



## Maize

If undelivered please return to the Mediae Company, P.O. Box 215- 00502, Karen, Kenya.

### Growing maize as a business

Maize is a major cereal grown and staple food in Uganda. It can be planted in most parts of Uganda, except in the most arid areas. Some varieties do not do well in the highlands. Maize stalks can be given to animals as fodder.

Before you start a business, find out if your soil is good for maize, and which variety will grow best. To find out if maize will grow well on your farm, you will need to do a soil test. A soil test will tell you the right type and amount of fertilizer to use on your farm. You will save money, and get a bigger and better crop.

Then you can look for a market and do a budget. This will tell you whether your business might work.

### Ecological requirements

Maize grows well under the following conditions:

<b>Altitude</b>	Maize can grow in almost any altitude with a range of 100-2900m
<b>Temperature</b>	Warm temperatures between 15-30°C
<b>Rainfall</b>	400-1200mm. The rainfall should be evenly distributed during the growing period. For higher yields, the crop should receive enough rain during the first 5 weeks after sowing and at flowering time.
<b>Soil</b>	Well-drained light loam or alluvial soil with a pH of 5.5-7.0. It does not tolerate waterlogged soils.

## Can you afford to start a maize business? Do you need a loan?

If you do not have enough money to cover the start-up expenses of your business, you may need to borrow money. Talk to banks and SACCOs. Some loans you can pay back using your mobile phone. Remember that loans are not free. You will have to pay back your loan with **interest**.

### Site selection

- Maize can be grown on most Ugandan soils but does best on soils that are well drained.
- Don't select a site in swampy areas that is water logged or that has sandy soils.
- Maize needs soil that has good levels of organic matter and nutrients. Manure and other residues are very good for maize.



### Choosing a variety for your area

Choose the right certified maize variety that does well in your area. Certified seeds:

- Give high yields of good quality. 99% of seeds will germinate
- Grow fast and at the same rate
- Are tolerant or resistant to some diseases e.g. Maize Streak Virus (MSV), Leaf Rust and Grey Leaf Spot.

Variety	Yield (kg/acre)	Maturity period (days)	Where it can be grown
Longe 4	1600-2400	100	All areas except highlands
Longe 5 (Nalongo) (QPM Maize)	1600-2400	115	All areas except highlands
Salongo (QPM hybrid)	2800-3200	120	All areas except highlands
Longo 6H	3200-3600	120	All areas except highlands
Longo 2H	3200-3600	125	All areas except highlands and arid areas like Karamoja region

## Preparing your land

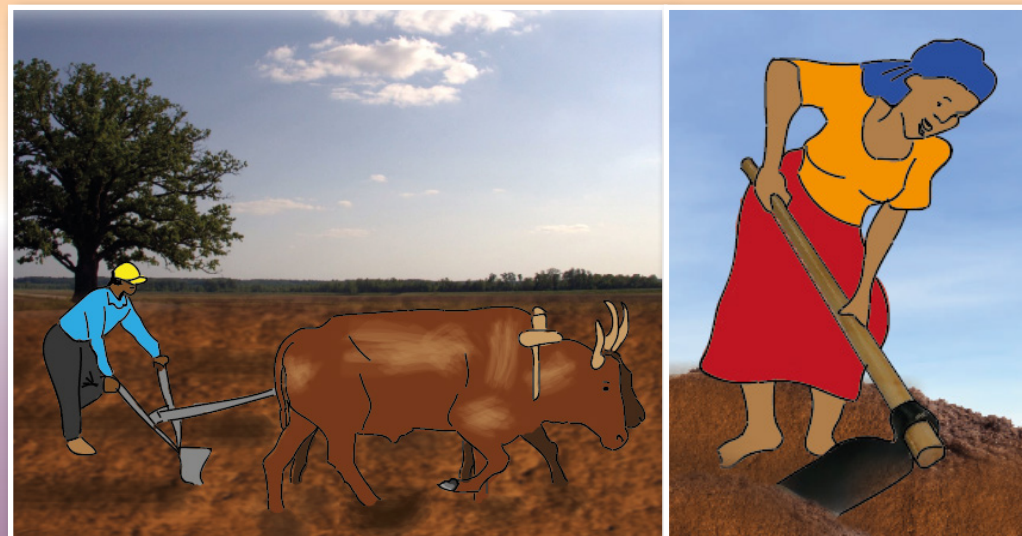
Generally, there are two rainy seasons in Uganda.

The first season rains are expected from mid-February/March to June, and second rains appear in mid-August to December.

Rainy seasons have changed a lot over the last years due to climate change. It is not easy any more to tell when rain is expected.

- Prepare the land early before the rains begins. This will help with early planting and to help you make use of rain water. Dig the soil to a medium tilth for good and uniform germination and for proper root development.

- Remove all weeds.



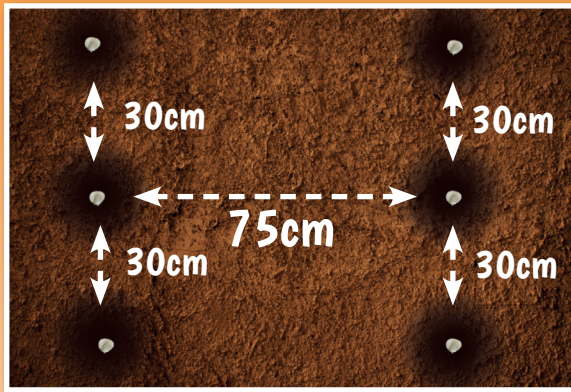
*Preparing land using a hand hoe or animal traction*

### Germination Test

If you are not sure about the quality of your seed, you can do a germination test before planting. Soak 10 seeds on a wet cloth and keep in the shade for 4 - 7 days. Count germinated seeds. If less than 7, discard all and opt for better seeds.

## Planting maize

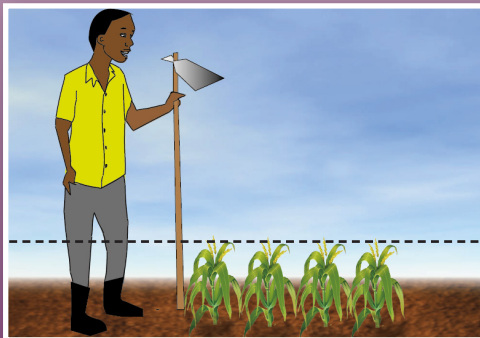
- Plant in rows. Space seeds 75cm between lines and 30cm between plants.



- Add 1 bottle-top of DAP and a handful of well-rotted manure to each hole. Mix well with the soil.
- Place 1 maize seed per hole. Cover with a light layer of soil.
- Maize seed should be planted according to how moist the soil is. If the soil is moist, plant 5cm deep. If planting before the rains, when the soil is dry, plant 5-10cm deep.

## Managing your maize

- **Thin the crop** at knee height (6 weeks after planting). Pull out the weaker, unhealthy or excess maize plants. It gives space for healthy maize to grow. You can use the pulled plants to feed your animals.
- **Weeds** compete with maize for water, nutrients and space. Weed your maize after 6 – 8 weeks using a hoe. Weed again every 4 weeks.
- **Topdress** with **CAN** when the crop is knee high. This will add nitrogen to your soil and stop your crop from turning yellow. Add 1 bottle-top of CAN in a 15 cm ring around each plant. Topdress again when the maize starts to tassle.



## Pests and Diseases



**Maize Stem Borer (Stalk Borer)** eat the growing point of a maize plant which kills it. They also damage forming grains in the cob.

Start looking for signs of damage when the plants are 2 - 4 weeks old. If you see holes in the emerging leaves, put a pyrethroid based insecticide in the funnel to control the borers.



**Cutworms** are greasy-looking, greyish caterpillars which cut the crop at the ground level and also feed on the leaves.

Apply pyrethroid sprays in bands over the rows.



**Maize Lethal Necrotic Disease (MLND)** is caused by 2 viruses. On their own, these viruses are not bad. When your maize gets both viruses, it will get MLND and die. Signs of MLND include drying leaves, rapid yellowing of leaves, no tasselling, abnormal or no ears and rotting cobs.

There is no treatment for MLND. If you notice any signs, uproot the affected plants and burn them in an area away from the field. Do not grow maize in the same field for the next 2 seasons.



## Harvesting your maize

- Depending on the variety, maize takes 2.5 - 6 months to mature.
- Harvest your maize on time to protect it from pests such as birds, termites, cob rot, weevils and loss of quality and quantity.
- During harvesting, sort rotten and insect-infested cobs.



1. Dry your maize on the cob for 2-3 weeks.
2. Shell the maize with a **maize sheller**.
3. Dry again for 2-3 weeks.
4. Test to see if the maize is dry. Bite a grain. It will make a cracking sound if it is dry. **If maize is not completely dry, it can become poisonous to humans and can make you sick.**

### Why use a sheller for shelling maize?

Some farmers beat their maize with sticks to shell it. This can damage the maize seeds. Weevils can easily attack broken seeds. You will have less breakages if you use a **hand sheller**.

A moisture meter will give you an exact reading. The moisture content should be 13-14%.

Always use a moisture meter if you can get one. It is the best way to find out if your maize is dry enough for storage.

## Store harvest in PICS bags

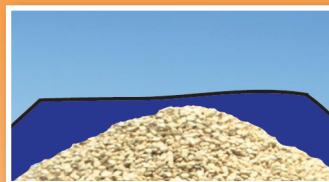
When market prices are low, store your grain in a PICS bag to sell when the price is better.

- A PICS bag can store your maize for up to 5 years.
- You do not need to dust your grain with chemicals. No air can get into the bag so weevils and other pests die.
- PICS bags have 3 layers. 2 layers are plastic and do not let air in. The outer layer is a woven plastic sack.
- Each PICS bag holds 90kg of grain.



Buy PICS bags from your local agrovet

## Using a PICS bag



1. Make sure your grain is dry and clean.



2. Check the 2 inside bags for any holes or tears. Do not use bags with holes and tears.



3. Put the 2 liner bags into the outside bag. Fold over the top.



4. Fill the inside bag with grain. Pack the bag tightly to get rid of air.



5. Twist the top of the bag and fold it over. Tie it firmly with a strong string. Repeat for the middle bag, then tie the outer sack last.



6. Store PICS bags in a cool dark store. Stack them on pallets 5 inches above the floor.

## Sell your maize as a group

Forming a group with farmers nearby has a lot of benefits:


- Sell your grain in bulk. You will have more bargaining power as a group and get a better price. All farmers use the same sized bags. This helps when negotiating prices.
- Survey the price before deciding to sell your maize grain. Only sell if the price can earn you a good profit or store the grain until the price goes up.
- Build a store together. It is cheaper than building your own.
- You will have better access to loans through a bank.
- Share ideas and solve problems together.
- You work with your neighbours, rather than being in competition with them.
- Don't be cheated by middlemen with faulty scales. Weigh grain on UNBS certified scales.


Transport your produce using proper means to avoid loss from spillage and contamination. You are likely to pay less if you transport as a group.

## For more information on Maize

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