

Hydrolysis of defatted rice bran by subcritical water to incubate *Saccharomyces cerevisiae*

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Rice bran is a by-product of milling brown rice, and is accounted for 8~14% of rice. It is a natural resource of healthy oil, protein, and carbohydrate. Defatted rice bran is the rest of rice bran after being extracted oil.

In this study, defatted rice bran was hydrolyzed by subcritical water, and then hydrolysate was utilized as culture medium for incubating *Saccharomyces cerevisiae*, which can produce ethanol by fermentation.

Because acid hydrolysis can produce waste of acid, and enzyme hydrolysis takes too much time, defatted rice bran is hydrolyzed by subcritical water. Subcritical water features high ionic product ($KW=10^{-11}$), and low dielectric constant. Subcritical water treatment were performed at 100~280°C, 0~30 min in a batch reactor. The weight ratio of defatted rice bran to water was 1:20. Hydrolysate was mixed with YM(Yeast extract-Malt extract) broth which is generally used to incubate *S. cerevisiae*. After incubating, growth rate of microorganism was analyzed.