

Spacing:

Plant at 45cm between rows and 20cm between plants for sole crop.

Fertilizer

DAP fertilizer should be applied at the rate of 1 bag/ hectare (50kg/ha) or half a bag per acre (25kg/acre) during planting.

The fertilizer should be thoroughly mixed with soil before covering the seed.

Weeding

The first weeding should be done 2 weeks after emergence and the second before flowering.

Crop Protection

Insect pests include:

- Bean fly at seedling stage
- Black bean aphid - common during cool dry periods
- Bean leafhopper - during vegetative stages
- Pod borers - during pod formation
- Bean weevil - during storage.

Control

Chemicals for control of these pests are available in agrovet stores.



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Grow improved beans for food and income



Introduction

Beans are an important food crop in mid altitude, arid and semi-arid areas of Kenya. Yields of up to 10 bags per acre can be obtained but this can be hindered by low rainfall, poor crop management, low fertility, high bean fly incidence and use of inappropriate seed variety. Good quality seeds of the appropriate variety should always be used for high yields.

Qualities of good bean seed

- Uniform variety
- Viable (ability to germinate)
- Free from seed-borne diseases and pest damage
- Free from inert materials
- Not shriveled, mouldy or cracked
- Not rotten or discolored.



Improved bean varieties

KARI Katumani has identified four drought tolerant and high yielding bean varieties which are described below.

Katumani Bean I (KAT-BI) - Kathika

- Has light pink flowers
- Flowers within 30-31 days
- Matures in 60-65 days
- Yields 1400-1900 kg/ha or 7-9 bags/acre
- Sweet grain taste and less flatulence (gas)
- Highly tolerant to heat and grows well under tree/ banana shades.

Katumani Bean 9 (KAT B9) - Gacuma

- Has light pink flowers
- Flowers in 30-40 days
- Has a uniform flowering period.
- Matures within 60-65 days
- Grain brilliant red and gives an Irish brown colour when cooked with maize, a quality preferred by farmers
- Yields 1400-1900kg/ha or 7-9 bags/acre
- More drought tolerant than KAT BI.

Katumani X-56 (KAT X-56)

- Has light pink flowers
- Flowers in 30-35 days
- Matures within 60-65 days
- Grains are dark red, long and oblong
- Yields 1400-2000kg/ha or 7-10 bags/acre
- Variety out yields KAT/B-I and KAT/ B-9 under good conditions.
- Mature pods ready for harvest are not damaged by heavy rains.
- Cooks fast and tastes sweet.

Katumani X-69 (KAT X-69)

- Has white flowers
- Flowers in 30-35 days and
- Matures within 60-65 days
- Grains long, oblong and rosecoco type in colour but with dark red background
- Potential yields range between 1400-2000kg/ha or 7-10 bags/acre
- Is susceptible to lodging due to heavy bearing and tall plants

- Resistant to rust (*Uromyces sp.*) common bean mosaic virus (CBMV) Tolerant to angular leaf spot and charcoal rot.

KAT BI (Kathika)



KAT B9



KAT X56



KAT X69

Management practices

Land preparation

- Prepare land to a fine tilth 2-4 weeks before onset of rains to allow organic materials to fully decompose.

Hoes, oxen plough and tractors can be used for ploughing.

Time of planting

Timely planting is crucial and sowing should be at the onset of the rains after a minimum of 30mm of rainfall has been received.

Seed rate

40-50kg/ha (16-20kg/acre), 2 seeds per hill