

The fiber fraction of oil palm trunk treated by ligninase thermostable produced by thermophilic bacteria isolated from hot spring of West Sumatra, Indonesia

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The research purpose to find out interaction between oil palm trunk concentration and ligninase doses to increase the fiber fraction of oil palm trunk before using as a substrate for the growth of oil palm trunk treated by ligninase thermostable and to analyze the effect of ligninase concentration on the fiber fraction of oil palm trunk. The study was a Completely randomized Design (C/D) factor using 2 factors: (1) factor A consisting of three levels of ligninase enzymes A1: 250 U/kg, A2: 500 U/kg, and A3: 750 U/kg; and (2) factor B consisting of two levels of oil palm trunk B1: 40% and B2: 60% that were repeated 3 times. The results showed that there was a significant difference ($p < 0.01$) between levels of ligninase enzyme (factor A) and the concentration of oil palm trunk (factor B) for AD, D, cellulose, and hemicellulose. The fiber content of ligninase products of oil palm trunk. The fiber content of oil palm trunk was 60% (w/w) and 750 U/kg of ligninase thermostable that were required to improve the fiber content of oil palm trunk by using a substrate such as cow, sheep, buffalo, and goat.

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