

The Complete Technology Book on **Flavoured Ice Cream**

*(Manufacturing Process,
Flavours, Formulations with
Machinery Details)*

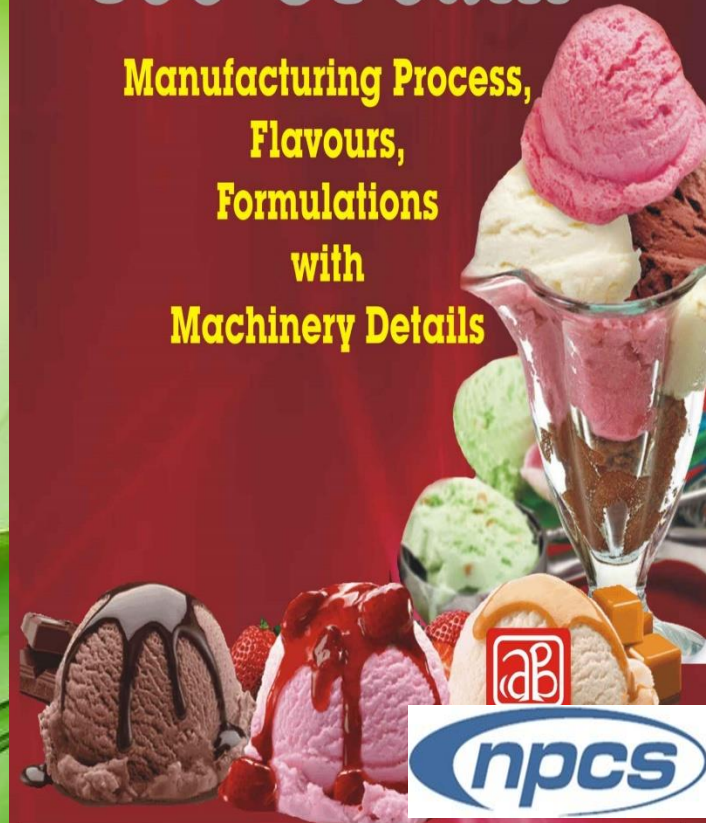
2nd Revised Edition



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Technology Book on

Flavoured Ice Cream

Manufacturing Process,
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Introduction

Ice cream is a frozen-food, sweet in flavor and is consumed as a dessert all over the globe. Ice-cream comes in variety of flavors in which fruits, nuts and other ingredients can be added to enhance the nutritional value and organoleptic property of the product. It is stored in the freezing- temperature and contains mild preservatives. Ice Cream is a favourite's food of millions around the world. Ice Cream is a palatable, nutritious and relatively inexpensive food. Ice Cream is composed of the mixture of food materials, such as milk products, sweetening materials, stabilizers, emulsifiers, flavours or egg products which are referred to as ingredients.

Related Projects:- Milk & Dairy Products, Butter, Cheese, Ghee, Ice Creams, Chocolate, Curd, Lassi, Flavored Milk , UHT Milk, Fluid Milk, Milk Powder, Skimmed Milk Powder

Ice cream is typically known as the most popular frozen treat. To be qualified as ice cream, the frozen mixture must be made with no less than 10% milk fat, sometimes referred to as butterfat. It can also be no more than 100% overrun. The rising demand for innovative flavors, formats and growing demand for impulsiveness to consume the product in developing countries is expected to drive the market growth. The increased demand for frozen desserts in the developed countries is supporting the sale of ice creams. The developing technologies have helped in enhancing and innovating new flavors in the ice creams which has also helped in fueling up the market share of the product. Ice Cream is among the largest supermarket food categories which is generating high revenue. The global ice cream industry is a prosperous industry and the positive growth momentum has attracted food giants to diversify and expand their product lines. **Related Projects: - Food Processing and Agriculture Based Projects, Snack Food, Frozen Food, and Agro Processing Technology**

Market Demand

The rise in income, along with an increase in demand for sweet dishes, drives the growth of this market. Whereas, the new innovative flavors that companies have come up with, act as a major driver for the market.

The rise in income, along with an increase in demand for sweet dishes, drives the growth of this market. Whereas, the new innovative flavors that companies have come up with, act as a major driver for the market. Also, the cheaper price of the private label ice-creams is increasing the demand. The sales of low-quality ice cream have been declining, due to the increased preference for premium ice cream. Few of those premium ice creams have gained popularity among health-conscious consumers due to the presence of low calorie/no sugar claims compared to regular ice creams.

Related Books:- Food Processing, Food Industry, Agriculture, Agro Processing, Processed Food

The rise in income along with an increased indulgence for sweet dishes drives the growth of this market. Unilever dominates the global market followed by Nestle. The sales of low-quality ice cream have been declining due to the increased preference for premium ice cream. The innovative flavors that companies have come up with act as a major driver for this market. Moreover, private labeling reduces the price of ice creams, thereby increasing demand. The sales of basic variety ice creams have been declining in favor of premium ones. Currently, the United States is leading the way due to the introduction of handcrafted ice creams, which is relatively linked to market maturity.

Related Books:- Milk Processing, Dairy & Dairy Products, Poultry Industries



The norms will require Food Business Operators (FBOs) to prominently mention the percentage amount of vegetable proteins or vegetable fat/oil on the label. Apart from this, rapid urbanization has led to an expansion in modern retail formats such as departmental stores, hypermarkets, supermarkets and convenience stores, which is contributing to an increase in sales. Moreover, owing to the income elastic nature of ice cream consumption, rising disposable incomes and the improving purchasing power of consumers are escalating its per capita consumption in emerging regions like India and China.

Related Book:- [The Complete Technology Book on Flavoured Ice Cream \(2nd Revised Edition\)](#)



The increasing demand for lactose-free ice cream is expected to boost the growth of the global ice cream market during the assessment period. Ice cream is prepared by churning and chilling a mixture of high-fat milk or cream, fructose- or glucose-based sweeteners, usually corn syrup, and flavorings such as vanilla and chocolate. During the commercial production of ice cream emulsifiers and stabilizers are added. Stabilizers help in preventing the formation of large crystals and lock in moisture, providing the desired creamy texture to the end product.

Related Projects: - Fast Moving Consumer Goods (FMCG) Projects



Manufacturers are offering innovative flavors and convenient packaging. The introduction of new and interesting flavors in ice creams is boosting the growth of the global market. Trends such as cinnamon roll ice creams, gluten- and dairy-free ice creams, and chewy crepes instead of wafer cones are expected to present opportunities to market players during the assessment period. Increasing consumer spending on health products having a higher nutritional value compared to traditional flavour coupled with the launch of indulgent and premium quality ice cream flavors will provide a strong business outlook for the organic ice cream market. Upsurge in the demand for homemade products owing to easy preparation methods and the presence of widespread marketing channels will positively influence industry growth.

Related Book:- The Complete Technology Book on Flavoured Ice Cream (2nd Revised Edition)

Manufacturers are increasing their product range by including functional ingredients, organic herbal fillings, and exotic flavors in product formulations to meet the changing consumers' demands. For instance, companies are including other exotic flavors such as tropical fruits, lemons, and coconuts to cater to changing taste of consumers. In addition, for health-conscious customers prefer a low-calorie and low-fat ice cream called Skinny Cow. In this way, product innovation in ice cream products drive growth and development of the market globally. Apart from this, retail channels such as hypermarkets, supermarkets, convenience stores, discounters, forecourt retailers, and grocery stores act as global marketing tool that assist in building an impressive premium image and increase brand exposure of wide variety of ice cream products.

**Related Book:- The Complete Technology Book on Flavoured Ice Cream
(2nd Revised Edition)**

Expansion of these retail channels contributing in the growth of ice cream market size. However, the health concerns associated with ice creams restrain the ice cream market growth. Furthermore, rise in demand for innovative products and development of lactose-free ice cream provide growth opportunities for ice cream market size expansion.

Projects- Project Reports & Profiles



Properties and Applications

Ice cream is a frozen dessert prepared with a combination of milk, cream, fruits, and artificial or natural flavouring. In some variants, such as frozen custard and French ice creams, it also utilizes egg as one of the main ingredients. It is a rich source of carbohydrates, phosphorus, calcium, thiamine, niacin, riboflavin, folate, and vitamins such as A, C, D, E, K, B-6, and B-12. Consequently, it offers numerous health benefits, such as strengthening bones, providing energy, lowering blood pressure, stimulating brain functions, and repairing muscle tissue. Also, there are many flavours available in the market, like strawberry, chocolate, vanilla, and others. Rapid advancements in logistics and production processes have also enabled manufacturers to offer ice cream in most of the restaurant, supermarket and corner stores, thus, are expected to create a greater demand in the market during the forecast period.

Books:- BOOKS & DATABASES

Ice Cream Making Process

Basically, ice cream is a frozen dairy product. You can produce ice cream by suitable blending and processing of milk cream. Generally, you will need to mix the milk products with sugar, flavors, and stabilizer. It forms a creamy texture by incorporation of air by agitating during the freezing process. The main steps in the production of ice cream are:

Related Book:- The Complete Technology Book on Flavoured Ice Cream (2nd Revised Edition)



Blend the Ice Cream Mixture

First of all, blend the milk fat source, nonfat solids, stabilizers, and emulsifiers.

Pasteurize Mix

Then pasteurize the ice cream mix at 155°F (68.3°C) for 30 minutes or 175°F (79.4°C) for 25 sec. The conditions used to pasteurize ice cream mix are greater than those used for fluid milk because of increased viscosity from the higher fat, solids, and sweetener content, and the addition of egg yolks in custard products.

Related Books:- [Milk Processing, Dairy & Dairy Products, Poultry Industries](#)



Homogenize

Ice cream mix is homogenized (2500 to 3000 psi) to decrease the milk fat globule size to form a better emulsion and contribute to smoother, creamier ice cream. Homogenization also ensures that the emulsifiers and stabilizers are well blended and evenly distributed in the ice cream mix before it is frozen.

Aging the Mix

Ice cream mix is aged at 40°F (5°C) for at least 4 hours or overnight. Aging the mix cools it down before freezing, allows the milk fat to partially crystallize and the gives the proteins stabilizers time to hydrate. This improves the whipping properties of the mix.

Related Books:- [Food Processing](#), [Food Industry](#), [Agriculture](#), [Agro Processing](#), [Processed Food](#)

Add Liquid Flavors and Colors

Liquid flavors and colors may be added to the mix before freezing. Only ingredients that are liquid can be added before the freezing, to make sure the mix flows properly through the freezing equipment.

Freeze

The process involves freezing the mix and incorporating air. You can freeze the ice cream mix in batch or continuous freezers. However, it depends on the type of freezer. Batch freezers consist of a rotating barrel. Usually, you can fill it one-third to one-half full with ice cream mix. As the barrel turns, the air in the barrel incorporates into the ice cream mix.

Related Projects: - [Food Processing and Agriculture Based Projects, Snack Food, Frozen Food, and Agro Processing Technology](#)

Add Fruits, Nuts and Bulky Flavorings (candy pieces, etc.)

Fruits, swirls and any bulky type of flavorings (nuts, candy pieces, etc.) are added at this point. These ingredients cannot be added before freezing or they would interfere with the smooth flow of the mix through the freezer.

Market Research: - Market Research Report

Cooling Storage of Ice Creams

The ice cream is cooled as quickly as possible down to a holding temperature of less than -13°F (-25°C). The temperatures and times of cooling will depend on the type of storage freezer. Rapid cooling will promote quick freezing of water and create small ice crystals. Storage at -13°F (-25°C) will help to stabilize the ice crystals and maintain product quality.

Ice cream must contain at least 10% milk fat and at least 20% total milk solids. In addition, it may contain safe and suitable sweeteners, emulsifiers and stabilizers, and flavoring materials. The finished ice cream must weigh at least 4.5 pounds per gallon.

Additionally, you must maintain at least 1.6 pounds of total solids (fat + protein + lactose + minerals + added sugar) per gallon, thus limiting the maximum amount of air (called overrun) that can be incorporated into ice cream.

Related Videos:- [Milk & Dairy-Value Added Dairy Products Products](#)



Ice Cream Manufacturing Business Registration

In starting ice cream making business, you will need to decide first the ownership pattern. Register accordingly at Register Of Companies. Obtain a Trade License and register your business. As you are starting food item manufacturing, you will need to obtain permission from FSSAI. Contact with your local DIC office. Depending on the manufacturing process they will guide you about what specific license you will need to have.

Related Book:- The Complete Technology Book on Flavoured Ice Cream (2nd Revised Edition)



Some of the fundamentals of the book are composition of ice cream mixes, the role of the constituents, diet science and classification of ice cream, caloric content of ice cream and related products, milk fat content of ice cream, classification of ice cream and related products, artificially sweetened frozen dairy foods, ingredients of ice cream roles and properties, effect of sweetener on freezing point, influence on ice crystal size and texture, flavor, colour materials and preparation, ice cream mixer preparation, processing and mix calculations, the freezing process,

Related Videos:- FMCG Projects, Non-Durable Items, Consumer Packaged Goods, Packaged Foods, Beverages, Toiletries, Over-the-Counter Drugs and many Other Consumables



the freezing point of ice cream mixes, ice cream handling, cleaning and sanitation, varieties, novelties and specials, molded cones, ice cream cone making, success story of natural ice cream, specifications of ice cream plant, process flow diagram, sample plant layout and photographs of machinery with supplier's contact details.

A total guide to manufacturing and entrepreneurial success in one of today's most lucrative food industries. This book is one-stop guide to one of the fastest growing sectors of the food industry, where opportunities abound for manufacturers, retailers, and entrepreneurs. This is the only complete handbook on the commercial production of ice cream. It serves up a feast of how-to information, from concept to purchasing equipment.

Related Videos: - [Business Ideas for Startups](#)



About Us:

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Tags

#milkyicecream #FlavouredIceCream #IceCreamManufacturing
#IceCreamProduction #IceCreambook #IceCreamMarket
#IceCreamMarketGrowth #IceCreamBusiness #IceCreamBusinessPlan
#IceCreamProject #IceCreamInvestment #IceCreamIndustry
#foodanddrinkindustry #icecreamingredients #foodindustry
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OUR CLIENTS

Our inexhaustible Client list includes public-sector companies, Corporate Houses, Government undertaking, individual entrepreneurs, NRI, Foreign investors, non-profit organizations and educational institutions from all parts of the World. The list is just a glimpse of our esteemed & satisfied Clients.

Click here to take a look
<https://goo.gl/G3ICjV>

Select and Choose the Right Business Startup for You **(Instant Online Project Identification and Selection)**

Finding the right startup business is one of the most popular subject today. Starting a business is no easy endeavor, but the time, effort, and challenges can be worth it if you succeed. To give yourself the best chance to be successful, take your time to carefully find the right business for you. We, at NPCS, endeavor to make business selection a simple and convenient step for any entrepreneur/startup. Our expert team, by capitalizing on its dexterity and decade's long experience in the field, has created a list of profitable ventures for entrepreneurs who wish to diversify or venture. The list so mentioned is updated regularly to give you a regular dose of new emerging opportunities.

Visit: <https://www.entrepreneurindia.co/project-identification>



Download Complete List of Project Reports:

Detailed Project Reports

Visit:- <https://www.entrepreneurindia.co/complete-project-list>

NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.

Our Market Survey cum Detailed Techno Economic Feasibility Report provides an insight of market in India. The report assesses the market sizing and growth of the Industry. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line.

And before diversifying/venturing into any product, they wish to study the following aspects of the identified product:

- **Good Present/Future Demand**
- **Export-Import Market Potential**
- **Raw Material & Manpower Availability**
- **Project Costs and Payback Period**

The detailed project report covers all aspect of business, from analyzing the market, confirming availability of various necessities such as Manufacturing Plant, Detailed Project Report, Profile, Business Plan, Industry Trends, Market Research, Survey, Manufacturing Process, Machinery, Raw Materials, Feasibility Study, Investment Opportunities, Cost and Revenue, Plant Economics, Production Schedule,

Working Capital Requirement, uses and applications, Plant Layout, Project Financials, Process Flow Sheet, Cost of Project, Projected Balance Sheets, Profitability Ratios, Break Even Analysis. The DPR (Detailed Project Report) is formulated by highly accomplished and experienced consultants and the market research and analysis are supported by a panel of experts and digitalized data bank.

We at NPCS, through our reliable expertise in the project consultancy and market research field, have demystified the situation by putting forward the emerging business opportunity in India along with its business prospects.....[Read more](#)

Contact us

NIIR PROJECT CONSULTANCY SERVICES

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Niir PROJECT CONSULTANCY SERVICES

AN ISO 9001: 2015 CERTIFIED COMPANY



Who are we?

- *One of the leading reliable names in industrial world for providing the most comprehensive technical consulting services*
- *We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients' in India & abroad*

We at NPCS want to grow with you by providing solutions scale to suit your new operations and help you reduce risk and give a high return on application investments. We have successfully achieved top-notch quality standards with a high level of customer appreciation resulting in long lasting relation and large amount of referral work through technological breakthrough and innovative concepts. A large number of our Indian, Overseas and NRI Clients have appreciated our expertise for excellence which speaks volumes about our commitment and dedication to every client's success.

We bring deep, functional expertise, but are known for our holistic perspective: we capture value across boundaries and between the silos of any organization. We have proven a multiplier effect from optimizing the sum of the parts, not just the individual pieces. We actively encourage a culture of innovation, which facilitates the development of new technologies and ensures a high quality product.

What do we offer?

- *Project Identification*
- *Detailed Project Reports/Pre-feasibility Reports*
- *Market Research Reports*
- *Business Plan*
- *Technology Books and Directory*
- *Industry Trend*
- *Databases on CD-ROM*
- *Laboratory Testing Services*
- *Turnkey Project Consultancy/Solutions*
- *Entrepreneur India (An Industrial Monthly Journal)*

How are we different ?

- *We have two decades long experience in project consultancy and market research field*
- *We empower our customers with the prerequisite know-how to take sound business decisions*
- *We help catalyze business growth by providing distinctive and profound market analysis*
- *We serve a wide array of customers , from individual entrepreneurs to Corporations and Foreign Investors*
- *We use authentic & reliable sources to ensure business precision*

Our Approach

Requirement collection

Thorough analysis of the project

Economic feasibility study of the Project

Market potential survey/research

Report Compilation

Who do we Serve?

- Public-sector Companies
- Corporates
- Government Undertakings
- Individual Entrepreneurs
- NRI's
- Foreign Investors
- Non-profit Organizations, NBFC's
- Educational Institutions
- Embassies & Consulates
- Consultancies
- Industry / trade associations

Sectors We Cover

- Ayurvedic And Herbal Medicines, Herbal Cosmetics
- Alcoholic And Non Alcoholic Beverages, Drinks
- Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin
- Activated Carbon & Activated Charcoal
- Aluminium And Aluminium Extrusion Profiles & Sections,
- Bio-fertilizers And Biotechnology
- Breakfast Snacks And Cereal Food
- Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling

Sectors We Cover *Cont...*

- Bamboo And Cane Based Projects
- Building Materials And Construction Projects
- Biodegradable & Bioplastic Based Projects
- Chemicals (Organic And Inorganic)
- Confectionery, Bakery/Baking And Other Food
- Cereal Processing
- Coconut And Coconut Based Products
- Cold Storage For Fruits & Vegetables
- Coal & Coal Byproduct

Sectors We Cover *Cont...*

- Copper & Copper Based Projects
- Dairy/Milk Processing
- Disinfectants, Pesticides, Insecticides, Mosquito Repellents,
- Electrical, Electronic And Computer based Projects
- Essential Oils, Oils & Fats And Allied
- Engineering Goods
- Fibre Glass & Float Glass
- Fast Moving Consumer Goods
- Food, Bakery, Agro Processing

Sectors We Cover *Cont...*

- Fruits & Vegetables Processing
- Ferro Alloys Based Projects
- Fertilizers & Biofertilizers
- Ginger & Ginger Based Projects
- Herbs And Medicinal Cultivation And Jatropha (Biofuel)
- Hotel & Hospitality Projects
- Hospital Based Projects
- Herbal Based Projects
- Inks, Stationery And Export Industries

Sectors We Cover

Cont...

- Infrastructure Projects
- Jute & Jute Based Products
- Leather And Leather Based Projects
- Leisure & Entertainment Based Projects
- Livestock Farming Of Birds & Animals
- Minerals And Minerals
- Maize Processing(Wet Milling) & Maize Based Projects
- Medical Plastics, Disposables Plastic Syringe, Blood Bags
- Organic Farming, Neem Products Etc.

Sectors We Cover *Cont...*

- Paints, Pigments, Varnish & Lacquer
- Paper And Paper Board, Paper Recycling Projects
- Printing Inks
- Packaging Based Projects
- Perfumes, Cosmetics And Flavours
- Power Generation Based Projects & Renewable Energy Based Projects
- Pharmaceuticals And Drugs
- Plantations, Farming And Cultivations
- Plastic Film, Plastic Waste And Plastic Compounds
- Plastic, PVC, PET, HDPE, LDPE Etc.

Sectors We Cover *Cont...*

- Potato And Potato Based Projects
- Printing And Packaging
- Real Estate, Leisure And Hospitality
- Rubber And Rubber Products
- Soaps And Detergents
- Stationary Products
- Spices And Snacks Food
- Steel & Steel Products
- Textile Auxiliary And Chemicals

Sectors We Cover *Cont...*

- Township & Residential Complex
- Textiles And Readymade Garments
- Waste Management & Recycling
- Wood & Wood Products
- Water Industry(Packaged Drinking Water & Mineral Water)
- Wire & Cable

MARKET RESEARCH REPORTS

Objective

- ⌘ To get a detailed scenario of the industry along with its structure and classification
- ⌘ To provide a comprehensive analysis of the industry by covering aspects like:
 - ⌘ Growth drivers of the industry
 - ⌘ Latest market trends
 - ⌘ Insights on regulatory framework
 - ⌘ SWOT Analysis
 - ⌘ Demand-Supply Situation
 - ⌘ Foreign Trade
 - ⌘ Porters 5 Forces Analysis

Objective

- ⌘ To provide forecasts of key parameters which helps to anticipate the industry performance
- ⌘ To help chart growth trajectory of a business by detailing the factors that affect the industry growth
- ⌘ To help an entrepreneur/manager in keeping abreast with the changes in the industry
- ⌘ To evaluate the competitive landscape of the industry by detailing:
 - ⌘ Key players with their market shares
 - ⌘ Financial comparison of present players

Clientele

- ⌘Venturist/Capitalists
- ⌘Entrepreneur/Companies
- ⌘Industry Researchers
- ⌘Investment Funds
- ⌘Foreign Investors, NRI's
- ⌘Project Consultants/Chartered Accountants
- ⌘Banks
- ⌘Corporates

[Click here for list](#)

Data Sources



Scope & Coverage



Our Team

⌘ Our research team comprises of experts from various financial fields:

⌘ MBA's

⌘ Industry Researchers

⌘ Financial Planners

⌘ Research veterans with decades of experience

Structure of the Report

- 1. Overview
- 2. Market Analysis
 - 2.1 Growth Drivers
 - 2.2 Emerging Trends in the Industry
 - 2.3 Regulatory Framework
 - 2.4 SWOT Analysis
 - 2.5 Herfindahl–Hirschman Index (HHI)
- 3. Market Forecasts
- 4. Key Players

Structure of the Report

Cont

- ❧5. Key Financials and Analysis
 - ❧5.1 Contact Information
 - ❧5.2 Key Financials
 - ❧5.3 Financial comparison
- ❧6. Industry Size & Outlook

Take a look at *NIIR PROJECT CONSULTANCY SERVICES*
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