

Worapot Rattanapan 2007: Treatment Condition of Wastewater from Thai Rice Noodle Production. Master of Engineering (Environmental Engineering),  
Major Field: Environmental Engineering, Department of Environmental Engineering.  
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89 pages.

The purpose of this study was to evaluate the efficiency and determine an optimum condition of treatment of wastewater from Thai Rice Noodle Production in anaerobic contact system. The experiment was conducted in Laboratory Scale with 25\*25\*25 cm (12.5 l) anaerobic reactor. F/M ratio of 0.5, 1 and 0.625, 0.832, 1.25 detention times were used in the study.

It was found that ORP of the system was in the range of -163.71 to -240.14. This showed that the system studied was in anaerobic condition. Temperature in the reactor was 20.42-21.45 °C with pH of 6.80-6.86 Ratio of Volatile Fatty Acid and Alkalinity (VFA/ALK) was lower than 0.4 indicating good buffering capacity of the system. These provided a suitable condition for the growth of Methane Producing Bacteria. The determination of treatment efficiency showed that the effect of detention time was more significant than that of F/M ratio. F/M of 0.5 resulted in slightly higher COD and SS removal percentage than F/M of 1. At 0.5 F/M ratio, with detention time of 0.625, 0.832, 1.25 d, COD was removed by 88.84, 91.40, and 92.21 respectively. At 1 F/M ratio, COD was removed by 87.67%, 89.30%, and 91.29% respectively. Suspended Solid could also be removed in anaerobic contact system. Detention time and F/M ratio had the same effect on SS removal. At 0.5 F/M ratio, with 0.625, 0.83 and 1.25 d., 89.05%, 89.70%, 91.34% of SS was removed. At 1 F/M ratio, with 0.625, 0.83 and 1.25 d., 87.78%, 88.26%, 88.97% of SS was removed.

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Jan / 25 / 2007