Thesis Title The Efficiency of Wetland Using Cyperus corymbosus Rottb. for Tertiary Treatment of Dormitory Wastewater.

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ABSTRACT

The Cyperus corymbosus Rottb. was used to determine a treatment efficiency of wastewater from student's dormitory in Khon Kaen University. Four experimental plots with equal size (1.00 m x 9.00 m) were used in this study. The first three plots were planted with C. corymbosus at three different densities,high density (0.10 m.interval) moderate density (0.20 m.interval) and low density (0.30 m.interval) respectively. The remaining plot without any plantation was served as a control. Sampling of wastewater for analysis was performed at the distance of 3.00 , 6.00 and 9.00 m. along the lenght of each plot. The efficiency of C. corymbosus for treatment of wastewater was determined by the wastewater removal in terms of Biochemical Oxygen

Demand(BOD), Total Suspended Solids (TSS) , Dissolved Solids (DSS) Total Phophorus (TP) and Nitrate (NO_3^-) as the study parameters.

Results showed that all experimental plots had significantly greater wastewater removal than the control. The highest wastewater removal was found in the high density plot, BOD,TSS,DSS,TP and NO_3^- were reduced at the average of 67.11, 71.21, 55.11, 47.36 and 68.00 % respectively. The highest efficiency of wastewater removal with respect to sampling distance found at 6.00 m.in all plots. The C. corymbosus would show an acceptable wastewater removal when they aged approximately up to 1 month. This study indicates that wetland using C. corymbosus Rottb. can be used to treat the wastewater of student's dormitory.