

PACKAGE & PRACTICES OF DRAGON FRUIT (KAMALAM)

Dragon fruit belongs to the Hylocereus Cactaceae family. It is also known as Honolulu Queen, Pitaya fruit and Kamlam. This fruit is very popular in Thailand, Vietnam, Israel and Sri Lanka. It is a more nutritious and beneficial fruit than orange, mango, papaya, banana, apple etc. Dragon fruit looks like a pineapple from outside, but inside the pulp is like a pear or kiwi filled with small white and black seeds. The colour of this attractive and mysterious fruit is red-pink. Its skin has green lines, which look like a dragon, hence it is also known as dragon fruit. Its cultivation has recently become popular in India. The Gujarat government has changed the name of this fruit from dragon fruit to Kamlam. Dragon fruit is very beneficial for many urban consumers who suffer from diabetes, cardio-vascular and other stress related diseases and prefer natural remedies.

Health Benefits of Dragon Fruit

- Dragon fruit helps in controlling cholesterol.
- Sugar is beneficial for diabetic patients.
- Dragon fruit is rich in fibre, which fulfils the deficiencies of essential nutrients in your body.
- Its consumption reduces the risk of cardiovascular disease (CVD).
- Prevents serious diseases like heart attack.
- Antioxidant properties are found in abundance in dragon fruit.
- Potassium and Vitamin C are present in dragon fruit.

Main types of dragon fruit

On the basis of external colour and pulp, this fruit is mainly of three types:

1. White pulp, red coloured fruit
2. Red pulp, red coloured fruit
3. White pulp, yellow coloured fruit Nutrients

Climate

Hot and humid climate with minimum annual rainfall of 50 cm is required for dragon fruit cultivation. The temperature should be between 20 to 36 degrees Celsius and high humidity is considered best for proper growth and fruit production of plants, they should be planted in an area with good light and sunlight. Too much sunlight is not suitable for its cultivation.

Soil

The sandy loam soil to black loam soil with proper drainage is most suitable for the cultivation of this fruit, which is rich in organic matter and pH value is between 6.5 to 7 is considered good.

Propagation

Dragon fruit is propagated by cuttings, but it can also be planted from seed. When planted from seed, it takes more time to bear fruit, which is not good from the farmer's point of view, hence the seed method is not suitable for commercial farming. To propagate it through cuttings, the length of the cutting should be 20 cm. It is planted in pots/polythene bags before planting it in the field. For this, pots are filled with cow dung, sandy soil and sand in the ratio of 1:1:2 and kept in the shade, before fillings the planting material in pots/polythene bags, it should be treated with the solution of *Trichoderma viride* @ 5 grams per litre of water for 20 minutes.

Pit Digging and Filling

For higher production, the distance between plant to plant and row to row is kept at 2×3 meters. About 650 plants are planted in one acre. The size of the pit should be 60×60×60 cm for better growth and survival. The digging of pits is done in the month of May and the pits are left open for 15 days so that the pathogenic germs and harmful insects and their eggs present in the soil get destroyed under the influence of strong sunlight.

For filling the pit, each pit should be filled by the mixture of 10 kg well-rotten FYM/ Ghanjeevamrut, 1 kg Neem cake, 1 kg Mahua/Mustard/Castor cake, 250 grams gypsum and 50 grams *Trichoderma viride* powder.

Planting and staking of saplings

Dragon fruit plants can be planted in hot and humid environments from June to August. This is a cactus vine and its fruits are very big, so they need support to stand, for this wooden/RCC poles of 6 feet height will have to be installed near each pit.

Training and Pruning

For straight growth and development of plants, they should be supported with wooden and cement pillars. Immature plant stems should be tied to these poles, leaving two to three main stems to grow while limiting side branches. After this, its structure should be secured in a circular form.

Weed control

To prevent weeds, weeding should be done from time to time as necessary.

Nutrients management

To get more production, each plant should be given 10 to 15 kg of well rotten seeds. By making a mixture of cow dung or compost, 250 grams of Neem cake, 250 grams of gypsum, 250 grams of rock phosphate, 50 grams of *Trichoderma* powder, feed the plants before

flowering (in April), in the fruit development stage (July-August) and after fruiting. Should be given after harvest (December).

Irrigation

Dragon fruit plant does not require much water. Irrigation should be done to provide adequate amount of moisture at the time of flowering and fruit development. Drip irrigation technique has been considered most suitable for dragon fruit cultivation. Dragon fruit crop can get damaged due to excess water and accumulation of water near the roots, hence there should be good drainage facilities in the fields.

Major pest & disease and their control

Generally, dragon fruit is less prone to pests and diseases. Nevertheless, outbreaks of anthracnose disease and thrips insect have been seen in it. To control anthracnose disease, a solution of *Trichoderma viride* powder @ 5 grams per litre of water should be sprayed. For thrips, a solution of Neemastra should be prepared @ 250 ml per 10 litres of water and sprayed.

Fruiting and harvesting

Dragon fruit is a type of cactus vine. It flowers in May-June. Fruits appear from August to December. The fruits ripen every 40 days during the four months of monsoon period. The fruits are ready for harvesting one month after flowering. During this period, it can be harvested 6 times. The raw fruits of dragon fruit are green in colour, which turns red when ripe. The right time to harvest the fruits is three-four days after the colour changes. The fruits are harvested by sickle or hand.

Yield

Dragon fruit plant bears fruit 3 to 4 times in a season. The weight of each fruit ranges from about 300 to 800 grams. One plant bears 50 to 120 fruits. Thus, its average yield is 5 to 6 tonnes per acre. This fruit gives a profit of Rs 14 lakh when cultivated on one acre.

Packaging

All dragon fruits are packed the same day after harvest, then cooled before loading onto containers for export. This process must be strictly implemented to ensure that the fruit has a long shelf life.

Storage of fruits

Dragon fruit can be stored for 5 to 7 days at room temperature i.e. 25° Celsius. It can be stored for 22 days at 8° Celsius temperature.