

GINGER, GARLIC & ONION PASTES

1. INTRODUCTION:

Ginger garlic paste is one of the essential ingredients in Indian cuisines. It is added to almost all of the Non-vegetarian preparations and a few vegetarian dishes in Hyderabadi cuisine. Ginger and Garlic Paste are mainly used as a condiment in various food preparations. Additionally, it dominates the cooking paste market. Ginger garlic paste is one of the primary cooking ingredients. In all the regions of the state, garlic and ginger are grown abundantly and consumed as such. Additionally, people consume it daily, in every house. In present days, customers are more attracted towards instant foods, instant mixes, spices etc.

2. PRODUCT & ITS APPLICATION:

Ginger & garlic are important commercial crops cultivated throughout the country with major production in the states of Gujarat, Orissa, Maharashtra, Himachal Pradesh, Kerala, Haryana, Madhya Pradesh and Uttar Pradesh. Garlic is mainly used as a condiment in food preparations and is also used as carminative and gastric stimulant in many medicinal preparations. Processing of ginger is undertaken to dehydrate it and for preparing ginger candy. Ginger & garlic-based products have wide applications in food processing as well as many other industries. A proper market survey has to be conducted to find out demand potential for each industry segment. Applications: Ginger- Garlic Paste is mainly used as a condiment in various food preparations and also serves as a carminative and gastric stimulant in many medicine preparations. As a condiment, it is used for flavouring mayonnaise and Tomato Ketch - up sauce, Salads, meat sausages, chutney, pickles, Birayani, Fried Rice etc.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

Anyone can start this project. Successful running of this project does not require any specific qualification. Promoter should have knowledge of ingredients, recipe, production process, packaging etc.

4. INDUSTRY LOOKOUT AND TRENDS

Onion is the main crop grown all over the world especially in the Asia. It belongs to the family, Amaryllidaceous, and the genus, Alliums. Alliums are perennial herbs having bulbous and scented underground stems. This genus includes garlic, shallot, chives, leeks, and even a non-edible species grown only for its showy. The common garden onions are in the species, *A. cepa*. There are various varieties of onion each with their own unique flavour, ranging from mildly sweet to very strong i.e. red, yellow, white and green. It can be eaten fried, dried, raw, cooked or roasted. They are usually used to flavour salads, spreads, stir-fry, dips, soups and other dishes since ancient times in various cultures, onions on every continent have been growing in their natural habitat. Ancestors in Asia have become familiar with its stability and started to grow as a food. Swenson (2008) reported that the ancient Egyptians worshipped the onion, having faith in its spherical shape and concentric rings that represented eternity. Pakistan being an agricultural country is producing onion as a major agricultural crop. The annual world production of onion is about 55 million tonnes and Pakistan ranked 8th in onion production with an area of 147.6 thousand hectares and production of 1,939.6 thousand tonnes Swenson (2008) proposed that in the mountainous areas of Pakistan, Tajikistan, Northern Iran and Afghanistan the bulb onion has been domesticated and cultivated thousands of years ago. Alliums species (onion bulbs and fresh shoots) are grown for the production of seeds, sets and as fresh shoots for green salad in open, sunny and dry mountain slopes of these countries. Onions vary in colour, size, firmness, pungency shape, stiffness of outer neck and dry skins and may be consumed as uncooked or pickled.

5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

Ginger and garlic are important commercial crops with versatile applications. As a condiment, ginger is used for flavoring many food products like tomato sauce or ketchup, salad dressings, meat sausages, gravies, pickles, curry dishes and so on. It is also used in many medicines as it helps digestion and absorption of food and has antiseptic properties. Ginger and garlic- based products have very wide ranging applications in many industries like food processing, pharmaceutical, soft drinks, meat canning, confectionery, Soup making and so on. It is, therefore, necessary to assess market for the contemplated products before finalizing the production capacity. There are good export prospects as well. The cooking-paste market is estimated at Rs 55-70 crore and is growing at 30 per cent. The reason behind it, the cooking paste segment is now catering to working professionals who are pressed for time and not just housewives. The ginger-garlic paste can basically; you can produce the ginger-garlic paste as the small-scale basis. Generally, the packing comes as 50 gms and 100 gms packets. The market is widespread, especially in rural areas. It is ready to use item. Generally, all households consume this item widely. In urban areas, the demand for ginger garlic paste is very good and can be supplied on a commercial scale in bulk. Ginger and Garlic Paste are mainly used as a condiment in various food preparations and also serve as a carminative and gastric stimulant in many medicine preparations. As a condiment, it is used for flavoring mayonnaise and Tomato Ketch-up sauce, Salads, meat sausages, chutney, pickles, Biryani, Fried Rice etc. In all the regions of the state, garlic and ginger are grown abundantly and consumed as such. It is consumed daily, in every house. In present days customers are more attracted towards instant foods, instant mixes, spices etc. The ginger and garlic paste has good market potential.

6. RAW MATERIAL REQUIREMENTS:

Major raw materials are ginger and garlic. Other required raw materials are preservative and packaging consumable. Ginger garlic paste packaging generally comes in two types. One is in pouch packing and another is the container. You must also procure outer packaging consumable.

7. MANUFACTURING PROCESS:

Manufacturing Process is Washing, De-skinning, Crushing, Pulping / Paste Making, Mixing of Preservatives, Packing. The ginger and garlic received from farm is washed with water jet pressure to clean up any material. The skin of ginger and garlic then removed by skin peeling machine. Then the same is put in the mill/ crusher. The output of the mill is put to pulper to further making of fine paste. Output is in the stainless steel taken for mixing the preservatives. The same is transferred to pouch packing machine for packing in custom denomination. The mixture of ginger and garlic is grinded in wet grinder with required quantity of water, salt, turmeric etc. and vacuum packed with hot sealing machine in 50 gms and 100 gms packets.

8. MANPOWER REQUIREMENT :

The enterprise requires 31 employees as detailed below:

Sr. No.	Designation	SALARY	Salary ₹	Number of Employees				
				PER ANNUM	Year-1	Year-2	Year-3	Year-4
	Working Staff							
1	Production Manager	18000	36000	2	2	2	2	2
2	Operators	12000	72000	6	6	6	8	8
3	Helpers	10000	110000	11	11	11	13	13
			218000	19	19	19	23	23
1	Fixed Staff:							
2	Admin Manager	15000	30000	2	2	2	2	2
3	Accounts/Stores Assistant	12500	62500	5	5	5	5	5
	Office Boy	9000	27000	3	3	3	3	3
	<i>Sub-Total</i>		119500	8	8	8	8	8
	Total		337500	27	27	27	31	31

9. IMPLEMENTATION SCHEDULE:

The project can be implemented in 4 months' time as detailed below:

Sr. No.	Activity	Time Required (in months)
1	Acquisition of premises	2.00
2	Construction (if applicable)	2.50
3	Procurement & installation of Plant & Machinery	2.50
4	Arrangement of Finance	1.00
5	Recruitment of required manpower	1.00
	Total time required (<i>some activities shall run concurrently</i>)	4.00

10. COST OF PROJECT:

The project shall cost ₹ 135.50 lacs as detailed below:

Sr. No.	Particulars	₹ in Lacs
1	Land	13.00
2	Building	35.00
3	Plant & Machinery	30.00
4	Furniture, other Misc. Equipments	3.50
5	Other Assets including Preliminary / Pre-operative expenses	3.00
6	Margin for Working Capital	51.00
	Total	135.50

11. MEANS OF FINANCE:

Bank term loans are assumed @ 75 % of fixed assets.

Sr. No.	Particulars	₹ in Lacs
1	Promoter's contribution	33.88
2	Bank Finance	101.63
	Total	135.50

12. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹ lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	25.50	0.25	6.38	19.13
2	Receivables	12.75	0.25	3.19	9.56
3	Overheads	12.75	100%	12.75	0.00
4	Creditors	-		0.00	0.00
	Total	51.00		22.31	28.69

13. LIST OF MACHINERY REQUIRED:

The machineries required are Water Jet Washer, Skin peeling Machine, Fruit mill/ crusher, Stainless Steel Tank, Packing Machine, Mixing Tank, Sealing Machine, Weighing Machine, and Cartoon Packing Machine. The Utilities are WATER 2000 Ltrs/Day ELECTRIC POWER 40 KW.

Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value
					(₹ in Lacs)
	Plant & Machinery / equipments				
a)	Main Machinery				
1	Water Jet Washer, Skin Peeling Machine	NOS	1	12.00	12.00
2	Fruit mill / Crusher	NOS	1	4.00	4.00
3	Pulping Machine	NOS	1	5.00	5.00
4	Testing, Packing	L.S.	1	3.00	3.00
5	Utility Equipments	L.S.	1	2.00	2.00
	Installation, Taxes and Transportation	L.S.		4.00	4.00
	<i>sub-total</i>				30.00
	Furniture / Electrical installations				
a)	Office furniture	LS	1	50000	0.00
b)	Stores Cupboard	LS	1	50,000	0.50
c)	Computer & Printer	LS	1	50000	0.50
	<i>sub total</i>				3.50
	Other Assets				
a)	Preliminary and preoperative				3.00
	<i>sub-total Other Assets</i>				3.00
	Total				36.50

All the machines and equipments are available from local manufacturers. The entrepreneur needs to ensure proper selection of product mix and proper type of machines and tooling to have modern and flexible designs. It may be worthwhile to look at reconditioned imported machines, dies and tooling. Some of the machinery and dies and tooling suppliers are listed here below:

1. Fry-Tech Food Equipments Private Limited
S. No. 4, Raviraj Industrial Estate,
Bhikhubhai Mukhi Ka Kuwa Bharwadvash,
Ramol, Ahmedabad - 380024,
Gujarat, India

2. Hindustan Vibrotech Pvt. Ltd.
Office No. 2, Ground Floor,
Vrindavan Building, Vile Parle East,
Mumbai – 400057,
Maharashtra, India

3. Electrons cooling systems Pvt. Ltd.
S-27, SIDCO Industrial Estate
Kakkalur Industrial Estate
Tiruvallur – 602003,
Tamil Nadu, India

4. Springboard Enterprises India Ltd.
1st, 2nd & 3rd Floor,
Plot No. 7, 8 & 9,
Garg Shopping Mall,
Service Centre, Rohini Sector 2
New Delhi – 110085,
Delhi, India

5. Flour Tech Engineers Private Limited

Plot No. 182, Sector 24,
Faridabad - 121005,
Haryana, India

6. P Square Technologies

3, Swami Mahal,
Gurunanak Nagar,
Off. Shankarsheth Road Bhavani Peth,
Pune - 411002,
Maharashtra, India

7. Ricon Engineers

10 To 13, Bhagwati Estate,
Near Amraiwadi Torrent Power,
Behind Uttam Dairy,
Rakhial, Ahmedabad - 380023,
Gujarat, India

8. Kamdhenu Agro Machinery

Plot No. 6, Near Power House,
Wathoda Road Wathoda,
Nagpur - 440035,
Maharashtra, India

14. PROFITABILITY CALCULATIONS:

Sr. No.	Particulars	UOM	Year-1	Year-2	Year-3	Year-4	Year-5
1	Capacity Utilization	%	60%	70%	80%	90%	100%
2	Sales	₹. In Lacs	153.00	178.50	204.00	229.50	255.00
3	Raw Materials & Other direct inputs	₹. In Lacs	117.55	137.14	156.73	176.32	195.91
4	Gross Margin	₹. In Lacs	35.45	41.36	47.27	53.18	59.09
5	Overheads except interest	₹. In Lacs	15.47	16.44	18.37	18.95	19.34
6	Interest @ 10 %	₹. In Lacs	10.16	10.16	6.78	5.08	4.07
7	Depreciation @ 30 %	₹. In Lacs	9.00	6.30	4.59	3.60	2.70
8	Net Profit before tax	₹. In Lacs	0.82	8.46	17.53	25.55	32.98

The basis of profitability calculation:

This unit will have capacity of 300 Ton/Annum. The growth of selling capacity will be increased 10% per year. (This is assumed by various analysis and study, it can be increased according to the selling strategy.)

Energy Costs are considered at Rs 7 per Kwh and fuel cost is considered at Rs. 65 per litre. The depreciation of plant is taken at 10-12 % and Interest costs are taken at 14 -15 % depending on type of industry.

15. BREAKEVEN ANALYSIS:

The project shall reach cash break-even at 39.61 % of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales at full capacity	₹. In Lacs	255.00
2	Variable costs	₹. In Lacs	195.91
3	Fixed costs incl. interest	₹. In Lacs	23.41
4	BEP = FC/(SR-VC) x 100 =	% of capacity	39.61%

16. STATUTORY / GOVERNMENT APPROVALS

The Ministry of Food Processing Industries has been operating several plan schemes for the development of processed food sector in the country during the 10th Plan. One of the schemes relates to the Technology Up-gradation/ Establishment/ Modernization of food processing industries.

The Indian food processing industry is regulated by several laws which govern the aspects of sanitation, licensing and other necessary permits that are required to start up and run a food business. The legislation that dealt with food safety in India was the Prevention of Food Adulteration Act, 1954 (hereinafter referred to as "**PFA**"). The PFA had been in place for over five decades and there was a need for change due to varied reasons which include the changing requirements of our food industry. The act brought into force in place of the PFA is the Food Safety and Standards Act, 2006 (hereinafter referred to as "**FSSA**") that overrides all other food related laws.

FSSA initiates harmonization of India's food regulations as per international standards. It establishes a new national regulatory body, the Food Safety and Standards Authority of India (hereinafter referred to as "**FSSAI**"), to develop science based standards for food and to regulate and monitor the manufacture, processing, storage, distribution, sale and import of food so as to ensure the availability of safe and wholesome food for human consumption. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

All food imports will therefore be subject to the provisions of the FSSA and rules and regulations which as notified by the Government on 5th of August 2011 will be applicable.

Key Regulations of FSSA

- A. Packaging and Labelling
- B. Signage and Customer Notices
- C. Licensing Registration and Health and Sanitary Permits

17. BACKWARD AND FORWARD INTEGRATIONS

The objective of the scheme is to provide effective and seamless backward and forward integration for processed food industry by plugging the gaps in supply chain in terms of availability of raw material and linkages with the market. Under the scheme, financial assistance is provided for setting up of primary processing centres/ collection centres at farm gate and modern retail outlets at the front end along with connectivity through insulated/ refrigerated transport.

The Scheme is applicable to perishable horticulture and non-horticulture produce such as, fruits, vegetables, dairy products, meat, poultry, fish, Ready to Cook Food Products, Honey, Coconut, Spices, Mushroom, Retails Shops for Perishable Food Products etc. The Scheme would enable linking of farmers to processors and the market for ensuring remunerative prices for agri produce.

The scheme is implemented by agencies/ organizations such as Govt. / PSUs/ Joint Ventures/ NGOs/ Cooperatives/ SHGs / FPOs / Private Sector / individuals etc.

Backward Linkage:

- Integrated Pack-house(s) (with mechanized sorting & grading line/ packing line/ waxing line/ staging cold rooms/cold storage, etc.)
- Pre Cooling Unit(s)/ Chillers
- Reefer boats
- Machinery & equipment for minimal processing and/or value addition such as cutting, dicing, slicing, pickling, drying, pulping, canning, waxing, etc.
- Machinery & equipment for packing/ packaging.

Forward Linkage:

- Retail chain of outlets including facilities such as frozen storage/ deep freezers/ refrigerated display cabinets/cold room/ chillers/ packing/ packaging, etc.
- Distribution centre associated with the retail chain of outlets with facilities like cold room/ cold storage/ ripening chamber.

18. TRAINING CENTERS AND COURSES

There are few specialised Institutes provide degree certification in Food Technology, few most famous and authenticate Institutions are as follows:

1. Indian Institute of Food Science & Technology,
Plot No.1, Near Maa-Baap ki Dargah,Opp to Nath Seeds,
Paithan Road Aurangabad
Aurangabad - 431005
Maharashtra, India
2. MIT College of Food Technology, Pune
Gate.No.140, Raj Baugh Educational Complex,
Pune Solapur Highway,
Loni Kalbhor, Pune – 412201
Maharashtra, India
3. CSIR - Central Food Technological Research Institute (CFTRI)
Cheluvamba Mansion, Opp. Railway Museum,
Devaraja Mohalla, CFTRI Campus, Kaggihundi, Mysuru , Karnataka – 570020

Udyamimitra portal (link : www.udyamimitra.in) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

Disclaimer:

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.