# YAM
# (Discorea) Spp

- It is the most valuable crop in the tropics.
- West Africa is one of the largest yam producing region in the world.
- Nigeria is the largest producer of yam in the world.
- Most o the yam produced in Nigeria is from the small holder farmland.

# Cultivars

- The cultivated varieties of yam in Nigeria are:
- Discorea  cayensis (Yellow yam)
- Discorea esculenta  (Chineese yam)
- Discorea bubilfera (bubil or potato yam)
- Discorea rotundata (White yam)
- Discorea alata (water yam)

# Areas of yam production

- The major yam producing areas are  in Nigeria include:
- Middle belt- Benue, kabba, Ilorin,eastern part of Nigeria, Owerri, Onitsha, Port harcourt,Umuahia and delta area of south western part  of ondo, benin,oyo,ibadan.

# Ecology

- Discorea spp are essential tropical  plants.
- Growth is restricted to areas with temprature of about 20 degree centigrade and they generally require  temperature of 25-30$^{o}$c  for normal growth and optimum yield.

- Yam thrives best when supply with moisture throughout  the growth cycle(7-9 months) from planting to harvest.

# Ecology contd

- If yam is to be grown where the dry season is more than 3-4 months , supplementary irrigation must be provided.
- Well distributed annual rainfall of over 150cm is required.
- High soil fertility is required for good growth and yield of yam.
- Virgin soils rich in organic matter are good for yam production.

# Ecology contd

- Loamy soil with low cation exchange capacity and clay soils which tends to become water logged are not suitable for yam production. They also make harvesting difficult.
- Stony or gravelly soil should be avoided in yam production since tuber development in such soil is hindered.
- Soil for yam production must be well drained to prevent yam rot.

# Light

- Light plays an important role in yam production.
- Day length plays an important role in tuber formation and tuber growth.
- High light intensity is required during active growth stage.
- It is not a shade loving plant so plant produces extremely small tuber due to poor exposure of foliage to light reception.

# Planting date

- Early planting is done in November  while the soil is still moist.
- Late planting is done in February to April’
- For good yam production planting at high stand density can be carried out in May.

# Land preparation

- Land clearing for yam cultivation in traditional agriculture is done essentially with hand tools.

- In such instances, clearing is selectively done and several uprights slender trees are deliberately left standing to serve as stake.

# Seedbed preparation and planting materials.

- Tuber requires a friable soil for  good growth without hindrance
- On the basis of tillage, four general methods of planting exist:
- Planting on moulds
- Ridges
- Holes
- Flats

# Contd

- Yam is propagated by means of the tuber which may be planted whole or divided into small pieces called setts weighing between 150-300g.
- Tops with buds are better than bottoms
- It is better to plant whole tubers and early maturing tops separated from bottoms and middle which sprouts late.

# Contd

- Germination starts 30-60 days after planting depending on the rainfall regime.
- Germination takes a longer period when bottoms or middle are planted.

1. CROP MANAGEMENT

- Mulching covering yam setts on mould or ridges with grass or leaves is essential in the dry months.
- Mulching reduces soil temperature and conserves soil moisture hence providing optimum condition for growth.

# Staking

- When the yam vines are about 1m tall, they should be provided with stakes which prevent contact of the growing region with soil to prevent damage to the growing point.
- Damage to the growing point brings about reduction on the growth of yam.
- It should be done a month after emergence.

# Weed control

- Weeding  is the major operation after staking
- Weeding should be carefully done to prevent damage  to yam root.
- Chemical weed control can also be done using pre emergence herbicide followed by supplementary weeding eight week after emergence

# Fertilizer

- Compound fertilizer should be applied at the rate of 125-250kg/ha
- Organic manures is also beneficial.
- It is advisable to apply fertilizer one month after emergence.
- Harvesting
- Early crop matures at the end July and main crop from month of October to January.

# Harvesting

- There are two types of harvesting;
- In the first type of harvesting, each crop is harvested twice.
- Single harvesting.-harvesting is done once on each crop.
- STORAGE
- Barn storage
- Platform storage
- Underfront storage

# Problems of yam production

- Planting materials are bulky
- Production operations are labour intensive
- In-storage shelf life is short.
- Pests
- The following pests are associated with yam
- Yam bettles, nematodes, cricket, partridge rodents etc

# Diseases

- Yam mosaic caused  by virus
- Tuber rot caused by fungus