BANANA FARMING

SOIL REQUIREMENTS: - The soil suitable for banana should be 0.5 1m in depth, rich, well drained, fertile, moisture retentive, containing plenty of organic matter. The range of pH should be 6.5-7.5. Alluvial and volcanic soils are the best for banana cultivation.

CLIMATE & TEMPARATURE: -Banana is basically a tropical crop, grows well in temperature range of 13ºC – 38ºC with RH regime of 75-85%. In India this crop is being cultivated in climate ranging from humid tropical to dry mild subtropics through selection of appropriate varieties like Grandniece.

VARIETIES OF BANANAS: -

1. **Cavendish Bananas: -**These bananas are the most common variety, easily available in supermarkets in the United States. They are available in young unripe green to fully ripe, smooth yellow to riper dark yellow with brown spots. You can add them in smoothies, pancakes, or banana bread.

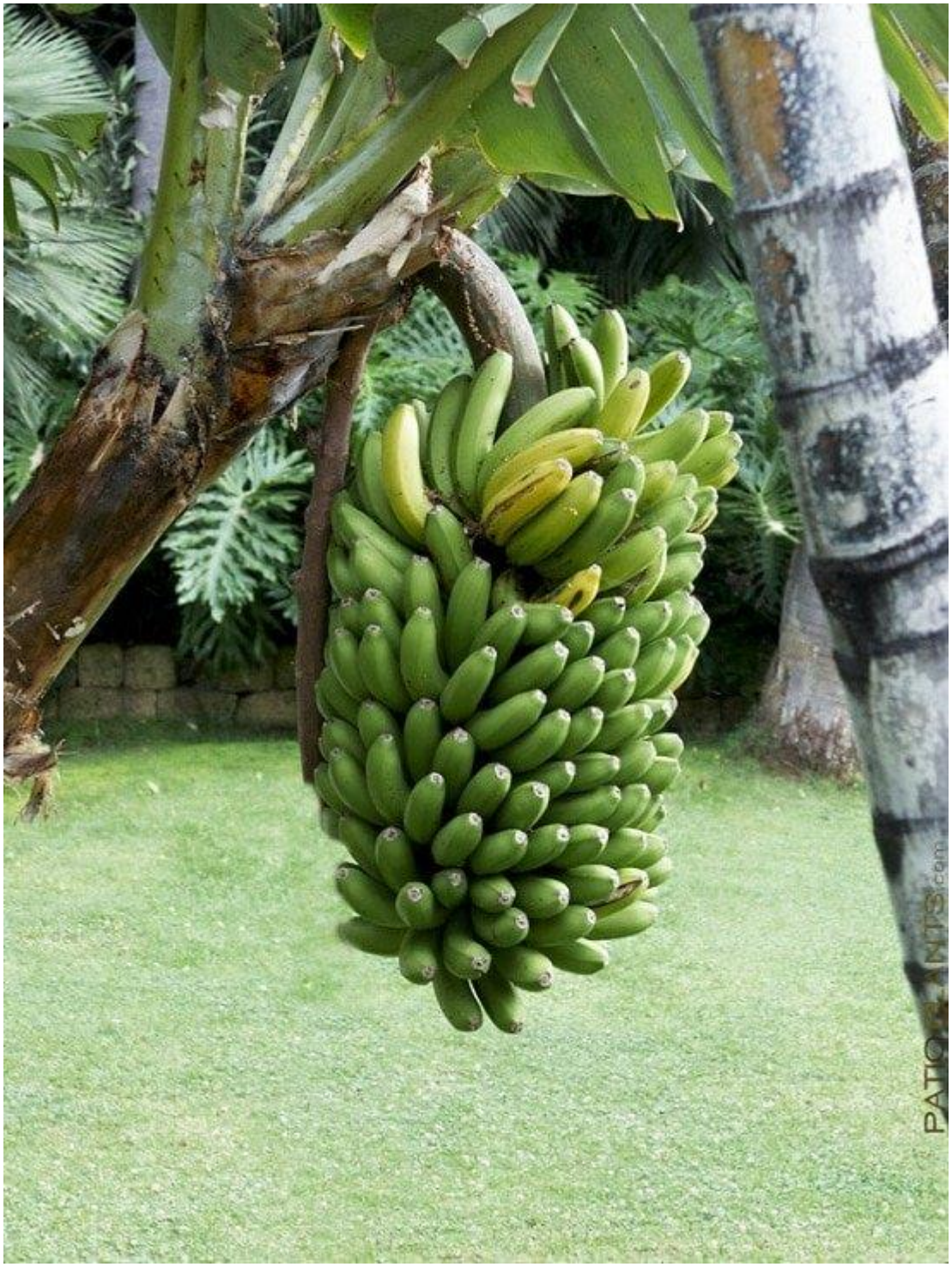
2. **Gros Michel: -**This variety has a similar taste and size as Cavendish. It is not available as freely as the other varieties. Gros Michel has a sweet taste, a strong smell, with a creamier texture, and can be used in the preparation of banana pies!

3. **Lady Finger: -**Lady Finger bananas are 4-5 inches long, cigar-shaped sweet fruit. They have a bright yellow thin peel with dark

flecks when fully ripen. The flesh is creamy and more delicious than the other common banana varieties.

4.Manzano: - Manzano Also known as ‘apple bananas,’ they are stout and plump, with a thick firm peel and a light, creamy flesh.

Young apple bananas have a tangy and sweet taste with a hint of apple. When the fruit ripens, they have a tart-apple aroma and a flavour of tropical profile with notes of strawberry and pineapple**.**



5.Red Bananas: -Red bananas have red-purple skin, sweet flesh with a pink and orange tinge. Few of them are small and plump than Cavendish banana. When fully ripen, they have a cream to light pink flesh. Some of the fruits have a slight raspberry taste, and others have an earthy flavour.

PLANTING SESSION & MATERIAL: -

About 70% of the farmers are using suckers as planting material while the rest 30% of the farmers are using tissue culture seedlings. Sword suckers with well-developed rhizome, conical or spherical in

shape having actively growing conical bud and weighing approximately 450-700 gm are commonly used as propagating material.

In Banana Farming, suckers generally may be infected with some pathogens and nematodes. Similarly, due to the variation in age and size of the sucker, the crop is not uniform, harvesting is prolonged, and management becomes difficult. Therefore, in- vitro clonal propagation i.e., Tissue culture plants are recommended for planting. They are healthy, disease-free, uniform in growth, and early yielding.

PLANTING METHOD: -

The most common method for planting bananas is using suckers. Suckers are shoots that grow from the base of an established banana plant, and they can be removed and replanted to create new banana plants. Here's a step-by-step guide for planting bananas using suckers.

1.Choose healthy, disease-free suckers from an established banana plant.

2.Cut the sucker away from the parent plant using a sharp, clean machete or knife. Make sure to leave a portion of the corm (the swollen, underground stem) attached to the sucker.

3.Trim the leaves of the sucker to about half their original length to reduce water loss.

4.Dig a hole that is twice the diameter and depth of the sucker's corm.

5.Add compost or well-rotted manure to the bottom of the hole to improve soil fertility.

6.Place the sucker in the hole and backfill with soil, making sure to pack the soil firmly around the corm.

7.Water the newly planted sucker thoroughly.

8.Provide support for the young banana plant by tying it to a stake or trellis.

9.Mulch around the base of the plant with straw or leaves to retain moisture and suppress weeds.

10.Monitor the plant for signs of pests or disease and take appropriate measures if necessary.

FERTILIZERS: -

Banana plants need fertile soil and an abundance of soil moisture for best growth and production. The development rate the plant makes in its first 3-4 months determines the weight of the bunch and the number of hands. Consequently, it is essential to provide the best care during this period.

1) Soil application broadcast or localized. Since banana roots quickly ramify away from the pseudo stem, fertilizers should be rather broadcast than concentrated around the pseudo stem.
2. Nutrition (Fertigation- fertilizer placement via irrigation) is most efficient since nutrients are applied directly to the root zone

Timing - Fertilizing schedule should coincide with climatic conditions and phenological stages of the crop.
Frequency - Frequent applications are especially important where the soil is light and lacking in fertility and when rainfall is heavy. Because of its limited mobility in the soil, P fertilizers should be applied once or twice annually in the subtropics. N, K fertilizers are normally applied at

short intervals via the irrigation system. In humid tropics, intensive leaching due to extremely heavy showers dictates immediate fertilization via soil application in order to compensate for leaching losses.
Application frequency can be reduced significantly when Multicore, controlled-release fertilizer, is used.
By using Multicore, less leaching of plant nutrients, if any, will occur and less applications are required.
1.Uptake of macronutrients is in the following mass order: Potassium (K) > Nitrogen (N) > Calcium (Ca) > Magnesium (Mg) > Phosphorus (P), see table 21.
2.Uptake of micronutrients is in the following mass order: Manganese (Mn) > Iron (Fe) > Boron (B) > Zinc (Zn) > Copper (Cu).
N, P, K, Mg, and Cu have a high re-translocation rate compared to other nutrients.

PESTS AND DISEASES OF BANANAS: -

Pests:

1.Banana weevil: This pest burrows into the corm of the banana plant, causing wilting, yellowing of leaves, and eventually plant death.

2.Banana aphid: These tiny insects feed on plant sap, causing stunted growth, yellowing of leaves, and distorted fruit.

3.Banana thrips: These pests cause damage by feeding on leaves, which can result in brown, distorted foliage.

4.Banana nematodes: These microscopic worms live in the soil and feed on banana roots, causing stunted growth and reduced yield.

Diseases:

1.Fusarium wilt: This soil-borne fungal disease causes wilting, yellowing of leaves, and eventual plant death.

2.Black Sigatoka: This fungal disease causes dark spots on leaves, which can spread and lead to defoliation and reduced yield.

3.Bunchy top virus: This viral disease causes stunted growth, yellowing of leaves, and malformed fruit.

4.Panama disease: This soil-borne fungal disease causes wilting, yellowing of leaves, and eventual plant death

HARVESTING OF BANANA: -

- Harvesting of bananas typically involves cutting the bunches of bananas from the plant using a sharp blade or machete. The timing of the harvest depends on the variety of banana and the intended use of the fruit. For example, bananas that are meant for immediate consumption are typically harvested when they are fully ripe or almost ripe, while those that are intended for export or processing are harvested when they are still green.
- During the harvesting process, workers may wear protective gloves and use ladders or other equipment to reach the bunches of bananas, which can grow quite high up on the plant. Once the bunches are cut down, they are transported to a packing station where they are sorted, cleaned, and packaged for distribution.