

Chapter 7 - Home Science

Technology no.1

- 1. Name of technology:** Drudgery reduction of fly shuttle weavers
- 2. Source of technology:** Department of Family Resource Management,
- 3. Year of release:** 2011
- 4. Agro-climatic zone:** All zones of Assam
- 5. Detail description of technology:** Ergonomically Designed Weaving Chair for Fly Shuttle Weavers
 - The weaving chair is made of good quality wood.
 - The back rest provided in the chair is fixed at 90° angle between seat and back for reduction of physiological fatigue and back pain of fly shuttle weavers.
 - Provision of drawer facilitates the weavers to keep the necessary weaving accessories.

Specifications:

- i. Height of chair = 92 cms
- ii. Seat height at back = 62 cms
- iii. Seat height at front = 60 cms
- iv. Length of the seat at front = 45 cms
- v. Length of the seat at back = 38 cms
- vi. Breadth of the seat = 35 cms
- vii. Height of the back rest = 29 cms
- viii. Breadth of the back rest = 37 cms
- ix. Angle between seat and back rest = 90

Farming situation/suitability of Technology: Designed for fly shuttle loom of 40 inches height.

- 6. Critical inputs required:** Weaving Chair
- 7. Observations to be recorded:** Production/ per hour, Comfort level of the weavers, Pain in different body parts, B: C ratio, Farmers' reaction.
- 8. Additional information if any:**



Technology no.2

- 1. Name of technology:** “Paddy Stripper” for paddy seed selection
- 2. Source of technology:** Department of Family Resource Management College of Home Science, AAU. Jorhat, 785013.
- 3. Year of release:** 2015
- 4. Agro-climatic zone:** All zones
- 5. Detail description of technology:** Circumference of the handle – 8.5 cm Length of the spikes- 16.5 cm Total length of the paddy stripper – 30cm
- 6. Critical inputs required:** Paddy Stripper
- 7. Observations to be recorded:** Health hazards, benefit cost ration, FW reaction

Technology no.3

- 1. Name of the Technology:** Improved *Kokcheng* (bamboo basket)
- 2. Source of the Technology:** Dept. of Family Resource Management, College of Home Science, CAU, Tura
- 3. Year of release:** 2015
- 4. Agro Climatic Zone:**
- 5. Detail description about the technology (with suitable Photographs):** Collecting and carrying firewood cannot be eliminated from day to day an activity of rural tribal women, but it is possible to change how to do it so it is easier on rural women’s body. Small changes in materials, work processes, tools and equipment may bring great changes in case of drudgery reduction of hilly tribal women of Meghalaya.

Rural women traditionally use “*kokcheng*”- a locally made bamboo basket to carry firewood, where there is a rope made with bark of *Omaktree* (local name), which is available in Garo Hills. Such type of rope is very strong to give support to loaded *kokcheng* but at the same time it is very hard and rough to user’s body. Therefore, there is a new type of *kokcheng* developed where a new belt is attached and the new belt is a kind of thickly woven cotton belt with adjustable buckle. This belt is very much user friendly as during the time of carrying firewood, tribal rural hilly women were found very comfortable to their body and easy to handle due to adjustable buckle according to their body anthropometry. Traditionally the basket was hanging from head. Now added support is given from two shoulders with belt so that weight or strain on head can be decentralized to shoulders of users. Therefore, this modified basket has considered as user friendly by rural women. So it



Plate 1: Traditional *kokcheng* with rope made with Omak tree skin



Plate 2: Required attachments for improved *kokcheng*.



Plate 3: Improved *kokcheng* with head and shoulder support.

is recommended to women firewood collector to use this type of modified basket instead of traditional one. This basket can be used not only for firewood, but can be used to carry water pot, vegetables etc. for their day to day activities.

Specification of *Kokcheng*:

Height – 43 cm

Diameter (Top) – 48 cm

Size of bottom – 18 x 18 cm

Width of adjustable belt – 4 cm

Size of head support – 7.5 x 24 cm

Size of shoulder support – 7 x 50 cm

Source - local artisan

Technology no.4

1. **Name of the Technology:** Jackfruit Chips
2. **Source of the Technology:** Process protocol for the preparation of Jackfruit chips
3. **Year of release:** 2012
4. **Agro climatic zone:** Entire Northeast Region
5. **Detailed description about the technology**

Jackfruit, *Artocarpus heterophyllus* Lam. is an important underutilized fruit and often called the Poor man's fruit because it is cheaply available in during season. The fruit is rich in carotene, potassium and carbohydrates, moderately rich in ascorbic acid. It also contains some minerals like calcium and potassium and Vitamin B like thiamin, riboflavin, and Niacin. In Meghalaya, West Garo Hills District Jack Fruit is available in plenty without anybody's care in their farmyard and consumed only at household level and enormous quantities of jackfruit are wasted in the Garo Hills region of Meghalaya due to lack of intervention, suitable infrastructure, processing and packaging, storage containers and lack of marketing information every year.

Excess quantity of Jackfruit can be processed into various value added product like squash, chips, Papad, Jam, Jelly, Pickle, jackfruit etc. All part of Jackfruit is utilized in one or other form of value added products. The tender Jackfruit can be utilized as a vegetable, for pickle, matured for chips, papad preparation and ripe for preparation of squash, jam etc.

Ingredients for the preparation of jackfruit chips: - Well matured unripe deseeded bulb, cooking oil, chilli powder, salt, potassium meta bi-sulphite

Equipments required: - Jackfruit chips cutting machine, deep fryer, sealing machine, etc.

Other items: Fuel, labour, packing material

Types of Jackfruit suitable for Chips: Thin Flakes with fine pulps

Procedure for the preparation of jackfruit chips:

- Fully mature unripe jackfruit
- Peeling and deseeding
- Deseeded bulbs
- Cutting longitudinally into finger like pieces (approx, 4 x 1.5 cm slices)
- Blanched in hot water with 1 % KMS for 5-6 minutes
- Dried in drier @ 40-45°C for 10-15 min.
- Deep fried in cooking oil till it turn light brown colour.
- Cooled
- Required quantity of salt and chilli powder sprinkled
- Packed in high density polyethylene bags



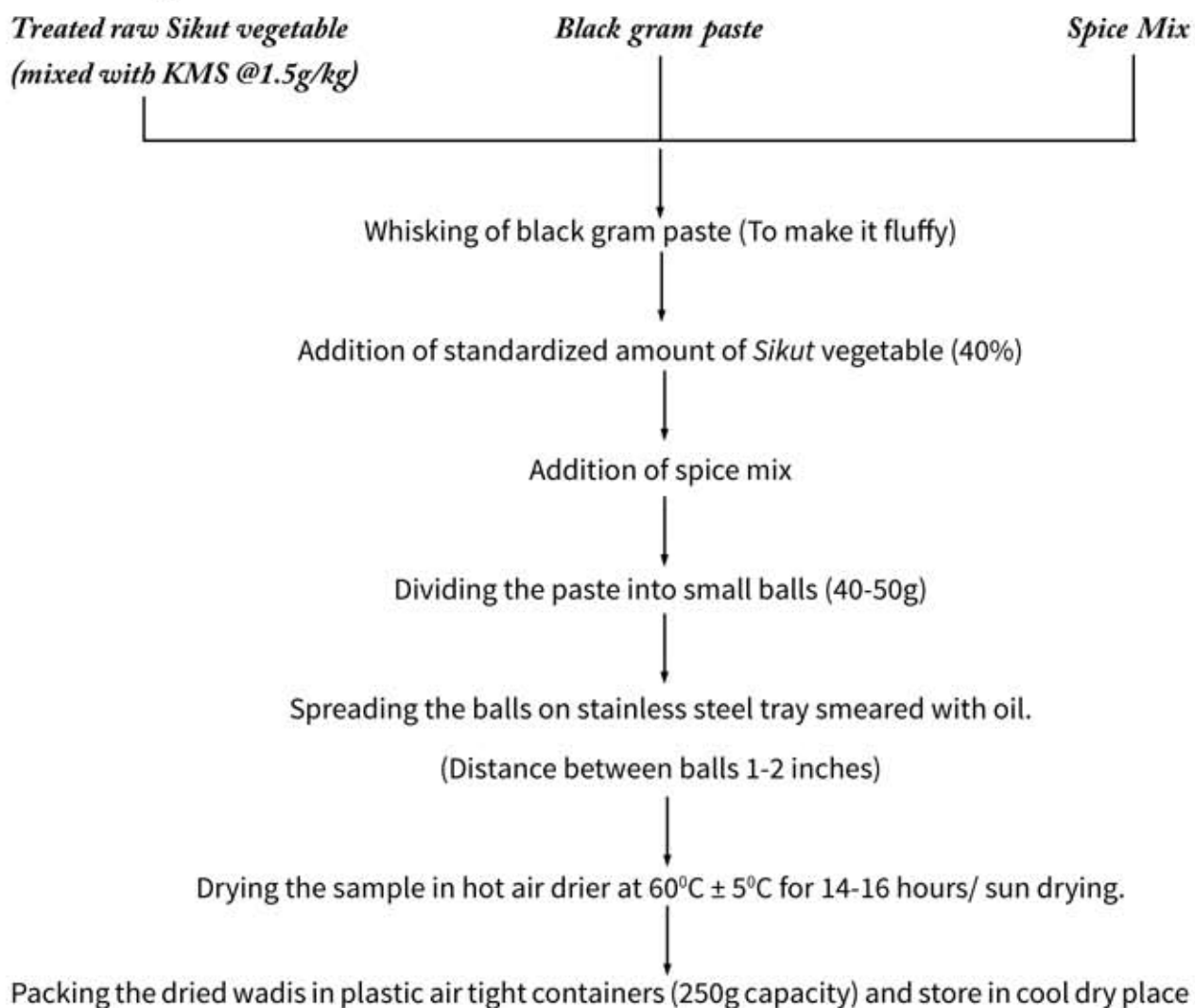
Fig: - jackfruit bulbs cut into finger like shape

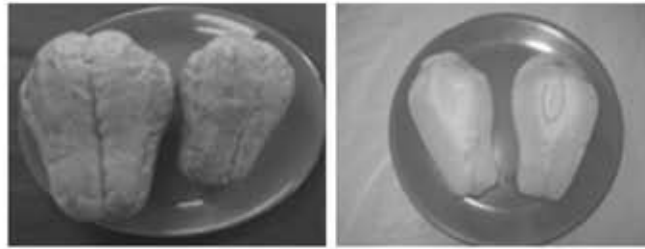


Fig. jackfruit chips

1. **Name of the Technology:** Development of Sikut wadi from Squash (*Sechium edule*) (Local Name: Chow-chow, Sikut (Garo language), Piskut (Khasi Language))
2. **Source of Technology:** College of Home Science, Tura, Meghalaya.
3. **Description of the product:** The product is a legume based dried (sun dried or hot air oven dried) product made by mixing legumes (Black gram) paste and raw vegetable of Sikut.

Methodology:





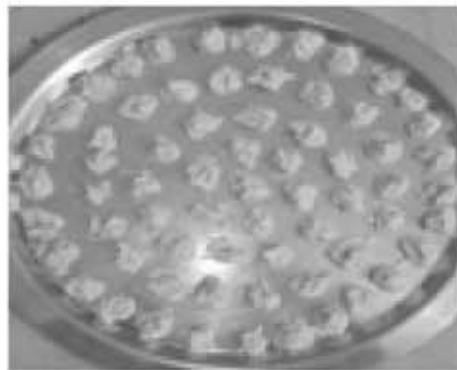
(a) Raw *Sechium edule* vegetable



(c) Black gram paste



(b) Blanched and Mashed vegetable



(d) *Sechium edule* vegetable enriched wadis

Figure: - Flow diagram for preparation of Sikut wadi

Note: Spice Mix includes fenugreek leaves, coriander seeds, cumin, cinnamon, black pepper, red pepper, nutmeg and asafoetida)

Critical inputs required:

- ✓ Mixer and grinder
- ✓ Hot air oven
- ✓ Packaging and sealing machine

4. Contact address for relevant information: Dr Puspita Das (In-charge, Dean), College of Home Science, Tura, Meghalaya.

Email: deanhomescience@gmail.com

Technology no. 7

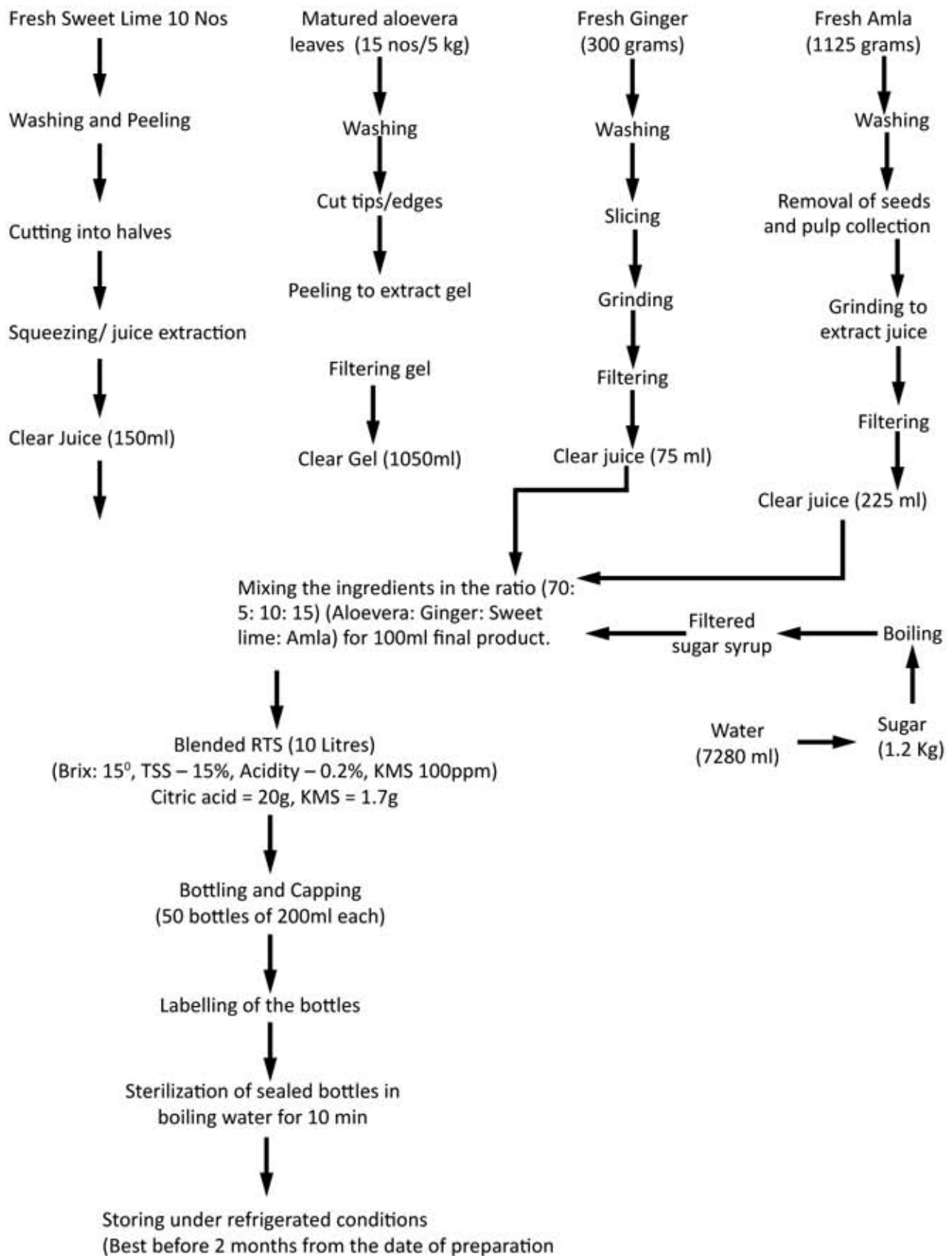
- 1. Name of the Technology:** Development of Aloe vera based RTS drink supplemented with ginger, amla and sweet lime.
- 2. Source of Technology:** College of Home Science, Department of Basic Science and Humanities, Central Agricultural University, Tura, Meghalaya
- 3. Year of Release:** 2015
- 4. Agro climatic zone:**
- 5. Description of the product:** The product is a RTS Drink developed from locally available inputs like Aloe vera, ginger, amla and sweet lime.

Methodology: For Preparation of 10 Litres of Aloe vera RTS blended with ginger, sweet lime and amla.



6. Critical Inputs Required:

- ✓ Juice extractor
- ✓ Homogenizer
- ✓ Pasteurizer



- ✓ Filtration unit
- ✓ Electronic balance
- ✓ Appropriate Utensils
- ✓ Water Purification unit for Water supply (optional).

7. Observation to be recorded:

- 8. Contact address for relevant Information:** Dr Lokesh K Mishra (Assistant Professor, Bio-chemistry), College of Home Science, Department of Basic Science and Humanities, Central Agricultural University, Tura, Meghalaya. E mail: lkmishra2005@gmail.com