



Bunch Care Management Practices for Export Banana

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Introduction

Jalgaon district of Maharashtra is a banana cluster identified under agri export policy. Jalgaon is known as 'banana hub' of Maharashtra and accounts for 50 percent of the state's 90,000 hectares of banana plantation. India is the world's leading producer of banana with a share of round 25% in total output. Andhra Pradesh, Gujarat, Tamil Nadu, Maharashtra, Kerala, Uttar Pradesh, Bihar and Madhya Pradesh contribute more than 70% of the country's production. According to the Ministry of Commerce, India's banana export has been rising sharply because of the adoption of farm practiced in line with global standards.

Banana Bunch Care and some proven procedures to maximize the Bunch size

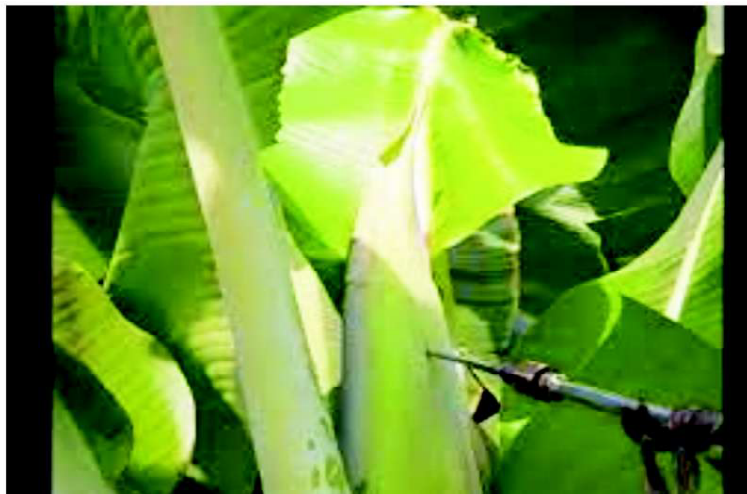
A. To attain maximum yield in Banana cultivation, follow the latest cultivation practices give here

- Prefer Tissue culture banana plants from 'DBT' (Department of Bio-Technology) certified biotech companies.
- Avoid cultivating banana in problematic soils like 'Acidic', 'Alkaline' and 'Saline' soils.
- Ensure irrigation water quality and avoid water with EC of >1.
- Give priority to good water management (To avoid water Stress, go for Drip irrigation system).
- Adhere to a strict Integrated Nutrient Management (INM covers NPK, Macro and Micro-nutrients)

- Follow good Integrated Pest Management (IPM) practices.
- Follow good Integrated Disease Management (IDM) practices.
- Strictly follow all the 'Bunch care techniques' explained here to maximize bunch size. Always bear in mind that the price of Banana is NOT directly in proportionate to the quality of produce. In the trading of banana, fruit quality is valued more in fixing the price. So, strive to achieve the best in quality.

B. Details of Banana Bunch care & methods to enhance the bunch size

- (a) **Bell injection:** Injection on inflorescence bud to control sucking insect pests infesting on developing fingers:
- Bud injection imidacloprid 17.8 SL (0.3 ml/ 500 ml water) @ 50 ml solution/bud at the emergence of banana flower was superior method to prevent the damage of rust thrips and improve fruit appearance over conventional spraying during fruiting stage. No residue of imidacloprid 17.8 SL detected in banana fruit at harvest after bud injection.
 - Bell Injection is given when the emerging inflorescence (Flower) bud is in upright position. It gives complete protection from pests that damage the developing bunch as the bell emerges.
 - The injection should be given at 1 / 4th place from top of the bud.



b. Banana Deflowering: It consists of removal of the withered style and perianth. This is generally not practiced. Therefore, they remain attached to the fruit bunch & then removed after harvesting which is damaging to the fruits. It is therefore suggested that you remove them just after flowering.



c. Placing perforated sheet as cushion between separated hands: The bunches are separated by spongy sheet or paper sheets which served as cushion in between the bunches and consequently damage to the fingers during transport is reduced.



Two whorls of a banana hand separated by perforated bag

d. Pruning of Leaves: Rubbing leaves damages the fruit, therefore, such leaves should also be pruned during regular check. Older leaves and infected leaves also be pruned as required. Green leaves should not be removed.

e. Earthing up: Keep the soil loose by harrowing from time to time. Earthing up should be done at 3-4 months after planting i.e., raising the soil level around the base of the plant by 10-12". It is better to prepare a raised bed and keep the drip line on bed 2-3" away from the plant. It also helps to protect plants from wind damage and production losses to some extent.



f. Removal of Male Buds: (Denavelling) Removal of male buds helps fruit development and increases bunch weight. Male buds are removed from the last 1-2 small hands with a



clean cut keeping a single finger in the last



g. Bunch Covering: Covering bunch using dried leaves of the plant is economical and prevents the bunch from direct exposure to sunlight. Bunch cover enhances quality of fruit. But in rainy season this practice should be avoided. Sleeving of bunch is done to protect fruits against dust, spray residue, insect and birds. For this blue plastic sleeves are preferred. This also increases temperature around developing bunch and helps in early maturity.



h. Dehandling of False Hands of bunch: In a bunch there are some incomplete hands which are not fit for quality produce. These hands should be removed soon after bloom. This helps in improving the weight of other hands. Sometimes the hand just above the false hand is also removed.

i. Propping: Due to heavy weight of

bunch the plant goes out of balance and the bearing plant may lodge and production and quality are adversely affected. Therefore they should be propped with the help of two bamboos.



Forming a triangle by placing them against the stems on the leaning side. This also helps in uniform development of bunch.

j. Desuckering: Removal of unwanted suckers is a critical operation in banana for reducing internal competition with mother plant. De-suckering should be done regularly until shooting. However, in areas where ratoon is also taken for the second crop, a follower is allowed after inflorescence has appeared and this should be managed that planting space is not disturbed. Follower should be opposite to the inflorescence. It should not be far apart from the main plant.





k. Size of Fruit Preferred for Export: Exporters won't prefer fully developed bunches that are ready for harvest. A bunch with a middle fruit in its 2nd hand measuring 41 mm dia. and the middle fruit in the last hand with 35 mm dia. two weeks before harvest is ideal for Export.

Normally there will be variation in the size of fruits located in the upper hands and lower hands. Fruits in the upper hands are always bigger than fruits in lower end hands. The variation will be more and markedly visible if there are more than 10 hands (sometimes 13 to 15 hands) in the bunch. To procure more or less uniform size of fruits, exporters insist the farmers to maintain only 9 or 10 hands in the bunch. By restricting the number of hands to 9 to 10, availability of nutrients to the fruits are more resulting in uniform size of fruits and faster development.



41mm is preferred fruit size for export

l. The practice of 'Finger thinning' is also to get uniform size of fruits: The main goal of thinning is to increase fruit size because the smaller number of the fruit on the hands of banana reduces competition for photosynthesis, minerals, water and other compounds.



m. Retaining a finger in the last hand: After denavelling (removal of male floral bud), the distal end of rachis sometimes gets infected with fungus and if left uncured the fungal infection spreads to the upper hands causing extensive damage. Retaining a finger in the last hand is a practice to monitor the fungal infection since the symptoms can be easily spotted in a lone fruit rather than spotting it in the major part of the bunch.

Conclusion

Excellent yields are obtained through following bunch care techniques described as bell injection, deflowering, propping, bunch covering, desuckering and devavelling. But, 'Bunch sprays' and covered the bunches with bunch covers / sleeves. To attain max. Yield in banana, the crop has to be nourished properly from day one.

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