

**ESWATINI NATIONAL STANDARD**

**Local Good Agricultural Practices (GAP) for  
Horticultural crops- requirements**

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The Information Officer  
Eswatini Standards Authority  
P.O. Box 1399, Matsapha  
Tel. + 268 2518 4633  
Fax: + 268 2518 4526  
E-mail: [info@swasa.co.sz](mailto:info@swasa.co.sz)  
Website: [www.swasa.co.sz](http://www.swasa.co.sz)

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### Table of changes

| Clause Changed | Date | Change |
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### NATIONAL FOREWORD

This Eswatini national Public review draft Standard was prepared by Technical Committee *SWASA/TC 43 Agriculture produce* in accordance with procedures of the Eswatini Standards Authority, in compliance with Annex 3 of the WTO/TBT Agreement.

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## Introduction

The concept of Good Agricultural Practices (GAP) has evolved in recent years in the context of a rapidly changing and globalising food economy and as a result of the concerns and commitments of a wide range of stakeholders about food production and security, food safety and quality, and the environmental sustainability of agriculture. The stakeholders include Government, food processing, retailing industries, farmers and consumers, who seek to meet specific objectives of food safety, food security, food quality, production efficiency, livelihoods and environmental benefits in both the medium and long term goals.

According to the Food and Agriculture Organisation (FAO), GAP is the application of available knowledge to addressing environmental, economic and social sustainability for on-farm production and post-production processes resulting in safe, quality and nutritious products. Some farmers in Eswatini have implemented GAP through sustainable agricultural methods such as integrated pest management, integrated nutrient management and climate smart agriculture, however majority of the farmers are struggling to meet basic food safety and quality requirements.

Presently, GAP is formally recognized internationally for preventing and reducing risks associated with the use of pesticides, taking into account public and occupational health, environmental and food safety considerations. This trend may create incentives for the adoption of GAP by farmers by opening new market opportunities, provided they have the capacity to adhere to the Good agricultural practices.

Considering the importance of GAP, fruits and vegetable farmers should adopt it to minimize the risk of contamination and physical injury, right from pre-planting to post-harvest stage of the horticultural crops.

# Local Good Agricultural Practices (GAP) for Horticultural crops-requirements

## 1. Scope

1.1 This standard addresses Good Agricultural Practices (GAPs) and Good Hygienic Practices (GHPs) to help control microbial, chemical and physical hazards associated within all stages of the production of horticultural crops, from primary production to post-harvest and/or consumption.

Note: For value added horticultural crops other applicable standards will apply e.g. SZNS ISO 22000, HACCP.

1.2 It is applicable to horticultural crop that are grown with or without cover.

1.3 This is an entry-level standard designed to assess good agricultural practices in developing micro, small, and medium horticultural farmers. The standard is a stepping stone to the flagship Integrated Farm Assurance (IFA) standards. The standard is applicable

## 2. Normative references

The following referenced document, in whole or in part, is indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Information on currently valid national and international standards can be obtained from SWASAs Information Centre.

*CXC 53-2003 Code of Hygienic Practice for Fresh Fruits and Vegetables*

*CXG 60-2006 Principles for Traceability/Products tracing as a tool within a Food Inspection and Certification System*

## 3. Terms and definitions

For the purpose of this document, the following definitions apply:

### 3.1 Agricultural inputs

Any farming materials (e.g. seeds, fertilizers, water, agricultural chemicals, plant support, etc.) used for the primary production of horticultural crops.

### 3.2 Bio-pesticide

A pesticide that is manufactured from biological sources

### 3.3 Crop Rotation

The practice of growing different crops in succession on the same land according to pre-defined plan.

### 3.4 Farm

Any premises or establishment in which horticultural crops are grown and harvested.

Note: farm and site will be used interchangeably for the purpose of this document

### **3.5 Good Agricultural Practices**

Practices that address environmental, economic and social sustainability for on-farm processes, and result in safe and quality food agricultural products.

### **3.6 Grower/Farmer**

A person responsible for the management of the primary production of fresh horticultural crops.

### **3.7 Harvester**

A person responsible for the management of the harvesting of fresh horticultural crops.

### **3.8 Herbicide**

Chemical substance used to control weeds

### **3.9 Food safety hazard**

A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect

### **3.10 Inspection**

An examination of all agricultural practices in order to verify compliance to requirements specified in this standard.

### **3.11 Plant protection products (ppp)**

Products used to protect, preserve or influence the growth of desirable plants or to destroy or control the growth of unwanted plants or parts of plants

### **3.12 Pesticide**

Chemical substance used to control pests

### **3.13 Primary production**

Steps involved in the growing and harvesting horticultural crops such as planting, irrigation, application of fertilizers, application of agricultural chemicals, etc.

## **4. Local GAP levels**

### **4.1 Entry level**

The most basic level and has been specifically developed for small-scale producers that only supply local community markets. To better fit the practical capabilities of producers at this level, some of the control points have been simplified and less documentation is required. It covers the most basic food safety and traceability requirements to ensure the building blocks relating to basic food safety principles are established early.

### **4.2 Foundation level**

Level that covers basic food safety and traceability requirements. It is ideal for producers who sell primarily at a local level or are starting the process of supplying retailers toward certification.

### 4.3 Intermediate level

Incorporates stronger food safety criteria, slightly increased requirements on workers' health and safety, more stringent environmental conservation criteria, as well as traceability. This is the highest level of the local gap standard.

## 5. Local GAP requirements

The requirements stated in 5.1 shall be evaluated to establish that grower's conformance with the requirements. On evaluation of non-conformance that may appear in evaluation need to be resolved to establish compliance to the requirements.

Note: assessment criteria against requirements of this standards will be found in PRD/SZNS 081-2:2024 (Local GAP assessment criteria)

### 5.1 Farm history /Site selection

5.1.1 Land or farm for horticultural crops production shall be selected on the basis of land history, previous manure applications and crop rotation.

5.1.2 The field shall be away from animal housing, pastures or barnyards.

5.1.3 Farmers shall make sure that farmland is protected from external hazards.

5.1.4 The grower should have knowledge and understanding on land preservation techniques

### 5.2 Farm Risk Assessment and Mitigation plan

5.2.1 A written risk assessment shall be undertaken to determine whether the sites are appropriate for growing horticultural produce.

5.2.2 Risk assessment shall take into account:

- a) Potential physical , chemical (including allergens ) and biological hazards
- b) Site history (for sites that are new to production , history of 5 years is advised to be considered)
- c) Impact of proposed agricultural production on the environment ,adjacent stock or crops

5.2.3 The farm shall have a management plan that establishes and measures to minimize the risks identified in the assessment for the activities

5.2.4 The management plan shall be appropriate to the farm operations.

5.2.5 There shall be evidence of its implementation and effectiveness.

### 5.3 Workers' health, safety, and welfare

5.3.1 The farm shall put procedures that will safeguard the safety of all workers. Standard operating procedures for all activities shall be documented and communicated with all workers.

5.3.2 All employees shall be trained on the standard operating procedures and evidence of training shall be documented.

5.3.3 All employees working with or handling hazardous substances shall be trained and provided with the appropriate personal protective equipment (PPE) when working with the hazardous substances. Records shall be kept to demonstrate employee competence in handling hazardous substance.

5.3.3 The farm shall have a complete and well maintained first aid kit that is readily available and accessible to everyone in the farm.

Note 1: Class A first aid kits provide a basic range of products to treat common injuries such as small cuts, abrasions, and minor burns. Class A first aid kits are good choices for low-population and low-risk workplaces such as offices

Note 2: Class B first aid kits provide a broader range and larger number of supplies to handle workplace injuries than other kits. Class B first aid kits are the best choice for highly populated, complex, or high-risk workplaces.

Note 3: The type of first aid kits will depend on the type of operational risks likely to be experienced in the farm

5.3.4 All employees, visitors and subcontractors when going to the production site shall be equipped with suitable PPE.

5.3.5 Employees shall be also be trained on actions to be taken for occupational health emergencies

## 5.4 Waste management

5.4.1 The farm shall document all sources of waste within the farm.

5.4.2 The farm shall have a documented waste management plan to avoid and/or minimize waste with adequate disposal means.

Note :

**The waste management plan should be in conformance with the Waste regulation of 2000, regulation 31**  
**Example**

| Source of waste | Type of waste | Quantity generated | Method of disposal | Date |
|-----------------|---------------|--------------------|--------------------|------|
|                 |               |                    |                    |      |
|                 |               |                    |                    |      |
|                 |               |                    |                    |      |

5.4.3 The farm shall be clean with no evidence of waste/litter.

5.4.4 Waste shall be kept in designated areas with appropriate waste receptacles.

5.4.5 All organic waste free from pests, diseases, and weed carry over should be composted and used for soil conditioning.

## 5.5 Water Management

5.5.1 A documented risk assessment shall be done to identify relevant food safety and environmental impacts of on farm water use.

5.5.2 The farmer shall assess the way water is used (quantity) and identify activities that could result in the inefficient and wasteful for more efficient water use.

5.5.3 Farm water sources and distribution shall be described to identify potential sources and opportunities for contamination

5.5.4 The risk assessment shall be updated annually and be farm specific

5.5.5 The water used in the farm shall be tested at least annually (once in 12 months).

## **5.6 Soil and water analysis**

5.6.1 The farm shall have documented evidence of the soil profile or soil analysis for the farm.

5.6.2 The soil analysis shall indicate if the soil is optimum to the selected crop with reference to its water holding capacity and fertility.

5.6.3 Irrigation water used shall be tested at least annually and be free from heavy metals and pesticides residues

## **5.7 Propagation material**

5.7.1 All purchased propagation material (seed, rootstocks, seedlings, plantlets, cuttings) shall be accompanied by information of chemical treatments done by the supplier

5.7.2 All Plant protection products (PPP) treatments shall be recorded for in-house nursery propagation materials applied during the plant propagation period

5.7.3 Producer shall show evidence of implementing at least 1 activity per registered crop that include the adoption of production practices that could reduce the incidence and intensity of pest attacks, and thereby reducing the need for intervention.

## **5.8 Pest and Disease Control**

5.8.1 To prevent and/or suppress harmful organisms, the farm shall have a documented, effective and environmentally sensitive approach to pest and disease management.

Note: Prevention of harmful organisms should be achieved or supported among other options especially by considering the following :

- a) crop rotation,
- b) use of adequate cultivation techniques,
- c) use, where appropriate, of resistant/tolerant cultivars and standard/certified seed and planting material,
- d) preventing the spreading of harmful organisms by hygiene measures (e.g. by regular cleansing of machinery and equipment),
- e) use of balanced fertilisation, liming and irrigation/drainage practices
- f) Integrated Pest Management (IPM)

5.8.2 The harvested produce shall be free from any visible pest activity and disease

5.8.3 In situations where a pest attack will adversely affect the economic value of a crop, specific pest control method including plant protection products (PPP) can be used to intervene. The correct use, handling and storage of PPP is essential.

5.8.4 All PPP application record shall specify the crop, variety treated, area reference, exact date and time of application, the product name including the active ingredient.

5.8.5 All post-harvest fungicides, waxes and PPPs used on post harvested crops are officially registered or permitted the relevant authority. They are approved for use on the harvested crop.

## **5.9 Fertilizer Application**

5.9.1 The farm shall keep records of all fertilizer applications

5.9.2 The records shall indicate the exact dates (day, month, and year) of the application

5.9.3 The records shall indicate the trade name, type of fertilizer (e.g. NPK) and concentrations (17-17-17)

Note: Organic fertilizers used by farmers shall be tested and analyzed for suitability

5.9.4 The records shall indicate the amount of fertilizer applied in weight or volume units, the name of the operator who applied the fertilizer.

5.9.5 The number of plants or unit per volume shall be indicated.

5.9.6 The method of application and equipment used shall be recorded. If there are various equipment's used they should be identified.

Note1: Methods may be irrigation or mechanical distribution

Note 2: Equipment may be manual or mechanical

5.9.7 The farm shall have a designated area for the storage of fertilizer. It shall be stored in a manner that prevent or reduces the risk of contamination to the environment. The storage area shall be visible with applicable signs.

5.9.8 No treated or untreated human sewage sludge can be used on the farm

## **5.10 Food safety**

5.10.1 There shall be documented pre and post-harvest hygiene instructions including product handling and storage designed to prevent contamination available in the farm.

5.10.2 The farm shall have a designated eating, smoking area away from crops awaiting harvest or storage

5.10.3 During harvesting workers shall have access to clean, running water and food grade approved soap.

5.10.4. Workers shall wash their hands prior and after work

5.10.5 Harvesting equipment and containers shall be appropriate for their intended use, cleaned and well maintained to protect the produce from contamination.

5.10.6 All harvested produce shall be stored in a manner that prevents contamination and product quality deterioration.

5.10.7 All chemicals, lubricant shall be stored in a designated area away from harvested produce.

5.10.8 All chemicals that come into contact with the produce shall food grade approved. Documentation (material safety data sheet) shall be documented.

5.10.9 Withdrawal period of organic & inorganic substance shall be observed to ensure food safety is not compromised.

5.10.10 There shall be evidence that workers have received specific training on hygiene, food safety, and appropriate handling practices of produce to minimize contamination.

5.10.11 Vehicles used for loading and transporting of harvested produce shall be clean and maintained to prevent contamination.

5.10.12 After harvesting produce shall be cleaned and packaged in a manners that allows for air circulation.

5.10.13 The farmer shall use clean, appropriate containers for storage after harvesting

## **5.11 Hygiene**

5.11.1 The farm shall have procedures in place addressing the hazards and risks of the farm processes

5.11.2 The farm shall have hygiene instructions visibly displayed of or workers and visitors

5.11.3 The hygiene instructions shall include at least the following:

- a) Hand washing
- b) Covering of skin cuts
- c) Smoking , eating in designated areas only
- d) Use of personal protective equipment

5.11.4 Toilets shall made available and be within a reasonable proximity to the place of work. Toilets shall be appropriately cleaned and maintained.

5.11.5 All persons working in the farm shall be trained on hygiene requirements appropriate to the activities at planned interval. Evidence of training shall be documented and be available on site when needed.

5.11.6 All employees handling produce shall be medically fit and shall undergo medical checkup biannually as outlined in national legislation.

## **5.12 Post harvesting**

5.12.1 All produce after harvesting shall be stored in clean containers away from direct sunlight

5.12.2 During transportation from the farm all produce should be adequately covered with suitable material to preserve quality and prevent contamination of product.

5.12.3 Workers should be trained on post-harvest handling procedure to safe guard quality and safety of produce after harvest.

## **5.13 Food Defense**

5.13.1 There shall be a risk assessment for food defense to identify food defense risks

Procedures should be in place to address the identified risks available in the farm.

5.14.2 The farm shall have a Food safety policy declaration completed and signed, reviewed at scheduled intervals.

#### **5.14 Traceability**

5.14.1 The farm shall have a documented identification and traceability system that allows products to be traced back to the production site and field.

5.14.2 All harvesting information shall link product batch to the production records

5.14.3 The traceability system should tested on planned intervals.

#### **5.15 Complaints handling**

5.15.1 There shall be a documented process for an effective and efficient complaints-handling process in order to increase customer loyalty and satisfaction, and also to improve the quality of the products and services provided.

#### **5.16 Recall / Withdrawal procedure**

5.16.1 There shall be a documented procedure to manage and initiate withdrawal / recall of non-conforming products

5.16.2 The recall/ withdrawal procedure shall be tested at least annually to ensure effectiveness.

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