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**Biomass conservation using an optimised drying process for energy Sorghum Bagasse**
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**Abstract**
Sorghum Bagasse in recent years has emerged as a promising feedstock for production of biofuels and value-added products following various biological conversion pathways. However, adequate conservation is critical for utilising Sorghum Bagasse as a feedstock for fuel production around the year in bioenergy plants. Therefore, this study aims to examine the pressure drop as a function of airflow velocity and construct Shedd's curves for energy Sorghum Bagasse. The ambition was to facilitate large-scale drying systems for biomass conservation. The Bagasse was prepared by extracting the juice from the harvested sorghum and passing through a juicing machine. Afterwards, it was manually chopped and stored on a wooden platform having 2.44 m2 area in a 55-gallon drum at a depth of 0.57 m. The airflow velocities (0.24–1.32 ms−1) caused a pressure drop (9.96–346.23 Pa) across the empty drum. The different pressure drop in the drum containing Sorghum Bagasse (19.92–263.25 Pa) was due to various airflow velocities (0.043–0.799 ms−1). Pressure drop was further increased with increasing airflow velocity, and it was found in line with the values of pressure drop for ear and shelled corn, as reported in ASABE standards. Shedd's curves for Sorghum Bagasse samples were developed, as these curves can be used for designing large-scale aeration systems for chopped energy sorghum. The whole production chain of biofuel by conserving biomass can be improved by the findings of this work, thus allowing the biomass to be used more economically around the year in bioenergy plants. © 2017 Elsevier Ltd

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