Sudarat Pasukko 2014: Wastewater Treatment of Khaew Kaeb Factory by Deacidification Using Linestone and The Natural Treatment of The King's Royally Initiated Laem Phak Bia Environmental Research and Development Project. Master of Science (Environmental Science), Major Field: Environmental Science, Department of Environmental Science. Thesis Advisor: Associate Professor Nipon Tungkananuruk, Ph.D. 94 pages.

Khaew Kaeb is produced from the fermention of starch water from rice with salt. The aquatic environmental problem could be occurred from large amount of the effluent with high organic content and acidity was discharged to water resource. This research aims to study the simple way treatment of this effluent. Therefore , deacidification by using limestone was carried out and found that soaking limestone 60 kg to 60 L of wastewater for 7 days could increase pH from 3.3 to 7.00. Then, the deacidified wastewater was studied by batch experiment and continuous flow experiment. From bacth experiment,it was found that coconut shell charcoal had treatability of color, turbidity and COD and the adsorption model was conformed to Langmuir and Freundich isotherm . From continuous flow experiment that packing filter layer and the top layer of the mixture of coconut shell charcoal and soil in ratio of 1:10, it was found that wastewater treatment similar to the grass filtration gave the higher efficiency than constructed wetland. Therefore, the grass filtration system was tested by the filtrated lysimeter technique and growing *Cyperus Corymbosus* Rottb. and *Typha angustifolia* Linn. The results showed that *Typha angustifolia* Linn gave the highest removal efficiency percentage of turbidity and COD at 79.86 and 92.80 respectively.

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