

GROWING PITAYA – I. Guidelines for plant establishment

Pitaya (*Hylocereus undatus*) is a climbing cactus known in Mauritius under the names ‘cactus tortue’ and ‘raquette tortue’. It grows wild in the dry zone of Mauritius and Rodrigues, where it can be seen on walls, trees and rock heaps.

Since the local clone does not normally produce fruits in the wild, it has to be cross-fertilized with pollen from a genetically-different clone to set fruits. Two such compatible clones have been identified and the best is being propagated.

The fruits are oblong in shape and weigh an average of 500 g. The peel is scarlet-red and is covered with soft scales. In the white pulp inside are dispersed numerous tiny black seeds. The pulp is juicy and tastes slightly sweet with a touch of acidity reminiscent of kiwi fruit.



Pitaya plant with fruits
Cross section of fruit

Adaptation

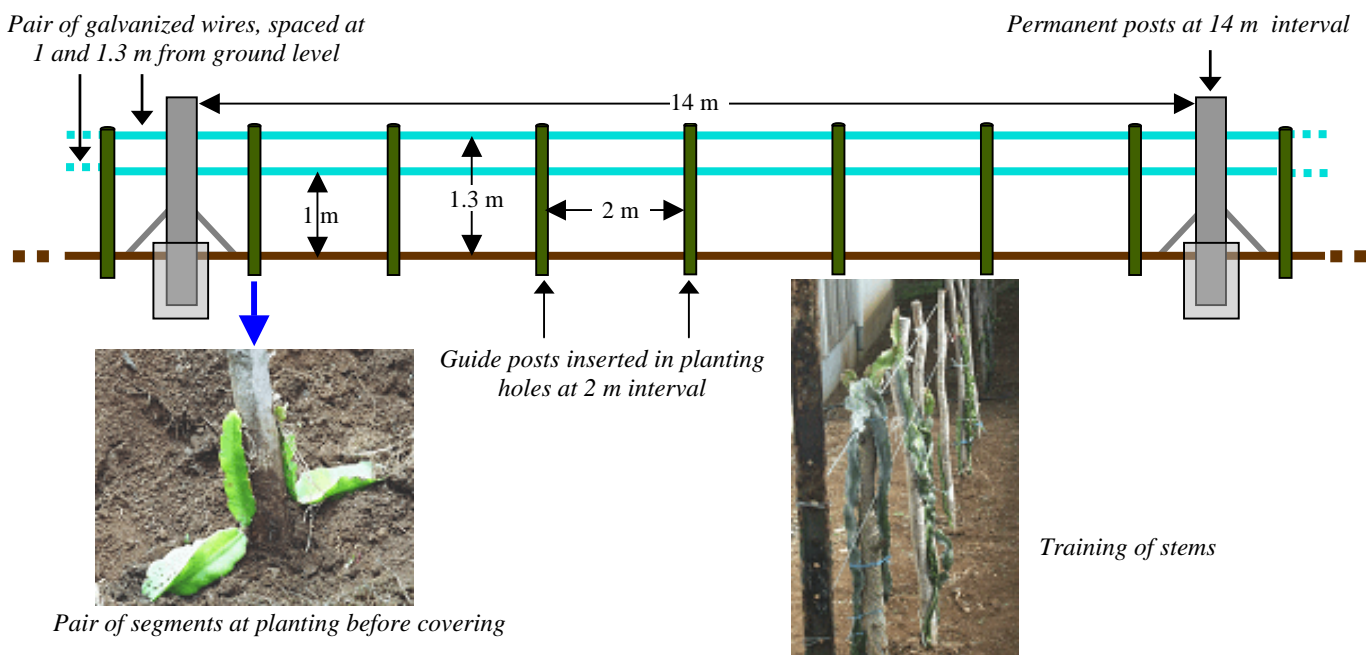
Pitaya is presently recommended for the subhumid zone. It can be planted wherever the annual rainfall does not exceed 1800 mm. All free-draining soils except sand are suitable.

Planting material

Pitaya has no leaves and its stems are green, succulent and segmented. The plant is grown from stem cuttings or segments. Stem cuttings of the local clone can be obtained from the wild. They should be trimmed to two segments and kept in the shade for one week for suberization before planting.

Planting method and support system

Pitaya is a trunk-less climbing plant which requires a support. A trellis system with permanent and guide posts, as shown in the schema below, is advisable. The permanent posts need to be solid and well-anchored.



The guide posts could consist of wooden stakes 5 to 10 cm thick that are driven into the planting holes for the plants to climb onto. Two heavy-gauge galvanized wires, (\emptyset - 3.0 mm) should be fixed at 1.0 m and 1.3 m from the ground and tightened. The guide posts will rot after two to three years by which time the plants will have climbed up to the wires which will provide support.

Spacing / planting distance

Holes : 0.3 m long x 0.3 m wide x 0.5 m deep
Inter-row spacing : 2.5 m
Intra-row spacing : 2.0 m

Fertilization at planting

Fill each planting hole with a mixture of:

- top soil
- 10 kg factory filter muds (scums)
- 200 g NPK fertilizer, e.g. 13:13:20:2
- 100 g MAP (mono ammonium phosphate - 46% P_2O_5).

Two cuttings are planted per hole with the **lower** segment buried horizontally.

As each plant develops, it should be trained as a single stem up the post. At first, the stem should be tied to the post; later, it will attach itself by means of roots. All lateral branches should be removed regularly in the first year until the stem reaches the topmost wire where it is then allowed to branch. In the second year, these lateral branches will hang down from the wire.

Planting pattern

Neither the local clone nor its compatible partner will produce fruits on their own. It is necessary, therefore, to plant both and to intercross them.

The recommended pattern is:

one row of the compatible clone for every ten rows of the local clone
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Irrigation

Pitaya is very drought resistant. When cuttings are planted

- in January to March at the beginning of the rainy season, they do not require any irrigation even in the driest part of Mauritius and Rodrigues
- as from April, they may need some additional water on and off when the rain stops

Irrigation is not needed as from the second year.

Note:

- **Rooted cuttings of the compatible clones are being prepared by MSIRI, AREU and Barkly Experiment Station for sale. Growers are advised to register with their respective extension services for cuttings of the compatible clone.**
- **Management of plantations will be explained later in a second Recommendation Sheet in this series.**