

## **Products from ripe jack fruit**

### **1. Preserved jack fruit bulb**

Ready to eat fresh products are commonly preferred by consumers. Fresh jackfruit bulbs are relished well by all sections of population. Ready- to-eat fresh jackfruit bulbs along with seeds can be preserved under vacuum (760 mm lbs pressure) by treating with 1.5% KMS and 0.5% sodium benzoate. Jack fruit bulb can be preserved by freezing and it can also be kept stable for a period of 15 days under refrigeration.

The edible bulbs from ripe fruits after removing seeds is sliced and packed (i) with dry sugar, and (ii) in 50% sugar syrup with 0.5% citric acid (on the basis of syrup), into jam cans. The product should be frozen at -29° C and subsequently stored at -18°C.

Preserve is a candied product in which the fruit is impregnated with cane sugar and glucose and subsequently drained and dried. Fully ripe Varikka jackfruit bulbs, which were found to be nutritionally rich organoleptically sound, shelf stable with excellent consumer appeal is often selected. With increased awareness among the consumer for minimally processed foods, jackfruit preserve could be an ideal choice. Jackfruit bulb is also preserved in brine.



## **2. Jack fruit ready to serve beverage**

RTS is more preferred than fresh juices. The ready-to-serve beverages can be prepared from fruits very easily with a composition of 10% of juice, 10% of TSS and 0.3% acidity. ready-to-serve beverages from jackfruit pulp with 10% pulp content, 12% TSS and 0.3% acidity.

### **Preparation**

- Selection of ripe soft flesh fruits
- Cutting of fruit and removal of bulbs
- Extraction of pulp by grinding bulbs without seed
- Homogenize the pulp using a pulper or blender
- Boil pulp for 5 minutes in stainless steel boiling pan
- Cool the pulp and add pectin –degrading enzyme
- Filter the extract using muslin cloth
- Prepare a 50% sugar syrup solution by dissolving 500 g sugar in a small amount of water and make the volume up to 1 litre
- Combine fruit juice and sugar syrup at 30: 70 ratio and make up 1 litre
- Add preservative KMS @ 0.05 %
- Fill the RTS in pre sterilized glass bottles and crown corking
- Pasteurize the bottled product at 80°C for 30 minutes
- Cool and label the product



### **3. Jack fruit squash**

It is a refreshing beverage with pleasant taste and aroma from the bulbs of ripe jackfruit, which was found to have a shelf life of 60 weeks when stored at room temperature. It is also found that jackfruit squash could be stored for one year at room temperature without any change in quality except for vitamin C content.

#### **Ingredients**

1. Well ripened jack - 500 g
2. Fruit sugar - 350 g
3. Citric acid - 1 teaspoon
4. Water - as required

#### **Preparation**

- Cut open well ripe jackfruit. Remove bulbs and extract out the seeds.
- Cut the well ripe bulbs into small cubes.
- Boil 1 kg of pieces in water and then pulp into fine paste.
- Take 1 part of pulp, add water and mix thoroughly using mixer.
- Extract juice from pineapple and add to jack pulp in 0.5: 1 ratio.
- Prepare sugar syrup by boiling 250 g of sugar in 250 ml of water.
- Add sugar syrup to jack fruit pulp followed by citric acid.
- Add 700 mg of Potassium Meta bisulphite for 1 litre of squash.
- Cool and fill in glass bottle.



### **4. Jackfruit nectar**

Fruit nectar is a concentrated form of fruit pulp having honey-like consistency. Nectar is the pulp of the fruit blended with sugars and citric acid to obtain a product of 15-20°Brix with mild acid taste. CFTRI (1977) standardized nectar from jackfruit pulp. Jackfruit nectar was standardized successfully from the two popular varieties of jackfruit available in Kerala individually and by blending with other fruit pulp. Blending with other fruit pulps results in improvement in flavour and taste in the nectars. Varikka variety is superior compared to Koozha nectars.

## **5. Jackfruit wine**

Production of fermented fruit beverages has a great scope in India. Two fermented products, which can be prepared from jackfruit pulp are wine and vinegar. Jackfruit in general contains high amount of easily fermentable sugars, which makes it suitable medium for the growth of wine yeasts. Organoleptic qualities of the wines formulated were found to be acceptable and comparable with grape wine.



### **Ingredients**

1. Jack fruit ripe -1 kg
2. Sugar - 500 g
3. Water - 1 litre
4. Yeast - ½ teaspoon
5. Cinnamon -2 inch bark
6. Poppy seeds -10 no.
7. Cardamom -2-3 no.
8. Star anise -1 no.
9. Cloves - 2-3 no

## **Preparation**

- Cut open well ripened jackfruit. Remove bulbs and extract the seeds.
- Cut the well ripened bulbs into small cubes
- Wrap all the spices in a muslin cloth and keep aside
- Boil and cool the water in a vessel with lid
- Add jack pieces, sugar, and the wrapped spices.
- Add yeast for fermentation.
- Close the lid
- Stir regularly for 20 days
- After 20 days, strain and store the wine in a clean glass bottle

## **6. Jackfruit vinegar**

Vinegar is another fermented product which can be formulated from jackfruit. Jackfruit vinegar recovered from the ripe fruits yielded 7% alcohol and 6% acetic acid upon fermentation. Khader (1999) standardized a method for preparation of vinegar from jackfruit, which was found to have a shelf life of one year.

## **7. Jack fruit jam**

### **Ingredients**

1. Well ripened jack -500 g
2. Fruit sugar - 350
3. Citric acid - 1 teaspoon
4. Water - as requi



## **Preparation**

- Cut the well ripe jack fruit into small pieces
- Boil the pieces with water and pulp into fine paste
- Add the jack fruit paste and sugar and cook on pan with little water, if required
- Add permitted food colour and citric acid to the mixture. Add one tablespoon of lime juice to the same (optional).
- Stir continuously till jam consistency
- Test for end point using ladle test.

## **8. Jack fruit jelly**

Jack fruit jelly is another processed product produced from jack fruit bulb which is of great demand



## **Preparation**

- Well-matured jackfruits should be collected and bulbs should be separated carefully
- Cut into small pieces and blend it in the blender and filter. The filtrate containing juice was taken for preparing jelly.
- Pectin is mixed well with sugar.
- In a sauce pan add pectin and sugar mixture boil it and stirr.
- When TSS reached 66 to 67 % the mixture was removed from the burner which indicates the end point of jelly preparation.
- KMS can be dissolved in 10 ml warm water and it is added to the mixture. Other than it soduim benzoate, citric acid and lemon can also be used as



preservative

- Sheet test in a steel plate, ladle test and droop test in a water beaker can also done simultaneously to determine the end point of jelly formation and pours the hot dilute jelly in the sterilized bottle.
- The bottles are then sealed and stored at an ambient temperature.

### **9. Jack fruit leather**

It is made up of ripe jackfruit with good flesh



#### **Preparation**

- Cut the well ripened jack fruit into small pieces
- Pulp into fine paste
- Spread the smooth pulp as uniform layer on trays
- Dry using solar or electric cabinet drier. The leather can also be dried under direct sun light in plates or trays. It is dried till moisture is lost and starts coming out of the tray. If dried beyond this, it becomes brittle.
- After drying, cut into desired size and shape and pack in polythene pouches

## 10 Jack fruit chocolate

### **Ingredients**

1. Jack fruit pulp – 1 kg
2. Sugar – 500
3. Milk powder – 150 g
4. Butter – 100g
5. Cocoa powder -50g



### **Preparation**

- Cut the well ripened jack fruit into small pieces
- Pulp into fine paste
- Mix jack fruit pulp and sugar in a heavy bottom pan.
- Cook on flame till it reduces to 1/3rd volume
- Then add milk powder dissolved in 100 ml of hot water, followed by ghee and cocoa powder mixed in hot water.
- Mix well and stir on low fire till desirable consistency. One should be able to make balls by rolling on palm.
- Pour the mixture in a plate and roll it into chocolates
- Refrigerate for 2hrs and then pack individually in butter paper.

## 11. Canned jackfruit products

Fruits and vegetables are canned and stored in order to increase its shelf life. The canning can ensure the availability of jack fruit in the off season. Usually jack fruit bulb is canned. Lal *et al.* (1960) standardized a method for canning raw jackfruit bulbs in brine solution containing 0.5-0.75% citric acid. It is also reported that canned jackfruit when





stored at room temperature (24-30°C) was found to retain normal colour and characteristic taste and aroma. However, the product when stored at 37°C for 19 weeks depicted deteriorative changes. It is also reported that canned jackfruits were found to retain  $\beta$ -carotene content even after 6 months of storage.

## **12. Dehydrated jack fruit**

Dried jack fruit is rich in fibre and is a natural snack food. The dried jack fruit does not change the nutritional value. The scent and taste of the fruit is preserved

### **Preparation**

- Remove the core of jack fruit then clean each one
- Make it thickness of 5-15 mm
- Place it on tray then put it on dry house
- Set the drying temperature 60°C, drying humidity 10%
- Drying time: 8-10 hours

Different jack fruit have different dehydrating time. After drying it should be packed and sealed as contact with air helps in moisture regaining.

## **13. Osmo-dried jack fruit**

Osmotic dehydration of fruit is one of the food preservation technique used for partial removal of water from fruits by immersing in aqueous solution of high osmotic pressure which is salt and sugar.

Osmo-dried jack fruit is an intermediate moisture food product. It conserves colour and nutritional value. This processed product has shelf life of six months. The second stage of drying could be done either by traditional drying, solar drying, cabinet drying, vacuum drying etc. The method is standard by Centre for Excellence in Post –Harvest Technology.

#### **14. Vacuum dried ripe jack fruit**

Vacuum dried ripe bulbs can be stored up to one month. Vacuum dryer is the effective drier for the production of intermediate moisture foods. Retention of colour and uniform drying is the major advantage of vacuum drying. Ripe jack fruit bulbs are steam blanched followed by vacuum drying to get dried ripe jack fruit.



#### **15. Dehydrated jack fruit flake.**

It is another dried jack fruit product and it is standardized by KAU

##### **Preparation**

- Deseed the bulb
- Slice the deseeded bulbs into four pieces
- Blanch the cut flakes in hot water 80-90°C water containing preservative for 5 minutes
- Spread flake on perforated tray
- Dry in mechanical drier for 12 hours until MC 8-10%

#### **16. Jack fruit candy**

Candying of fruits is widely practiced to extend their utilization. Jackfruit bulbs are sliced and immersed in sugar syrup of 70°Brix. It is then dried at 60°C.

Results of a study indicated that organoleptically acceptable and shelf stable products could be prepared by applying a pre-treatment of 30 min immersion in 70°Brix at 50°C, containing 20% glycerol for soft flesh variety of jackfruit. The same



*Jack fruit candy*

treatment without any preservatives could be applied for the firm flesh variety of jackfruit. Recently, at IIHR, Bangalore (India), a process has been developed for making osmotically dehydrated jackfruit slices. Suitable fruits are selected at optimum stage of ripeness (hard ripe stage) made into slices and dipped in sugar syrup containing citric acid, preservatives and with and without maltodextrin. After immersion time, slices are drained and dried in cabinet dryer till the moisture content reaches to around 15%. Dried slices are packed in plastic punnets and can be stored at room temperature for one year. The quality of osmotically dehydrated product is near to the fresh fruit in terms of colour, flavour and texture. It can be consumed as a snack. Such product can be used in ready-to-eat type of foods, ice creams, fruit salad, *kheer*, cakes, bakery products, etc.

### **17. Jack fruit toffee**

Jack fruit toffee is prepared from ripe jack fruit. It is also of high market potential

#### **Preparation**

- Deseed the bulbs
- Slice the bulbs into pieces
- Blend with sugar and milk



- Add preservative and other ingredients into the blended pulp
- Concentrate the pulp in steam jacketed pan
- Transfer concentrated mass into stainless steel plate
- Dice concentrated mass into desired size
- Pack toffee in polypropylene pouches coated with Aluminium foil and store at room temperature

### **18. Jackfruit bar and ice cream**

Ready-to-eat fruit bars are well-relished products and are being commercially prepared and marketed in our country. Jackfruit ice cream and jackfruit mixed mango ice cream are also becoming popular in India. Fruits like mango, papaya, pineapple, guava, jamun, jackfruit and banana individually or in combination could be



used for preparing fruit bars. Blending papaya pulp with jackfruit pulp imparts better appearance, colour and textural qualities, while blending with mango pulp results in better flavour, taste and overall acceptability. Products have good keeping quality and consumer acceptance.

### **19. Jack fruit pudding**

Is another product produced from ripe jack fruit which have high consumer acceptance.

#### **Ingredients**

1. Ripened jack fruit – 500g
2. Sugar – 250 g
3. Cream/ condensed milk – 150 g
4. Milk – 500 ml
5. China grass – 20 g
6. Vanilla essence – 1 teaspoon



## **Preparation**

- Cut china grass into small pieces. Add in a glass of water and keep it aside.
- Boil milk, sugar and the china grass water.
- Cook and pulp the well ripe jackfruit.
- Add the pulp to the milk mixture and stir on a slow flame till a thick custard consistency is formed. Add cream and essence.
- Cool in the fridge for about 2 hrs and serve.

## **20. Jack fruit fritters**

### **Ingredients**

1. Ripe jack fruit - 200 g
2. Maida - 50 g
3. Corn flour -25 g
4. Sugar - 1 tea spoon
5. Cardamom powder – ¼ teaspoon
6. Salt - to taste
7. Oil – 200 ml

### **Preparation**

- Cut ripe jackfruit bulbs into broad pieces.
- Mix all the ingredients except oil into a thick batter.
- Dip the jackfruit pieces in the batter.
- Fry in the oil till golden brown and serve

## **21. Jack fruit custard**

### **Ingredients**

1. Milk – 1 litre
2. Custard powder – 4 teaspoon
3. Sugar – 500 g
4. Jack fruit pulp – ½ kg



### **Preparation**

- Add custard powder to milk, mix well and boil it.
- Add sugar to boiling milk and boil for few more minutes
- After the milk cools to room temperature, refrigerate it for 4-5 hours / till the required semi solid consistency is reached.
- Cut ripe jack fruits into small pieces, add to the custard and serve

## **22. Jack fruit halwa**

### **Ingredients**

1. Jack fruit pulp – 200g
2. Water - 1 cup
3. Ghee - ½ cup
4. Sugar – 1 cup
5. Cashew nuts – 10 nos
6. Maida – 1 teaspoon



### **Preparation**

- In a broad vessel with thick base, add sugar, basic recipe, water and maida and mix well. When it starts boiling, add cardamom, ghee roasted cashewnut and ghee
- Stir till it thickens to consistency of halwa



- Apply ghee to tray /plate and spread.
- Allow it to cool, cut and serve.

Other than this there are numerous other products which can be prepared from ripe jack fruit include jack fruit payasam, jack fruit unniyappam etc.