

Training and Pruning

5

The vine should be consistently monitored and bound to the pole till it reaches around 5ft. Uniform spreading in umbrella shape is encouraged. Excess, dead and diseased vines should be cut off.



Fertilizer and Irrigation

Apply with 10-15kg of FYM, 150g of SUPHALA per plant at least once before the flowering and during the peak fruiting period. It belongs to cactus family and tolerates to dry condition, however it should be irrigated based on the soil moisture or once/2 weeks interval during fruiting period.

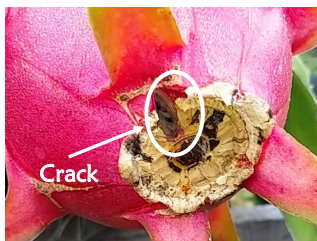
Harvesting

6

Flowers start to bloom at night when temperature is above 25°C from mid of June in Bajo, and the harvest comes 35-40 days after the blooming. Harvest the fruit when mature fruit turns full red and hole appears inside the cavity of the fruit.



Usually, it is well-fruiting on weeping shoots.



It is late time for harvest if you see crack on the bottom.

Major pest, disease and disorder

7

Orange spot is caused by a filamentous fungus, *Botryosphaeria dothidea*. This fungi probably provides a yellowish symptom like cold damage or some deficiency, especially on new stems severely. This fungus can easily spread by wind, rain, insects, non-sterilized scissors or scratching by the wounded plant.



Countermeasure: Cut the symptomatic stem and burn it down certainly. For prevention, paste a fungicide or a wood glue on the cut part.

Anthraxnose: This reddish-brown lesion is a common disease caused by *Colletotrichum gloeosporioides*. This fungal disease invades and makes pale yellow halos as an initial symptom on stems and fruits. While getting worse, the symptom progresses sunken and dark lesions.



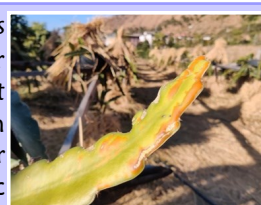
Countermeasure: Copper compound and mancozeb are possible to use for the control. In case of fruits, between rows managements are the key points such as **keeping good ventilation**, **soil fertility management** (e.g. mixed-planting) and **mulching**.

Soft rot disease is a fungal disease caused by *Gilbertella persicaria*. The infected part shows a yellowish symptom initially. After the initial stage, the lesion progresses to brownish, soft and water rot symptom.



Countermeasure: For the control, make sure to keep good ventilation to the plants, especially in the summer. Prune off all the infected stems with tools such as pruning/trimming scissors which must be sterilized using a laundry bleach (dilution: 4 tea spoons of bleach into 1 liter water).

Frost damage: Dragon fruit witch is categorized as a tropical fruit has no or less cold tolerance. The important thing is to remember cold protection treatment in winter (covering over using rice straw, planting in plastic house, etc.).



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Agriculture Research and Development Center
Bajo Wangdue Phodrang
Department of Agriculture, Ministry of Agriculture and Forests



Dragon Fruit

Starter Guide

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Integrated Horticulture Promotion Project
2016-2021



Points of techniques

Background

Family : Cactaceae

Scientific name : *Hylocereus undatus*

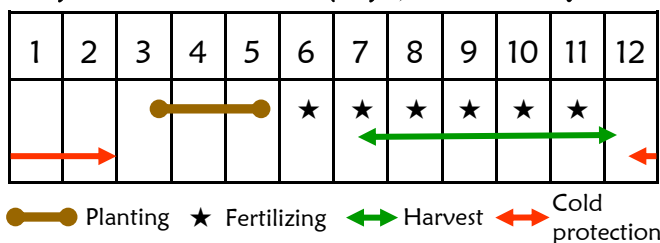
Common name : Dragon fruit / Pitaya
/ Strawberry pear

Origin : South, central & north America

Description

Dragon fruit is a fruit of several cactus species, most importantly of the genus, *Hylocereus*. It is native to South and Central America and belong to perennial epiphytic plant. It is also commercially cultivated in sub-tropical to tropical Asian countries. In the same region of Bhutan, Dragon fruit is gaining popularity.

Major work calendar (Bajo, 1200 masl.)



1

Climate and soil requirement

It is mostly cultivated in the tropical region of the world, where the region experiences hot and wet summer. The crop can be grown in Bhutan from 300-1700masl where there is **no-frost**. The plant can be grown in wide range of soils. However, soils that are well drained and high in organic matter are recommended.

Example in Bajo (1200 masl.) , the dragon fruit plants grow well in summer, but need to be protected from cold in the winter.



Bajo in summer



Bajo in winter

In winter time, cold protection is important. it is a tedious work, but it is good for the plant health.



Open in daytime. Cover in night.

2

Propagation

The crop can be propagated through cutting. However it can also be propagated through seeds.



1.Cut a stem.



2.Dry the cut part.

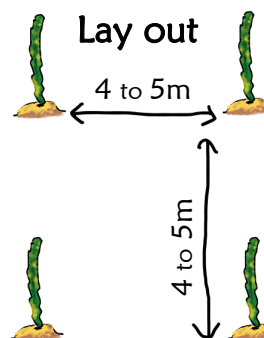


3.Plant in a pot.

3

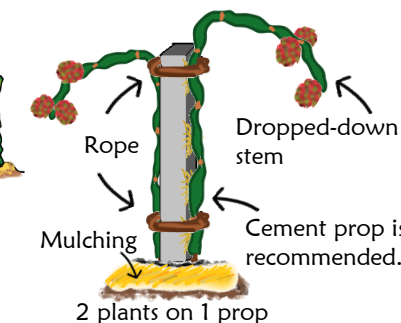
Planting and Lay out

Planting is done on the onset of spring season (March-May) with spacing maintained at 4-5m x 4-5m spacing. Plant stem directly into the soil at the depth of at least 2 inches and provide staking and mulching.

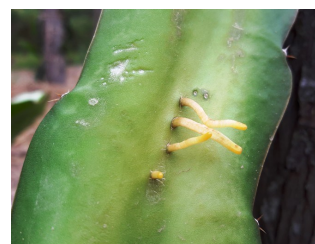


Trellising

Dragon fruit plant usually has their fruits on the top of the dropping stems. So, the plant needs to be planted nearby a trellising prop and hang down on the purpose.



New trellising trial in ARDC Bajo



Dragon fruit generates aerial roots on the stem for holding the plant body on support trellis.

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