



**FACULTY OF AGRICULTURAL SCIENCES & ALLIED INDUSTRIES**

- Botanical Name : *Passiflora edulis*
- Family : Passifloraceae
- Chromosome no :  $2n=18$

## Preamble

Passion fruit is an important wine crop, which is extensively used in preparation of squash, Jam and Jelly and it is rich in vitamin A and contains important minerals like magnesium, sulphur and chlorides.

## Origin

- Commercial in S.Africa, Srilanka, Kenya, Cameroon, Hawaii, Zimbabwe and Australia.
- In India, it is growing wild in Nilgiris, Wynad, Kodaiknal, Coorg and Malabar.
- It is being cultivated in H.P. Nagaland and Mizoram.

## Composition and Uses

- A rich source of Vit A & contains fair amounts of sodium, magnesium, sulphur and chlorides.
- Gives a very good squash and is used in jam jelly, nectar and ice cream making.

## Soil and Climate

- Can be grown in infertile soils also. Deep, well drained fertile loamy soils are best for good yields. Optimum pH is 5.5 to 7.5, Cannot tolerate water logging over long periods.
- Passion fruit cannot tolerate frost. Can be grown up to 2000 m. purple one does well at higher altitudes and yellow one at lower elevations.
- Optimum temperature range is 20<sup>0</sup>C-30<sup>0</sup>C. Below 15<sup>0</sup>C growth and flowering is restricted and above 32<sup>0</sup>C vegetative growth increases at the cost of fruiting.

## Species and Cultivars

About 60 sps of *Passiflora* produce edible fruits. *P. edulis* is most popular.

### Cultivars:

- *P. edulis*- Purple susceptible to diseases.
- *P. edulis*- var *Flavicarpa* – Yellow

### Tolerant to diseases.

- **Var Noels special**- golden, early bearing, self incompatible.
- **Kaveri**: purple yellow- tolerant to diseases and high yielding.
- **Australian Varieties**: Purple gold, Lacey, E-23 Black beauty.

## Propagation and planting

### Propagation

- Passion fruit is propagated through seeds, cuttings and grafting on resistant stocks.
- *P. incarnata*, *P.coerulea*: Cold, Disease tolerant stocks and for breeding.

### Planting

- Spacing is 2m X 3m wider spacing between plants improves yield.
- Monsoon is best for planting.

- Passion fruit plants can be retained for 3-6 years only.

### **Manuring and Irrigation**

#### **Manuring**

- 100 g N, 50 g P, 100 g K. per vine/year in two splits for purple variety.
- 110 g N, 60 g P, 100 g K per vine/year in 2 split doses for Kaveri (hybrid)

#### **Irrigation**

- Irrigation should be regular keeping the soil at field capacity to a depth of about 60cm.
- Water stress during growth and development reduces quality and yield to a greater extent.

### **Interculture**

- Weeding should be regular.
- Oxyfluorfen 1.92 lit/ha, can be effectively used for controlling the weeds.
- Maintaining beehives helps in improving fruit set specially in golden-passion fruit as it is self incompatible.

### **Pruning and Training**

- Passion fruits are trained on to well built kniffin system trellis (2 arms).
- Two leaders are trained on either side of the vines from the main stem.
- Laterals on these leaders are allowed to hang freely.
- These are pruned systematically to encourage new fruit bearing shoots.
- Pruning is done after harvesting in April and November-December.

### **Harvesting and Yield**

- Passion fruit takes 60-90 days from fruitset to maturity.
- Plants produce fruit from 10th month but good yields will be given from 16-19 months.
- Main seasons of fruiting are Aug-Dec and March-May.
- Passion fruit does not ripen well after harvest.
- Yield will be 8-10 Kg/vine for Kaveri variety.
- On an average 12-20 tonnes/ha/year can be obtained.

### **Grading and Packing**

- Passion fruits are graded by size and colour.
- Normally packed in cartons or polythene bags.

### **Storage**

- Can be stored for a few days only at room temperature as they start losing moisture and become shriveled.
- They can be stored for 4-5 weeks at 5°C and 80-90% relative humidity keeps the quality well for 15-30 days.