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# BANANA

## BOTANICAL CLASSIFICATION :

- SCIENTIFIC NAME : *MUSA SP.*
- Chromosome No. : 22
- FAMILY : MUSACEAE

## BOTANICAL DISCRPTION :

- TYPE OF FRUIT : BERRY
- EDIBLE PART : ENDOCARP
- Origin:- S.E Asia

- 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.
- Plantains or cooking bananas are rich in starch and have a chemical composition similar to that of potato.



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# Climate and Soil

- 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.

## **Varieties:**

### **Important cultivars include:-**

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



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# Land Preparation & Planting

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 propagating material.
- Traditionally banana growers plant the crop at 1.5m x 1.5m with high density.



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# Manure and Fertilizers

- 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.



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# Intercultural Operation

- Spraying of Glyphosate before planting @ 2 lit/ha is carried out to keep the plantation weed free.
- Four to five weeding.
- Harrowing the field three to four times to keep the soil loose.
- Earthing up should be done at 3-4 months after planting .
- Desuckering
- Propping
- Bunch covering and spary
- Mulching



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# Intercropping

- 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.

## Use of PGRs

- 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



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# Plant Protection

## INSECT PESTS:-

- Root stock/rhizome weevil (*Cosmopolites sordidus*),
- 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

Panama wilt (*Fusarium oxysporum*)

2. Anthracnose (*Gleosporium musarum*)

3. Leaf spot (Sigatoka) [*Mycosphaarella musicola* & *Cercospora musae*]

4. Shoot rot (*Ceratostomella paradoxa*)





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# Harvesting and Yield

Banana is harvested when the fruit is slightly or fully mature depending on the market preferences. For long distance transportation, harvesting is done at 75-80 % maturity. The fruit is climacteric and can reach consumption stage after ripening operation. The planted crop gets ready for harvest within 12-15 months of planting and the main harvesting season of banana is from September to April. Bunches attain maturity from 90-150 days after flowering depending upon variety, soil, weather condition and elevation. Bunch should be harvested when fingers of second hand from top are 3/4 rounded with the help of sharp sickle 30cm above the first hand. Harvest may be delayed upto 100-110 days after opening of the first hand.