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DRAGON FRUIT A NEW INTRODUCTION IN THE INDIAN MARKET

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Introduction

Dragon fruit a recently introduced super fruit in India, is considered to be a promising, remunerative fruit crop. Fruit has very attractive colour and mellow mouth melting pulp with black colour edible seed embeded in the pulp along with tremendous nutritive property which attract the growers from different part of India to cultivate this fruit crop which is originated in Mexico and Central and South America. It is a long day plant with beautiful night blooming flower that is nicknamed as “Noble Woman” or “Queen of the Night”. The fruit is also known as Strawberry Pear, Dragon fruit, Pithaya, Night blooming Cereus, Belle of the night, Conderella plant and Jesus in the Cradle. Fruit is named as pitaya because of the bracts or scales on the fruit skin and hence the name of pitaya meaning “the scaly fruit”. It has ornamental value due to the beauty of their large flowers (25 cm) that bloom at night; they are creamy white in color. It is considered as a fruit crop for future. The fruit comes in three types, all with leathery, slightly leafy skin: *Hylocereus undatus* white flesh with pink skin, *Hylocereus polyrhizus* red flesh with pink skin, *Hylocereus costaricensis* with violet red flesh and pink skin and *Hylocereus (Selenicereus) megalanthus* white flesh with yellow skin.

The biggest advantage of this crop is that once planted, it will grow for about 20 years, and 1 hectare could accommodate about 800 dragon fruit plant. It is being grown commercially in Israel, Vietnam, Taiwan, Nicaragua, Australia and the United states. It produces fruit in the second year after planting and attain in full production within five years. This article concentrates mainly on how to cultivate dragon fruit based on the literature available and research work done in Bidhan Chandra Krishi Viswavidyalaya with the genus *Hylocereus* and species *costaricensis*. *Hylocereus* comprises 16 species, which are endemic to Latin America and they are not very well known among the growers and researchers and have only recently been the subject of studies. Very few research works have been done on this fruit crop in India. Specific topics associated with the difficulties met by countries that have introduced the new species. So, the research thrust must be given in the following areas; floral biology and ecophysiology. The aims of this article were to draw up a list of literature currently available on *Hylocereus*, grouping the references which covers importance, botany, vegetative and reproductive biology, cultivation, manuring, pollination, harvesting, pest & disease. So that everyone become familiar with dragon fruit.



Cultivation

One of the major merits of this crop is that it can grow in the extremes of temperatures up to 40 degree °C and best suited for the tropical climate with a good annual rainfall. Care should be taken during summers when temperatures go beyond 42 degree °C. Growing intercrops like castor, drumstick will help to reduce the effect of heat during summer. It can be grown on almost all soils which have good drainage capacity. There are two methods of growing dragon fruit, the first is the use of seeds and the second is using a cutting from the plant sampling. Seeds take a time of three years before the plant is large enough to be used so farmers generally opt for the cutting method. The length of the sapling should be 20 cm and it should be cut from the mother plant and left in the shade for 5-7 days before being planted in the field. Many farmers who are cultivating the crop have started selling saplings at a cost of Rs 50 per sapling. Poles are used to train the plants on them and are allowed branch at the top of the poles with the help of a circular ring. These poles should be of 7 foot length and 2 feet is allowed into pits. Poles are erected at a distance of 10 feet between the rows and 8-10 feet between poles in the rows. With 450 – 500 poles can be erected in one acre land. Four plants are planted at each pole on four sides of it, which amounts to 1600-2000 plants per acre. Planting should be done during monsoon.



Management

Cultivation of dragon fruit demand very less management. This crops attracts very less pests and diseases and hence cost of management is very minimal. Supplying farm yard manure twice year and 50-100 gm. of urea is very much sufficient. Farmers cultivate this crop in organic manner to fetch good returns. Two litres of water per day is sufficient for each plant and irrigating through drip system is highly preferable.

Pruning

The Dragon fruit plants are fast growing vines and produce more thick dense of branches during the initial stage. The lateral buds and branches should be pruned to grow towards stands. Once vines reach up to the top of the stands the branches are then allowed to grow. The removal of tip of main stem is done to allow growth of new shoots to grow laterally and climb at the ring to form an umbrella like structure of vines where flowers will emanate and develop into fruits which would induce lateral branching. This pruning referred as structural pruning or making a structure on the trellis. The well grown vine may produce 30 to 50 branches in one year and may be more than 100 branches in-four years.





Harvesting

The plant start yielding after 10-12 months from the date of planting and the fruit maturity could be optimized with the change of fruit epicarp color from green to red. Proper time of harvesting was found after seven days of color transition. The plants yield the fruits in the months between June to September, and harvest could be done three to four times in a month. The fruit weight ranges between 250 – 500 grams, and the average yield from the single post is realized about 30 to 35 kgs from the three years old planting. Present farm gate price is around Rs 200 per kg.

Expenditure and Yield

Cultivating dragon fruit per acre may go up to Rs 5 Lakh (Including pole setup, plants, labour, drip and other management expenses). Though it may look expensive but crop can give yielding up to 25-30 years. Though crop starts to give fruits after one year, remunerative yields start from third year onwards with 4-6 tonnes per acre with proper management and yields goes on increasing as it attains umbrella shape at the top of the pole. Farmers can cover entire expenditure in first 2-3 harvestings and rest harvestings up to 25 years can be considered as profits.

Marketing

Though the fruits are less common in rural areas and small towns, it has a very good market in big towns and cities considering its nutritional values. The current farm gate price is around Rs 170-210 and in the retail market it is fetching around Rs 270-300. The price of this fruit may come down a bit, if more farmers grow it. As per the experience of farmer who is growing it, confidently say that even Rs 55 – 65 per kg would be a remunerative price.

Conclusion

Dragon fruit consumption in India is increasing day by day, especially among the urban elite. Many farmers are very interested in growing the crop and capture the existing demand. Though the per kg price of the fruit bit high and chances of price dip in the coming future is very obvious as many farmers started cultivating it.

