

# KEYHOLE GARDENING



A keyhole garden plot is small and round, with a keyhole-like cutout that facilitates access to the centre of the garden. It has an inner basket, an outer wall and several layers of soil and rich organic material. The enriched soil makes it both more productive year round and more water efficient.

## Materials needed:



Stones: large and small, but not smaller than a fist.

Aloe leaves, tree branches, plant leaves, grass, cardboard, cans, thatching grass

Soil: 10 to 20 wheelbarrows	Manure: 10 to 20 wheelbarrows	Wood /dung ash (do not use coal ash): 3 to 4 wheelbarrows

## How to construct a keyhole garden plot



1) Measure a 2m x 2m space where the keyhole garden plot will be situated.



2) Using a 1m string, make a circle with the string attached to a stick.



3) Weave or make a mat and form a cylindrical basket to be filled with thatching grass, woven mats and any material that is porous e.g. cotton sacks used for grain storages, stones, reeds, maize, sorghum, wheat stalks and porous clay pots. The basket will go in the centre of the circle before filling.



4) Loosen the soil within the circle and place stones around the edge of the circle.



5) Place the basket in the centre of the circle made earlier and hold it in place with 3 or 4 sticks. Fill the basket with organic matter as indicated under "Maintenance of a keyhole garden plot."



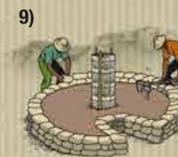
6) Place aloe leaves, pieces of tree branches, tins and cardboard to make the first layer.



7) Add a layer of soil on top of this layer followed by grass or dry leaves and a thin layer of ash.



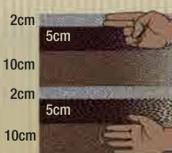
8) Add soil on top of ash and add a thick layer of manure.



9) Build layers of stone in the wall as the layers of soil/manure are added inside the circle.



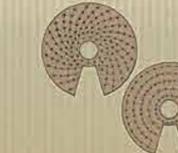
10) Layers of soil, manure and ash are added to reach a height of about 1m.



Layers of soil should be 10cm (6 fingers width); manure should be 5cm and ash should be 2.5cm thick.



Add a top layer of soil mixed with manure or compost. This should slope away from the central basket to ensure proper drainage.



Vegetables should be planted in rows of 50cm apart. A minimum of 4 plant varieties should be planted to prevent pests (root plants – carrot or beetroot – next to leafy plants – spinach, etc.). Plant vegetables in rings around the basket or in curves away from the basket like in the drawing above.

## HOMESTEAD GARDENING FOR FOOD SECURITY IN LESOTHO

Homestead gardening consists of growing vegetables, limited field crops and fruit trees in various garden beds around the homestead. Techniques such as keyhole gardening and trench gardening allow us to improve the quality and quantity of the food produced in our homes.

# GROW FOOD AT HOME

## Garden frost protection

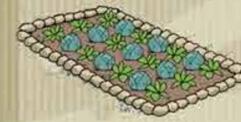


Covering very tender crops with light plant matter such as grass and maize leaves will protect against freezing conditions as soil holds heat better than air and at night the plant matter traps this heat in the garden. This also provides protection against the cooling and drying effects of wind on crops.

Placing sticks into the soil with a fabric cover, such as hessian sacking, can offer some protection against frost. Plastic covers should be avoided as water condenses on the underside of the cover and can freeze, potentially damaging crops.

Mulching can be done between plant rows to conserve moisture and provide protection to plants by preventing soil from freezing. Water plants in the afternoon, as moist soil holds more heat than dry soil.

# TRENCH GARDENING



A trench garden plot is similar to a keyhole garden plot in relation to materials used and benefits derived from it. It improves soil fertility of the garden by addition of compost and manure but the layers of each are thinner than in keyhole gardens.

## Materials needed:

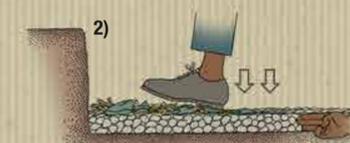


Stones, thatching grass, aloe leaves, tree branches, plant leaves, grass, manure, compost.

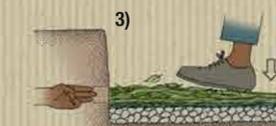
## How to construct a trench garden plot



1) Dig soil to a depth of about 30cm (1 spade head length) and put the soil aside.



2) Fill the bottom of the trench first with a 3 finger width (5cm) layer of stones, followed by cut tree branches and/or aloe leaves and compact them.



3) Then add 3 finger high layer of leaves and grass and stamp it down to compact it.



4) Add 15 to 20cm (length of hand) layer of decayed compost or manure – do not stamp this layer down.



5) Fill the rest of the hole with soil and raise above the level of the hole. Lightly cover with plant matter and organic compost to prevent water and nutrient loss.



6) Place stones around the garden border to keep the soil in and prevent soil erosion. If you do not have access to stones, sticks can be used to hold the soil of the trench garden plot in place.

## Maintenance of a keyhole garden plot

The keyhole garden will be productive for approximately 5 years, after which there is loss of nutrients and low productivity. With correct maintenance, a garden can continue producing a good crop of vegetables.



Fertility of the keyhole garden plot can be maintained by regularly adding manure, eggshells, uncooked vegetable scraps and compost through the keyhole basket. Addition of manure and compost should be done once the manure is not visible on the top layer of the garden.

The central basket decays in about 2 years if made of organic material. Once the central basket has decayed, the garden wall can be pulled down next to the basket. The decayed basket can be replaced with a new one and the decomposed material can be incorporated into the keyhole garden plot.

The keyhole garden wall needs to be regularly repaired as plant roots and rain cause the soil to shift inside the garden.

The leafy and root vegetables in the keyhole are harvested once ready and new sowings are done. Care has to be taken to ensure intercropping and inclusion of companion crops. More information about this can be found on Poster 2.

Thinning of germinated crops and regular weeding has to be done to reduce competition for nutrients and moisture. Mulching can be done between plant rows to further conserve moisture.



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