

Book Title (ID 2024_03)

Progress and Prospects in Pulse Crop Research

Bengal Gram, Pigeon Pea, Green Gram, Chick Pea, Black Gram, Red Kidney Beans (Rajma), Black Eyed Peas (Lobiya), Lentil, Field Pea

About the Book

It offers a comprehensive exploration of the latest advancements and future directions in pulse crop research, addressing key aspects such as genomics, modern breeding techniques, and sustainable agronomic practices. This book delves into the development of high-yielding and climate-resilient pulse varieties, biotic and abiotic stress management strategies, and innovative processing and value addition technologies. Each chapter is meticulously curated to provide in-depth knowledge and practical insights into enhancing pulse crop productivity and quality. For students, scholars, and researchers, this book serves as an invaluable resource, bridging the gap between foundational knowledge and cutting-edge research, and offering essential guidance for understanding pulse crop biology, modern agricultural practices, and emerging research directions.

Chapters outlines but not limited to:

Theme A: Agronomic Practices and Sustainable Farming

1. Sustainable Agronomic Practices for Pulse Production
2. Crop Rotation and Intercropping with Pulses for Soil Health
3. Conservation Tillage in Pulse Crops
4. Organic Farming Practices in Pulse Crop Cultivation
5. Precision Agriculture Techniques for Pulse Farming
6. Water Management Strategies for Pulse Crops
7. Integrated Nutrient Management in Pulse Production
8. Soil Health and Fertility Management in Pulse Crops
9. Role of Cover Crops in Sustainable Pulse Farming
10. Agroecological Approaches to Pulse Crop Cultivation

Theme B: Biotic and Abiotic Stress Management

1. Integrated Pest Management in Pulse Crops
2. Biotechnological Approaches to Disease Resistance in Pulses
3. Abiotic Stress Tolerance Mechanisms in Pulse Crops
4. Utilizing Endophytes for Stress Management in Pulses

5. Breeding Pulses for Resistance to Major Pests
6. Advances in Biocontrol Methods for Pulse Crop Protection
7. Drought Tolerance in Pulses: Breeding and Management
8. Heat Stress Mitigation in Pulse Crops
9. Role of Mycorrhizae in Enhancing Pulse Crop Resilience
10. Salinity Tolerance Strategies in Pulse Crop Production

Theme C: Genomics and Modern Breeding Techniques

1. Harnessing Genomic Tools for Pulse Crop Improvement
2. CRISPR/Cas9: Revolutionizing Pulse Crop Breeding
3. Genomic Selection in Pulses: Strategies and Applications
4. Pangenomics of Pulse Crops: A Comprehensive Insight
5. Marker-Assisted Selection in Pulse Crop Breeding
6. Transcriptome Analysis for Trait Improvement in Pulses
7. Genome Editing for Disease Resistance in Pulses
8. Utilizing GWAS for Enhancing Pulse Crop Yields

9. Epigenetic Modifications and Their Role in Pulse Crop Improvement
10. Integrating Bioinformatics in Pulse Genomics

Theme D: Promising Varieties and Genetic Improvement

1. High-Yielding Pulse Varieties: Recent Developments
2. Genetic Diversity and its Role in Pulse Crop Enhancement
3. Development of Climate-Resilient Pulse Varieties
4. Interspecific Hybridization for Pulse Improvement
5. Exploring Wild Relatives for Pulse Crop Genetic Enhancement
6. Advanced Breeding Techniques for Protein-Rich Pulses
7. Nutritional Biofortification of Pulses: Progress and Prospects
8. Molecular Breeding for Abiotic Stress Tolerance in Pulses
9. Genetic Approaches to Improve Pulse Crop Quality

10. Breeding Pulses for Enhanced Nutrient Use Efficiency

Theme E: Processing and Value Addition

1. Innovations in Pulse Crop Processing Technologies
2. Value-Added Products from Pulses: Opportunities and Challenges
3. Nutritional Enhancements through Pulse Processing
4. Post-Harvest Management and Processing of Pulses
5. Pulse-Based Functional Foods: Development and Market Potential
6. Bioactive Compounds in Pulses: Extraction and Applications
7. Pulses in the Food Industry: Trends and Innovations
8. Economic Viability of Pulse Processing and Value Addition
9. Sustainable Packaging Solutions for Pulse Products
10. Pulse Protein Isolates: Extraction, Functional Properties, and Applications

****Note:** Chapter title may be modified or new chapter may also be proposed by the author.

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CHAPTER SUBMISSION PROCEDURE:

Book Chapter may be submitted through e-mail: bioticabooks@gmail.com or online portal

- **Last date of chapter submission:** 30th Sept., 2024
- Chapter must be prepared in accordance with the authors guidelines
- **Reference:** Standard API style
- Manuscript should not exceed 6000 words or 15 pages, whichever is less, including references

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