

# Handbook on Manufacture of Indian Kitchen Spices (Masala Powder) with Formulations, Processes and Machinery Details (5th Revised Edition)

**Author:** Ajay Kumar Gupta

**Format:** Paperback

**ISBN:** 9788195577569

**Code:** NI337

**Pages:** 360

**Price:** Rs. 1,975.00 US\$ 52.95

**Publisher:** NIIR PROJECT CONSULTANCY SERVICES

Usually ships within 5 days

Handbook on Manufacture of Indian Kitchen Spices (Masala Powder) with Formulations, Processes and Machinery Details (5th Revised Edition)

(Chaat Masala, Sambar Masala, Pav Bhaji Masala, Garam Masala, Goda Masala, Pani Puri Masala, Kitchen King Masala, Thandai Masala Powder, Meat Masala, Rasam Powder, Kesari Milk Masala, Punjabi Chole Masala, Shahi Biryani Masala, Tea Masala Powder, Jaljeera Masala, Tandoori Masala, Fish Curry Masala, Chicken Masala, Pickle Masala, Curry Powder)

Spices or Masala as it is called in Hindi, may be called the “heartbeat” of an Indian kitchen. The secret ingredient that makes Indian food truly Indian is the generous use of signature spices. From ancient times of the maharaja’s, spices have added unforgettable flavours and life to Indian cuisine. Indian spices offer significant health benefits and contribute towards an individual's healthy life. There are a large number of various spices, used along with food such as Chilli (Mirchi), Turmeric (Haldi), Coriander (Dhania), Cumin (Jeera), Mustard (Rai), Fenugreek (Methi), Sesame (Til), Cardamon, Peppercorns (Kali Mirchi), Clove, Fennel (Saunf), Nutmeg and Mace etc.

In modern times, international trade in spices and condiments have increased dramatically which could be attributed to several factors including rapid advances in transportation, permitting easy accessibility to world markets, growing demand from industrial food manufacturers of wide ranging convenience foods. As the demand for Indian spices is increasing day by day, Indian manufacturers are producing spices of high quality. The book presents the fundamental concepts of Spices (Masala Powder) Indian Kitchen Spices product mix in a manner that new entrepreneurs can understand easily. It covers Formulation for spices i.e., Chaat Masala, Chana Masala, Sambar Masala, Pav Bhaji Masala, Garam Masala, Goda Masala, Pani Puri Masala, Kitchen King Masala, Thandai Masala Powder, Meat Masala, Rasam Powder, Kesari Milk Masala, Punjabi Chole Masala, Shahi Biryani Masala, Tea Masala Powder, Jaljeera Masala, Tandoori Masala, Fish Curry Masala, Chicken Masala, Pickle Masala, Curry Masala.

This book contains manufacturing process, Packaging and Labelling of Spices. The highlighting segments of this book are Spices Nutritional value, Special Qualities and Specifications, Cryogenic Grinding Technology, Food Safety & Quality, BIS Specifications, Quality Control, Market, Sample Production Plant Layout and Photograph of Machinery with Supplier's Contact Details. It also covers Good manufacturing practices in Food Industry, Case Study for Everest and MDH Masala and Top Spice Brands of India.

This book is aimed for those who are interested in Spices business, can find the complete information about Manufacture of Indian Kitchen Spices (Masala Powder). It will be very informative and useful to consultants, new entrepreneurs, startups, technocrats, research scholars, libraries and existing units.

## Contents

### TABLE OF CONTENTS

#### 1. HOW TO START SPICE BUSINESS 1

Introduction

Licenses and Marketing Strategies

Wholesale Resources and Pricing

Places to Sell and Business Account

Basic Business Requirements

How to Increase Revenue as a Spice Entrepreneur

(i) Expand Product Line

(ii) Internet Marketing

(iii) PR & Thought Leadership

Successful Business Plans for Spices Businesses

(i) Check Out the Competition

(ii) Finding a Non-Competitive Business Mentor

(iii) Acquisitions vs. Startups

(iv) Consider Franchising

List of Subsidy and Schemes

(i) Subsidy for Sending Spices Samples Abroad

(ii) Subsidy for Printing Promotional Literature/Video/ Brochures

(iii) Subsidy for Promotion of Indian Spice Brand Abroad

(iv) Subsidy for Spices Processing in North-Eastern Region

(v) Subsidy for Participating in International Trade Fairs and Meetings

Home Based Spice Business – Manufacturing Process

(i) Market Opportunity

(ii) Different Products

(iii) Registration & License

#### 2. SPICES 11

Introduction

Basic Uses for Spices

List of Major Indian Spices

Uses & Application of Spices

Masala

Spice Blends

Adherence to High Spice Quality Standards

Properties of Spices

Major Compounds in Spices

#### 3. WHOLE SPICES 24

Chilli (Mirch) Powder

Turmeric (Haldi) Powder

Coriander (Dhania) Powder

Cumin (Jeera)

Mustard (Rai)

Fenugreek (Methi)

Sesame (Til)

Cardamom

Peppercorns (Kali Mirchi)

Clove

Fennel (Saunf)

Nutmeg and Mace

#### 4. NUTRITIONAL VALUE OF DIFFERENT SPICES 39

Anise Seed

Allspice

Bay leaf (Laurus Nobilis)

Black Pepper

Capparis Spinosa

Caraway Seed

Cardamom

Cayenne Peppers (Capsicum Annuum var. Annuum)

Cinnamon Spice (Cinnamomum Verum)

Cloves (Sygizium Aromaticum), Ground

Coriander Seeds (Coriander Sativum)

Cumin Seeds (Cuminum Cyminum)

Fennel Seed (Foeniculum Vulgare)

Fenugreeks (Trigonella Foenum-Graecum)

Benefits of Including Spices in Our Diet

Culinary Uses of Spices

#### 5. SPICE QUALITIES AND SPECIFICATIONS 62

Specification of Spice-Exporting Nations

(i) The Indian Standards Institution

(ii) Directorate of Marketing and Inspection, Administering Quality Control and Preshipment Inspection

(iii) Grade Specifications for Sarawak Pepper in Malaysia

(iv) Grading of Nutmeg in Grenada and Indonesia

(v) Specification of Paprika in Hungary and Spain

(vi) Specifications of Other Exporting Nations

Spice Quality

A. Insect Infestation

(i) Harmful Insects

(ii) Fumigation for Insects

(iii) Other Ways of Exterminating Insects

B. Microorganisms

(i) Types of Microbes

(ii) Molds and Aflatoxin

C. Sterilizing or Pasteurizing Methods

(i) Ethylene Oxide Gas Method

(ii) Irradiation

(iii) Steam Sterilization

D. Chemical Properties

(i) Pungency Standards

(ii) Flavor/Aroma

(iii) Color

#### 6. MANUFACTURING PROCESS OF BLEND SPICES 78

Cleaning

Drying

Grading

Roasting

Pulverizing

For Grinding the Spices Following Machines are Used

List of Machinery Required

Process Flow Diagram

## 7. CRYOGENIC GRINDING TECHNOLOGY 88

Introduction

Market Opportunities

Advantages

Role of Carbon Di-oxide in Spice Processing Industry

Fine Grinding Using Cryogenic Grinding Technology

Fine Powders With a Big Impact

## 8. FORMULATION OF SPICES (MASALA POWDER) INDIAN KITCHEN SPICES PRODUCT MIX 99

Manufacture of Indian Kitchen Spices Product Mix

Chaat Masala

Chana Masala

Sambar Masala

Pav Bhaji Masala

Garam Masala

Goda Masala

Pani Puri Masala

Kitchen King Masala

Thandai Masala Powder

Meat Masala

Rasam Powder

Kesari Milk Masala

Punjabi Chole Masala

Shahi Biryani Masala

Tea Masala Powder

Jaljeera Masala

Tandoori Masala

Fish Curry Masala

Chicken Masala

Pickle Masala

Curry Masala

## 9. FOOD SAFETY & QUALITY 146

General Principles of Food Safety

(i) General Principles to be Followed in Administration of Act

(ii) Hygiene and Health Requirements

(iii) Communicable Diseases and Injuries

(iv) General Food Hygiene Training

(v) Safety during Packaging and Labelling of Foods

Restrictions of Advertisement and Prohibition as to Unfair Trade Practices

## 10. QUALITY CONTROL 154

Quality Assurance in Raw Material Supply

Quality Assurance and Control in the Processing Plant

(i) Appearance and Presence of Contaminants

(ii) Odour and Flavour

(iii) Moisture Content

(iv) Control of Processing

(i) Washing

(ii) Other Cleaning Methods

(iii) Drying

(iv) Grinding

(v) Packaging and Storage of Finished Products

1. Acidity Measurement

2. Chlorine Measurement
3. Fill-Weight Measurement
4. Glass Container Measurement
5. Weight of Containers
6. Capacity of Containers
7. Headspace
8. Vacuum
9. Dimensions of Containers
10. Faults in Glass
11. Label Measurement and Quality Checks
12. Label Faults may be Divided into Major and Minor Faults
13. Loaf Volume Measurement
14. Moisture Content Measurement
15. Moisture Content Measurement: Spices
16. Solids Content Measurement
17. Packaging Film Measurement
18. pH Measurement
19. Plastic Container Measurement
20. Salt Measurement
21. Sieving Tests (Flours and Spices)
22. Filth Test
23. Sodium Benzoate Measurement
24. Sodium Metabisulphite Measurement
25. Starch Gelatinization Measurement (Modified 'Falling Number' Method)

11. PACKAGING AND LABELLING OF SPICES 175

Spoilage Factors

- (i) Moisture Content
- (ii) Loss of Aroma/Flavour

Discolouration

- (i) Insect Infestation
- (ii) Microbial Contamination
- (iii) Spices Packaging Requirement

Packaging Material Requirement

Packaging Method and Materials for Spices

Types of Packing

- (i) Bulk Packaging
- (ii) Institutional Packages
- (iii) Consumer Packages
- (iv) Composite Containers and Plastic Pouches for Whole Spices & Powders
- (v) Spices Packed in Pouch-in-Carton

Marking of Masala Packets

Special Conditions for Grant of Certificate of Authorisation

12. BIS SPECIFICATIONS 189

13. TOP 10 SPICE BRANDS OF INDIA 191

Everest

MDH

Catch

Mothers Recipe

Cookme

Priya

Pushp

Ramdev

Nilon's

#### 14. MARKET OF SPICES 198

The Indian Spices Industry

Adherence to High Spice Quality Standards

India's Spice Parks

Product Range in Indian Market

#### 15. CASE STUDY FOR EVEREST MASALA 203

History

Product

Brand

Achievements

Market

#### 16. CASE STUDY FOR MDH MASALA 209

History

Products

(i) Ground Single Spices

(ii) Blended Spices

Market

#### 17. GOOD MANUFACTURING PRACTICES IN FOOD INDUSTRY 214

Food Industry Standards

GMP Practices for Food

(i) Design and Facilities

(ii) Premises and Rooms

(iii) Internal Structures & Fittings

(iv) Equipment

(v) Containers for Waste and Inedible Substances

Facilities

(i) Water Supply

(ii) Drainage and Waste Disposal

(iii) Cleaning

(iv) Personnel Hygiene Facilities and Toilets

(v) Temperature Control

(vi) Air Quality and Ventilation

(vii) Lighting

(viii) Power Back up

(ix) Storage

Control of Operation

(i) Time and Temperature Control

(ii) Control of Other Specific Process Steps

(iii) Specifications

Microbiological Cross Contamination

Physical and Chemical Contamination

Incoming Materials Requirements

Packaging

Water

(i) Water, Ice and Steam in Contact with Food

(ii) Water, Ice and Steam not in Contact with Food

(iii) Water pipes & Storage Tanks

(iv) Management and Supervision

Documentation and Records

Product Recall & Traceability

Storage

Maintenance and Sanitation

(i) Pest Control

- (ii) Waste Management
- (iii) Personal Hygiene
- Quality Control
- Transportation
- Product Information and Consumer Awareness
- Competence & Training
- Temporary/Mobile Premises, Vending Machines
- 18. ANALYSIS OF FOODS SPICES AND CONDIMENTS 233
- Determination of Moisture (Karl Fischer Method)
- Principle
- Apparatus
- Direct Titration Method
- Back Titration
- Black Pepper
- Determination of Bulk Density (Mass /litre)
- Procedure
- Determination of Light Berries
- Reagents
- Determination of Piperine Content
- Principle
- Apparatus and Reagents
- Apparatus and Reagents
- An Alternative Method for Determination of Piperine Content by GC Method
- Reagents
- Gas Chromatography
- The GC Analysis
- Program Conditions
- Saffron (Filaments and Powder)
- Identification Test
- Determination of Extraneous Matter
- Apparatus
- Procedure
- Calculation
- Determination of Picrocrocine, Safranal and Crocine
- Apparatus
- Procedure
- Expression of Results
- Determination of Total Nitrogen
- Microscopic Examination of Spices
- Procedure
- Detection of Argemone Seeds in Mustard
- Procedure
- Detection of Mineral Oil in Black Pepper
- Procedure
- Detection of Papaya seeds in Black Pepper
- Principle
- Procedure
- Detection of Turmeric in Chillies and Coriander
- Principle
- Reagents
- Procedure
- Method for Capsaicin Content in Chilli Powder
- Capsaicinoids in Capsicums and Their Extractives by Liquid Chromatographic Method (AOAC 995.03)

Principle  
 Apparatus  
 Reagents  
 Extraction  
 LC Determination  
 Calculation  
 a) UV Detection  
 (b) Fluorescence Detection  
 Method for Measuring Color Value in Chillies  
 Apparatus and Reagents  
 Determination  
 Calculations  
 19. FLAVOUR AND CALORIFIC VALUE OF SPICES 251  
 Important Flavour Compounds in Spices  
 Important Flavour Compounds in a Few Culinary Herbal Spices  
 Calorific Value of Spices  
 Spices in Health-Giving and Anti-Disease Role  
 20. SAMPLE SPICES PRODUCTION PLANT LAYOUT 258  
 Need of Plant Layout  
 Workplace Types  
 21. SUPPLIERS OF WHOLE SPICES 264  
 22. PHOTOGRAPHS OF MACHINERY WITH SUPPLIER'S CONTACT DETAILS 268  
 Destoner Machine  
 Spice Pulverizer Machines  
 Sieves  
 Horizontal centrifugal sieve  
 Heat Sealing Machine  
 Compressor  
 Roaster  
 Spice Roaster  
 Rotary Roaster  
 Electronic Weighing Machine  
 Hammer Mill  
 Spices distillation equipments  
 Automatic Masala Plant  
 Chilly Cleaning System  
 Masala Packing Machine  
 Automatic Powder Packing Machine  
 Destoner Machine  
 Spice Roaster  
 Spices Drying Machine  
 Spice Pulverizer  
 Spice Grinding Mill  
 Grinding Machine  
 Spice Processing Machine  
 Chilly Grinding Plant  
 Micro Pulverizer  
 Pin Mill Machine  
 Black Cardamom Dryer Machine  
 Pepper Drying Machine  
 23. SPICE GLOSSARY 303  
 24. SPICE PRODUCING AREAS 306  
 25. EXPORT OF SPICES 309



Why Spice Export Business in India?  
How do I Start a Spice Export Business in India?  
Spice Export Business in India  
Find a Business Name  
Different Ways to Start Spice Export Businesses in India  
Selection of Location/Warehouse  
Selection of Spices  
Chilli  
Mint Products  
Licenses/Registration for Spice Export Business?  
Company/Firm Registration  
Fssai Central License  
Import Export Code  
GST Registration  
Spice Board Registration  
ISO Certification  
Following are the Required Formalities to Start a Spice Export Business

- IEC Registration

Benefits of IEC Registration  
Phytosanitary Certificate  
Authorized Dealer (Ad) Code

- Income Tax Return Filing

For What Reason do Need to Document Income Tax Returns?  
Information Required for E-Filing Income Tax Returns  
Income Tax E-filing Process: A Step-By-Step Guide

- Upload Form 16

Documents Needed to Start a Spice Export Business in India  
26. SPICE QUALITY TESTING AND ANALYSIS 325  
Introduction  
Spice Quality Testing  
Spices are Marketable Quality  
Quality Assurance in the Spice Industry  
Importance of Spice Quality Testing and Analysis  
Types of Spice Evaluation, Analysis, and Testing Services Available

- Botanical Evaluation
- Microbiological Evaluation
- Organoleptic Analysis
- Chemical Analysis
- Physical Analysis

## About NIIR

**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, Start up Business Opportunities, entrepreneurship projects, Successful Business Plan, Industry Trends, Market Research, Manufacturing Process, Machinery, Raw Materials, project report, Cost and Revenue, Pre-feasibility study for Profitable Manufacturing Business, Project Identification, Project Feasibility

and Market Study, Identification of Profitable Industrial Project Opportunities, Business Opportunities, Investment Opportunities for Most Profitable Business in India, Manufacturing Business Ideas, Preparation of Project Profile, Pre-Investment and Pre-Feasibility Study, Market Research Study, Preparation of Techno-Economic Feasibility Report, Identification and Section of Plant, Process, Equipment, General Guidance, Startup Help, Technical and Commercial Counseling for setting up new industrial project and Most Profitable Small Scale Business.

NPCS also publishes various process technology, technical, reference, self employment and startup books, directory, business and industry database, bankable detailed project report, market research report on various industries, small scale industry and profit making business. Besides being used by manufacturers, industrialists and entrepreneurs, our publications are also used by professionals including project engineers, information services bureau, consultants and project consultancy firms as one of the input in their research.

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.

---

**NIIR PROJECT CONSULTANCY SERVICES** , 106-E, Kamla Nagar, New Delhi-110007, India. **Email:** [npcs.india@gmail.com](mailto:npcs.india@gmail.com) **Website:** [NIIR.org](http://NIIR.org)

Sat, 27 Apr 2024 17:30:07 +0530