

## Accepted Manuscript

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PII: S0960-8524(18)31333-6  
DOI: <https://doi.org/10.1016/j.biortech.2018.09.080>  
Reference: BITE 20496

To appear in: *Bioresource Technology*

Received Date: 8 August 2018  
Revised Date: 14 September 2018  
Accepted Date: 15 September 2018

Please cite this article as: Zhang, K., Wells, P., Liang, Y., Love, J., Parker, D.A., Botella, C., Effect of diluted hydrolysate as yeast propagation medium on ethanol production, *Bioresource Technology* (2018), doi: <https://doi.org/10.1016/j.biortech.2018.09.080>

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## Effect of diluted hydrolysate as yeast propagation medium on ethanol production

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### Abstract

Yeast propagation using 50% diluted hydrolysate in water was utilized for the fermentation of hydrolysate derived from pre-treated ensiled sweet sorghum. The purpose was to condition the yeast to the inhibitors generated during the ensiling of sweet sorghum. The conditioned seed cultures exhibited similar fermentation performance and superior kinetics than the inoculum prepared in YPD medium. Furthermore, the conditioned yeast showed increased tolerance to the increased levels of these inhibitors, including ethanol, acetic and lactic acids, demonstrating an effective way to increase the robustness of yeast fermentation for ethanol production.

### Highlights

- Yeast propagation strategy using 50% diluted hydrolysate has been developed.
- Enhanced growth and faster kinetics than seeds grown in YPD were obtained.
- Conditioned yeast showed enhanced tolerance to inhibitors from ensiling.

Keywords: hydrolysate, inhibition, ethanol, *Saccharomyces cerevisiae*, seed conditioning

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