

GROUNDNUT GROWERS GUIDE

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Introduction

Groundnuts may be divided into three types, according to the time taken to maturity early, medium and late maturing. Early maturing groundnuts have a bunch growth habit, while medium and late maturing groundnuts have a spreading growth habit. This section deals only with early maturing groundnuts, commonly grown under dryland conditions.

Soils and climate

Best results are obtained from deep, well-drained soils in good condition. Suitable soils include sands and sandy loams. Groundnuts will not grow well on acid soils and thus liming may be necessary for good production (the ideal pH is 5,3 to 6,8). Groundnuts must not be grown on the same land more than once in every four years. Groundnuts are a good crop to grow before maize.

Early maturing groundnuts (e.g. SC Mwenje and SC Nyanda) take about 115 days or less to maturity on the middleveld. Late maturing groundnuts take about 160 days to maturity on the middleveld and hence not very suitable in a rainfed system.

Groundnuts are sensitive to cool overcast conditions both in the early part of the season and during pod filling. The ideal season is one which has much sunshine, coupled with sufficient rainfall, especially during pegging and pod-filling.

Varietal choice

Two sought after short season varieties are:

Nyanda

- ❖ A very short duration, taller-statured variety with a more open growth habit.
- ❖ Better seed appearance and uniformity.
- ❖ Two-seeded pods.
- ❖ Good kernel yields of 1t/ha.
- ❖ Drought stress tolerance.
- ❖ Resistant to aphids, Hilda and grain moth.

Mwenje

- ❖ A very short duration, taller-statured variety with a more open growth habit.
- ❖ Better seed appearance and uniformity.
- ❖ Two-seeded pods and good taste.

- ❖ Good kernel yields of 1.3t/ha.
- ❖ Drought stress tolerance.
- ❖ Resistant to aphids, Hilda and grain moth.
- ❖ Good rosette virus tolerance.

Characteristics of Seed Co Groundnut Varieties

Varieties	SC Nyanda	SC Mwenje
Type	Short season & Valencia type	Short season & Valencia type
Seed Colour	Tan	Tan
Use	Edible Nuts & Peanut Butter	Edible Nuts & Peanut Butter
Days to maturity		
Lowveld (below 900masl)	85-95	85-95
Middleveld (900-1250masl)	95-105	95-105
Highveld (above 1250masl)	105-105	105-115
Defoliation at lifting (%)	95	95
Mass of 100 seeds (g)	290	290
Sound Mature Seeds (%)	70	70

Fertilisation

- ❖ Basal fertiliser - Groundnuts should be grown in rotation with cereals (e.g., maize and sorghum), which have been well fertilised, because groundnuts respond well when

fertiliser is applied to the previous crop rather than to the groundnuts themselves. Thus, in most cases, no basal compound fertiliser is applied. Nevertheless, where the soil is known to be infertile or deficient in some nutrients, manure or a low rate (150 to 300 kg/ha) of a basal fertiliser (e.g. 7,14,7 or 5,18,10) or Single Super Phosphate may be applied. Groundnuts respond well to manure, because the manure not only supplies nutrients, but also helps to ameliorate soil acidity.

- ❖ Top dressing. Groundnuts have a high requirement for calcium, especially during the pegging stage. Low availability of calcium at this stage will result in a large proportion of empty shells. Calcium may be supplied with Gypsum (calcium sulphate) at a rate of 250 kg per ha broadcast over the plants at flowering (7 to 8 weeks after planting).

Crop establishment

- ❖ Groundnuts should be planted as early as possible, at least before the end of November, but care must be taken not to plant too early otherwise they will be ready for lifting while the rains are still around, which will cause problems.
- ❖ Suitable short-season varieties include Nyanda and Mwenje. Nyanda has proven to be the best short season cultivar in trials throughout the drier regions.
- ❖ Plant groundnuts at a spacing of 35 to 45 cm between rows and 5 to 10 cm between seeds in the row. Seed requirements are about 100 kg per ha. Depth of planting is 5 cm.

Mid-season management

- ❖ Weed control is most important, especially in the early stages of crop growth. Weeding with hoes is possible up to the flowering stage. Thereafter, weeds must be pulled out by hand to avoid disturbance of the pegs.
- ❖ Diseases. Groundnuts are susceptible to a number of leaf diseases (e.g, Cercospora and Phoma), but control in short season groundnuts is not always necessary. Nevertheless, a single spray of a fungicide, for example, Mancozeb (Dithane M45) or Chlorothalonil (Bravo) at flowering or early pegging may be beneficial, especially in wet years where diseases may be problematic. With late maturing groundnuts, disease control is important.

- ❖ Pests. Aphids may be a problem and may be controlled with a pesticide, for example, Dimethoate (Rogor). Leaf eating pests and Heliothis bollworm may be controlled with chemicals like Carbaryl.

Harvesting

This is a critical aspect of groundnut production, because of the potential losses and disease infection that may occur at this time. Here are some points to consider:

1. Begin lifting groundnuts when 40 to 50 % of the pods are mature. Pod maturity may be determined by counting out 100 pods from a number of plants and shelling these to separate the mature and immature kernels (seeds). Mature seeds have a seed skin (testa) that does not easily rub off, and which has a thin papery texture and has developed the colour of the variety. An immature seed has a thick, fleshy skin with a pale colour and which rubs off easily. Lifting should be complete by the time 70 to 80 % of the seeds are mature or before plants are 90 % defoliated.
2. The harvesting process includes loosening, lifting, wilting, cocking (curing), picking and finally shelling. It is important that once the plants are lifted they be allowed to wilt for a few days with the pods exposed to the air before cocking. When cocking the groundnuts, keep the plants off the ground, ensure the cock is constructed to allow free flow of air through the cock, to facilitate rapid drying, and construct the cock so that water cannot penetrate during rainy spells. Curing and drying may take from 2 to 4 weeks. Begin picking when the kernels rattle in the pods. It is possible to pick one to two bags per person per day.
3. Groundnuts must be dry before placing in a storehouse. The storehouse must be dry, cool and well ventilated. It is best to store groundnuts in their shells. Discard diseased, sprouted or insect-damaged pods and only store healthy, dry pods. Shelling of groundnut pods may begin anytime after the pods are dry. From 10 kg of unshelled nuts, there will be about 5 to 7 kg of shelled nuts.
4. One large bag of shelled groundnuts weighs about 80 kg. One large bag of unshelled groundnuts weighs about 35 kg.
5. Groundnuts may be sold to any dealer, but there are now small hand mills that make fine peanut butter, suitable for local markets, and which add value to the product.

Production Guide in summary steps

Land preparation and planting	Flowering and vegetative stages	Harvesting
Prepare lands early.	Apply 100 - 300kg/ha Gypsum 7 - 8 weeks after germination.	Lift crop when 50 - 80% of pods contain
Apply lime, if required.	On sandy soils, apply two	mature kernels (ie. When the kernel skin
Seed dress with Thiram.	applications, one at 7 weeks and	is thin and difficult to rub off).
Sow seed as soon as effective rains fall.	the other at 10 weeks.	After wilting, dry on "A"-frames or in cocks
Rows 45cm apart.	Avoid hoeing fields after onset of flowering - rather pull weeds out.	for 3 - 4 weeks, with pods inside to
Seed 7,5cm apart in row.	Scout for pests and diseases and	protect them from sunlight.
Seeding rate 100kg/ha.	control as necessary.	Pick pods when dry, discard diseased,
		sprouted or insect-damaged pods.
		Store in cool, dry place.

Vegetative Growth Stages:

Ensure good weed control.

Pegging and podding:

Ensure good weed control, but only hand-

Scout for aphids and other pests, apply control measures as necessary.

pull weeds. Do not

use a hoe.

Scout for pests and diseases and control as necessary.