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ABSTRACT

Various mixing ratios of alkali pretreated sugarcane bagasse and starch-rich waste *Dioscorea composita* hemls extracted residue (DER) were evaluated via simultaneous saccharification and fermentation (SSF) with 12% (w/w) solid loading, and the mixture ratio of 1:1 achieved the highest ethanol concentration and yield. When the solid loading was increased from 12% to 32%, the ethanol concentration was increased to 72.04 g/L, whereas the ethanol yield was reduced from 84.40% to 73.71%. With batch feeding and the addition of 0.1 % (w/v) Tween 80, the final ethanol concentration and yield of SSF at 34% loading were 82.83 g/L and 77.22%, respectively. Due to the integration with existing starch-based ethanol industry, the co-fermentation is expected to be a competitive alternative form for cellulosic ethanol