

Sarika Kanjanasuwan 2007: Possibility Study of Color Removal from Pulp and Paper Mill Effluent using White-rot Fungi. Master of Science (Environmental Science), Major Field: Environmental Science, College of Environmental. Thesis Advisor: Associate Professor Vittaya Punsuvon, Ph D. 141 pages.

The possibility of COD and color removal from pulp and paper industry effluent by twenty types of white rot fungi was studied. The results showed that four types of white rot fungi could remove COD and color after four days of treatment. All of them were *Trichaptum* sp. , *Datronia* sp. , *Hexagonia* sp. And *Stereum* sp. . *Trichaptum* sp. removed 65.93-67.60% of COD and 57.00-70.55% of color, *Datronia* sp. removed 64.73-67.07% of COD and 56.59-69.14% of color, *Hexagonia* sp. removed 64.80-66.00% of COD and 53.80-69.10% of color, and *Stereum* sp. removed 64.00-64.40% of COD and 54.00-69.00% of color.

The efficiency of COD and color removal by mixed culture of white rot fungi was also evaluated. The results showed that the mixed culture had higher efficiency in COD and color removal than the single culture. The mixed culture of *Datronia* sp. , *Stereum* sp. and *Trichaptum* sp. down strated the highest efficiency in COD and color removal when compured with other mixed cultures. The mixed culture of *Datronia* sp. , *Stereum* sp. and *Trichaptum* sp. removed 74.04% of COD and 86.59% of color after four days of treatment. The treatment without nutrients showed that the mixed culture of *Datronia* sp. , *Stereum* sp. and *Trichaptum* sp. removed 31.67% of COD and 82.50% of color after four days of treatment.

The efficiency in COD and color removal by the mixed culture of white rot fungi in the presence and absence of and nutrients was defermined the result showed that in the presence of nutrients the efficiency in COD removal was higher than in absence of nutrients whereas for the color removal the efficiency of both treatment were very similar after four days of treatment.

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Thesis Advisor' s signature

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