**Crop Production V: (Vegetables)**

**Introduction**

A vegetable is any crop that is grown and eaten fresh.

Vegetables are important both for nutritional and commercial reasons. They are categorized on the basis of the part used as food.

Such parts include;

* Leaves,
* Stems,
* Roots,
* Fruits,
* Flowers,
* Pods
* Bulbs.

***Vegetables are grouped into the following categories:***

***Leaf vegetables*** for example kales and cabbages.

***Root vegetables*** for example carrots, beets, radishes and turnips. ***Fruit vegetables*** for example French beans and okra.

***Stem vegetables*** for example asparagus, leeks and spring onions. ***Bulb vegetables*** for example bulbed onions and garlic.

***Tomatoes (Lycopersicon esculentum)***

Tomatoes are fruit vegetables widely grown in Kenya.

The ripe fruit may be eaten raw cooked or processed to make tomato sauces, juices and pastes.

***Ecological Requirements***

Altitude: 0-2100m above sea level.

Rainfall: 7S0-1300mm per annum.

Soils: deep, fertile and well drained.

***Varieties***

***Fresh market varieties***:

* Money maker,
* Marglobe, hundred fold,
* Beef eater,
* Hot set,
* Super marmande
* Ponderosa.

***Processing varieties***:

* Kenya beauty,
* San -marzano,

 Roma,

* Heinz 13S0,
* Primabel,
* Rutgers hybrid
* **Cal- J.**

***Nursery Practices***

Choose a site which has not been grown ***Solanaceae*** crop in the last three years.

Nursery beds are raised about 15cm above the ground level.

Make drills of 20cm apart and 1cm deep drill and cover the seeds.

Provide shade or mulch material.

Water twice a day.

Apply phosphatic fertilizers during planting.

***Seedbed Preparation***

The land should be dug deeply to control weeds.

***Transplanting***

Seedlings are ready for transplanting when they are 10-15cmhigh after about one month.

Holes are made at a spacing of 60cm x 90cm. Apply 20gm of DSP in the planting hole. Transplant with a ball of soil around the roots.

Apply mulch around each seedling.

Transplanting is normally in the evening or on a cloudy day.

***Field Maintenance***

Early control of weeds is necessary.

Top dressing is done after crop establishes.

Pruning and staking are done to train the plants to grow vertically.

***Pests Controls***

 ***American Bollworm***

* ***Nature of damage****:*boring holes on the fruits.
* ***Control:*** spraying insecticides.

 ***Tobacco White Fly***

* ***Nature of damage****:*suck plant sap from the underside of the leaf, hence maytransmit viral diseases.
* ***Control:*** Destroy infected plant and spray insecticides.

***Disease Control***

 ***Late Blight***

* ***Cause:*** Fungus
* ***Symptoms:*** dry patches on the leaves and fruits.
* ***Control:*** use of fungicides, crop rotation and destruction of affected materials.

 ***Blossom-end Rot***

***Caused by;***

* Too much nitrogen in early stages.
* Irregular or infrequent watering.
* Calcium deficiency.
* ***Control:*** Apply calcium ammonium nitrate and correction of the above problems.

***Harvesting***

For canning, fruits should be fully ripe.

For fresh market, fruits should be partially ripe and packed in crates to avoid damage.

The fruits should be graded according to;

* Size,
* Colour,
* Ripeness
* Freedom from blemishes.