## Handbook on Manufacture of Indian Kitchen Spices (Masala Powder) with Formulations, Processes and Machinery Details (6th Revised Edition)

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Handbook on Manufacture of Indian Kitchen Spices (Masala Powder) with Formulations, Processes and Machinery Details (6th 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.

## 1. How to Start Spice Business

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 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 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 Anise Seed Allspice Bay leaf (Laurus Nobilis) Black Pepper Capparis Spinosa Caraway Seed Cardamom Cayenne Peppers (Capsicum Annuum var. Annuum) Cinnamon Spice (Cinnamonum 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 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 Cleaning Drying Grading Roasting Pulverizing For Grinding the Spices Following Machines are Used List of Machinery Required Process Flow Diagram 7. Cryogenic Grinding Technology 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 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 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 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 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 13. Top 10 Spice Brands of India Everest MDH Catch Mothers Recipe Cookme Priva Pushp Ramdev Nilon's 14. Market of Spices 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 History Product Brand Achievements Market 16. Case Study for MDH Masala History Products (i) Ground Single Spices (ii) Blended Spices Market 17. Good Manufacturing Practices in Food Industry 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 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 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 Need of Plant Layout Workplace Types 21. Suppliers of Whole Spices 22. Photographs of Machinery with Supplier's Contact Details 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 24. Spice Producing Areas 25. Export of Spices 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 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 27. Plant Layout Description for Indian Kitchen Spices (Masala Powder Manufacturing) Raw Material Storage Area Cleaning and Washing Section Drying Area Grinding/Milling Section Blending and Mixing Area Sieving and Grading Section Packaging Section Finished Goods Storage Quality Control Laboratory Administrative and Utility Areas Safety and Compliance

## About NIIR

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