

# The Complete Technology Book on Snack Foods (2nd Revised Edition)

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Snacking is becoming a way of life with many people. In some countries the average eating frequency is around 6 to 7 occasions per day. There are plenty of marketing niches and slots to be filled in the Snack food areas. Snack is a type of food not normally eaten as a main meal such as breakfast, lunch or dinner but to mitigate hunger between these meals. Snack may also be consumed between meals purely for the enjoyment of its taste. Traditionally snacks were prepared from leftovers or ingredients easily available at home and included sandwiches, nuts, fruits etc. They have become more appealing than prepared foods and contain tempting, flavourful ingredients.

This book attempts to provide the processes for the manufacture of various Snack food items which has tremendous domestic and export market. It covers a variety of subjects from snack food emphasizing the evolving nature of snacks in our diet. Whether you are new to the field or you are pro facing broader responsibilities, Snack Food Processing provides valuable information gained through first-hand experience. It provides a clear, comprehensive overview of the Snack Food Processing which contains definitive content on developing, preparing, and processing various types of snack foods. The initial content is regarding snack food ingredients and the work progresses to discuss various types of snacks with processes in subsequent chapters, detailing their development, production and consumption, raw material requirement and flow chart. Detailed discussion on technical functions that includes product development followed by quality control and nutritional supplementation has also been included. Some chapter covers packaging, extrusion and other technologies of snack food manufacturing process. Special content on machinery equipment photographs along with supplier details has also been included.

It is for people who want a technical based practical review on how snack foods are made. We hope that this book will meet every individual need who has thrust to explore technology on snack food processing. New entrants into the field will be able to confidently communicate with suppliers and associates. Managers and quality control personnel will gain a better idea on where to start in solving problems when they arise.

## PART – I SNACK FOOD INGREDIENTS

### 1. Popcorn and Other Cereal Products

- Popcorn
- Other Corn Ingredients
- Wheat-based Ingredients
- Rice
- Rye
- Sorghum
- 2. Fats, Oils, Emulsifiers and Antioxidants
  - Natural Fats and Oils
  - Processing Vegetable Oils
  - Analytical Tests Applied to Shortenings
  - Specifications and Quality Assurance
  - Frying Fats
  - Emulsifiers
  - Antioxidants
- 3. Sweeteners
  - Invert Syrups
  - Molasses
  - Brown Sugar
  - Other Sweeteners
- 4. Dairy Products
  - Fluid Milk Products
  - Concentrated Milk Products
  - Dried Milk Products
  - Cheese
- 5. Salt
  - Manufacture of Salt
  - Salt with Additives
  - Storage and Packing
  - Salt Requirements for Snacks
- 6. Water
  - Public Health Service Drinking Water Standards
  - Analyses of Water
  - Water Treatment
- 7. Nuts and Fruits
  - Nuts
  - Fruits
- 8. Vegetable Ingredients
  - Potatoes
  - Onions
  - Other Plant Products
- 9. Flavours and Colours
  - Flavours
  - Colours

## PART – II PRODUCT AND PROCESSES

- 10. Potato Chips
  - Potato Chips Processing
  - Quality Factors
  - Storage Stability
- 11. Meat-based Snacks
  - Popped Pork Rinds
  - Pickled Snacks
- 12. Snacks-based on Popcorn

Factors affecting the quality of Popcorn  
Popping Procedures  
Caramel Corn and Other Popcorn Snacks  
13. Puffed Snacks  
Formulation and Procedures  
Addition of Flavours and Colours  
14. Corn Chips and Simulated Potato Chips  
Corn Chips  
Simulated Potato Chips  
15. Baked Snacks  
Salty-savory Baked Snacks  
Sweet Baked Snacks  
16. Nut-based Snacks  
Peanuts  
Other Nuts  
Sugared and Spiced Nuts

### PART – III EQUIPMENTS

17. Extruding Equipments  
Extruder Function  
Using Extruders to make Snacks  
Extruder Design and Operation  
Commercially Available Extruding Equipments  
Complete Plants  
Special Processes  
18. Equipments for Frying, Baking and Drying  
Heat Transfer Mechanism  
Ovens  
Electronic Ovens  
Driers  
Toasting Ovens  
Frying  
Specialized Snack Frying Equipment  
19. Specialized Equipment for Popcorn Processing  
Poppers  
Sifters  
Coaters  
Caramel Corn Plants  
20. Specialized Equipment for Potato Chip  
Processing  
Receiving and Cleaning Potatoes  
Peelers  
Slicers  
Slice Washers and Conditioners  
Fryers  
Vacuum Finishing of Potato Chips  
Microwave Drying  
Addition of Salt and Seasonings  
Sorting Potato Chips by Size  
Protecting the Environment  
21. Packaging Materials  
Type of Containers  
Special Feature for Some Snack Packages

Testing Films

Legal Considerations

22. Packaging Equipments

Folding Cartons

Preformed Pouches

Form-Fill Seal Equipment

Inner-lined Containers and Rotoseal Machines

Automatic Case Packaging for Flexible Bags

Milk Carton Types

Packaging Nut Meats

23. Miscellaneous Equipments

Nut Processing Equipment

Oil, Powder and Granule Applicators

Transfer and Storage Equipment

Weighing

PART – IV TECHNICAL FUNCTIONS

24. Product Development

Introduction

Mission and Objectives

Administration of Product Development

Systematizing New Product Development

Conducting Development Work

Packaging Development

25. Quality Control

Quality Control or Quality Assurance

The Mission of Quality Control

The Extent of the Concern of Quality Control

The Position of Quality Control in the Organisation

Function of Quality Control Department

Promoting a Quality Conscious Attitude in other Departments

Keeping Records

Establishing Standards and Specifications

Sampling

Sanitation

Supervision of On-line Inspector

HACCP Studies

Recalls

Compliance

Utilization of Outside Laboratories

26. Nutritional Supplementation

Recommended Daily Allowances

Vitamins

Minerals

Proteins

Other Nutrients

27. Potato Chips And Tortilla Chips

28. French Fries

29. Papad And Namkin

30. Banana Chips

31. Extruded Puffed Snacks

32. High Energy Snack Food

Machinery & Equipments

## About NIIR

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Our Detailed Project report aims at providing all the critical data required by any entrepreneur vying to venture into Project. 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.

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