

## Harvesting

- Harvest maize when the cobs are dry.
- Harvest pigeonpea when pods are dry.



## Post-harvest

- Shell the maize on a clean surface like a cement floor or on a clean tarpaulin.
- Dry the shelled maize.
- Thresh pigeonpea on a clean surface.
- Winnow the grain and remove dirt. Dry the grain.
- Apply storage insecticides like *Actellic Super* to maize and pigeonpea grain.
- Place grain in clean bags or drums. Bags should be placed on wooden pallets in a clean, dry, well-ventilated area.

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Working in partnership to create down-to-earth messages on integrated soil fertility management

# Improve yields and income

## intercrop maize and pigeonpea



Northern Zone Agricultural Research and Development Institute



Pigeonpea is a cash crop in Tanzania. It improves soil fertility and is a good source of protein. It can be grown alone or with other crops like maize, sorghum, sweet potato and cassava.

Intercropping maize with pigeonpea, and applying phosphorus fertilizer to both crops at planting, can improve yields and double income.

### Seed selection

| Maturity period | Days to maturity | Pigeonpea  | Yield (100 kg bags per acre) |
|-----------------|------------------|--|------------------------------|
| Medium duration | 140-180          | Tumia, ICEAP 00554, ICEAP 00557                          | 8-10                         |
| Long duration   | 180-270          | Mali, ICEAP 00053, ICEAP 00932, ICEAP 00936, ICEAP 576-1 | 10-12                        |

Choose maize varieties recommended for intercropping with pigeonpea in your area

### Land preparation

- Plough crop residues into the soil immediately after harvesting using a tractor or oxen.
- Do a second ploughing one month before the rainy season.
- Harrow before planting to provide good seed bed.

### Planting

- Plant the two crops at the same time - immediately after the first rains.
- Mark rows at 60 cm.
- Make 5 cm deep planting holes spaced at 50 cm along the rows.



- Apply phosphorus fertilizer in planting holes (see table below), cover with 2 cm soil. If using manure apply 2 handfuls in hole (4-6 tons/acre), mix with fertilizer and soil.
- Plant one row of maize followed by one row of pigeonpea.
- Place 2-3 seeds (4-5 kg pigeonpea per acre and 8-10 kg maize per acre) per hole and cover with soil.

### First fertilizer application rates at planting

| Type of phosphorus fertilizer      | No. of 50 kg bags per hectare | No. of 50 kg bags per acre | No. of level soda bottle tops per hole |
|------------------------------------|-------------------------------|----------------------------|--|
| Minjingu Mazao                     | 5                             | 2                          | 1½                                     |
| Minjingu Phosphate Rock (granular) | 3                             | 1¼                         | 1                                      |
| Di-ammonium phosphate (DAP)        | 2                             | ¾                          | ½                                      |

### NOTE:

- You get better yields by using farm yard manure together with phosphorus fertilizer than using manure or fertilizer alone.
- Do not let fertilizer to come into contact with the seed. If this happens, the seed will be burned and may not grow.

### Weeding and applying top dressing fertilizer

- Do the first weeding 2 weeks after emergence.
- If necessary, thin to 2 plants per hole.
- Do the second weeding 5-6 weeks after emergence.
- Apply urea fertilizer 5-6 weeks after emergence. Apply 1½ level soda bottle top around each maize hill (1 x 50 kg bag per acre). Remember to cover the urea with soil immediately after application.

### Control of pests and diseases in pigeonpea

- Plant pigeonpea that is resistant to *Fusarium wilt*.
- Uproot and burn any plants with *Fusarium wilt*.
- If disease problems persist, rotate crops. For example, in year 1 grow maize and pigeonpea in one field. In year 2, plant sunflower or cassava in the field.
- Pests normally attack pigeonpea leaves, flowers and pods. If affected, seek advice on if, when and how to use insecticides.
  - Spray your pigeonpea at flowering with an insecticide like *Karate* to minimise damage from insects like aphids, pod borers, sucking beetles.

Remember - using the correct spacing will also help to control pests and diseases.