



Agroforestry Facts  
Custurd Apple



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| <b>Botanical Name</b>        | <b><i>Annona squamosa</i> L.</b>                                                                                                                                           |
| Name in English              | Custard Apple                                                                                                                                                              |
| Name in Kannada              | Seethaphala                                                                                                                                                                |
| Family                       | Annonaceae                                                                                                                                                                 |
| Seeds Collection             | Seeds to be collected from the mature fruits. Fruits maturing in the month of October. A kg of seeds contain approximately 4000 seeds.                                     |
| Seeds Processing & Treatment | Improved seed germination upon pre-treated with scarification at all sides around the longitudinal axis and at the hilum of seeds seems to perform better. Soaking seed in |

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|                                | water at room temperature at 30°C for 12 hrs and 24 hrs also perform well.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Nursery                        | It is propagated commonly by seeds. Fresh seeds germinate in 20-30 days. seedlings are ready for planting out after 6 months. Vegetative propagation by budding or inarching on owoon seedlings and <i>A. reticulata</i> ensures genetic uniformity. Budding is usually done in early spring or in the autumn. Inarching should be carried out in early spring using one-year old mature scion and more than one-year old root stock.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Plantation Management          | <p>A warm climate (not very hot) with high humidity and mild winter will be the ideal climatic condition for the best growth and yield. The Custard Apple is not very particular about soil conditions and flourishes in all types of soils like shallow, sandy, but fails to grow if the subsoil is ill drained. It can grow well in deep black soils provided they are well drained. A little salinity or acidity does not affect it but alkalinity, chlorine, poor drainage or marshy-wet lands hamper the growth and fruiting.</p> <p>Planting is done during rainy season. The pits of 60x60x60 cm at spacing 4x4 or 5x5 or 6x6 depending on soil type are dug prior to monsoon and filled with a good quality FYM, single super phosphate and neem or Karanj cake under dry conditions and with drip irrigation system planting at 6x4 meters has given good growth and better fruit setting.</p> <p>Also, during planting 50g. photo bacterium +150g of Vesicular Arbuscular Mycorrhiza are inoculated on the roots and the plants are planted in the pits filled with 10kf of FYM and top soil. This helps in rapid growth of roots and better establishment of plants, especially in dry regions.</p> |
| Model/Spacing                  | 5 x 5 m is ideal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Pests, diseases and Management | <p>Pests: Mealy bugs: (<i>Ferrisia virgata</i>, <i>Maconellicoccus hirtus</i>) - These cause blemishes on fruits and the pest can be controlled by spraying 0.05 per cent dichlorvos. Refer: previous sections for newer insecticides.</p> <p>Diseases: Leaf spot: Affected leaves drop down prematurely. This canbe controlled by fortnightly sprays of 0.05% carbendazim commencing from the appearance of the disease symptom. Anthracnose: (<i>Glomerella cingulata</i>) Infection begins at blossom-end of the fruit and later spreads on entire fruit surface, affected fruits shrivel and they may cling to the tree or fall down. Management: Spray Indofil M.45 (0.02%) at 15 days interval.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Plant Rotation                 | 12 – 15 years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Yield                          | An average yield of 7 tonnes per ha. In high density planting the yield may be 25 tonnes per ha.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| Uses                | Fruits edible. Plant also has medicinal values. The sweet and creamy fruits are highly regarded as a dessert fruit. They can also be used to make sherbet, ice cream, jellies etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Buyers /Industries  | Fruit market                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Harvesting          | The fruits are to be harvested at correct stage of maturity. Light green fruit colour, yellowish white colour between the carpels and initiation of cracking of the skin between the carpels may be taken as maturity indices. The fruits are handpicked. The peak harvest period is October – November. A sugar apple tree usually produces 80-100 fruits per tree after 4 to 5 years. The custard apples ripen within a few days after harvest. The mature fruits can be stored at 15 to 20 °C with RH of 85-90% and low oxygen and ethylene but with 10% CO <sub>2</sub> . Under such storage conditions, the fruits can be kept intact for 12-18 days. |
| Economic Returns    | One can expect the yield of 12 tonne per acre. Each grower can earn between 1.5 lakh to 3.5 lakh per acre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Current Market Rate | Market price is around Rs 35/- per kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |