

# Cultivation of Banana



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Production Technology of Fruit and Plantation crops

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Disclaimer: The content material being provided is only for teaching purpose

## **Botanical Classification :**

Scientific Name : *Musa spp*

Chromosome No. : **22**

Family : **Musaceae**

## **Botanical Description :**

Type of Fruit : **Berry**

Edible Part : **Endocarp**

Origin:- **South East Asia**

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- ✘ Banana a tropical crop, grows well in a temperature range of 15°C – 35°C with relative humidity of 75-85%.
- ✘ It require loamy soil with pH between 6.5 – 7.5
- ✘ Rich in organic material with high nitrogen content, adequate phosphorus and plenty of potash.
- ✘ Average rainfall require is 650-750 mm.

## □ Important cultivars include:-

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- Dwarf Cavendish
- Robusta
- Monthan
- Poovan
- Nendran
- Red banana
- Nyali
- Safed Velchi
- Basrai
- Ardhapuri
- Rasthali
- Karpurvalli
- Karthali
- Grand Naine



- ✘  Prior to planting banana, green manuring crop like daincha, cowpea etc. is used to break the clod and bring the soil to a fine tilt.
- ✘ **Planting material:-**
- ✘  Suckers and tissue culture seedlings.
- ✘  Sword suckers with well developed *rhizome*, having actively growing conical bud and weighing approximately 450-700 gm are commonly used as

- ✘ **Important seasons for planting followed in different states of India are:-**
- ✘ **State Planting Time**
- ✘ Kharif - June – July
- ✘ Rabi - October – November
- ✘ Rainfed - April-May
- ✘ Irrigated crop- August-September

## Manure and fertilizer

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- ✘ • 10 kg FYM
- ✘ • 200 - 250gm N/plant- As top dressing in three equal parts at interval of 60,90 & 120 days.
- ✘ • 60-70gm P/plant
- ✘ • 300gm K/plant.
- ✘ • Urea is applied in three to four split doses.
- ✘ **SPACING IN BANANA PLANTING**
- ✘ Traditionally banana growers plant the crop at 1.5m x 1.5m with high density.
- ✘ **Season Spacing**
- ✘ **Kharif 1.5 x 1.5 m., 2 x 2 m. OR 2.5 x 2.5m.**
- ✘ **Rabi 1.5 x 1.2 m., 1.5 x 1.37 m.**



# □ PROPPING





# INTER-CROPPING:

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- ✘  Short duration crops (45-60 days) like mung, cowpea, daincha are to be considered as green manuring crops.
- ✘  Leguminous crops, beetroot, ginger, turmeric and sunnhemp grown as an inter-crop during the first 3-4 months.

# GROWTH REGULATORS

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- ✘ 2,4 D (25 ppm)- Improves the grade of bunches.
- ✘  CCC (1000 ppm) at 4th & 6th month
- ✘  Plantozyme (2 ml./l.) at 6th & 8th month
- ✘  potassium dihydrogen phosphate (0.5%) and urea (1%) or 2,4 D solution (10 ppm.) after bunch development improves banana size & quality

# INSECT PESTS:-

Root stock/rhizome weevil (*Cosmopolites sordidus*)

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✗  Stem borer (*Odioporus longicollis*)

✗  Banana beetle (*Nodostoma subcostatum*)

✗  Banana aphid (*Pentalonia nigronervosa*)

✗  Nematodes & Thrips

✗  Application of 0.04% endosulfan, 0.1 % carbaryl or 0.05 %

✗ monocrotophos depending upon the type of pest infestation.

# DISEASES:-

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- × 1. Panama wilt (*Fusarium oxysporum*)
- × 2. Anthracnose (*Gleosporium musarum*)
- × 3. Leaf spot (Sigatoka) [*Mycosphaarella musicola* & *Cercospora musae*]
- × 4. Shoot rot (*Ceratostomella paradoxa*)





Banana bunchy top



Sigatoka disease



Panama/fusarium wilt



Banana bunchy top

# ECONOMIC IMPORTANCE

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- ✘ Banana is a rich source of carbohydrate and is rich in vitamin B. It is also a good source of potassium, phosphorus, calcium & magnesium.
- ✘  It helps in reducing risk of heart diseases, arthritis, ulcer, gastroenteritis and kidney disorders.
- ✘  Processed products, such as chips, banana puree, jam, jelly, juice, wine and halwa can be made from the fruit.

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**Thank**

**you**