors monitored to ensure pests and rodents do not enter. ☐ ☐
-
- No evidence of pests is present. ☐ ☐ _____
 - There is a regular schedule of pest control by a licensed pest control Operator. ☐ ☐ _____



Chapter two PROCESSING

Figure 1 CHANGE INTO FACTORY WARE (CLEAN UNIFORM, HEAD COVER, FACTORY SANDALS AND APRON)



Figure 2 SORTING: FRUITS SHOULD BE INSPECTED AND SORTED (OVER RIPPED, RIPPED, ROTTEN, BRUISED)



Figure 3 BRUISED, ROTTEN AND CUT FRUITS SHOULD BE DISCARDED



Figure 4 UNRIPPED FRUITS SHOULD BE LEFT IN STORAGE



Figure 5 RIPED FRUITS SHOULD BE WEIGHED AND RECORDED



Figure 6 STAFF SHOULD WASH HANDS THOROUGHLY WITH ODOURLESS SOAP BEFORE COMMENCING WORK IN THE PROCESS ROOM (WASH FROM ELBOW TO HANDS NOT HANDS ONLY)



Figure 7 1ST FRUIT WASH: STEP 1: ADD MEASURE 50mmp OF CHLORINE TO TAP WATER



Figure 8



Figure 9 WASH FRUIT IN CHLORINE WATER



Figure 10 WASH FRUITS IN CLEAN WITH TAP WATER TO REMOVE CHLORINE RESIDUE



Figure 11 WASHED FRUITS SHOULD BE DROPPED INTO RECEIVING TUBE



Figure 12 WASHED FRUIT RECEIVED IN THE PROCESSING ROOM



Figure 13 PEELING: LIGHTLY PEEL SKIN OFF FRUITS



Figure 14 CUTTING: PEELED FRUITS INTO BIG CHUNKS (MOUTH COVERS SHOULD ALWAYS BE USED IN THE PROCESSING ROOM DO NOT TAKE OFF MOUTH OVER WHILE WORKING)



Figure 15 SLICING/GRATING: CHUNK CUT FRUITS IS SKICED/GRATTED TO GET THE SIZE OF 18MM - 20MM



Figure 16 SLICED /GRATTED FRUIT SHOULD BE SPREAD EVENLY AND SPARSELY ON DRYING TRAYS



Figure 17 ARRANGE TRAYS INTO TROLLEY



Figure 18 GENTLY PUSH THE LOADED TROLLEY IN THE DRYER



Figure 19 CLEAN UP AS PER SOPs (USE 10MLS OF SANITIZER FOR A HALF GALLON OF WATER)



Figure 20 SOPs CLEAN UP 1 (CLEAN TABLES WITH SANITIZERS BEFORE AND AFTER PROCESSING)



Figure 21 SOP CLEAN UP 2 (SANITIZE FLOOR BEFORE AND AFTER PROCESSING)



Figure 22 SOP CLEAN UP 3 (CLEAN AND SANITISE INSTRUMENT/INSTRUMENTS)



Figure 23: PEELED WASTE SHOULD BE WEIGHED AND RECORDED IN PRODUCTION REPORT



Figure 24: AFTER 11 HOURS OF DRYING BETWEEN 65-70 DEGREES, CHECK MOISTURE BY FEELING/TASTING. WHEN IT IS RIGHT REMOVE TROLLEYS FROM OVEN AND POSITION THEM TO A COOLING AREA



Figure 25: DRIED FRUIT IS REMOVED FROM TRAYS INTO BLACK BINS LINED WITH PLASTIC SHEETS AND DRIED WEIGHT RECORDED



Quality assurance

Appearance: Typical yellow to orange colour of mangoes

Oganoleptic: Taste and smell of dried mangoes with no off taste

Moisture: 11% - 14%

Chemical residue: None

Over ripped/under ripped: less than 5%

Discolour/ darken: less than 1%

Foreign matter: None

Total plate count: < 25000/gm

Yeast and mould: <5000/gm

Coliform: < 1MPN/gm

E. coli: negative

Figure 26 PACKAGING AND LABLING, BATCH NUMBER, DATE OF PRODUCTION, BEST BEFORE ETC. INVENTORY UPDATED



Finished product stored in designated storage room (15-20°C)

CHAPTER 3 DOCUMENTATION AND NOTICES

DAILY PRODUCTION SHEET

DATE	FRUIT	SOURCE	VARIETY	BATCH (kg)	FRESH WEIGHT (kg)	WASTE (kg)	UNRIPPENED FRUIT (kg)	Flesh (kg)	Dried fruits (Kg)	Yield %

Prepared by

PACKAGING SHEET

(Mango, pineapple, papaya)

Date	Fruit	Batch # or tag (from production book)	Weight (kg) of dried fruit before packaging	Size of packaging 100g, 50g, 2kg Bulk etc.	Total pieces (Packages)	Dried ends weight (kg)	Total kg# of packages plus dried ends weight.	Authorised signature

NB: Add and record total weight packaged for each specific date

Quality Control Sheet

Production/Processing (Raw Materials)

Date	Fruit	Date of Purchase	Category
			Organic
			conventional

Defects	Yes/No	Verified by	Specification of problem
A. Production			
Crop harvested from non-registered/non-certified farmer/Supplier			
Crop harvested by farmer without the presence of Field Officer/Procurement Officer			
B. Fruit Quality			
Under ripe			
Over ripe			
Unripe (Meets specifications)			
C. Contamination			
Harvesting and handling: organic fruit mixed with non-organic fruit			
Transportation: transported in non-designated truck			
Product stored in crates not designated for organic/conventional produce			
D. Storage of raw material			
Rodent infestation			
Mice			
Ants			
Other			
Temperature out of specs			



Other comments:

QC conducted by:

Signature:

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NOTICES

CERTIFIED

PREMISES

STRICTLY

NO ENTRY

EXCEPT BY PERMISSION

FROM MANAGEMENT

FRESH FRUIT STORAGE AREA

FRESH FRUIT WASHING AREA

STRICTLY OUT OF BOUNDS!

**EXCEPT BY PERMISSION FROM
MANAGEMENT**

Washroom (1)

(Staff)

Keep Door Closed

Washroom (2)

Keep Door Closed

SANITIZE

YOUR

HANDS

WASH YOUR

HANDS

WITH

SOAP

Production Room Rules (Fruit Preparation)

Responsibility: Production Manager

- Put all waste into designated bins.
- Empty bins periodically.
- Clean up any spillages as they occur.
- No jewelry allowed on fingers or hands, no long earrings
- Keep fingernails cut short.
- No smoking or eating allowed.
- Wear uniform, overall/apron, head scarf, nose guard and boots/designated foot wear at all times.
- Cover all cuts, burns and sores with a clean, waterproof dressing. Do not handle product if you have sores, boils, septic spots, a bad cold, sore throat or a stomach upset. Report any of these to the manager.
- Wash hands and wrists thoroughly with soap after using the toilet, eating, coughing, blowing your nose, combing your hair, handling waste, rubbish or cleaning chemicals. Dry them on a clean towel before handling food again.
- Do not wear perfume or nail varnish as these can contaminate products.
- Do not cough or sneeze over food (product).
- Keep food (product) covered wherever possible.
- Keep all food, tools and equipment off the floor.
- Report any signs of insects or rodents to the manager.



- Visitors are not allowed to enter the premises except by permission from management.

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Management

Finished Product Storage

Responsibility: Production Manager

- Products should be stored off the floor in the storage room
- Staff entering storage room should wear protective clothing: (boots/rubber sandals & headgear)
- Check storage room daily and ensure protection against insects and rodents maintained.
- Keep storage room door and windows shut when not in use.
- Ensure correct ventilation is maintained
- Closely monitor duration of product in storage and record any anomalies.
- Always ensure that First In/First out (FIFO) system of stock control is used.
- Every product in/out of the storeroom should be correctly documented (*use stock control sheets*)