BOOK REVIEW

Sorghum: Properties, Synthesis and Applications

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Sorghum ranked among the first five top cereals worldwide and is known as a resilient, drought tolerant crop with multi-purpose usages. The book presents research findings on Sorghum visiting theories and case studies which expound on several of its Properties, Synthesis and Applications. The editor Valentin Missiakô Kindomihou is an internationally recognized peer-review articles writer and reviewer having also contributed to edited volumes touching various subjects such as sustainable management and ethnobotany of biofuel crops, vulnerability of tropical fodder species to warming, specificity of organic farming, sustainable management of biofuel crop, etc.

The contributors provide an ample review for cutting-edge information on sorghum. The chapters focus on various perspectives on studies covering sorghum attributes, heterosis association and molecular mapping, ecophysiology, reproductive competence, molecular mechanism of flowering time control, sensory and nutritional properties, mechanisms involved in allelochemical biosynthesis, applications of bioactive compounds (polyphenolic and acidic phenolics).

Starting with some research milestones related to Sorghum properties, synthesis and applications the book presents the use of whole genomic sequencing on a new diallel mode mapping scheme to associate loci with heterosis under all possible inheritance models. Next, it discusses root characterization and foliar responses to water stress of a grain sorghum genotype following a kinematic approach. Moreover, it presents the sorghum floral transition and photoperiod response with particular focus into the molecular mechanism of control of its flowering time.

In addition, details into the principles and processes of extrusion in order to obtain grains of good taste and nutritional characteristics are provided. Further, the book reports on some indicators in assessing the role of Sorghum as a source of energy in the productivity of poultry farming systems. Finally, properties and role of bioactive compounds of Sorghum species are discussed along with their potential to fight common diseases related to human nutrition, including cancer, Parkinson's disease, cardiovascular disease and obesity.

The major strength of this book is that it presents different pathways to optimize sorghum productivity and nutritional benefits by integrating views related to genetics, physiology, biochemistry and sorghum consumption. The book does not present a synthesis with in-depth analysis of conflicting views on sorghums but rather a collection of presentation from different perspectives. However, attention has been paid to current research with the latest dating from 2017 except for chap. 2 which builds on literature published before or in 2010.

The book will be of interest to academics researching all facets of sorghum from its basic properties, genetic modifications, molecular mechanism and various applications. Moreover, it is worth reading for the food industry sector involved in developing grain based products.

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