



HAND HELD GUIDE ON GOOD AGRICULTURAL AND BASIC HYGIENE REQUIREMENTS FOR APPLE FARMS



This guide addresses the best practices in case of apple production based on international best practices. The document was technically lead by UNIDO with the participation of relevant public and private sector stakeholders in the apple value chain from Balochistan and Pakistan.

This GAP guide is the result of the activities from the Project in agri-food and agro-industry development assistance (PAFAID) initiative for Balochistan funded by the Government of Japan through the Japan International Cooperation Agency (JICA).

PAFAID



INTRODUCTION

Globalization, increased competition for accessing markets and greater consumer awareness is inducing farmers to produce safe and healthy food using sound production methods.

The Apple Value Chain (AVC) Actors in Balochistan (Kalat, Killa Saifullah, Killa Abdullah, Pishin, and Quetta) need to improve their market competitiveness by improving the quality and safety of their products including value addition. This in turn can contribute to better marketability, higher profit, increased productivity and easier access to high-end markets. To reach this overall objective, a series of interventions are initiated as part of a UNIDO called Project for agri-food and agri-industry development assistance (PAFAID) in Pakistan funded by the Government of Japan and the Japan International Cooperation Agency (JICA). Developing basic requirements on Good Agricultural Practices for the Apple Value Chain is one of the key outputs of this project thus allowing the compliant sourcing of apple products.

This booklet contains basic requirements on Good Agricultural Practices to improve the production- and post-harvest practices on apple farms; and at the same improve the quality and safety of this crop. Meeting these requirements are essential to fulfill the needs of local buyers and also advance towards compliance with international markets. This guide will also help new farmers, planning to establish an apple orchard or those who are in the apple production for a while but need to have knowledge on international best practices.

APPLE PRODUCER'S LIST OF BASIC REQUIREMENTS

FERTILIZER STORAGE & APPLICATION

APPLICATION OF FERTILIZERS

1. Fertilizer equipment is well maintained
2. Keep records¹ of all fertilizer application. Record the following:

- Field/plot code
- Application date
- Brand or product name
- fertilizer type (for example NPK 15-15-15)
- Amount of fertilizer applied (weight or volume)²
- Method of application³
- Name of person who applied the fertilizer



STORAGE OF FERTILIZERS



1. Proof of chemical composition of the fertilizer is present on farm
2. Fertilizer Storage facility clearly indicated
3. Fertilizer Storage not with Plant Protection Products (PPP)
4. Fertilizer Storage is done separately from harvest containers and apples
5. Fertilizer Storage is done in a clean and covered area
6. Solid fertilizers are not stored directly on the ground
7. Liquid fertilizers are stored in drip trays
8. Accident procedure present at fertilizer storage facility

¹ See document A1, page 12

² Relative to a unit of area of land or to a number of apple-trees, or to a unit of time per volume of fertilization or fertigation

³ In case the method/equipment used is always the same; it is acceptable to record these details, only once. If different sets of equipment are used, these shall be recorded separately.

PLANT PROTECTION PRODUCT STORAGE

APPLICATION OF PLANT PROTECTION PRODUCTS

1. Keep records¹ of all plant protection product application. Record the following:

- Application Date
- Brand or Product name
- Active ingredient
- Target pest
- Field/plot code #
- Dosage PPP
- Total amount applied
- Type of equipment used².
- Weather conditions at time of application
- Re-entry interval
- Pre-harvest interval
- Name of operator



STORAGE OF PLANT PROTECTION PRODUCTS (PPP)

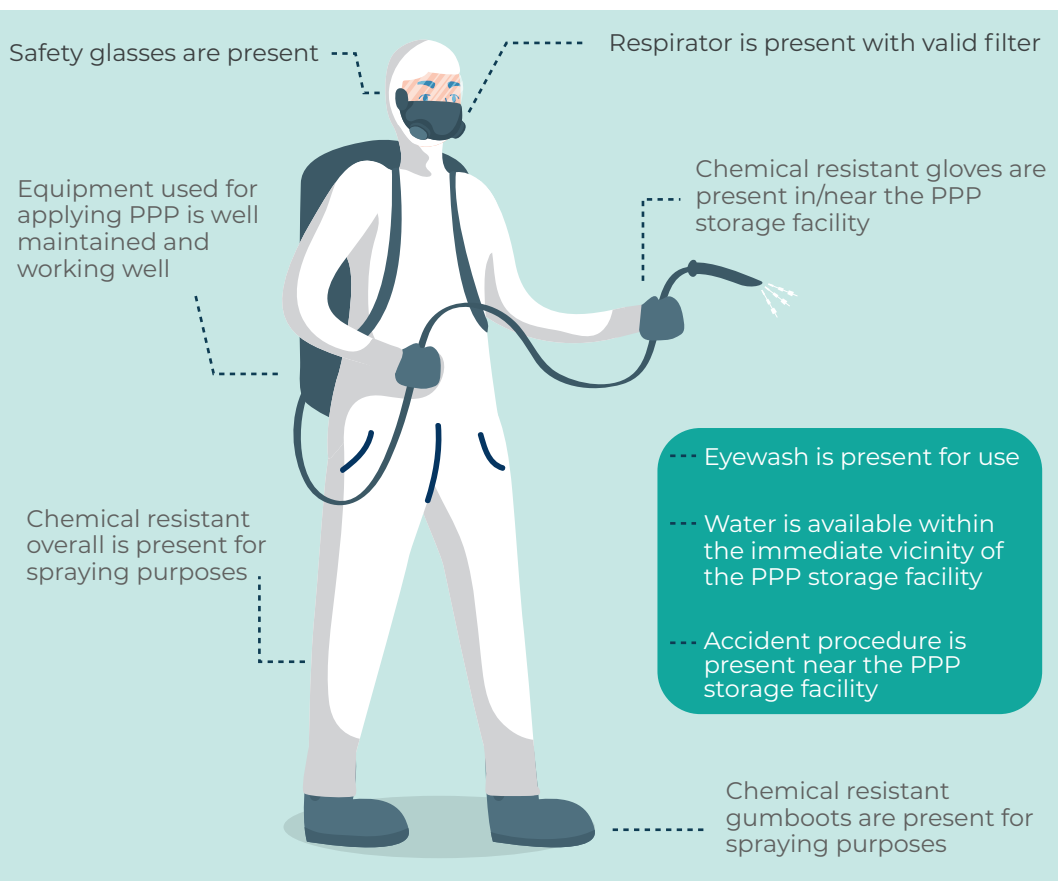
1. Danger sign present on PPP storage facility
2. Be securely closed to prevent unauthorized entry
3. PPP storage facility is temperature resistant (frost free)
4. PPP storage facility is well lit
5. PPP storage facility is well ventilated
6. PPP storage facility is in an area separated from other materials

¹ See document A2, page 13

² In case the equipment used is always the same; it is acceptable to record these details, only once. If different sets of equipment are used, these shall be recorded separately.

7. Shelves of the storage facility are made of non-absorbent material
8. Drip trays have been placed in the storage facility
9. A bucket with an absorber (e.g. sand, sawdust) is placed near the storage facility
10. Dustpan and broom with plastic bag have been placed near the PPP storage facility
11. Powders (solids) are stored above the liquids
12. List of permitted PPPs is present in/ near PPP storage facility.
13. No expired PPPs are present in the PPP storage facility
14. Well-functioning scale is present in/near the PPP storage facility
15. Well-functioning measuring cup is present in/near the PPP storage facility

PERSONAL PROTECTIVE EQUIPMENT (PPE) AND PROVISIONS FOR ACCIDENTS



HARVEST AND POST-HARVEST MANAGEMENT

GENERAL HYGIENE

1. Hygiene rules have been placed in such a way that they are clearly visible for everyone
2. Hygiene rules are available in the language of the workers or pictograms are used
3. Workers have received basic instructions on hygiene in relation to fresh apples and have signed for having received these instructions
4. Workers have been informed that they need to notify management if they have a food-borne infection.
5. The farm premises are clean and free of non-product-bound materials



HARVESTING



1. The harvesting tools are well maintained and clean
2. The harvesting tools are stored in a fixed place/area
3. Keep records of all harvests¹. Record the following:

- Harvest date
- Quantity of apples by weight
- Field/plot code
- Name of person who harvested



WASHING AFTER HARVEST -(IF APPLICABLE)

1. Water that comes into contact with apples is potable water.

¹ see document A3, page 14

INTERNAL TRANSPORTATION



1. Available means of transportation are clean and well maintained
2. Harvest containers, transportation trolleys, etc. (including interior surfaces) are clean and well maintained
3. Engines run as short as possible in areas where apples are present

PEST CONTROL



1. Adequate pest control measures are taken in all permanent packaging and storage facilities
2. At least monthly checks are carried out for pest feeding in the bait boxes



MAINTENANCE

1. Where lubricants can come into contact with apples, only lubricants that are suitable for the food industry are used

PACKAGING

1. If packing and storage take place in the field, apples shall not be stored in the field overnight in the open air.
2. Packing area is clean and well ventilated
3. Lot number appears on packaging
4. Producer's trademark, contact number, number of apples, weight, origin and variety name appears on packaging.

Export to / Packed for Company Name, contact number and address		LOGO	
Lot Number		64041	
PHC (Packaging Harvesting Code) 12345			
Product name and country of Origin: APPLES PAKISTAN		Packed / exported by: Packers Company	
Color: RED / GREEN	Class: AA		
Size Weight: 10 x 1Kg			
Numbers of Boxes per pallet: 75	Storage Temp: 5 C	Q.C.	
Number of apples: 12345	Contact Number		

PACKAGING MATERIAL



1. Final packaging material is stored in such a way that contamination is prevented
2. Packaging material is clean
3. Packaging material is only used for packaging of apples

PACKAGING FACILITY -(IF APPLICABLE)



1. Floors and ceilings do not have excessive cracks or leaks and are easy to clean
2. Broken or cracked windows are not present
3. Equipment that comes into contact with apples is well maintained and clean
4. Doors and windows are well maintained and clean
5. Animals and pets are not allowed on farm premises
6. The hygiene rules are complied with in all areas where apples are present
7. Smoking is not allowed in all areas where apples are present
8. Apples cannot come into contact with harmful substances
9. Shatterproof or appropriately protected light bulbs and fixtures are used in packaging facilities of apples and storage facilities of apples and packaging material
10. Toilets/washrooms are clean and well maintained
11. Doors of toilets/ washrooms do not open directly into the changing or packing facility
12. There are facilities for washing hands present near the toilets/washrooms
13. Signs have been placed in such a way that the obligation to wash hands after

using the toilet/washroom is clearly visible for everyone

14. The sink for washing hands has running water
15. Liquid soap is present for hand washing
16. Hygienic drying facilities are available for drying the hands after hand washing

CLEANING

1. A cleaning/ maintenance schedule is present for all farm facilities, including storage facilities for packaging material
2. Records are kept of the cleaning activities carried out

WASTE MANAGEMENT

1. Waste does not come into contact with apples
2. Waste is separated as much as possible
3. Waste bins are emptied daily
4. Waste bins are closed

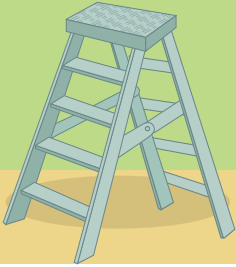


WORKERS' HEALTH, SAFETY AND WELFARE

1. First aid kit near by the;
 - harvest location
 - apples handling location
 - Plant Protection Products (PPP) storage facility
 - Fertilizer storage facility



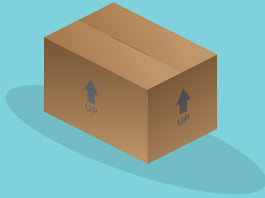
GAP BASIC TOOLS



PICKING LADDER



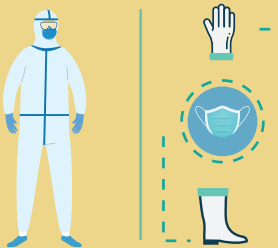
PICKING BASKET



MODERN PACKAGING MATERIAL



APPLE PRUNING/TRIMMING TOOLS



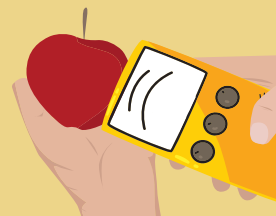
PPE KIT
(Detail on next page)



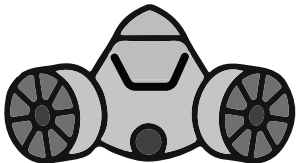
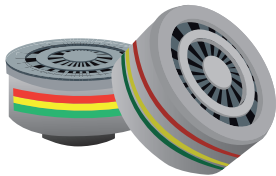

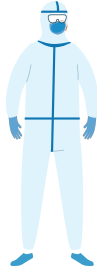



A FIRST AID KIT






NOTEBOOK WITH OTHER STATIONARY



DA METER RECORDING MATURITY IN APPLES.

PROTECTION MASKS (A1P2 - ABEK)	<p>Protection masks protect against organic gasses, pesticide solvents, inorganic vapours and gasses, sulphur dioxide and ammonia.</p>	
CARTRIDGE/FILTER	<p>The replacement filter ABEK is used for protection against type A, B, E,K toxics gases.</p> <p>Filter should be compatible with protection masks</p>	
PROTECTIVE GOGGLES OR SHIELD)	<p>Vents are designed to help protect against liquids entering the eye area Helps protect eyes from certain airborne particulates and chemical splash Chemical-resistant headband</p>	
COVERALLS PROTECTION	<p>Chemical resistant coveralls for spraying pesticides.</p>	 
CHEMICAL RESISTANT GLOVES	<p>Nitrile - good protection for both dry and liquid pesticides. Moderately permeable. Butyl - good protection for both dry and liquid pesticides. Neoprene -good protection for both dry and liquid pesticides, not recommended for fumigants.</p>	 

<h2>CHEMICAL RESISTANT BOOTS</h2>	<p>Chemical-resistant boots provide a barrier against oil, water, contaminants and harsh chemicals. They are made of chemically resistant materials such as neoprene, PVC (polyvinyl chloride) and rubber.</p>	
<h2>CHEMICAL DRIP SPILL TRAY</h2>	<p>It enables safer pesticide handling on the farm. Perfect for other chemicals and oil containers too.</p>	
<h2>EYEWASH STATION</h2>	<p>Push the activation lever on the eyewash station. The lever will be clearly marked and operable with a single easy motion. Once activated, the eyewash station will continue to discharge water for a minimum of 15 minutes, meaning that it can be operated hands-free.</p>	

FERTILIZER RECORD FORM

CROP:

DOCUMENT #.: A1
PAGE #.: 1

FARM NAME:

To keep track of all fertilizer applications. Update this form after each fertilizer application and maintain it in your records.

[illegible]

¹For example, NPK 15-15-15

²Weight or volume, relative to a unit of area of land or to a number of apple trees; or to a unit of time per volume of fertilization or fertigation

