Maize Production in the North West Province

Mmiddi (Tswana)

Maize is the main staple food of the majority of South Africans and is produced widely on a small scale as well as commercially. The crop can be grown in various soils and weather conditions. Cultivation on marginal crop lands is, however, not recommended.

Uses

- Grain production for cash and for home consumption
- Silage production
- Hay production
- Green mealies
- Sweetcorn, popcorn, etc
- Cobs for use as fuel.

Soil requirements

- Soils deeper than 1 m are suitable for maize production.

Planting

Planting date

The optimum planting date for maize in the North West Province is from the middle to the end of November. There is a greater risk of stemborer damage in the case of early or late plantings.

Keep the growth season of the cultivar in mind when deciding on a planting date, because pollination may be unsatisfactory if the plants flower during times when it is unseasonably hot (as is often the case in the North West Province).

The quantity of soil moisture determines the planting date. (Very low soil temperatures can result in poor stands.)
Cultivar

The following factors should be taken into account in the choice of a suitable cultivar:

- Potential yield
- Tolerance to drought
- Sprouting or prolificacy (multiple cobs)
- Length of growth season
- Lodging/standibility
- Intended use
- Disease resistance.

Consult an expert, a seed merchant or the local cooperative to obtain information on cultivars recommended for a specific area.

Seedbed preparation

A plough or tine implement can be used for primary cultivation. Ploughing is, however, not recommended for sandy soils that are susceptible to erosion.

In the North West Province wind erosion is an important factor which should always be taken into account. In areas where it is a problem, stubble or mulch cultivation is recommended.

The seedbed should be firm and weed free. In cases where wind erosion is a problem, the seedbed should not be too fine.

Fertilisation

Compost or organic matter (manure) should be applied 3 to 4 weeks before planting.

Fertiliser can be applied when the results from soil analyses are known.

The type of fertilisation often depends on the expected yield and the previous crop (in the case of crop rotation).

The optimum pH (KCl) is 5.0 to 5.5. Lime should be applied in the case of soils with a pH (KCl) of below 4.5.

Plant density

A stand of 14 000 to 18 000 plants/ha is recommended for the North West Province (depending on the potential of the area). It should also correspond with the target yield.

Soil type and climate are decisive factors, while cultivar characteristics such as prolificacy and sprouting have an influence on planting density.

The row width will depend on the cultivation practices of the producer.
Planting depth

Planting depth is determined by the moisture status of the soil as well as clay fraction and the soil type. In the North West Province planting depth is usually about 3 to 5 cm.

Planting method

Maize can be planted mechanically or by hand. In the latter case a hand hoe or spade can be used. Do not compact the soil, but firm it down to ensure good soil/seed contact.

Pest control

Weeds

Weeds can lower yield dramatically, especially when the maize plants are small. Consequently, it is important to limit competition from weeds to a minimum. Weeds can be controlled mechanically, chemically or by hand. A combination of these methods can also be used.

In the case of chemical control, particular attention has to be given to the residual period (period during which the remedy is active in the soil) of the herbicides.

If a system of crop rotation is followed the herbicide applied may damage follow-up crops.

Keep in mind that the clay fraction of the soil has an influence on the quantity of the herbicide needed.

Insects

Stalk borers are the main insect pest of maize.

Chemicals can be applied mechanically or manually.

The problem can be minimised by planting at the right time (± 15 November).

Fields should be inspected on a regular basis to spot pests at an early stage.

NB: strictly adhere to the directions on the label!

Harvesting

Maize can be harvested mechanically or by hand. These methods can also be combined.

If harvesting is done by hand, threshing can be either mechanical or by hand.
Marketing

Maize can be sold on formal as well as informal markets. It can be marketed in the form of grain, meal, green mealies, hay or silage.

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