

MOTH BEAN FARMING



SOIL REQUIREMENTS: -

- Soil pH: Moth bean prefers slightly acidic to neutral soils with a pH range of 6.0-7.5.
- Soil texture: Moth bean can be grown in a variety of soil textures, but it performs best in well-drained sandy loam to clay loam soils.
- Soil fertility: Moth bean requires adequate soil fertility for optimal growth and yield. The soil should be rich in organic matter, and the nutrient levels should be balanced. A soil test can be conducted to determine the nutrient status of the soil and to make necessary adjustments.
- Soil moisture: Moth bean requires moderate soil moisture during the growing season. The soil should be well-drained to prevent waterlogging, which can lead to root rot and poor growth.
- Soil temperature: Moth bean requires warm soil temperatures for germination and growth. The optimal soil temperature for germination is around 25-30°C, while the optimal temperature for growth is around 20-35°C.
- Soil aeration: Moth bean requires good soil aeration for healthy root development and nutrient uptake. Compacted soils should be avoided.

CLIMATE & TEMPERATURE: -

Temperature: Moth bean requires warm temperatures for germination and growth. The optimal temperature range for germination is around 25-30°C, while the optimal temperature range for growth is around 20-35°C. Moth bean is sensitive to frost and cold temperatures, so it should be grown in areas with a warm climate.

Rainfall: Moth bean requires adequate rainfall or irrigation during the growing season. The crop is drought-tolerant but requires adequate moisture during flowering and pod development. The rainfall requirement for moth bean is around 400-500 mm per year.

Sunshine: Moth bean requires ample sunshine for optimal growth and yield. The crop can be grown in areas with a long day length and intense sunlight.

Wind: Moth bean requires protection from strong winds, which can damage the plants and reduce yield. Windbreaks can be established around the field to provide protection.

PLANTING SESSION & MATERIAL: -

- Moth bean is a warm season crop and is typically planted after the last frost in the spring or early summer. The planting time may vary depending on the location and climate. In tropical regions, moth bean can be planted year-round.
- The recommended seed rate for moth bean is around 12-15 kg per hectare.
- Moth bean seeds can be treated with a fungicide or insecticide to protect against soil-borne diseases and pests.
- The seedbed should be prepared by plowing and harrowing to create a fine, weed-free seedbed. The soil should be levelled to ensure uniform planting depth.
- Moth bean can be planted by broadcasting or by using a drill. Broadcasting involves spreading the seed evenly over the seedbed, while drilling involves planting the seed in rows. The recommended row spacing for moth bean is around 30-45 cm.
- The recommended planting depth for moth bean is around 2-3 cm.

- Moth bean requires adequate fertility for optimal growth and yield. The soil should be tested to determine nutrient levels, and fertilizer should be applied as needed.

PLANTING METHOD: -

Broadcasting: Broadcasting involves spreading the seed evenly over the seedbed. This is a simple and easy method of planting that does not require specialized equipment. Broadcasting is suitable for small-scale farming or when planting in irregular-shaped fields.

- To plant moth bean using broadcasting method, first prepare a fine seedbed by plowing and harrowing. Then, scatter the seeds evenly over the seedbed. After sowing, lightly rake the soil to cover the seeds with a thin layer of soil, typically 1-2 cm deep. This method requires a higher seed rate than drilling, usually around 15-20 kg per hectare.

Drilling: Drilling involves planting the seed in rows using a seed drill. This method provides a more uniform distribution of seeds and helps in better weed control. Drilling is suitable for larger-scale farming or when planting in rectangular-shaped fields.

- To plant moth bean using the drilling method, first, prepare a fine seedbed by plowing and harrowing. Then, use a seed drill to plant the seeds in rows, typically 30-45 cm apart. The recommended planting depth is 2-3 cm. This method requires a lower seed rate than broadcasting, usually around 10-12 kg per hectare.

FERTILIZERS: -

- Nitrogen (N): Nitrogen is an essential nutrient for mango trees, and it promotes vegetative growth and the development of new leaves. Nitrogen fertilizers can be applied in split doses during the growing season, starting from the onset of the rainy season until the end of the vegetative growth phase.

- Phosphorus (P): Phosphorus is important for root growth and fruit development. Phosphorus fertilizers can be applied at the time of planting and during the early stages of growth.
- Potassium (K): Potassium is necessary for the development of fruits and their size, sweetness, and color. Potassium fertilizers can be applied during the fruit development phase.
- Micronutrients: Mango trees also require micronutrients such as iron, zinc, and manganese, which are essential for proper growth and fruit production. Micronutrient deficiencies can be corrected by applying chelated micronutrient fertilizers or foliar sprays.

PESTS AND DISEASES: -

Insects: Moth bean is susceptible to insect pests such as aphids, whiteflies, and pod borers. These pests can cause damage to the leaves, flowers, and pods, leading to reduced yield and quality.

Fungal diseases: Moth bean is prone to fungal diseases such as powdery mildew, anthracnose, and root rot. These diseases can cause leaf spots, stem cankers, and root rots, leading to reduced yield and quality.

Bacterial diseases: Moth bean can be affected by bacterial diseases such as bacterial leaf blight, which can cause leaf spots and premature leaf drop, leading to reduced yield.

Viral diseases: Moth bean can be affected by viral diseases such as yellow mosaic virus, which can cause yellowing and stunting of the plants, leading to reduced yield.

HARVESTING OF MOTH BEANS: -

- Moth bean (*Vigna centifolia*) is ready for harvest around 60-70 days after planting, depending on the variety and growing conditions.
- Clean the seeds by removing any remaining debris or damaged seeds. Store the cleaned seeds in a cool, dry place in airtight containers.

- It is important to harvest the moth beans at the right time to ensure good quality and yield. Late harvesting can result in reduced yield and quality due to shattering or splitting of pods.