

BASIC AGRONOMY OF COMMON CROPS

1. Maize

Maize is usually grown in summer, winter production is possible under irrigation in low lying frost free areas.

Average planting depth for maize is 50cm and dry planting early in dry soils depth can be as much as 75cm

Hybrid variety characteristics and suitable natural regions

Variety (Maturity Period)	Days to maturity	Suitable Natural Region
Short season	90 to 140 days	lii and iv
Medium season	130 to 146 days	ii and iii
Long season	140 to 170 days	I and ii

General seed rate is 25kg per hectare

Plant spacing is affected by variety type, farm yield potential, water availability, cultural practices, soil type and fertility

Below are plant spacing and population recommendations:

Row spacing	Within-row spacing	Plant population	Natural Region
90cm	25cm	45 000 plants/ha	i and ii
90cm	30cm	37 000 plants/ha	lii and iv
90cm	45cm	25 000 plants/ha	lv and v

50 000 to 65 000 plants/ha and yields of 8 to 10 tonnes/ha are possible in high rainfall areas or with irrigation.

General recommended fertilizer rates according to Natural Region

Fertilizer	Natural Region II	Natural Region III	Natural Region IV
Compound/maize fertilizer Basal dressing	300 to 350kg/ha (6-7 bags)	200 to 300kg/ha (4-6 bags)	150 to 200 kg/ha (3-4 bags)
Ammonium Nitrate (AN) Top dressing	200 to 300kg/ha (4-6 bags)	150 to 200 kg/ha (3-4 bags)	100 to 150 kg/ha (2-3 bags)

2. SUGAR BEANS

Sugar beans can not stand any frost while high temperatures will affect flowering and pod setting.

In lowveld plant at the end of the summer and in Highveld do not plant in winter if there is frost in the area

Seed rate – 130kg per hectare

Planting depth is 2,5cm

Spacing - 40 to 60cm between rows and 7cm within the row.

Fertilizer Requirements

Basal fertilizer 300kg/ha of compound D

Top dressing

Beans can fix nitrogen naturally and too much nitrogen fertilizer will promote vegetative (leaves) growth. Depending on the state of the crop an application of 100kg/ha AN can be done. All top dressing should be applied by 21 days after planting.

Expected yield up to 4 tonnes per hectare

3. SUNFLOWER

A fairly drought resistant most suitable for Natural Region II and IV

Plant spacing

Regions II and III a spacing of 90 x 25cm (Between row and inrow) and in regions IV and V a spacing of 90 x 30cm are recommended.

Planting depth is 4-5cm

6 – 8kg/ha of seed is recommended

Recommended Fertilizer rates

Fertilizer	Rate/Ha	Timing
Compound L (Basal dressing)	250kg/ha	Before or at planting
Ammonium Nitrate (Top dressing)	100kg/ha	8 -10 weeks after germination

Yield levels

An average yield of 1.5 tonnes/ha with the November plantings and 0.5 tonnes/ha with the end of January to February plantings.

4. SOYABEANS

Planting:

- Seed rate – 100 kg/ha.
- Plant population around 350 000 plants/ha
- Minimum population 200 000 plants/ha
- Row spacing 45 cm.
- Planting depth 5 cm, plant mid December.

A fungicide seed dressing of Thirum or Captan will ensure good emergence

Fertilizer Requirements:

- Compound D/L, Gypsum or Single Super phosphate – 200 to 300 kg/ha before planting
- Brady rhizobium – 50g/100kg of seed at planting

Yield levels:

- Ranges from 1t/ha to 4t/ha

Soya bean Management GuideEstablishment

- Lime acid soils to 5.3.
- Fertilise as necessary.
- Use certified seed.
- Inoculate with Rhizobium.
- Do not plant too deep.
- Population 300 000 plants/ha.
- Row width 45cm.
- Ensure early weed control
- Control any new weed growth.

5. SOGHUM**Seed Requirements**

Spacing Between Rows	Spacing in Row	Seed Requirements/ha
0.9m	5-7cm	5-9kg/ha
0.9m or 1.5m	5-7cm	4-6kg/ha
2.3m	5-7cm	3-4kg/ha

The spacing between row will depend on the yield potential of the area. Under high potential conditions 0.9m rows are recommended

Plant populations of 100 000 – 160 000 plants/ha are normally recommended.

Cover seed to depth of 2-3cm

Thinning should be done to establish an in row spacing of 15 – 20cm, it should be done at 4 weeks after emergence.

Fertilizer Requirements

Fertilizer	Rate/ha	Timing
Compound D	150 – 300kg	Before planting
Ammonium Nitrate	100 – 200kg	6-8 weeks after emergence

Yield Levels

Up to 5 tonnes per ha.

6. COWPEA

Planting

Plant Type	Spacing	Seed rate
Bushy	45cm x 15cm	30-40kg/ha
Spreading	75cm x 20cm	20-25kg/ha

Planting depth 5 -7cm

Plant from mid November to first week of January

Fertilizer requirements

Cowpea responds well to manure, for fertilizer use 200kg/ha compound D

Yield levels

0.5t/ha to 3t/ha