The term spices and condiments applies to such natural plant or vegetable products and mixtures thereof, used in whole or ground form, mainly for imparting flavor, aroma and piquancy to foods and also for seasoning of foods beverages like soups. Usually spices are an ingredient used to season a dish in the meal during its preparation and condiments are for using at the table to enhance the dish as each individual's tastes prefer. The great mystery and beauty of spices is their use, blending and ability to change and enhance the character of food. Spices and condiments have a special significance in various ways in human life because of its specific flavours, taste, and aroma. Spices and condiments play an important role in the national economies of several spice producing, importing and exporting countries. India is one of the major spice producing and exporting countries. Most of the spices and herbs have active principles in them and development of these through pharmacological and preclinical and clinical screening would mean expansion of considerable opportunities for successful commercialization of the product. Spices can be used to create these health promoting products. The active components in the spices phthalides, polyacetylenes, phenolic acids, flavanoids, coumarines, triterpenoids, serols and monoterpenes are powerful tools for promoting physical and emotional wellness.

Some of the fundamentals of the book are definition of spices and condiments nomenclature or classification of spices and condiments, Indian central spices and cashew nut committee, origin, properties and uses of spices, forms, functions and applications of spices, trends in the world of spices, yield and nutrient uptake by some spice crops grown in sodic soil, tissue culture and in vitro conservation of spices, in vitro responses of piper species on activated charcoal supplemented media, soil agro climatic planning for sustainable spices production, potentials of biotechnology in the improvement of spice crops, medicinal applications of spices and herbs, medicinal properties and uses of seed spices, effect of soil solarization on chillies, spice oil and oleoresin from fresh/dry spices etc.

The present book contains cultivation, processing and uses of various spices and condiments, along with photographs of machinery/equipments with addresses of their manufacturers. The book is an invaluable resource for new entrepreneurs, agriculturists, agriculture universities and technocrats.
1. DEFINITION OF SPICES AND CONDIMENTS
Nomenclature or Classification of Spices and Condiments
Brief History of Spices
First International Search for Indian Spices
Role of the ICAR in Spice Development in India
Spices Enquiry Committee
Indian Central Spices and Cashewnut Committee
Review of Researches on Cashewnut and 14 Spices
Setting-Up of the Central Plantation Crops Research Institute (CPCRI), Kasaragod
All-India Co-Ordinated Spices and Cashewnut Improvement Project (AICSCIP), Segregated to - All-India
Co-Ordinated Improvement Project for Spices (AICIPS)
Main Attainments of the Project (AICSCIP)
Segregation of AICSCIP into 2 Projects on Cashew and Spices
National Research Centre for Spices (NRCS, ICAR 1986)
The Indian Institute of Spices Research (1995), Calicut
Krishi Vigyan Kendra
Other Organizations Involved in Spices Development.
Division of Plant Introduction (IARI) and National Bureau of Plant Genetic Resources
Role of Department of Agriculture and Co-Operation, Ministry of Agriculture, Government of India
Directorate of Areca nut and Spices Development
Spices Development Council, Department of Agriculture and Co-operation
Agmark Laboratories and Directorate of Marketing and Inspection (DMI)
Role of the Cftri and other CSIR National Laboratories in the Technological Spice Development Programmes
Spices Export Promotion Council, Cochin
Cardamom Board
Functions of the Cardamom Board
Spices Board, Govt of India
Spices Cess Act
Indian Cardamom Research Institute
International Spices Development Activities
International Pepper Community (IPC), Jakarta, Indonesia
International Working Group on Spices (IWGS)
Development of International ISO Standards for Spices and Condiments and their Processed Products as well as their Methods of Test (ISO : TC 34/SC 7)
World Trade Organization (WTO)
Recommended Action Plans
Importance of Individual Spice Requirements
Trends in Individual World Markets
Forms of Spices and Spice Products Traded
Concluding Remarks : The Challenges for the Indian Spice Industry
Productivity Challenge
Quality Challenge
Value-Addition Challenge
Equity Challenge
2. ORIGIN, PROPERTIES AND USES OF SPICES
Ajowan
Ajowan Contains Calcium and Iron
Allspice
Anise/Aniseed
Annatto
Asafoetida/Asafetida
Basil
Bay/Laurel Leaf
Other Bay Leaves
Indian Bay Leaf
West Indian Bay Leaf
Indonesian Bay Leaf
Boldo Leaves
Caper
Caraway
Cardamom/Cardamon
Celery
Chervil
Chile Peppers
Chives
Cinnamon
Cloves
Coriander
Cumin and Black Cumin
Dill and Dillweed
Epazote
Fagara/Szechwan Pepper
Fennel Seed
Fenugreek
Galangal/Galangale/Galingale
Garlic
Ginger
Juniper
Kaffir Lime (Leaf, Fruit)
Kari Leaf
Lemon Balm
Lemon Verbena
Lemongrass
Lovage
Mace
Marjoram
Mints: Spearmint and Peppermint
Mustard
Myrtle
Nigella
Nutmeg
Onion
Oregano
Paprika
Parsley
Peppers: Black, White, Green, Long/Pippali, CUBEB
Poppy Seed
Rosemary
Saffron
Sage
Sassafras
Savory
Screw-Pine Leaf/Pandanus Leaf
Sesame
Sorrel
Star Anise
Sumac
Tamarind
Tarragon
Thyme
Turmeric/Tumeric
Wasabi
Zeodary

3. FORMS, FUNCTIONS AND APPLICATIONS OF SPICES
Introduction
Spice Forms and Composition
Fresh whole Spices
Dried Spices
Spice Extractives
Essential (Volatile) Oils
Oleoressins (Non-Volatiles and Volatiles)
Other Extractives
The Functions of Spices
Primary function of Spices
Flavor, Aroma and Texture
Coloring Properties
Secondary Functions of Spices
Spices as Preservatives
Emerging Secondary Function of Spices
Spices as Medicines
Spice Preparation
Global Equipment used in Spice Preparation
Spice Applications
Marinades, rubs and Glazes
Spice Blends, Seasonings and Condiments
Spice Quality and Specifications
International Standards and Specifications
Maintaining Spice Quality
Fumigation
Controlled Atmosphere Storage
Sterilization

4. TRENDS IN THE WORLD OF SPICES
Trends in foods and spices
Understanding and Effectively Meting the Growing Demand for Authenticity
Authentic Ethnic Ingredients
Spices and Flavorings of Popular Authentic Ethnic Cuisines
Authentic Ethnic Flavorings
Authentic Preparation and Cooking Techniques
Presentation Styles
Fusion and Regional American Flavorings
Fusion Flavors
Regional American Flavors

5. YIELD AND NUTRIENT UPTAKE BY SOME SPICE CROPS GROWN IN SODIC SOIL
Introduction
Materials and methods
Results
Effect of Fertilizer
Nutrient Concentration and Uptake
Amelioration of Sodic Soil

6. TISSUE CULTURE AND IN VITRO CONSERVATION OF SPICES
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Cardamom
Clonal Multiplication
Regeneration of Plantlets from Callus
Inflorescence Culture
Black Pepper
Clonal Multiplication
Callus Cultures and Regeneration of Plantlets
Micropropagation of related species of Piper
Ginger
Clonal Multiplication
Regeneration of Plantlets from Callus
In Vitro Selection
Turmeric
Micropropagation
Plant Regeneration from Callus
Vanilla
Micropropagation
Saffron
Micropropagation
Tree spices
Micropropagation
In Vitro Proliferation of Mace and Synthesis of Flavour Components in Culture
Seed and herbal spices
Production of secondary metabolites
Synseed technology
In vitro Conservation of Spices Germplasm
Protoplast Isolation and Culture
Genetic Transformation
Isolation of DNA and Studies on Biochemical/molecular Markers
Conclusion

7. IN VITRO PROPAGATION OF BLACK PEPPER (PIPER NIGRUM L.)
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Materials and methods
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8. IN VITRO RESPONSES OF PIPER SPECIES ON ACTIVATED CHARCOAL SUPPLEMENTED MEDIA
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Materials and methods
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9. TISSUE CULTURE STUDIES ON TREE SPICES
Introduction
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10. MICROPROPAGATION OF SOME IMPORTANT HERBAL SPICES
Introduction
Materials and methods
Explants

Results

In Vitro Seed Germination

11. SOIL-AGRO CLIMATIC PLANNING FOR SUSTAINABLE SPICES PRODUCTION

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Agro-climatic Zonations-concepts and Backgrounds
Delineations of Agro Eco Region (AER) and Agro Eco Sub Regions (AESR)
Characteristics of Spice Growing Soils in Different Agro Eco Sub Regions
Bengal Basin-hot, Moist Subhumid Eco sub Region (Q8Cm7).

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Water Management

Nutrient Management

12. WATER MANAGEMENT OF SPICE CROPS

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Rain Water Management (Conservation and Storage)
Irrigation Water Management
How to Get Water for Irrigation
How to Irrigate and Manage the Water

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13. POTENTIALS OF BIOTECHNOLOGY IN THE IMPROVEMENT OF SPICE CROPS

The Potentials of Techniques Related to tissue culture
Somatic Embryogenesis
Organogenesis
Micropropagation
Secondary metabolites from cell cultures
In Vitro Germplasm Conservation

The Potentials of Genetic Engineering : Gene and Genome Analysis Techniques
Genetic Manipulation by Gene Technology
Agrobacterium Mediated Gene Transfer
Gene Transfer by Electroporation
Gene Transfer by Micro projectile Bombardment
Gene Marker and Genome Analysis Techniques
Non-PCR Based Marking Technique: Restriction Fragment Length Polymorphism
Arbitrary/semi-arbitrary Primer Based PCR Techniques
Site Target PCR Technique
Marker Assisted Selection

14. SPICES IN AYURVEDA

Ayurvedic concept of Tri-Dosha
Dosha Related Elements
Effect of Spices on Tridosa
Tips from Grandmas remedies using spices
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Turmeric
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15. MEDICINAL APPLICATIONS OF SPICES AND HERBS
16. THE HEALING TOUCH OF SELECT SPICES
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17. MEDICINAL PROPERTIES AND USES OF SEED SPICES
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18. IN VITRO MICRORHIZOME PRODUCTION IN FOUR CULTIVARS OF TURMERIC (CUCUMA LONGA L.) AS REGULATED BY DIFFERENT FACTORS
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In Vitro Shoot Culture and Plant Regeneration
Role of sucrose, BA and photoperiod and their interaction in microrhizome formation
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19. ENHANCEMENT OF GENETIC VARIABILITY IN CHILLI (CAPSICUM ANNUUM L.)
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20. BREEDING OF INDIAN PAPRIKA FOR HIGH-VALUE ADDITIONS ‘ORGANIC COLOUR’ AND ‘OLEORESIN’
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21. USE OF COIR COMPOST AS A COMPONENT OF NURSERY MIXTURE FOR SPICES
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22. EFFECT OF SOIL SOLARIZATION ON CHILLIES (CAPSICUM ANNUUM L.)
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23. SUPERCRITICAL FLUID EXTRACTION OF SPICES

24. INDIAN SPICE EXTRACTION TECHNOLOGY
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Indigenous Technology
Steam Distillation
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25. SPICE OIL AND OLEORESIN FROM FRESH/DRY SPICES
26. ONFARM POST HARVEST TECHNOLOGY FOR PLANTATION SPICES
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   New Varieties Released
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   Interculture and Weeding
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   Importance of Nutritional Elements
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   Preparation for Market
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   Post-harvest Handling
   Marketing Within the Country
   Factors Affecting Efficient Storage
   How to Reduce Storage Losses in Onions
   Processed Products
   Quality Parameters of White Onions for Dehydration Purposes
   Dehydration of Onion
   Onion Powder
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28. GARLIC
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29. SEED SPICES
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Comparative Antimicrobial Activity of Seed Spice Essential Oils
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Black Caraway
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Coriander Herb Oil
Coriander Oleoresin
Coriander Dal-an Improved CFTRI Process
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A. Aromatic Tree Spices
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II. Tejpat or Tamal Patra or Indian Cassia Lignea
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Harvesting and Collection of Tamala Leaves
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Brief Description of Commercial Types and Classification or Grades of Cassia
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Indonesia Cassia (Batavia Cassia, Java Cassia, Padang Cassia or Korintje Cassia, Cassia Vera)
Vietnam Cassia
Commercial Grades of Cassia in World Market
Physico-Chemical/Specification of Cassia Types
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33. FENNEL
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Leaves as a Vegetable Curry
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Preparation and Curing of Bark Spice for Marketing
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Packaging of Different Commercial Classes of Cinnamon Bark and Powder
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Crop Management and Breeding Strategy
Crop Improvement: The Breeding Strategy Adopted at the IISR (ICAR)
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Native vs Modern Distillation of Oil
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38. BALM OR LEMON BALM
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Vanilla powder, Vanilla absolute and Vanilla Tincture
As Food Flavourant and in Perfumery
Vanillin

46. Machinery & Equipments

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.


NPCS also publishes varies 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.