

Tank Capacity	Number of Weevil Tablets
3 bags	1
5 bags	2
10 bags	4
15 bags	5
20 bags	7
30 bags	10
40 bags	14

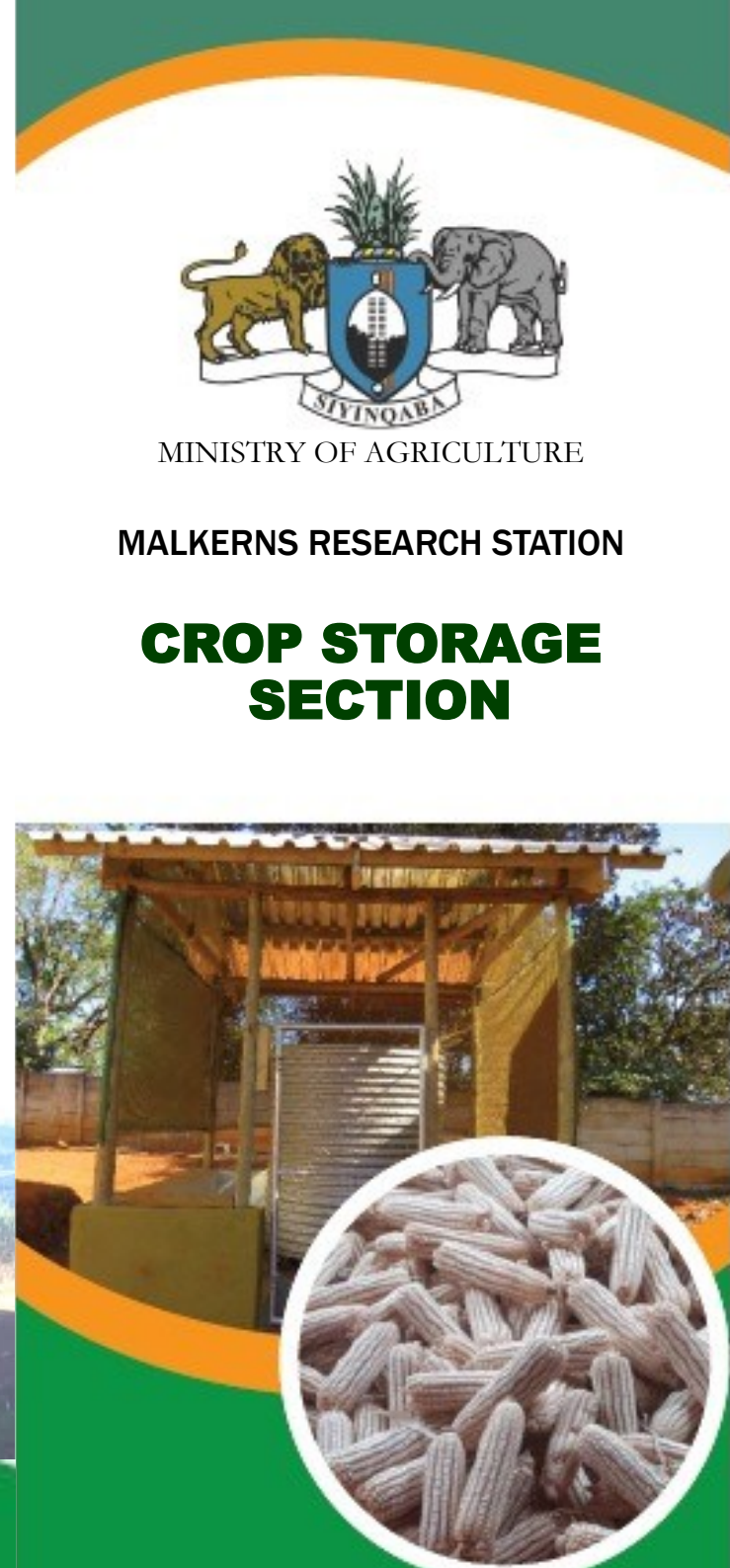
MINISTRY OF AGRICULTURE
MALKERNS RESEARCH STATION
CROP STORAGE SECTION

The National Advisory Office On:

- **IMPROVED STORAGE FOR DURABLE FOOD GRAINS & PULSES.**
- **CONTROL OF STORAGE PESTS.**
- **ANALYSIS OF MICOTOXINS ON FOOD AND ANIMAL FEED.**



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CROP STORAGE SECTION

Crop storage section is mandated to create awareness within the farming community on the magnitude of post-harvest losses and provide technical assistance for containing these losses.

It is sad and disappointing to know that by the end of the year many households will be without grain maize and yet many of them will have got plenty or enough stock to take them through the coming year. The cause for grain shortage will be **poor grain storage practices** which many farmers are still practicing.

STOCK PILING

At this time of the year everyone, particularly household heads are making sure that their families have enough grain until the next harvest. It is for this reason that the section would like to advise them on the best methods of storing grain maize so that not only does their families **continue to have enough grain maize** but also that the stored **grain is of good quality**.

SHELLED GRAIN

Grain that has been shelled will normally be a mixture of the following:

- Whole or undamaged grain
- Moldy/ partly moldy grain
- Bored grain by insects or rodent
- Broken grain
- Foreign matter

SORTING

The above mixture of grain cannot be stored well for a long time. It is therefore important to sort it and have only sound or undamaged grain for storage. Damaged grain is easily infested with pests and does facilitate grain rot.

INSECT CONTROL

Whether one uses bags, grain tank or any other container, it is important that grain insects are controlled effectively. These grain insects are: weevils and moths.

METHODS

There are many methods used by farmers to control grain insects. The use of chemical is one method common in Eswatini. These chemicals are:

- Dust insecticide
- Fumigants

DUST INSECTICIDES

Farmers who want to store their grain in bags or in containers which are not gas tight or airtight when closed, must use any of the recommended dust chemicals available from agricultural dealer shops. An example of dust insecticide is **LIHAWU**.

APPLICATION PROCEDURE

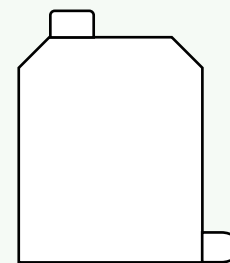
After shelling and sorting your grain, ascertain the quality you want to store in terms of bags. Purchase the amount of dust chemical needed. Using your shovel, mix the dust with your grain as recommended on the packet.

If old jute sacks are used for storing grain or for marketing of grain, make sure that before use, they are submerged in boiling water for about 5 minutes so as to kill any hibernating insects and their eggs. Dry the bags thoroughly before use.

FUMIGANTS

Fumigation is like steaming; the fumigated space or tank in our case should be airtight when covered so that the air will be completely covered with the fumigate. The air inside should be saturated with the fumigant thus should not allow air in or out while fumigating.

Grain tank illustration



1. Metal grain silo



2. airtight small container

TYPES OF FUMIGATES

Fumigants are available in one formulations:

- Phostoxin tablet

HOW TO APPLY FUMIGANTS

It is important to know the volume of your grain tank. The volume will determine the amount of grain bags you are going to fill your take with. The gas released by the fumigants has to diffuse and cover the whole space of the container, once the tank is filled with grain cover the grain with a newspaper and in a small container or lid place your weevil tablets and place them on top of the paper inside the silo and close tightly for 2 weeks.