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Dragon Fruit: Importance and Cultivation

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The dragon fruit (*Hyloceirus undatus*) is an exotic fruit that is grown all over the world. It originated from Central America, Mexico and South America. It known as dragon fruit because of appearance, the leather-like skin and prominent scaly spikes on the fruit exterior (Lehmann, 2019). It is also known as *pitahaya* and *pitaya* derive from Mexico, and *Pitaya roja* in Central America and northern South America, possibly relating to pitahaya for names of tall cacti species with flowering fruit (Morton, 1987).

The fruit may also be known as a strawberry pear (Freitas and Mitcham, 2013). It is a species of Cactaceae family. Presently it is commercially cultivated in India, Vietnam, Sri Lanka, Philippines, Cambodia, Thailand, Taiwan, Malaysia, Indonesia and Bangladesh and Vietnam is largest producer of dragon fruit. In India it is being cultivated in Assam, Gujarat, Andhra Pradesh, Karnataka, Tamil Nadu and Punjab. Its stem is erect and triangular in shape. Usually its flowers are white or orange in color and bell and tube-shaped. Its flowers bloom at night. They smell very good. When the fruit is ripe, the fruit becomes fleshy and its skin turns red, yellow or purple. Its flesh is red, orange and seeds are black. The weight of one fruit can be 200-1000 grams. The fruit may be sweet or slightly sour in taste. It is a rich source of nutrition such as Vitamin C, calcium, and phosphorous. It has higher medicinal values like reducing hypertension, diabetes. It has greater anti-oxidant, hepatoprotective, wound healing, anticancer, antiviral and antimicrobial activity. It balances blood production and its compositional value of total ascorbic acid, total dietary fiber, pectin and iron content to increase haemoglobin and erythrocyte level. It reduces aortic stiffness. They also can improve the function of kidneys and sharpness of eyes and strengthen the brain function; it also prevents colon and prostate cancer. This draws an attention of medical studies toward its role in controlling various diseases and vital health-promoting factors (Kumar *et al*., 2018).

Cultivation

A) Propagation

Cultivation of this plant is possible both from seed and cutting but it is a bit difficult to grow it by seed and the plant takes more time to grow. That's why most farmers grow it only by cuttings obtained from the twigs of the plant.

B) Planting

In the field where dragon fruit is to be cultivated, 2-3 deep plowing are needed to make the soil crumbly and the field should be weed free. To get good yield of dragon fruit, bury the 480-520 cement poles of 2 meters long and 12 cm width at 3x3 meters apart in one acre. For cutting, take 2-3 year old strong, dark green healthy twig and cut them into 50 cm long

pieces. Each cutting should have a healthy eye covered with strong thorns. Planting should be done in September after the rains have ended. Four cuttings can be grow in all four directions of a pole. After planting the cutting, cover it with soli and then with haystack.

C) Irrigation management

Dragon fruit requires less water than other crops because it belongs to the Cactaceae family. It can survive without water but for good yield it needs water once in 4 days. Therefore, drip irrigation has proved to be more effective in this. In which every drop of water is used properly and there are no weeds in the field. In summer season, a plant requires 1-2 liters of water for irrigation. Irrigation depends upon the type of soil, its moisture holding capacity, age of the plant and weather condition.

D) Manures and fertilizers

Adding manure and fertilizer to dragon fruit has shown good effect. In the beginning, the plant needs more nitrogen and at the time of flowering, it needs phosphorus and potash. Application of urea can cause stem rot disease in the plant. Therefore, 5-10 kg of good rotted manure of cow dung keep adding on a per plant basis at an interval of every 45-60 days. Apart from this, apply NPK and zinc manure at the time of flowering and fruiting according to the soil test. Biofertilizer or liquid organic manure or fruit stimulator plant-hormones can also be used.

E) Disease and pest management

There is no special disease or insect in it. Only the crop has to be protected from birds and other predators. But if water stagnates in the field due to excessive rain, then the plants may die due to fungal diseases like root rot etc. Therefore, proper arrangement of water drainage should be kept in advance. For this, the plants should be planted on a raised bed 50 cm.

F) Nutritional quality

Dragon fruit contains 73.9 energy, 1 g protein, 0 g fat, 0.5 g fiber, 23 g carbohydrates, 23 g sugar, calcium 30 mg. Sodium 10.9 mg, Vitamin-C 1.79 mg.

G) Use of fruit

The lotus/dragon fruit can be eaten straight in the cut or as a snack or salad. It can also be used by making marmalade, candy, jelly or shake.

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