8. Pests

Major pests of field maize include stalk borers, termites, cut worms and armyworms. Grain weevils are major storage pests. Stalk borers are widespread and cause considerable damage to maize through larvae feeding on young leaf whorls or funnels subsequently boring into stalks. In severe cases: its central whorl withers and dies resulting in dead hearts. Stalk borers survive in alternate hosts e.g. wild grass, sorghum and millet.

9. Pest control

Control strategies should include enforcement of a closed season at least two months after the last maize crop. A Chemical Sevin 5% (carbaryl) applied at 2-3 weeks after crop emergence is effective. A pinch of the chemical is sufficient for one plant.

10. Diseases

Maize streak disease is caused by a virus transmitted by a leafhopper. The disease is characterized by yellow streaks along the leaf veins and in severe cases the whole leaf appears yellow. The severity of the disease depends on weather conditions and early planting will reduce the severity.

11. Disease control

Control may also be achieved by using resistant varieties like Longe series. All the varieties released by the Cereals program are resistant to maize streak virus. Other diseases include northern leaf blight, rusts and smut. The improved varieties on market have got resistance to these diseases.

For more information contact:

Cereals Programme,
Namulonge Agricultural Research Institute. P.O Box 7084 Kampala
E-Mail: naari@afsat.com

Maize

NARO

MAIZE GROWERS GUIDE



1. Background

Maize is a very important cereal crop produced almost throughout the country. It is valuable as a food and cash crop. The Cereals Research Program based at Namulonge Agricultural and Animal Production Research Institute aims at developing high yielding varieties that are resistant/tolerant to major pests and diseases and providing appropriate maize production technology package to the farmers for increased maize production. In 1991, an open pollinated variety (OPV) Longe 1 was released to farmers followed by single cross hybrids Longe 2H and Longe 3H in 1998. Early maturing Longe 4 and high protein maize Longe 5 (both OPVS') were also released. The open pollinated varieties, Longe 1,4 and 5 have a yield potential of 4-5 tons/ha. In 2002, 3-Way hybrids, Longe 6H, 7H and 8H with yield potential of 7-9 tons/ha were released. Maize seed is distributed by seed companies and at the District Agricultural Offices countrywide.

2. Land preparation

Maize requires a fine seedbed. Ensure that key inputs such as seed are ready and land is prepared before the onset of the rains to allow early planting.

3 Planting

Timely planting is very crucial; it is advantageous to plant after 2-3 good rains. Dry planting is not encouraged unless a farmer is sure of good rain within 3-4 days and the seed should be dressed with a chemical. Using certified seed is advantageous for good returns (for example the Longe varieties). The current plant density is 53,000 plantslhectare at a spacing of 75 x 50 cm leaving two plants per hill or 44,500 plantslhectare at a spacing of 75 x 30 cm leaving one plant per hill if maize is planted as a sole crop. The spacing will be wider when it is intercropped with other crops or when soil fertility and soil moisture are not optimal. Maize should be planted at a depth that will protect the seed against rodents and birds as well as facilitate contact with moist soils for good germination. Planting depth of 2.5-4 cm is acceptable; a depth of 5 cm can be used during dry planting.

4. Weeding

Maize is extremely susceptible to weed competition, which reduces yield considerably. Critical periods for weed control include the first four weeks after crop germination. Striga, couch grass etc. are major weeds. Weed control involves either mechanical (e.g hoeing) or chemical (herbicide) methods. Stomp 500E pre-emergence at the rate of 4L/ha are the currently recommended herbicides. A good crop of maize will need little control after the first 4 weeks.

5. Fertilizer Application

In Uganda soils vary in nutrient content hence requiring different fertilizer levels. It is advisable to apply phosphate fertilizers at planting (basal fertilizer). Nitrogenous fertilizer is used for top dressing. Apply phosphate at the rate of 30 kg P205/ha (60 kg of TSP) by applying 3.3gm (one bottle top cup) in the seed hole at planting and nitrogen at the rate of 70 kg N per hectare at planting and when the crop is at knee high stage.

6. Intercropping

Maize can successfully be intercropped with beans. An inter-row spacing of 75 cm can have one (1) bean row between two maize rows. The beans should be spaced at 15 cm from one hill (hole) to another leaving 2 plants/hill.

7. Harvesting and Storage

Harvest maize when it is getting dry. This can be noticed when the cobs collapse and face downwards. It is better to store maize on cobs in well-ventilated cribs to minimize mould formation. Shelled maize can be stored in bags after being treated with actellic but should not stay in the bags for long before it is sold off.