## Introduction

Custard Apple (Annuna squmos L.) is one of the finest fruits introduced in India from tropical America. It is also found in wild form in many parts of India. It is cultivated in Andhra Pradesh, Maharashtra, Karnataka, Bihar, Orissa, Assam, and Tamil Nadu. It is very hardy, medium in growth and deciduous in nature. The fruits are generally used as fresh, while some products or mixed fruits like custard powders, ice-creams are prepared from the fruits. Besides high nutritive value, it has also a high medicinal value. Unripe fruits, seeds, leaves and roots are considered and used in medicinal preparations.Custard Apple requires hot dry climate during flowering and high humidity at fruit setting.The Custard Apple withstands drought conditions cloudy weather and also when the temperatures go below $15^0$C. Annual rainfall of 50-80 cm is optimum, though it can withstand higher rainfall.It can grow well in deep black soils provided they are well drained.

## Varieties

The following are some of the varieties grown in different agro-climatic regions of the country.

- Red Sitaphal
- Balanagar
- Hybrid
- Washington
- Purandhar

## Maturity Indices

Require 100 to 120 days for full maturity. Scales on fruits becomes prominent, plummy and well space. On maturity, the fruits turn light green in colour. The inter-areolar space widens, and the fruits turn creamy white. grooves between the carpels widening and lightening in colour (creaming of the grooves may sometimes be present on the shoulders of the fruit). Carpels becoming fuller and more rounded, particularly at the base of fruit ( fruit may also appear rounder and less pointed).

## Harvesting

Custard apple starts bearing fruits from the fourth year of planting, and yield declines gradually after the fifteenth year. It yields fruits during August to October season in south India and during September to November in the northern parts of the country. The custard apple has the advantage of cropping in late winter and spring when the preferred members of the genus are not in season. It is picked when it has lost all green color and ripens without splitting so that it is readily sold in local markets. If picked green, it will not color well and will be of inferior quality. The tree is naturally a fairly heavy bearer. With adequate care, a mature tree will produce 75 to 100 lbs (34-45 kg) of fruits per year. The short twigs are shed after they have borne flowers and fruits.

## Storage & Packaging

Individual film sealing of custard apple extended their shelf life non wrapped fruit had a shelf life of 13 days compared to 17 days of those wrapped with PD-955 (copolymer). Low density polyethylene (LDPE) film was found to be inadequate to package. Fruit should be unwrapped before ripening at room temperature to avoid off flavor development. The marketing potential of custard apple is hampered by its high perishability (at 18–20 °C it will ripen in 3–6 days) and susceptibility to chilling injury. The

optimum temperature for prolonged cold storage of custard apple, depending on the cultivar, ranges between 8 and 15 °C. The safe range of storage temperature for 'Balanagar' sugar apple was found to be between 15 and 20 °C, with maximum shelf life at 15 °C. Fruit ripening was observed on days 4, 6 and 9 during storage at 25, 20 and 15 °C, respectively. Pulp color, texture, taste and flavor of ripe fruit held at 25 and 20 °C were superior followed by fruit stored at 15 °C.

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