

SECTOR C: FOOD PROCESSING

C-1: PROCESSED & CANNED FRUITS

1. TECHNOLOGY DESCRIPTION

The technology is for processing of fruits from cutting operation to automatic canning. The process technology includes a number of operations like proper cutting, pulping, 6 stage multi-effect vacuum concentration and deaeration, sterilization and automatic canning. The technology has been already standardized for mango pulp, tomato paste puree, pineapple slices and also for other fruits like strawberry, banana, guava, papaya, sweet corn, pomegranate etc. Technology can also be used for canned vegetables in brine. Technological process is fully mechanized and the end product flows in closed stainless steel pipes before automatic canning. The human handling of fruits or end product is totally avoided.

2. TECHNOLOGY STATUS

The technology is in commercial use for past 20 years. The products are very well accepted in the Market. This technology is suitable for adoption by other countries.

3. COMPANY PROFILE

Company Name		SAIRAJA FRUIT & FOOD PROCESSING PVT. LTD.
Address		“Bhavani House”, Laxminagar Phaltan 415523 Tel.: +91-2166-20650 / 21387 Fax: +91-2166-21387
Contact Person		Mr. Bantiraje Khardekar, MD Mr. R A Nimbalkar
E-mail		---
Web Site		---
Year of Establishment	:	1991
Products manufactured	:	Canned Fruits, Processed Fruit Juices and Pulps
Installed Capacity	:	5 Tonnes per hour
Production (2000-01)	:	1600 Tonnes
Sales Turnover (2000-01)	:	Rs. 100 Million [US \$ 2.00 Million]
Exports	:	---
Conformity to standards	:	Indian Standard Specifications
Compliance to ISO	:	Yes. HACCP Certified company
Foreign Collaboration	:	None
Manpower Total	:	75 Nos.
Raw Materials Used	:	Fruits
Effluent generated	:	Not significant

4. BROAD PROFILE OF EXPECTED PROJECT

Project Features		
Project	:	To manufacture canned fruit juices & pulp
Capacity	:	150 Tonnes per annum
Land Requirements	:	2 Acres (8,000 Sq. Mtr. approx.)
Building Requirements	:	3,600 Sq. Ft. [334 Sq. Mtr.]
Plant & Machinery and Test Equipment	:	Rs. 43 Million [US \$ 0.86 Million]
Electrical Installation	:	25 KVA
Implementation Period	:	6 – 12 Months
Manpower Required (Total)	:	75 Nos.
Raw Materials Required	:	Fruits

Financial Data		
Total Project Cost	:	Rs. 95 Million [US \$ 1.90 Million]
Expected Annual Sales	:	Rs. 110 Million [US \$ 2.20 Million]
Profitability	:	15% Net

Target Market	:	South Africa, Ukraine
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SECTOR C: FOOD PROCESSING

C-2: PROCESSED FISH

1. TECHNOLOGY DESCRIPTION

The technology is for processing fish upto the canning stage. The process technology (FROZEN SURIMI) involves operations from selecting fish, cleaning, removal of head under infrared lights, microbiological testing, superior quality freezing and finished product testing. All operations are carried out on fully automatic machines to totally eliminate human contact, which can be a cause of contamination. The final product is tested for metal impurities before storage. The technology can be used for all marine products.

2. TECHNOLOGY STATUS

The technology is in use for about 23 years and hence has been well established. This technology is easily adaptable for any country, which has a long seashore.

3. COMPANY PROFILE

Company Name		GADRE MARINE EXPORTS
Address		3298 - A, Mirkarwada, Ratnagiri - 415612, Maharashtra, India. Tel:+91-2352-32268/32570 / 32882 Fax: + 91-2352-32121
Contact Person		Mr. Deepak Gadre, Managing Director
E-mail		deepak@gadremarine.com
Web Site		http://www.gadremarine.com/
Year of Establishment	:	1975
Products manufactured	:	Frozen Canned Surimi
Installed Capacity	:	15,000 Metric Tonnes
Production (2000-01)	:	15,000 Metric Tonnes
Sales Turnover (2000-01)	:	Rs. 63.5 Million [US \$ 1.27 Million]
Exports	:	Rs. 63.5 Million [US \$ 1.27 Million] It is an 100 % EOU
Conformity to standards	:	International Standards
Compliance to ISO	:	Yes
Foreign Collaboration	:	None
Manpower Total	:	75 Nos.
Tech. & Admin.	:	5 Nos.
Raw Materials Used	:	Sea Fish (Surimi)
Effluent generated	:	Insignificant

4. BROAD PROFILE OF EXPECTED PROJECT

Project Features		
Project	:	Frozen canned sea fish processing
Capacity	:	6000 Metric Tonnes
Land Requirements	:	20,000 Sq. Ft. [1858 Sq. Mtr.]
Building Requirements	:	1,000 Sq. Ft. [92.9 Sq. Mtr.]
Plant & Machinery and Test Equipment	:	Rs. 25 Million [US \$ 0.50 Million]
Electrical Installation	:	900 KVA
Implementation Period	:	9 – 12 Months
Manpower Required (Total)	:	100 Nos.
Raw Material Required	:	Sea Fish (Surimi)

Financial Data		
Total Project Cost	:	Rs. 30 Million [US \$ 0.60 Million]
Expected Annual Sales	:	Rs. 18 Million [US \$ 0.36 Million]
Profitability	:	25% - 30%

Target Market	:	African Countries
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SECTOR C: FOOD PROCESSING

C-3: PROCESSED FRUIT PULP & JAMS

1. TECHNOLOGY DESCRIPTION

Processing of Mango, Pineapple, Guava, Grapes, Papaya, Strawberry, etc. and also vegetables like Chilies, Corn, Tamarind, etc. is carried out by mechanized methods under hygienic conditions.

2. TECHNOLOGY STATUS

The entire technology used in the unit is indigenous and varies from product-to-product. However, the nature of processing is high-tech & hygienic.

3. COMPANY PROFILE

Company Name		ADITI PECTINS PRIVATE LIMITED
Address		Plot B, MIDC, Islampur –415409 Dist. Sangli (Maharashtra) India Tel:+91-2342-39550 Fax:+91-2342-38550 / 38592
Contact Person		Mr. Dinkar Rao Patil, Managing Director
E-mail		aditipectins@rediffmail.com
Web Site		http://www.aditifoods.com
Year of Establishment	:	1992
Products manufactured	:	Mango Pulp, Slice, juice, Jam, Squash, Bar, Strawberry Pulp, Grape Juice, Guava Pulp, Pineapple slice, Juice, Papaya Preserve, Pulp, Sweet Corn, Tamarind Bar, Candy

Installed Capacity per annum	:	11,000 Metric Tonnes per annum
Production (2000-01)	:	40 Metric Tonnes per day (11000 Metric Tonnes per Year)
Sales Turnover (2000-01)	:	Rs. 150 Million [US \$ 3.0 Million]

Exports	:	Rs. 120 Million [US \$ 2.4 Million]
Conformity to standards	:	FPO (Ministry of Food Processing Industry)
Compliance to ISO	:	Yes
Foreign Collaboration	:	None
Manpower Total	:	90
Tech. & Admin.	:	12
Raw Materials Used	:	Fruits
Effluent generated	:	NIL

4. BROAD PROFILE OF EXPECTED PROJECT

Project Features		
Project	:	To manufacture Fruit juices and pulps
Capacity	:	40 Metric Tonnes per day (11000 Metric Tonnes per Year)
Land Requirements	:	5 hectares [50,000 Sq. Mtr.]
Building Requirements	:	Process Hall: 80x60 Mtr. (4800 Sq. Mtr.) Fruit Ripening Sheds: 30x20 Mtr. (600 Sq. Mtr.) 10 such sheds will be required.
Plant & Machinery and Test Equipment	:	Rs. 30 Million [US \$ 0.60 Million]

Electrical Installation	:	100 KVA
Implementation Period	:	12 Months
Manpower Required Total	:	90 Nos.

Raw Materials Required	:	Fruits
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Financial Data		
Total Project Cost	:	Rs. 50 Million [US \$ 1.0 Million]
Expected Annual Sales	:	Rs. 150 Million [US \$ 3.0 Million]
Profitability	:	8%-10%

Target Market	:	African Countries, CIS Countries
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SECTOR: FOOD PROCESSING

C4: INVERT SUGAR SYRUP

1. TECHNOLOGY DESCRIPTION

A considerable change in the market of sweetening of foods has been observed and the dominance of sucrose as major carbohydrate sweetener

has been challenged. A wide range of new and more desirable carbohydrate-based sweeteners has emerged on the scene to keep pace with the advances in food technology. These sweeteners have wide applications in food and pharmaceutical industries. The most important among them is Invert Sugar, an equimolecular mixture of glucose and fructose.

Invert sugar is sometimes referred to as artificial honey since its composition and properties are nearly the same. In the developed countries, all sweetening in the confectionery, beverages and other industries as are mentioned above is done by invert sugar or high fructose syrups for distinct advantages like taste, flavour and texture. The concept has not picked up in the developing countries mainly due to lack of knowledge and poor availability. As the price of invert sugar is only marginally higher than normal sugar, the demand picks up phenomenally on its easy availability.

The conventional method of manufacturing Invert Sugar involves hydrolysis of sucrose, the popular and cheap sweetener. However, such acid hydrolysis has a low conversion efficiency, high energy consumption and thus in turn high cost of production. The acid hydrolyzed product also contains impurities introduced by uncontrollable parameters during inversion. The said conversion can also be achieved by enzymatic action of invertase on sucrose with a conversion efficiency of almost 100% without the inherent disadvantages of acid hydrolysis. The key to the process developed is a specific enzyme for the continuous production of concentrated Invert sugar using immobilized yeast cells in an inorganic insoluble matrix.

PROCESS

Description	Pale straw colour, Transparent syrup with no free suspended particle
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Taste	1.2 times sweeter than sugar
Concentration	97% total reducing sugar
PH	6.2
Optical Rotation	Laevorotatory

2. TECHNOLOGY STATUS

The developed invert sugar is a valuable sweetener in food and pharmaceutical applications because of its functionally more desirable properties i.e. high osmotic pressure, high solubility and humid nature.

Some of the important applications of invert sugar are:

- Sweetmeat, bread, biscuits, chocolates, condensed milk, jams, jelly, etc.
- Syrups in the pharmaceuticals industry.
- Beverages including aerated beverages.
- As a substitute for honey.
- Instant foods.
- Intravenous injectables for treatment of certain pathological conditions such as diabetes.
- In paper and tobacco industries because of its humectancy.

3. COMPANY PROFILE

Company Name	SUSHANT BIOPHARMACETUCIALS PVT. LTD.*
Address	Post Herle, Kolhapur 416205
Contact Person	Managing Director
Products manufactured	: Invert Sugar Syrup
Installed Capacity	: 1500 TPA
Production (2000-01)	: 1000 TPA

Sales Turnover (2000-01)	:	Rs. 30 Million [US \$ 0.60 Million]
Exports	:	--
Conformity to standards	:	Indian Standard Specifications
Compliance to ISO	:	Yes
Foreign Collaboration	:	None
Manpower Total	:	20 Nos.
Raw Materials Used	:	Sugar
Effluent generated	:	NIL

*The company is a licensee of National Research Development Corporation (NRDC). As per NRDC policy, the licensees cannot directly transfer the technology to any client in India and abroad. The licensee can associate with the Corporation for offering the turnkey offer. The technology would have to be transferred through NRDC.

Contact Address of NRDC is:

**National Research Development Corporation
(A Government of India Enterprise)**

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New Delhi 110048. India,

Ph: +91-11-26419904, 26417821, 26480767, 26432627

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Website: www.nrdcindia.com

email: nksharma@nrdcindia.com / bhardwaj@nrdcindia.com / nrdc@nda.vsnl.net.in

4. BROAD PROFILE OF EXPECTED PROJECT

Project Features		
Project	:	To Manufacture Invert Sugar Syrup
Capacity	:	1,500 TPA
Land Requirements	:	0.6 Acres i.e. 25,800 Sq. Ft. [2,400 Sq. Mtr.]
Building Requirements	:	7,530 Sq. Ft. [700 Sq. Mtr.]
Plant & Machinery and Test Equipment	:	Rs. 25 Million [US \$ 0.50 Million]
Electrical Installation	:	110 KVA

Implementation Period	:	9 – 12 months
Manpower Required (Total)	:	20 Nos.
Raw Material Required	:	Sugar

Financial Data		
Total Project Cost	:	Rs. 40 Million [US \$ 0.80 Million]
Expected Annual Sales	:	Rs. 50 Million [US \$ 1.00 Million]
Profitability / ROI	:	10% to 15%

Target Market	:	South Africa, Central Asian Countries
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