Editorial

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The global demand for renewable energy and high value chemicals continues to increase at a rapid pace in parallel with industrialization, urbanization and economic development. The current annual global energy demand of 13 billion tonnes of oil equivalent (btoe) is predicted to increase by 35 % in 2035 (IEA 2012). The liquid hydrocarbons makes them the preferred source of energy for all modes of transportation owing to their ease of handling, available infrastructure besides high energy content. There are no dearth of feedstocks to produce biofuels and biochemicals. However, it is not easier to identify a multi-purpose feedstock without impacting food security. Sweet sorghum could be a “smart” choice to meet the above.

The continuous search for alternative feedstocks has seen sweet sorghum as a potential complementary crop to sugarcane and corn for bioethanol production. Unlike sugarcane, sweet sorghum cannot be processed to commercial sugar crystals, a basic commodity. Besides its potential as bioethanol feedstock, the crop can also be processed for feed, food, fibre and fodder, increasing its potential income (Rao 2009, 2013). Research and development initiatives must be sustained and strengthened to further improve the viability of sweet sorghum value chain by optimizing the utilization of the crop and explore its other high value potential applications. In addition, economic viability of the crop must be reflected to attract farmers, investors and stakeholders in the bioethanol industry and enhance involvement of government institutions and related organizations.

To achieve the full participation of different sectors of the biofuel industry and the realization of the research efforts of proving the economic competitiveness of the crop, it is essential to determine the potential revenue of both farmers and distillers that will work hand in hand to sustain the bioethanol industry. Research study on “The Potential of Bioethanol from Sweet Sorghum in the

Philippines: An Income Analyses for Farmers and Distilleries,” showed that a hectare of sweet sorghum plantation can provide farmers with a potential net annual income of USD 2,000. This special issue on “sweet sorghum-commercialization” is intended to bring recent research and development program results under one umbrella. The issue contains quality research articles on sweet sorghum productivity improvement (SS Rao et al. PS Rao et al. Olweny et al. Munirathnam et al. and Emmanuel et al.) agronomic management (Sorwal et al. and Almodares et al.) processing technologies (SS Rao et al. Uppal et al. Siriluk et al. and Ganesh Kumar et al.) novel products (Prakasham et al. and willis et al.). Further, two detailed reviews on viable processing technologies (Gillian et al.) and economic analysis on sweet sorghum cultivation and processing in Philippines (Demafelis et al.) makes this issue near complete.

We hope that this special “sweet sorghum” issue will help update the feedstock research community on some of the advances and developments made in breeding, development and demonstration (B, D&D).

We wish to sincerely thank the authors of this Special Issue for accepting our invitation to write, and for the efforts and great contributions they have made towards sweet sorghum feedstock and value chain improvement. We also want to thank the many colleagues who helped in the peer review process, strengthening the quality of the manuscripts, to the special issue.

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