

# GROWING BANANA

One of the most widely grown fruit-bearing plants in the Philippines, banana (*Musa* sp.) ranks second only to coconut oil as a major dollar earner in terms of value in the last five years.

In 1993, banana topped (in terms of production) other export crops like pineapple and mango. Banana export reached 1.2 million mt valued at \$215 million in 1994; 1.21 million mt valued at \$224 million in 1995; 1.25 million mt valued at \$236 million in 1996; 1.14 million mt valued at \$217 million in 1998; and 1.31 million mt valued at \$240 million in 1999.

Indigenous to Southeast Asian countries, banana thrives best in a warm and humid climate. Of the 57 banana cultivars (varieties) found in the region, five are commonly grown in the Philippines:

1. ***Saba***, which grows to about 20 feet high and bear fruits with thick green peels when unripe and yellow when ripe with white flesh. It matures in 15 to 16 months.
2. ***Lacatan*** that grows to 5-9 feet high and bears round, seedless fruit with thick peels that turn into yellow-orange color when ripe. It bears fruits in 14 to 15 months after planting.
3. ***Latundan*** grows up to 6-10 feet high and bears round fruits with thin peels that turn yellow when ripe. It matures and bears fruits in 12 months after planting.
4. ***Bangulan*** matures in 12 months and bears round, very green with thick peels and seedless fruits which easily rots. Its fruits remain green when ripe with white flesh.
5. ***Cavendish*** grows 5-10 feet high and bears export quality fruits green peels that turn yellow when ripe. It matures or bears fruits in 6-8 months.

Eight other banana varieties – Morado, Pitogo, Los Baños, Señorita, Tindok, Gloria, Granada and Tumok – are also grown in the Philippines.

Banana is well adapted to areas with well-drained, loam soil that is rich in organic matter, an average rainfall of 4,000 millimeters a year, a temperature ranging from 27-30 degrees Celsius and an altitude of 1,800 meters.

When planted to a water-clogged soil, banana is susceptible to root rot. Thus, areas in the typhoon belt are not suitable for banana growing.

Banana is usually propagated through its rhizomes and suckers. When used for propagation, the suckers should be about 4-5 feet tall and must be healthy & parasite-free. Rapid propagation of banana has been achieved through the use of shoot tip culture technology.

The field to be planted should be plowed and harrowed three times. Then, holes are dug the size and depth of which depend on the kind of planting materials used. Usually, however, a knee-deep hole with 45 cm in diameter is suitable for most planting materials.

Before planting, each hole is applied with 10 grams of complete fertilizer and a few grams of nematodes. Depending on the local practice, banana seedlings are planted at 3-4 m to 5-7 m apart in a square or triangular system. The seedlings can also be planted in single or double rows.

Suckers are planted in a vertical position in the hole. Then, the hole is covered with surface soil added with compost to enable the young banana plants to recover and grow rapidly.

During the dry months, the banana plants should be regularly provided with water or irrigated (where irrigation facilities are available) possibly once a week. Where water is difficult to obtain, the best time for planting is at the start of the rainy season.

The soil around the young banana plant should be regularly cultivated to remove the weeds and provide aeration. Cultivation, however, should not be done beyond six inches from the base of the banana plant.

Weeds can also be controlled by planting other crops like sweet potato, legumes, vegetables and others between the rows of the banana plants. The weeds can also be sprayed with weed killers.

At fruiting or inflorescent stage, the banana plants must be propped up with bamboo poles to prevent them from bending or falling down during strong winds or storms. Then, dried or diseased leaves must be pruned and disposed properly.

Then, only one or two suckers must be allowed to grow on each hill. The extra suckers must be removed from the mother plants and destroyed. Too many suckers will compete for nutrients in the soil with the mother plants.

For marginal lands, apply fertilizer containing 3 parts nitrogen, 1 part phosphorous and 6 parts potassium. When applied to young banana plants, the rate of application should be doubled.

Then, the amount of fertilizer to be applied should increase as the banana plants mature. At flowering and fruiting stage, a single banana plant needs two to three kilograms of 14-14-14 fertilizer.

In areas with long dry season, overhead sprinkler, furrow or drip (trickle) irrigation may be used to provide water to large banana plantations. To prevent waterlogging, construct irrigation canals.

The banana plant in the Philippines has at least 27 insect pests. Only three, however, are known to cause significant damage on all the varieties of banana. These are:

1. ***Pitting or Wilting disease*** – characterized by dry, reddish-brown or black circular or oval depressed spots on the banana leaves. The disease usually comes during rainy days.

One way of controlling the disease is the maintenance of strict sanitation on the banana plantation. All diseased leaves should be immediately removed. Then, spray the plants with Parafungus 80WP or Fungitox 70WP.

2. ***Moko disease*** – transmitted from one plant to another by insects and infected tools used on the banana plantation. Its impact on banana plants is similar to that of sigatoka. But, moko disease does not emit unfavorable odor.

Banana plants infected with moko disease bear fruits with blackened inside. To prevent the disease, disinfect all tools used on the banana plantation or farm. Spray the plants regularly with Fungitox 70 WP.

3. ***Bunchy-Top*** – one of the most serious disease of banana that is transmitted by banana aphid (*Pentalonia nigronervosa*). During its early infection, the disease is identified by the presence of broken and continuous dark-green streak along the secondary veins on the underside of the leaves.

Gradually the leaves become brittle and curved prematurely.

The infected leaves should be immediately removed and burned so that the disease will not affect other plants. Spray with either Parafungus 80WP or Fungitox 70WP.

In severe cases of these diseases, the bunch and fingers of the banana fruits shrink and ripen prematurely. They usually develop an abnormal flavor and smell. Badly damaged leaves should be cut off and burned.

Among the insect-pests that attack banana plants are:

1. ***Banana corm weevil*** – this insect feeds on the sucker of the banana plants and in the process destroy the corm tissue and kills the sucker.

Spraying the soil with pesticide, Bushwhack 5 EC, can control the pests. All infested corm must be removed and disposed properly. Maintain strict sanitation on the plantation.

2. ***Fruit-peel beetle*** – this pest injured the peel or surface of the fruit. To prevent the beetle from attacking the banana fruits, spray with insecticide like Parapest D 400 EC the whole bunch.

3. ***Banana floral thrips*** – as the name suggests, this insect attacks the banana flowers. Spray the flowers with insecticide such as Bushwack 5 EC.

Regardless of variety, the matured banana is ready for harvest when its last leaf turns yellow and the fingers of the fruits bunch form an angle while becoming very round.

Harvesting of the fruit bunch for each variety can be done as follows: Saba at 15-16 months; Lacatan in 14-15 months; Latundan in 12 months; Bungulan in 12 months; and Cavendish in 6-8 months after planting.

To prevent the bunch of fruits from getting bruised, harvesting should be done by two persons; one to cut the banana trunk and the other to hold it from crashing to the ground. The trunk is cut in the middle and the upper part bearing the bunch of fruit allowed to fall gradually.

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