

# 6 BROCHURE

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## SAFE USE OF PESTICIDES

- AGRICULTURAL PRODUCTION AND PROCESSING -

### STORING PLANT PROTECTION PRODUCTS SAFELY



The COLEACP distributes this brochure to producers and exporters of fruit and vegetables in the ACP (Africa, Caribbean, Pacific) countries. The instructions illustrated in the following pages are aimed at producers who would like to set up and manage a storage area for their plant protection products.

It lists the main recommendations for the location of the storeroom, its design, its interior layout and the management of the products which will be stored in it. It is important to store plant protection products correctly, so as to avoid contaminating humans or animals and polluting the environment.

Brochures on other subjects are also available from the COLEACP (<http://www.coleacp.org/>).

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# Introduction

Storing a certain quantity of plant protection products is often necessary, but it entails risks that must not be underestimated: a risk of exposure to toxic fumes that escape into the atmosphere, a risk of fire with the presence of inflammable products when they contain solvents, and a risk of theft in the event of a break-in.

This is why, when designing a storeroom and managing a stock of toxic products, certain precise rules must be followed, imposed by regulations or by private voluntary standards, with a view to reducing these risks.

The producer must never store plant protection products in living areas.

The producer is responsible for managing the storage area and stock and for ensuring the safety of the individuals who work with these products. In particular, the producer must ensure that the products are handled properly when they enter the storeroom, when they leave it, when they are measured out and during their application; in other words from the start to the time the application and protection equipment are cleaned.

A regular inventory must be made of the quantities of products stored (type, quantities, state of the packaging) and staff should note when products enter and leave the storeroom (it is generally obligatory to keep a register).

The storeroom must be used exclusively for storing plant protection products and treated seeds, excluding any other products (fertilizer, compost, paints, oils, fuels, etc.). The following are not allowed in the storage area: application equipment, personal protection equipment (particularly cartridge masks), normal clothes and work clothes. Only empty and properly rinsed product containers or out-of-date products and toxic waste may be stored temporarily in the storeroom before they are disposed of.

# List of messages and instructions for safe storage of plant protection products

## HAVE A STORAGE ROOM THAT IS SUITABLE FOR THE PLANNED QUANTITIES

1. The size of the room should be adapted to the producer's storage capacity (a cupboard may be sufficient).
2. Follow three principles: protect products from water, from theft and from damage.

## WHEN BUILDING A STORAGE ROOM, CERTAIN RULES SHOULD BE FOLLOWED

1. Construct a building with blocks, mudbricks, other types of bricks or wood, preferably with a sheet metal roof, in order to ensure it is watertight and will not leak and that the stock is protected.
2. Ensure a minimum height of 2 m, good airing, ventilation and protection against rain and direct sunlight.
3. Inside the room, have a smooth floor that is impermeable to liquid products and water.
4. Build a raised threshold of 30 cm to prevent toxic liquids accidentally spilt inside the room from flowing out.
5. Have a solid door that can be locked and that opens outwards.
6. Add a metal plate at least 50 cm high to the bottom of wooden doors to keep rodents from entering.

## ENSURING PEOPLE'S SAFETY

1. Prohibit access to the storeroom or cupboard by unauthorised individuals.
2. Add pictograms (skull and crossbones) on the door to indicate the hazard.
3. Set up a changing room to avoid mixing normal clothes and work clothes.
4. Provide a water supply or water tank close to the room, so that users can wash their hands immediately after handling the products and application equipment.

## ORGANISING THE INSIDE OF THE ROOM

1. Place the products on shelves with sides to keep the boxes and sachets from falling if the shelves are accidentally shaken.
2. Limit the shelf storage height to 2m in order to facilitate access.
3. Store powdered products, granules and treated seeds on the top shelves, place liquid products on the bottom shelves or on the floor.
4. Sort the products according to their type: insecticides, herbicides, fungicides, etc.
5. Store the measuring instruments on a separate shelf.
6. Have a sufficient quantity of absorbent materials (earth, sand, cloths) to clean up any product spills or leaks.

## MANAGING THE STOCK, THE ROOM AND THE SURROUNDING AREA

1. Refuse out-of-date products, products with no original packaging or without a label.
2. Store products in their packaging, with labels.
3. Group together empty or damaged packaging with a view to destroying it.
4. Do not store personal protection equipment in the room.
5. Keep the inside of the room and the surrounding area clean and clear to prevent fires.

## Have a suitable storage room

### TO STORE LARGE QUANTITIES OF PESTICIDES

- Build a room in durable material, with good cover to protect against the rain (metal sheeting).
- Prevent break-in or theft (bars, padlocks), without limiting the ventilation required in the storeroom.
- Post safety pictograms to indicate the hazard.
- Keep a fire extinguisher and a water supply ready outside.



### TO STORE LIMITED QUANTITIES OF PESTICIDES

- Build a room in solid material, (wood, mudbrick), with a good covering (metal sheeting).
- Avoid water leaks when it rains.
- Provide good ventilation.
- Dig a pit around the storeroom to hold excess water in the event of a storm.



### TO STORE SMALL QUANTITIES OF PESTICIDES

- Use a metal cupboard, or if this is not possible, a converted metal barrel fitted with a lock or padlock.
- Keep the cupboard locked, in a clean, dry room separate from living quarters.

Place pictograms on the cupboard and warnings to indicate the hazard.



## Preparing a room suitable for storage

### THE BUILDING OR ROOM MUST BE PROTECTED AGAINST WATER (RAIN, LEAKING, FLOODING)

- Locate the storeroom in a dry area (well drained) with no major flooding risk.
- Build a watertight rim around the walls, or dig a pit to facilitate the flow of water from the roof and around the building.
- Build a raised threshold.

The roof and ground must be sufficiently sloped to facilitate the flow of rainwater.



### THE BUILDING OR ROOM MUST BE WELL VENTILATED

- The building or room must have opposite openings in order to facilitate wind circulation.
- Avoid toxic and inflammable vapours build up in the storeroom.

Good ventilation will guarantee people's safety and improve the shelf life of the stored products.



### THE FLOORING MUST BE IMPERMEABLE TO LIQUIDS

- Provide flooring that is smooth and impermeable to liquids, in order to prevent the products from leaking and to facilitate cleaning in the event of an accidental spill.
- Raise the door thresholds so that the storeroom floor will retain the liquids.
- Always keep the floors clean, without dust.

Dust can absorb and retain traces of toxic product. Dust must regularly be removed from floors, walls and shelves.



## Ensuring people's safety

### PROHIBIT ACCESS TO THE STOREROOM BY ANY UNAUTHORISED INDIVIDUALS

- Keep the door (to the room or the cupboard) locked at all times.
- Keep a register to take note of all the people who enter the storeroom.

The storeroom design must include an office for the stock manager that is separate from the storage room. This limits the time during which the storeroom worker is exposed to the products.



### DO NOT MIX NORMAL CLOTHES AND WORK CLOTHES

- Provide a changing room with separate areas for normal clothes and work clothes worn during treatments.
- Do not wear your own clothes when applying treatments.
- Do not store personal protection equipment (work clothes, masks, gloves, boots) in the storage room.



### PROVIDE CLEAN WATER FOR THE APPLICATORS AND STOREROOM WORKERS

- Allow workers to rinse their hands and the equipment immediately after handling.
- If there are no showers for staff, provide a water tank near the room.

If users can wash their hands immediately after handling the products, this limits the amount of time they are in contact with the products.

Rinse your skin with clean water before using soap.

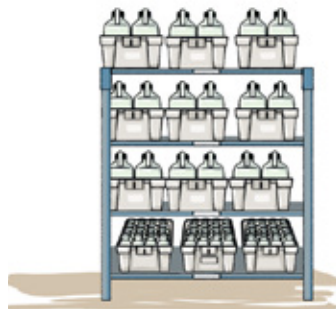


## Organising the storage room

### KEEP PRODUCTS ON SHELVES, PREFERABLY METAL SHELVES

- Do not store products any higher than 2 m, so that they can be accessed easily.
- Separate the products according to their type: the insecticides, herbicides, fungicides, etc.

We recommend keeping products on shelves with sides to hold the boxes and sachets of products in case the shelves are accidentally shaken.



### FOR SMALL QUANTITIES, CONVERT EMPTY METAL BARRELS TO SERVE AS CUPBOARDS.

- Close the cupboard or barrel with a padlock.
- Place the powders and granules at the top and the liquids at the bottom.

This will ensure that the liquid products will not mix with the powders and granules if there is a leak.



### KEEP ABSORBENT MATERIALS INSIDE THE ROOM (SAND OR SAWDUST)

- Quickly limit leaks or the dispersal of toxic dust.
- Spread the absorbent material over the liquid (in the event of a leak) or on the dust before sweeping.
- Keep the leaking packaging and the contaminated absorbent material in a watertight bucket or basin.

This prevents the dispersal of toxic products outside the room and makes it easier to clean the floor if the packaging should leak.



## Keeping the room clean

### PURCHASE PRODUCTS THAT ARE WELL PACKAGED AND LABELLED, WITHOUT LEAKS

- Only purchase authorised and recommended products.
- Refuse pesticides without labels, that are not in their original packaging or with an expired sell-by date.
- Use the oldest products in stock first before starting new ones.

The products should be stored in their original packaging and their label must be kept intact.



### KEEP THE MEASURING INSTRUMENTS AND THE EMPTY PACKAGING IN THE ROOM

- The measuring instruments must be carefully rinsed and cleaned. They should be arranged on a shelf that is separate from the products.
- Group together all the empty or damaged packaging separately inside the room with a view to destroying it.

The spray mixture should never be prepared in the storage room.



### THE INSIDE AND OUTSIDE OF THE ROOM MUST REMAIN CLEAN AND CLEAR

- The room must be kept tidy.
- Empty contaminated packaging must be placed in bags.
- Surrounding areas must remain free from dry grass to prevent fires.

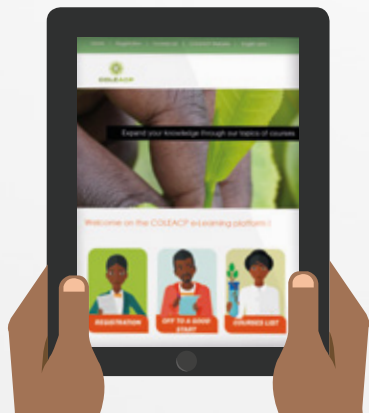
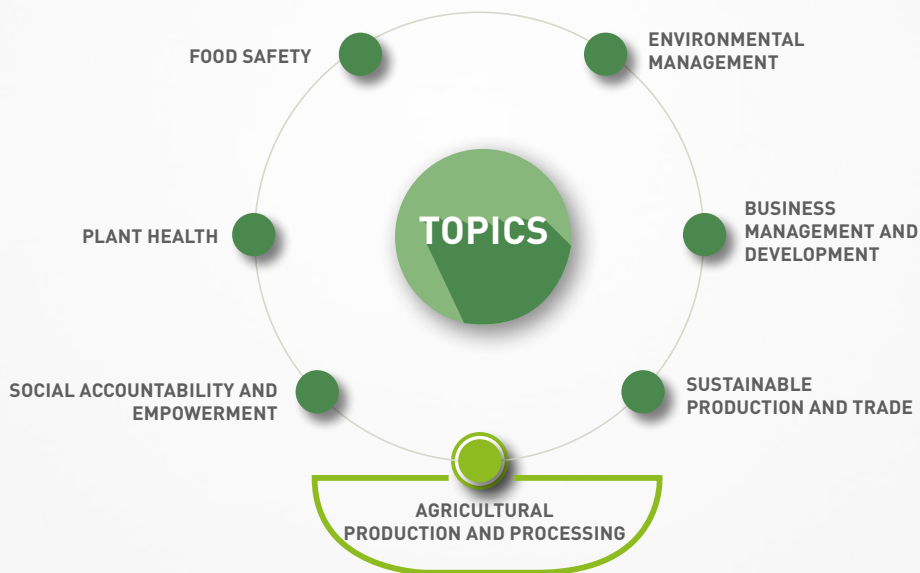
Keeping the premises clean is the first way to prevent accidents.



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