



Dragon Fruit: A Viable Option for Degraded Land in India

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Introduction

Dragon fruit (*Hylocereus* spp. and *Selenicereus* spp.) is a member of Cactaceae family, it has a great potential to be grown in various agro-climatic regions. Dragon fruit has great opportunities for its cultivation in adverse climates and soils due to its stress tolerant characteristics. It is a long day plant with beautiful night blooming flowers. It has various other names like Noble woman, Queen of night, Pitaya, Night blooming cereus, Belle of night etc. It has tremendous nutritive values which attract growers of different parts of country.

In some parts of world, dry flowers of pitaya are consumed as vegetables. Mainly it is used as table fruit. Moreover, it is also used in the form of juice, jam or preserves. It has been proved that regular consumption of dragon fruit can help against cough and asthma. It contains a good amount of vitamin C due to that it has capability to boost our immune system.

Botany

It is a perennial vine like cactus which is semi-epiphytic in nature, it can climb to any natural or artificial support. It has aerial roots which adhere to the support. Its flower is white in colour, bell shaped, fragrant and edible. The fruit is berry which is oblong in shape and seeds are embedded within flesh.

Soil and climate

Dragon fruit can be grown in various soil and climate. It can tolerate extreme of climate as well as poor soil conditions. However, it is

best suited to tropical climates where temperature is 20-30 °C and annual rainfall is 40-60 cm. Dragon fruit requires soils having good drainage system. So, sandy soils are the most suitable soils for its cultivation. pH of soil should be in the range of 5.5-6.5.

Propagation

It is generally propagated through stem cutting. Cuttings of 20-25 cm length are ideal for planting. The cutting should be taken from healthy mother plant. Prior to planting, cuttings can be treated with fungicides to prevent fungal diseases. After that, cuttings should be planted in polythene bags filled with media. Water should be applied immediately after planting.

It can also be propagated by seeds but it takes longer time for planting and plants are not true-to-type. So, this method of propagation is generally not followed.

Planting

Location plays an important role in dragon fruit cultivation. It prefers open areas having plenty of sunshine. Shady areas are not suitable for its cultivation. The cured cuttings are directly planted in soil.

As it requires support, wooden or concrete posts are used for staking. Generally, 3-4 cuttings are planted around support. It can be planted horizontally as well as vertically. But horizontal planting is not recommended as direct contact of fruit to the soil deteriorates its quality. With vertical support, 2-3 m distance is kept between planting lines which could accommodate 2,000 to 3,800 cuttings/ha.



Varieties

There are major four types of dragon fruit:

(a) *Hylocereus undatus* – white flesh having pink skin,

(b) *Hylocereus polyrhizus* – red flesh having pink skin,

(c) *Hylocereus costaricensis*- violet red flesh having pink skin and

(d) *Hylocereus megalanthus* – white flesh having yellow skin.

Flowering

Dragon fruit flowers open in night which lasts only one evening. The flower starts with spiral button type structures at stem margins. They develop into flower buds in 10-15 days. The flowers are hermaphrodite in nature and bloom at night only. Flower production mainly takes place during May-August.

Nutrition and Water Management

As dragon fruit is a hardy plant, it requires very less nutrients though it responds to fertilizer application. Nutrients should be applied in various splits.

Micro nutrients can be applied as per requirement. Care should be taken that fertilizer application should be stopped 10-15 days prior to harvesting.

Dragon fruit can survive in drought conditions. It needs very less amount of water but irrigation improves the fruit quality. Generally micro-irrigation is recommended for uniform application of water.

Harvesting

The plants start yielding 10-12 months after planting. The fruit generally matures 30 days after flowering. Fruit maturity can be optimized with the change of fruit epicarp colour from green to red. Fruit weight may range from 300-800 g depending upon cultivation practices. The average yield from single post may be 30 to 35 kg from three year old planting.



Conclusion

This aimed to introduce the production of dragon fruit considering its nutritional and economic values. It can be grown around the year in tropical and subtropical areas. The prospect of the fruit is very bright in the world market due to the increasing trend of its consumption. The research of dragon fruit should be intensified by emphasizing its value chain and production aspects for long term perspective.

References

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