

## Kinetic Parameters for Bioethanol Production from Oil Palm Trunk Juice

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### ABSTRACT

Abundant and cheap agricultural waste of oil palm trunk (OPT) juice was used to produce bioethanol.

Two strains of

*Saccharomyces cerevisiae* and a strain of *Pichia stipitis* were used to produce bioethanol from the OPT juice. Fermentation was conducted at previously optimized condition at 30°C and without shaking. The kinetic parameters were estimated and calculated. Monod equation and Hinshelwood model is used to relate the specific growth to the concentration of the limiting substrate and also to simulate bioethanol production rate. Among the three strains, single *S. cerevisiae* Kyokai no. 7 produce the highest ethanol yield of 0.477 g/l.h within the shortest time (12 h). This yeast also produces more than 20 g/l ethanol concentration within 10 h of fermentation.

**KEYWORDS:** Oil palm trunk, *Pichia stipitis*, *Saccharomyces cerevisiae*.