Journal of Chemistry

Special Issue on
Advances on Sorghum Chemistry, Nutrition, and Technology

CALL FOR PAPERS

Grain sorghum is the fifth most cultivated cereal crop in the world and the fourth largest in the US. It is drought and fungal disease resistant. In addition, sorghum has antioxidant properties, which can contribute to enhance the health of the individual through its phenolic compounds. Furthermore, it is a low-cost alternative for patients with gluten intolerance as the kafirin protein in sorghum is nonallergenic. Though sorghum is the chief cereal grain consumed in parts of Africa and Asia, its food application faces considerable challenges. Sorghum proteins showed low digestibility, especially when wet cooked. Sorghum starch, because of its intermeshing with protein in sorghum kernel, exhibited lower digestibility as well when compared with other cereal starch. Sorghum proteins, due to the limited functionality such as weak viscoelastic characteristics, are difficult to mimic the texture and other sensory qualities of wheat-based products. The gap existing between the present and desired nutritional and functional characteristics of sorghum has to be closed. The knowledge on grain sorghum properties will aid the development of novel and nutritious products from sorghum and thus lead to greater demand of sorghum. This will not only benefit gluten intolerance consumers but also reduce the current burden of other grains, which is a main cause of food insecurity in cereal deficient countries.

This special issue is now seeking updated and innovative knowledge on the chemistry, nutrition, and technology of sorghum and its food products. We invite researchers to contribute unpublished original research articles and review papers for publication.

Potential topics include, but are not limited to:

- Genetic improvement or physical/chemical modification of sorghum flour and protein for suitable food applications
- Impact of innovative food processing technologies on the changes and interactions of functional components of sorghum
- Innovative approaches for extraction, characterization, and analysis of sorghum components
- Sorghum protein-protein and protein-starch interactions and their rheological functionality as ingredients in gluten-free products
- Nonstarch polysaccharides from sorghum: physicochemical, structural, and conformational properties and applications
- Sorghum glycaemic index, digestibility, metabolism, and the role of sorghum in human nutrition
- Strategies to improve the utilization of sorghum in pet food, animal production, and health
- Fermentation processing of sorghum for suitable food and nonfood applications

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/jchem/food.chemistry/cnut/.

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