AN ISO 9001 : 2015 CERTIFIED COMPANY

Profitable Agro Based Projects with Project Profiles (Cereal Food Technology) (2nd Revised Edition)

FREE SAMPLE: contents and introduction of the 216-page book
Price: Rs 1,895 | US$ 50.95

Order the full book >

AN ISO 9001 : 2015 CERTIFIED COMPANY

Author: P.K.Chattopadhyay
Format: hardcover
Code: NI15
Pages: 216
Price: Rs 1,895 | US$ 50.95
Publisher: NIIR PROJECT CONSULTANCY SERVICES
Shipping: 5 days

About the Book

**********Limited Edition- available in Photostat Version Only**********

Cereal, also called grain, any grass yielding starchy seeds suitable for food. The cereals most commonly cultivated are wheat, rice, rye, oats, barley, corn (maize), and sorghum. As human food, cereals are usually marketed in their raw grain form (some are frozen or canned) or as ingredients of various food products; as animal feed, they are consumed mainly by livestock and poultry, which are eventually rendered as meat, dairy, and poultry products for human consumption; and they are used industrially in the production of a wide range of substances, such as glucose, adhesives, oils, and alcohols. Real processing, treatment of cereals and other plants is to prepare their starch for human food, animal feed, or industrial use. Cereals are used for both human and animal food and as an industrial raw material. Although milled white flour is largely used for bread production, especially in industrialized countries, the grain may be converted to food in other ways. The relatively minor use of cereals in nonfood products includes the cellulose in the straw of cereals by the paper industry, flour for manufacturing sticking pastes and industrial alcohol, and wheat gluten for core binders in the casting of metal. Rice chaff is often used as fuel in Asia.
Assuming a 50 percent increase in fertilizer use and that 41.5 percent of the cropped area is irrigated; projected 2020 food production would increase by 7.2 percent - from 251.0 million tons to 269.1 million tons. Future increases in the production of cereals and non-cereal agricultural commodities will have to be essentially achieved through increases in productivity, as the possibilities of expansion of area and livestock population are minimal. To meet the projected demand in the year 2020, country must attain a per hectare yield of 2.7 tons 2 for rice, 3.1 tons for wheat, 2.1 tons for maize, 1.3 tons for coarse cereals, 2.4 tons for cereal, 1.3 tons for pulses, 22.3 tons for potato, 25.7 for vegetables, and 24.1 tons for fruits.
The content of the book includes information about cereal food technology. The major contents of this book are project profiles of projects like rice milling, rice products, rice flake (poha) and utilities of storage and preservation techniques of food grains, flour milling, wheat and flour products, maize processing, the dry milling of corn, rice starch, corn products, white oat processing, nutrition labeling, requirements of plant and machinery and address of plant and machinery suppliers.
This book is very useful for new entrepreneurs, technical institutions, existing units and technocrats.

Contents

1. CEREAL PROCESSING
Uses of Cereals, Human Food, Animal Food, Industrial Uses, Cereal Processing and Utilization, Wheat, Wheat Flour, Milling. Composition and Grade, Protein Content, Rice, Cultivation, Milling, Nutritive Value, Barley, Corn, Sorghum, Oats, Millet, Commercial Starches, Corn Starch, Rice Starch, Starch Composition, Processing, Breakfast Cereals, Types of Breakfast Cereal, Flaked Cereals, Shredded Cereals, Granular Cereals, Puffed Cereals, Enrichment of Breakfast Cereals, Sweeteners
2. RICE MILLING
Introduction of Rice Milling, Parts of Paddy Grain, Typical Parboiling Plant in the Far East, Figure of Traditional Parboiling Methods (Tip Over Steamy Tank and Inset) Drum Type Parboiling Container, Studies and Research, Properties of Paddy, Empty Glumes, Awn and a Hairy Caryopsis, Husk Colour or Pigmentation, Shelled Grains, Fungus Infestation, Grain Injuries Caused by the Insect or Threshing, Chalky, Green or Red Grains, Operation Required for Raw Paddy, Paddy Cleaning & Grading, Steeping, The Graphs Time of Soaking Hours, Water Absorption by a Variety of Indian Paddy in Relation to Temperature of Steeping Water, Steeping Time in Hours, Loss of Whiteness by Parboiled Rice in Relation to Steeping Water at 70 C Temperature, Amylase Activity Loss of Whiteness by Parboiled Rice in Relation of Amylase Activity, pH of Steeping Water Vs Whiteness, Percentage of Sodium Metabisulphite Vs Whiteness, Steam Treatment on Paddy, The Purpose of Applying Steam, Practical Economic Disadvantage, Graph Between Steaming Temperature Vs Expanded Volume, Drying and Tempering, Colour Sorting by Automatic Machine, Figures of Electronic Colour Sorting Machine & Simple Colour Sorting Machine, Modern Parboiling Processes, Germany, Federal Republic, Schule Process, India Improved System Developed by the Central Food Technological Research Institute Mysore, Shows the Plant, India Jadavpur University Process, Italy Avorio Process, United States Malek Process, United States Rice Growers Association of California Parboiling Process, Flow Diagram of Above Six Process, Parboiling and Milling Flow Charts, Modern Rice Mills, Modern Precleaner and Destoner, Potential Ancillaries from a Rice Mill, Statwise Processing Capacity in India for Oil Cake & Rice Barn, Manufactures Rubbers Rolls, Figures of Huller Cum Sheller, Rubber Roll Shellers, Rice Husk Separator, Polishers Pearling Cones, Graders Rotary Flat Sieves, Circular Purifiers, All India Estimated of Food Grains Products, Project Profile of Rice Milling Industry (Cost Estimation)
3. RICE PRODUCTS
Expanded Rice, Gelatinization of Grains, Precooked Rice Flour, Special Rice Process, Artificial Aging of Rice, Methods for Coating Rice, Puffed and Toasted Rice, Process for Quick Cooking Rice, Example of Quick Cooking Rice, Enrichment of Rice, Export of Rice and Rice Based Products (Prospects and Problems), Traditional and Engineering Indices of Grading Rice Quality, Rice Sources and Preferred Quality Feature of Various Rice, Physicochemical Characteristics of Rice Samples from Some of the International Markets, Preferred Amylose Rice Types in Major Growing Countries, Non-Basmati Rice Potential and Strategies for Expanded Export, Processed Products, Measures to Develop and Sustain Export Avenues, Cost Estimation of Rice Products.
4. RICE FLAKE (POHA)
Uses & Applications, Per Capita Daily Food Supplies, Composition of Rice, Raw Materials Details, Manufacturing Process, Project Profile of Rice Flake (POHA)
5. UTILITY OF STORAGE AND PRESERVATION TECHNIQUE OF FOOD GRAINS
Production of Food Grains in India, Food Grains Storage Problems, Total Food Grains Capacity, Specifications for Conventional Godown Like Foundation, Plinth, Height of Walls, Thickness of Walls, Roofing, Flooring, Finishing, Doors, Ventilators, Types of Storage, Types of Godown, Storage Technique, Principle of Storage, Inspection of Grains, Nature of Treatment, Prophylactic Treatment, Curative Treatment, Cover Fumigation, Prophylactic Measurement with Different Chemicals Dosage, Frequency and mode of Application etc., Curative Measures with Different Fumigants Details of Dosages, Period of Exposure etc., Antiodote, Name of the Major and Minor Pests and Damage by Pests, Cap Storage, Silo Storage, Figure of Cap Storage Covered by polythene Cover, Figure of the Stack, Figure of the Stacks Pattern in the Floor in the Godown.
6. FLOUR MILLING

Introduction of Wheat Milling, The Composition of Cereal Seeds, Turbo Milling, The Principles of the Turbomillilng, Figure of the Hard Wheat Flour, Figure of the Soft Wheat Flour, Properties of the Flour Mill. Reception and Storage of Wheat, The Cleaning House, Tempering (Conditioning), The Grinding Wheat, Flow Diagram of Wheat Milling System, Main Groups of Machine, The Break Rolls, The Break Sifting System, The Reduction Rolls, The Reduction Sifting System, The Scarth System, The Conveying System, The Storage and Packaging of Flour, The Milling of Durum, Self Raising Flour, Flour Improvers and Bleaching Agents, Like Chlorine, Benzoyl Peroxide, Nitrogen Trichloride, Chloride Dioxide, Ascorbic Acid, Batter Process, Bread Making Process i.e., Straight Doughs Process, Physical Characteristics of Indian and Americal Wheats, Extraction of Different Commercially Milled Products from Indian and American Wheats, Chemical Characteristics of Indian and American wheat Flours, Farinograph Characteristics of Indian & American Wheat Flours, Extensograph Characteristics of Indian & American Wheat Flours, Amylograph Characteristics of Indian & Americal Wheat Flours, Bread Making Quality of Indian & American Wheat Flours, Bun Making Quality of Indian & American Wheat Flours, Roll Making Quality of Indian & American Wheat Flours, Cake Making Quality of Indian & American Wheat Flours, Quality Characteristics of Biscuits Prepared from Indian & American Wheat Flours, Quality Characteristics of Cookies Prepared from Indian & American Wheat Flours, Estimated Output of Products of Roller Flour Mills & Wheat Requirements, Estimated of Value of Output in Roller Flour Mills by Zones, Estimated of Value of Output of Products Roller Flour Mills by Zones upto 2001 A.D., Estimates of Capital Investment in Roller Flour Mill by Zones 1989 to 2001 A.D., Estimates of Employees in Roller Flour Mills by Zones, Estimated Output and Employment in Flour Mill in the Unorganised Sector, Project Profile of Flour Milling.

7. WHEAT AND FLOUR PRODUCTS

Introduction of Wheat and Flour Products, Terminology for Flour Milling, Bread Flours, Specifications for Bread Flour, Cookie Flours, Specifications for Cookies Flours, Introduction of Cereal Flour, Tests for Cereal Flours like Moisture, Protein, Ash, Colour, Determination of Fiber, Particle Size, Fat, Special Tests for Wheat Products viz., Gluten Quality, Starch Quality, Hydrogenion Concentration, Baking Test i.e. Flour Enrichment, Farina, Continuous Manufacturing Methods for Soda Crackers.

SWEET GOODS :- Process for Preparing Danish Pasty, Typical Principle of Danish Pastries, Formulation of Danish Pastries, Stabilized Active Dry Yeast, Chemically Leavened Products Cakes, Process for Restoring Freshness of Rich Cakes, Formulation for Cake, Emulsifier-Liquid Oil Preblend, Air Leavended Products i.e., Pound Cake Manufacturing Process with Formulation by Blending Method, Cream Puffs Manufacturing Process with Formulations, Production of Instant Type Cream Puffs, Miscellaneous Products, Heat Stable Whippable Wheat Protein, Raised Dough by Air Injection, Figure of D-Automatic Mixer, Emulsifiers Based on Monoglycerides, Ethoxylated Monoglycerides, Use of Alkoxylated Monoglycerides, Succinylated Monoglycerides, Hydrated Monoglycerides, Canned Wheat Bulgar, Protein Portified Bulgar, Preparation of Starting Material i.e. Soaking, Tempering, Cooking, Lye Treatment, Peeling, Acid Treatment, Drying, Project Profile of Wheat and Flour Products.

8. MAIZE PROCESSING

Uses & Applications, Raw Materials, Manufacturing Process of Starch, Fibre, Germ and Protein from Maize by Wet Milling Process, Project Profile of Maize Processing

9. THE DRY MILLING OF CORN

Introduction of the Dry Milling of Corn, The Past of the Dry Milling of Corn Industry, The Present Situation Warehousing, Container Freight Station, The Future, Address of the Warehousing Corporation i.e. Head Office & Regional Offices, Different Types of Kirlosker Diesel Engines, Agrico Hand Operated Maize Shellor, Agrico 2A Corn Grinding Mill, Agrico Maize Sheller (Power Operated), Custard Powder Manufacturing Process with Formulation, Corn Chips with Detailed Manufacturing Process, Equipment Technology Dextrin industrial Application of Dextrin, Figure of Agrico Diesel Engine, Figure of Agrico Hand Operated Maize Sheller, Figure of Corn Grinding Mill, Figure of Agrico Maize Sheller (Power Operated), Figure of Kirloskar Slow Speed Diesel Engine, Figure of Agrico Maize Husker Sheller, Project Profile of Dry Milling of Corn.

10. RICE STARCH

Structure of the Rice Grains, Chemical Composition of Broken Rice, Rice Starch Manufacturing by Americal Process, Physical Properties of Starch, Uses of Rice Starch, Starch Manufacture by Modern Methods of

Tapioca, Characteristics of Starch, Acid Factor, Uses of Tapioca Starch, Enzyme Starch Conversion Process, Refining and Crystallization, Uses of Dextrose, Specifications for Corn Products, Classified of Corn Products by Size, Soft Corn Flour, Specifications for Soft Corn Flour, Sharp Corn Flour, Specifications For Sharp Corn Flour, Cones, Specifications for Cones, Corn Meals, Specifications for Corn Meals, Corn Grits, Pearl Hominy, Specifications for Pearl Hominy, Hominy Feed, Specifications for Hominy Feed, Extrusion Process for Flaking, Project Profile of Starch.

11. CORN PRODUCTS

Introduction of Corn Products, Corn Flakes with Formulations, Corn Flake by Puffing Process with Formulations, Treatment Prior to Puffing, Process for Uniform Shape and Quality, Manufacturing Flow Diagram of Uniform Shape and Quality, Flow Diagram of Kikoman Continuous Puffing Process, Puffing Process, Indicates Rating Drum, General Mills Continuous Puffing Process, Increased Production from Puffing Guns, Processes for Whole Cereal Grains, Special Process for Oats and Other Cereal Grains, General Mills Continuous Mixing, Cooking and Extrusion Process, Hreschak Process, Oats Groahs for Stable Ready-to-Eat Cereal, Cereal Shaping Processes, Apparatus for Star and Concave Shaped Cereals, Figure of Benson Apparatus, Details of Benson Apparatus, Macaroni, Effects of Growing Conditions on Raw Material, Effects of Blight Damage, Sprout Damages, Macaroon Products, Extruded Solid Macaroni Products, Extruded Hollow Goods, Rolled and Cut Macaroni Products, Rolled and Stamped Macaroni Products, Ravivoli, Characteristics of Good Macaroni Products, Essential Conditions for the Production of Good Macaroni Products, Semolina, Farina, Storing and Packing of Macaroni Products, Short Macaroni Products, Quality Control by Ash Content, Moisture Content, Cooking Test, Granulation Test, Speek Test, Grit Test, Colour Test, Method of Colouring, Macaroni Production Process, Controlling Feeding and Mixing, Factor Effect the above Mechanism, Drying Rates, Driers and Drying Methods i.e. Checking, Wheat Based Extruded Products, Extruders, Extruded Feeds, Wheat Happens When we Extrude Soyabeans, Wheat Happens when we Extrude Cereals, Extrusion Cooking, Low Cost Extruders in the Manufacture of Conventional Animal Feeds, The 'Plus' of Experience, Extruders with a Wide Variation of Specification, Inotex 50, Inotex 100, Inotex 125, The Installation, Anxillary Machinery, Inotec International, Perfecting the Products, Getting into Markets, Education and Follow-Up, Scenario i.e. Estimated Demand for Noodles by Household (Based on Median Consumption), Summary of Estimated Demand of Vernicelli and Noodles by Household, Distribution of Households by Type of Cereal Taken, Distribution of Sample Household by Food Habit in Various Zones, Project Profile of Corn Products.

12. WHITE OAT PROCESSING

Structure and Composition of White Oats, Nutritional Properties of Oats and Oat Products, Carbohydrates, Nitrogenous Substances, Lipids, Enzymes, Gums, Vitamins and Minerals, Uses, Manufacturing Process, Process, Project Profile of White Oat Processing

13. NUTRITION LABELING

U.S. Recommended Daily Allowances, Guidelines for Labeling, Other Label Data, List of Various Material Densities, Specific Gravity, Specific Gravity Formula.

Biscuits – Problem & Causes, Muffins – Problem & Causes, Sponge Type Cakes – Causes & Remedy, Cookies – Problem & Causes, Leavening Acid Applications, Usage Levels for Leavening Acid Combinations, Technological Functions of Salt, List of Additives & Function, Usage Levels –Additive & level limit, Some Applications & Properties of the Agro Based Products, Typical Fatty Acid Compositions of Selected Edible – Fats and Oils, Number and Percentage of Sample Households Consuming Wheat Products at Meal Time

14. REQUIREMENTS OF PLANT AND MACHINERY

Processing of Paddy (Rice Milling), The Production of Rice Based Products, Storage of Food Grains, The Flour Milling, Wheat & Flour Products i.e. Puffed Wheat, Biscuit

15. ADDRESS OF PLANT AND MACHINERY SUPPLIERS

Complete Address of the Plant & Machineries Suppliers with Tel. No. and Fax no.

Get the full book
This sample shows only the contents and introduction. The full book has every chapter.
Price: Rs 1,895 | US$ 50.95
Delivery: Shipped within 5 working days of payment

AN ISO 9001 : 2015 CERTIFIED COMPANY

Order online: niir.org/books/cereal-food-technology-projects/ **WhatsApp:** +91 9097-075-054

Planning a unit? NPCS project reports:

- Modern Rice Mill project report
- Rubber Processing Oil project report
- Flour Mill project report
- Food Colours project report

NIIR PROJECT CONSULTANCY SERVICES (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.

Our various services are: Detailed Project Report, Business Plan for Manufacturing Plant, Start-up Ideas, Business Ideas for Entrepreneurs, Market Research, Manufacturing Process, Machinery, Raw Materials, Project Feasibility, Investment Opportunities, Technical Consultancy and Startup Help.

NPCS also publishes process technology books, technical books, startup books, directory, business database, detailed project reports and market research reports.

Our Detailed Project Report aims at providing all the critical data required by entrepreneurs for starting new business ventures.

NIIR PROJECT CONSULTANCY SERVICES
106-E, Kamla Nagar, New Delhi-110007, India

Email: npcs.india@gmail.com **Website:** https://www.niir.org/

Scan to order the full book on niir.org