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Sugar-rich sweet sorghum is distinctively affected by wall polymer features for biomass digestibility and ethanol fermentation in bagasse

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Abstract

Sweet sorghum has been regarded as a typical species for rich soluble-sugar and high lignocellulose residues, but their effects on biomass digestibility remain unclear. In this study, we examined total 63 representative sweet sorghum accessions that displayed a varied sugar level at stalk and diverse cell wall composition at bagasse. Correlative analysis showed that both soluble-sugar and dry-bagasse could not significantly affect lignocellulose saccharification under chemical pretreatments. Comparative analyses of five typical pairs of samples indicated that DP of crystalline cellulose and arabinose