

Early maturing, large seeded green gram variety KAT 00309

For improved food security and income

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Introduction

Green gram (mung bean) is a relatively drought tolerant, low-input crop and a major income earner in eastern Kenya. It causes less flatulence than other legumes. Kenya produces 125,000 tonnes against the domestic demand of 3.4 million tonnes. Green grams mature in 65-75 days under frost-free conditions and temperature range of 27-30°C.

Rainfall

Adequate rainfall (300-700 mm) is required from flowering to late pod fill for purposes of ensuring good pod filling and yield. However, high humidity and rainfall at maturity may result in diseases.

KAT 00309 characteristics

It is a semi-determinate plant

- Dry pods are brown
- Shiny green grains
- Large seeds (8-10 g/100 seeds)
- Flowers in 40-45 days
- Matures in 65-75 days
- Yield is 1800-2100 kg/ha (8-9 bags/acre)
- Tolerant to major diseases
- Cool conditions in May to July predispose the variety to powdery mildew attack

Target areas of production

- KAT 00301 performs well in well-drained sandy loam soils in semi-arid and well-watered areas at 500-1600 m.
- The variety is suitable for the dry areas in lower Machakos, Kitui, Mwingi, Tharaka, Mbeere and Makueni due to its earliness.

Land preparation

The field should be well prepared to a fine seedbed using a hoe, oxen or tractor. A fine seedbed gives a good crop stand and plant population.

Planting

Always plant certified seed. Early planting is recommended but not before 30 mm of rainfall is received. Varietal purity is essential as mixtures are unacceptable both for market and cooking. Replace planting seed every 2-3 years.

Spacing: Spacing of 50 × 15 cm is recommended. When using oxen, the spacing is 60 × 10 cm. However, under conservation agriculture (no soil tillage) the spacing may be reduced to 45 × 10 cm but in severe moisture stress, wider spacing may be used to reduce plant population.

Seed rate: 29-32 kg/ha (11-14 kg/acre)

Number of plants per hill: At least 2

Depth of planting: 4-5 cm.

Weeding

First weeding should be done 2-3 weeks after emergence and the 2nd one just before flowering. Avoid weeding when the plants are damp since this can result in spread of bacterial and fungal diseases.

Fertilizer

Soil analysis should be done to determine nutrient requirements, which should be met by applying fertilizer (phosphorus, potassium calcium, magnesium and sulfur. A starter N and P of 10 kg/ha is recommended (use a phosphate fertilizer like NPK at 50 kg/ha). Fertilizer should be applied when the soil is moist. When dry planted, avoid seed-fertilizer contact. In very poor soils a combination of manure and fertilizer is recommended.

Crop Protection

Green grams are attacked by thrips, bean fly, bean bugs, aphids, pod borer, pod sucking bugs, apion beetle and bruchids. The following are the suggested remedies which should be used as per the manufacturer's recommendation:

Pest	Insecticide
Thrips	Thiodan, Sherpa plus, Duduthrin, Thunder
Bean fly	Dimethoate,
Hericoverpa armigera	Karate, Thunder
Bean bugs	Karate, Dimethoate, Thunder
Aphids	Thiodan, Sherpa plus, Karate, Thunder
Pod borer	Dimethoate, Sherpa plus, Thunder
Pod sucking bugs	dimethoate, Karate, Thunder
Apion beetle	Thiodan, Karate, Thunder
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Bruchids	Proper sanitation, Super Actellic

Harvesting

Green gram pods are thin and brittle when dry, so shattering is a problem during harvesting. Harvest manually when the dry pods turn black. The harvested pods are sundried before threshing.

Sorting

The most important product of a green gram plant is its grain. The marketed grain should be clean and uniform.

Storage

The recommended maximum moisture content for storage is 12%. The grain should be dried well before storage because to avoid weevil damage. Apply Actellic at 50 g per 90 kg bag for protection against weevils.

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