

GROWING MAIZE THE ORGANIC WAY



Managing your maize crops organically helps maintain soil fertility and water efficiency, helps successfully contain weed, pest and disease pressure and thus encourages yield increases.

According to the International Federation of Organic Agriculture Movements (IFOAM, 2008) organic agriculture is «a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.»

Choosing the appropriate variety

Adaptability to local conditions

Good adaption to the duration of the rainy season

Resistance or tolerance to main pests, diseases and weeds



Good for processing and marketing

Good seed germination

Good yield capacity

Traditional varieties

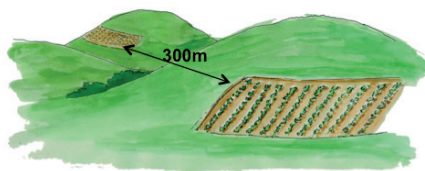
- › Are adapted to local conditions, but often only achieve low yields.

Improved varieties

- › Hybrids achieve the highest yields, but are expensive.
- › Open-pollinated varieties achieve high yields, while allowing own seed multiplication.
- › When selecting variety, consider the length of the rainy seasons. Choose early-maturing varieties for drier areas.
- › Test new varieties on small plots before upscaling.

Successful farm based seed multiplication

1. Select a field, 300m from nearby maize fields



2. Select and plant the preferred variety



3. Select only healthy looking cobs



4. Dry the cobs



5. Thresh and store well



- › Keep a distance of 300m to other maize crops to prevent cross-pollination.
- › Select healthy plants with good sized cobs and well filled seeds.
- › Harvest cobs when they start to dry. Dry cobs further with sheath cover.
- › Take the best seeds which come from the middle of the cob.
- › A germination rate of 85 to 100 % is desirable.

Proper field establishment and crop management



- › Legumes grown as pre-crops fix N and solubilise P in the soil.
- › Improved fallows and incorporation of organic materials enhance soil fertility and soil structure.
- › Plant maize at the start of the rainy season.
- › Retain water with minimal tillage combined with cover crops or mulching.
- › Avoid drought during flowering; consider drip irrigation, if necessary.

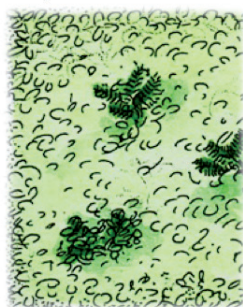
Weed management

1. Crop rotation



Rotating or intercropping legume crops with maize suppresses the multiplication of the striga weed.

2. Improved fallow



Under heavy infestation, it is better to fallow the land for about 2 seasons.

3. Hand weeding



Uproot any growing striga plants before they produce seeds.

Weed management in maize is crucial during the first 4 to 6 weeks after emergence. Later weeding aims at preventing weed seed multiplication.

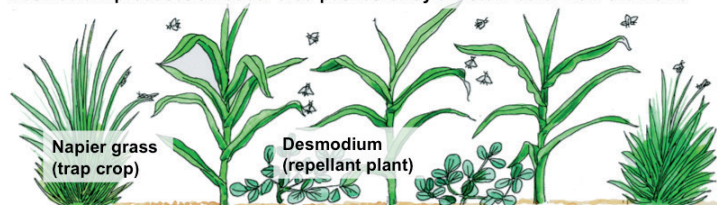
Management of the Striga weed:

- › Grow tolerant maize varieties.
- › Grow legumes in rotation to inhibit post-germination growth of Striga weed.

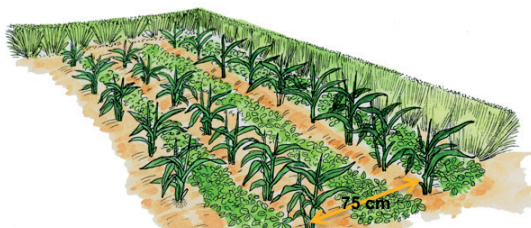
Apply the same methods as with other weeds.

Strategies to manage stem borer infestations

Desmodium produces an odour that 'pushes' away the stem borer from the maize



Napier grass attracts the stem borer to lay eggs that get killed in the sticky sap of the napier grass



- › The push-pull strategy is an effective method to prevent stem borer infestation and contributes to improvement of soil fertility.
- › Additionally encourage natural enemies by planting hedges.
- › Rotate maize with legumes to interrupt the life-cycle of the pest.
- › Use plant botanicals such as neem in case of major infestation.