



STANDARDIZATION OF PRE AND POST HARVEST TECHNOLOGIES FOR SUSTAINABLE CROP MANAGEMENT AND PREPARATION OF VALUE ADDED PROCESSED PRODUCTS FROM INDIGENOUS FRUITS VIZ- AONLA, BAEL AND JAMUN

Research Training Workshop on Facilitating uptake by SMEs of Research on New Processing Technologies for Underutilised Fruits. 13th - 15th May, 2013, Kandy, Sri Lanka.
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Objectives of the project

- Standardize pre harvest technology for enhancement in productivity and quality of the selected under utilized fruits
- Standardize harvesting and post harvest management to increase the shelf life
- Development of innovative processed value added products for higher economic returns
- Transfer of technologies among farmers and industries for commercial exploitation and sustainability.



Aonla (*Emblica officinalis* Geatrn.)

- It is one of the richest sources of Ascorbic acid
- Major constituent of Chyawanprash and Trifala
- Dried aonla (flakes)/ powder
- Aonla is one of the principal constituents of several ayurvedic and cosmetic products;
- Aonla shampoo and hair oil is in great demand;



Bael (*Aegle marmelos* Correa.)

- Bael has high amount of riboflavin (1.19 mg/100 g) preparing various ayurvedic medicines .
- The ripe bael fruit is a tonic, restorative, an astringent, digestive and stomachic and is usually prescribed for diarrhoea and dysentery.
- Bael is an integral component of Brahat-Panchmul, a well known herbal drug.
- These fruits are great source of raw material for various industries like tanning, dyeing, gum, and cosmetic industries.





Jamun (*Syzygium cumini* L.)

- Rich source of iron, vitamins and minerals
- Astringent property is due to oxalic acids, tannic acids, gallic acid and certain alkaloids
- It also contains Vitamins C & A, riboflavin, nicotinic acid, choline, folic acid, malaic acid, sodium, potassium, calcium, phosphorus, manganese, zinc and iron.
- Anthocyanins are present in appreciable quantities and are the reason for the antioxidant activity of the fruit.



Production Technology

- Development of modules for-
 - Integrated Plant nutrient management
 - Integrated Water management
 - Integrated Pest Management
 - Integrated Disease Management
- Standardize the pre harvest technology using GAP
 - Soil testing
 - Use of asexually propagated plants
 - Canopy management
 - Mulching with organic waste
 - Appropriate Irrigation system
 - Foliar spray
 - Application of micronutrients

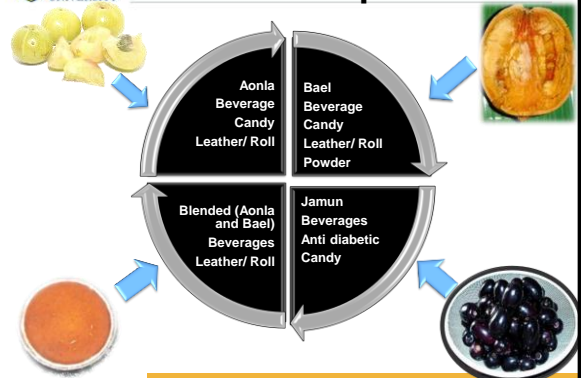


Harvesting and Post Harvest Technology

- Standardize harvesting indices for the three fruits crops
- Standardize the harvesting technique for safe harvest of the fruits eg. Jamun
- Development of appropriate post harvest technologies for increasing the shelf life and better marketability
- Development of protocol for storage, packaging and long distance transportation



Value added products





AMITY UNIVERSITY **Analysis of processed products**

Analysis of the product

- Nutrient composition of the value added product at end of storage
- Storage life of value added products at different temperature on the basis of sensory quality
- Standardize the packaging technology for different products
- Microbial population of value added products at end of storage
- Acceptability study under different consumer groups

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- Training programs will be organized for farmers , entrepreneurs and SMEs
- Frequency and place will be decided on discussion with partner countries
- At least one training program in each country
- Two training programs in the proposing institute

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THANK YOU