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Miscanthus accessions distinctively accumulate cadmium for largely enhanced biomass enzymatic saccharification by increasing hemicellulose and pectin and reducing cellulose CrI and DP

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Abstract

In this study, total eight distinct *Miscanthus* accessions were collected from the cadmium (Cd)-supplied soil pots, and mild alkali pretreatments (0.5%, 1% NaOH) were then performed to enhance biomass enzymatic saccharification. Due to large Cd accumulation, all *Miscanthus* accessions showed significantly reduced cellulose levels and features (CrI, DP) with much increased hemicellulose and pectin contents in the mature stems. Under mild alkali pretreatments, all *Miscanthus* samples exhibited largely increased hexoses yields released from enzymatic hydrolysis, and one desirable