

The potentials of novel native fungi in delignification of lignocellulose biomass wastes

ABSTRACT

The potentials of two new native fungi *Trichoderma aureoviride* UPM 09 JN811061 and *Fusarium equiseti* UPM 09 JN811063 isolated from Asian elephant dung for their ability to digest lignin and hemicellulose was exploited using two pretreatment methods, submerged cultivation (SMC) and solid state cultivation (SSC). The pretreatment effect (% loss on lignin and hemicellulose determined after treatment) on rice husk (RH), rubber wood saw dust (RW) and oil palm empty fruit bunch (EFB) using SMC and SSC by *T. aureoviride* UPM 09 JN811061 was statistically significantly ($P < 0.05$) higher than by *F. equiseti* UPM 09 JN811063. However, the result of this study, therefore, showed that the fungi *T. aureoviride* UPM 09 JN811061 and *F. equiseti* UPM 09 JN811063 both have great selectivity for lignin with *T. aureoviride* UPM 09 JN811061 having greater selectivity.

Keyword: Pretreatment; Fungal; Biomass; Lignocellulose