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Trends; Production practices; Production trends; Bean Genetics; Bean species; Gene pools; Wild bean germplasm; Breeding Procedures and Practices; Breeding procedures; Breeding methods; Seed multiplication; Backcross breeding method; Single seed descent; Recurrent selection; Breeding for Specific Traits; Breeding for yield; Disease resistance; Breeding for direct harvest systems; Processing quality Micronutrient contentNiche markets-organic beans; Genomic Research; Comparative mapping with soybean; Genetically modified beans; Summary and Future Directions; Acknowledgments; References; 3: Market Classes and Physical and Physiological Characteristics of Dry Beans; Introduction; Commercial Market Classes of Dry Beans; Physiology of Dry Bean Seed; Structural and anatomical features of bean seed; Characteristics of Seed Size and Shape; Seed Coat Pigmentation and Color; USDA Standards for Dry Beans and Selected Pulses; Summary; References

4: Postharvest Storage Quality, Packaging and Distribution of Dry BeansIntroduction; Dry Bean Storage and Handling; Conveying and transfers; Receiving, cleaning and separation; Bean storage facilities; Packaging and Market Distribution; Packaging systems for domestic shipments; Domestic rail and truck transit; Packaging for overseas shipments; Postharvest Storage Quality; Moisture content; Storage temperature and time; Postharvest losses; Storage-Induced Defects; Hard shell and hard-to-cook phenomena; Seed discoloration; Mold development; Insect infestation; Bean Handling and Food Safety SummaryReferences; Part II: Composition, Value-Added Processing and Quality; 5: Composition of Processed Dry Beans and Pulses; Introduction; Processing and the Composition of Dry Beans; Protein; Carbohydrate; Minor constituents; Processing and the Nutritional Quality of Beans; Dehulling; Soaking; Germination; Fermentation; Blanching and cooking; Extrusion cooking; Hard-to-Cook Phenomena and Splitting of Processed Beans; Hard-to-cook (HTC) phenomena; Splitting; Novel Processing Treatments and Impacts on Composition; Conclusion; References

6: Hydration, Blanching and Thermal Processing of Dry Beans

Sommario/riassunto

The common beans and pulses are diverse food resources of high nutritional value (protein, energy, fiber and vitamins and minerals) with broad social acceptance. These legume crops demonstrate global adaptability, genotypic and phenotypic diversity, and multiple means of preparation and dietary use. Beans and pulses are produced in regions as diverse as Latin America, Africa, Asia, and North America, and on a scale similar to some other crops, such as wheat, corn, rice and soybeans. Numerous factors influence utilization, including bean type and cultivar selection, cropping environme
