Nareerat Sripak 2012: The Removal Efficiency of Tannin from Beer Brewery Wastewater and Natural Water by Adsorption using Chitosan from Pen of Splendid Squid (*Loligo duvauceli*) and Commercial Chitosan. Master of Science (Environmental Science), Major Field: Environmental Science, College of Enviroment. Thesis Advisor: Associate Professor Kanita Tungkananuruk, M.Sc. 69 pages.

The aim of this research is to investigate factors affecting the adsorption of tannin from natural water and beer brewery wastewater by adsorption using chitosan from pen of splendid squid (*Loligo duvauceli*) and commercial chitosan. The studied factors were pH (6-9), shaking rate (50-200 rpm.), shaking time (10-120 min.), contact time (10-120 min.), concentration of tannin standard solution (0-50 mg/L) and amount of adsorbent (10-160 g/L). Under the optimal conditions, which were pH 6, 50 rpm. of shaking rate, 10 min. of shaking time, 30 min. of contact time, and 20 mg/L of tannin standard solution. The tannin were adsorbed by 1 g of splendid squid chitosan and 1 g of commercial chitosan at 91.27% and 87.09% respectively. Real work application is studied by using 400 g chitosan from splendid squid chitosan , 20 L of volume beer brewery wastewater, 10 min. of shaking time , 30 min. of contact time, and 120 ml/min. flow rate, found that about 80.39% is obtained. In the same manner; changing to use commercial chitosan, found that about 70.58% is obtained. In addition, the total dissolved solids, suspended solids, COD, turbidity, oil and grease can be removed by two types of chitosans. The used splendid squid chitosan and commercial chitosan was recovered and reused for 9 and 7 times respectively until their efficiency were dropped to half ie. 38.07% and 34.48% respectively.

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