

Agro Produce Processing Division

- Technologies such as fruit grader for guava and tomato, evaporative cooling structure for pre-cooling and temporary storage, handling trolley, stack lifter and root vegetable washer were developed.
- A fermenter has been developed for preparation of banana beverage.
- Ready to eat snacks were prepared through extrusion cooking by fortifying the coarse cereals such as sorghum and finger millet. Shelf life of developed products varied from 6-13 weeks.
- Pilot plant for dal mill (0.5 to 0.6 t/h capacity) was established.
- For primary processing of medicinal and aromatic plants, technologies such as senna leaf stripper, aloe vera gel extractor and drying parameters of safed musli were developed.
- Prepackaging studies of fresh curry leaf was carried out in different packaging treatments to enhance its shelf life.
- A commercial model curry leaf stripper has been developed with 30-40 kg/hr capacity for stripping of curry leaf.
- A forced flow type electrically heated dryer was designed for a capacity of 50 kg of fresh curry leaf.
- A batch type multiplier onion peeler with 92% peeling efficiency has been developed.
- Medicinal and aromatic crops like Patchouli could be dried safely at low temperatures i.e. 40 °C and 45°C in the forced flow curry leaf dryer. The volatile oil content and colour of the mechanical dried samples were better than that of the shade dried leaves.
- A continuous feed type root vegetable washer has been developed with a capacity of 350 kg/h for washing carrot.
- Mechanical and pneumatic model of continuous feed type seed removal and segmentation equipment for aonla (*Emblica Officinalis Gaertn*) has been developed.
- A prototype model of Senna leaf stripping tool has been as an alternative to hand stripping of senna.
- Continuous feed type equipment for extraction of aloe-vera gel has been developed.
- An Agro Processing Centre has been established in Sangampalayam village in Coimbatore district of Tamil Nadu for turmeric, banana and onion.
- Electromagnetic radiation profiles of mango have been studied to determine the most convenient methods of non-destructive defect detection. The information has been synthesized in the form of software for use in the non-destructive quality determination of mangoes.
- Technology for development of formulated and functional extruded foods has been developed.
- Membrane separation technology was successfully utilized for production of SPI and SPC. A laboratory-scale set-up has also been developed using 3 ultrafiltration membranes, 1 micro filtration membrane and accessory kit for existing separation unit, on existing ultrafiltration unit.
- Process and technology was developed for production of full fat soy flour from sprouted soybean.

- Process parameters for inactivation of antinutritional factors of soybean to safe level through application of microwave energy were optimized.
- Technology for utilization of okara and whey has been developed.
- Soy oil degumming unit of 50 l/batch capacity to match integral extrusion expelling unit capacity was designed and fabricated.
- A demonstration unit for roasting and deep fat frying soy nuts of 25 kg/ day capacity has been developed and refined.
- HACCP protocols for the preparation of full fat soy flour, medium fat soy flour and soy milk have been prepared.
- Soybean and its products have been characterized for their nutrition and consumption safety.
- Physiology of fruits and vegetables under modified atmospheric conditions have been studied for selecting/ designing suitable packaging systems.
- Process parameters to improve biochemical quality and functionality were optimized using Non thermal, Non chemical technology.
- The protein sub units of soybean and its products were assessed for improving its biochemical and functional quality.
- Optimization of process for Industrially important Enzymes from soy waste was carried out to minimize waste and convert it to economically viable products
- Methodology for enrobing soy nuts with various coatings were studied and the biochemical and shelf life quality was monitored.
- Soybutter as a low calorie, cholesterol free butter substitute was developed and the quality parameters, biochemical, functional were studied.
- Optimization of processes for the production of soymilk, tofu, Soy protein isolate and concentrate were developed and the quality parameters, biochemical, functional were studied
- Developed prototypes/equipment for experimental set-up and process technologies for soy and millet based extruded, baked and traditional snack products
- Techno-economic feasibility analysis for production of soy kodo millet extruded and baked snacks.
- Established demonstration unit for soy nuts
- Experimental set-up for membrane separation technology for purification and concentration of soy protein

