

CANNED JACKFRUIT

INTRODUCTION:

The jackfruit (*Artocarpusheterophyllus*), also known as jack tree, jakfruit, or sometimes simply jack or jak) is a species of tree in the *Artocarpus* genus of the mulberry family (*Moraceae*). It is native to parts of South and Southeast Asia, and is believed to have originated in the southwestern rain forests of India, in present-day Kerala, in Tamil Nadu, coastal Karnataka and Maharashtra. The jackfruit tree is well suited to tropical lowlands, and its fruit is the largest tree-borne fruit, reaching as much as 80 pounds (36 kg) in weight, 36 inches (90 cm) in length, and 20 inches (50 cm) in diameter.

The jackfruit has played a significant role in Kerala for centuries. Archeological findings have revealed that jackfruit was cultivated in India 3000 to 6000 years. The flesh of the jackfruit is starchy and fibrous and is a source of dietary fiber. The flavor is comparable to a combination of apple, pineapple, mango and banana. Varieties are distinguished according to characteristics of the fruit's flesh. Different varieties are available like the "hard" variety, which has a firm flesh and the largest fruits that can weigh between 15 and 40 kilograms each, or the "soft" variety, which bears smaller fruits with a softer and sweeter flesh. In Kerala, two varieties of jackfruit predominate: varikka and koozha. Varikka has a slightly hard inner flesh when ripe, while the inner flesh of the ripe koozha fruit is very soft and almost dissolving. A sweet preparation called chakkavarattiyathu (jackfruit jam) is made by seasoning pieces of varikka fruit flesh in jaggery, which can be preserved and used for many months. The jackfruit is one of the three auspicious fruits of Tamil Nadu, along with the mango and banana. Jackfruit is the national fruit of Bangladesh. It is also the state fruit of the state of Kerala.

MARKET POTENTIAL

Jackfruit is grown on 9.5 lakh hectares in the Kerala State. About 350 million jackfruits are produced every year. There is a prospective market for these

products in India as well as outside the country. It is also learnt that there is a good export market potential for these items especially in Middle East countries. In view of the above, it is envisaged that there is good scope for setting up jackfruit processing units in Kerala. This will not only help the farmers to utilize the perishable raw material, but also can serve the taste of millions both locally and globally.

BASIS AND PRESUMPTIONS

- The production is based on a single shift basis of 8 hours per day and 300 days in a year.
- Rate of interest for fixed and working capital @14% per annum
- Land owned, Building Constructed
- Raw Material is sourced with the help of Kudumbasree Units.
- Depreciation on Plant, machinery & Equipment @ 10%

IMPLEMENTATION SCHEDULE

It will take 6 months to complete all formalities before starting the commercial production.

TECHNICAL CONCEPTS

MANUFACTURING PROCESS

The crisp bulbs of the ripe Jackfruit are used for canning in Sugar syrup. Yield of bulbs varies from 20 to 30 per cent depending on the variety of fruit. After cutting the fruit in several pieces, the bulbs are removed manually. As the fruit contains highly sticky latex, small quantity of vegetable oil is applied on hands and then seeds are removed from bulbs. These bulbs are canned with a small quantity of citric acid as the pH value of this fruit is very high.

PRODUCTION TARGETS

1 lakh Canned Jackfruit Bottles (50 Tonnes) per year Value: ` . 75, 00,000/-

POLLUTION CONTROL

This industry does not create any type of pollution and as such there is no need of any preventive measures for pollution control.

FINANCIAL ASPECTS

LAND & BUILDING	
Covered area	500 sq.mtr
Uncovered area	Nil
Total area	500 sq.mtr
Whether constructed or Rented	Constructed
If constructed, constructed value	600000

MACHINERY AND EQUIPMENT				
Sl. No.	Description	Qty.	Value	Total
1	Open steam kettle	4	40000	1,60,000
2	Washing Table	4	30000	1,20,000
3	Coal Fired Boiler of Cap. 100 Kg. steam/ hr	1	180000	1,80,000
4	Platform weighing scale of 1-100 kg.	1	50000	50,000
5	Canning unit	1	325000	3,25,000
6	Other Accessories like spoon, knife etc			50,000
7	Testing equipment			50,000
8	Electrification of Installation @ 10%			93,500
	Total			10,28,500
	Pre-operative Expenses			75,000
	Grand Total			11,03,500

TOTAL FIXED CAPITAL (LAND + MACHINERY) = 17, 03,500/-

WORKING CAPITAL PER MONTH

RAW MATERIAL (PER MONTH)				
Sl.No.	Particulars	Quantity(Kg)	Rate	Amount
1	Jackfruit	20000	10	2,00,000
2	Sugar	1500	50	75,000
3	Citric Acid	1000	30	30,000
4	Anti-oxidants	100	50	5,000

5	Metal Cans, Label (Nos)	10000	10	1,00,000
6	Carton, Labels	500	12	6,000
	Total			4,16,000

STAFF & LABOUR (PER MONTH)				
Sl.No.	Particulars	Qty	Rate	Value
1	Manager	1	12500	12,500
2	Supervisors	2	10000	20,000
3	Skilled Labour	4	7500	30,000
4	Clerk	1	6000	6,000
5	Unskilled Labour	12	4000	48,000
6	Watchman	1	4000	4,000
	TOTAL			68,500

OTHER EXPENSES including Utilities (PER MONTH)		
1	Power Charges per month	10,000
2	Water	2,000
3	Consumables like Oil, Grease e, Fuel	8,400
4	Postage and Stationery	1,300
5	Telephone	3,500
6	Repair and Maintenance	5,000
7	Transportation Charges	8,000
8	Advertisement and Publicity	10,000
9	Miscellaneous Expenditure	2,000
	Total	50,200

TOTAL WORKING CAPITAL (PER MONTH)

Raw Material (Per Month)	4,16,000
Staff & Labour (Per Month)	68,500
OTHER EXPENSES Including Utilities (PER MONTH)	50,200
Total	5,34,700

TOTAL CAPITAL INVESTMENT

Building & Other Civil Works	6,00,000
Machinery & Equipment	11,03,500
Working capital for one month	5,34,700
Total	22,38,200

COST OF PRODUCTION (PER ANNUM)

Total recurring cost per year	64,16,400
Depreciation on Plant, Machinery & Equipment @ 10%	1,70,350
Interest on total investment @ 14%	3,13,348
Total	69,00,098

TURNOVER (PER ANNUM)

S.No	Item	Qty (No.s)	Value
1	Canned Jackfruit (500 gm @ Rs. 75)	1,00,000	75,00,000

NET PROFIT BEFORE TAXATION (PER YEAR) = TURNOVER - COST OF PRODUCTION
 = 7500000 – 6900098 = 5,99,902

NET PROFIT RATIO ON SALES = Net profit/Turnover*100
 = 5,99,902/7500000 = **8%**

RATE OF RETURN ON TOTAL INVESTMENT = Net profit/Total Investment*100
 = 5,99,902/2238200 = **27%**

BREAK EVEN POINT

Depreciation on Plant, machinery & Equipment	170350
Interest on total investment	313348
40% of STAFF & LABOUR and OTHER EXPENSES including Utilities	47480
Total	531178

BREAK EVEN POINT= FIXED COST/ FIXED COST+ NET PROFIT
 =531178/ 531178+599902
 = 531178/1131080 = **47%**

MANUFACTURERS/SUPPLIERS OF MACHINERY

- M/s.Bajaj Process pack Maschinen Private Limited7/27, Jai Lakshmi industrial Estate, Site – IV, Sahibabad Industrial Area, Ghaziabad – 201001, U.P.
- M/s. Batliboi and Company Ltd., P.B. No. 3066,Old Railway Station Road, Kochi-682018.
- M/s. B. Sen Barry and Co., 65/11, New Rohtak Road, Karol Bagh, New Delhi-110005.
- M/s. H and P Industries, Near Mundupalam Junction, Thrissur -110006.
- M/s. Raylons Metal Works, P.O. Box No. 17426,JB Nagar, Andheri (E), Mumbai - 400059.
- M/s. Laxmi Boilers, 2453-B, Karkmpatta Road,Pallimukku, Cochin-682016