

Thesis Title THE REMOVAL OF LEAD(II) ION BY CHICKEN  
FEATHERS  
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Date of Graduation 12 June B.E.2532 (1989)

#### ABSTRACT

Leghorn chicken feathers have been shown to be capable of sorption of the lead (II) ion from synthetic solution. This study was undertaken : A.to compare the relative efficiency of lead(II) removal at various pH level (5,7, and 9);B.to compare the relative efficiency of lead(II) removal between the chicken feathers and the synthetic solution (1:100,1:50, and 1:25 by weight);C.to compare the relative efficiency of lead(II) removal by the detention time (15,30,60,120,240,480,and 960 minutes). The results of the batch study indicated that the chicken feathers exhibited 80-90 percent removal of lead(II) from solution. The optimum for pH level, ratio between chicken feathers and solution by weight, and the detention time factor affection the efficient removal of lead (II) were 7, 1:50, and 60 minutes, respectively.

lead(II) concentration (10,20,and 40 mg/l) showed the optimum lead(II) removal by chicken feathers. The lower initial lead(II) concentration (10 mg/l) was more efficiency removed than the higher concentrations (20 and 40 mg/l).

The continuous study was conducted to determine the equilibrium of sorption. The results indicated that the equilibrium of sorption was obtained at the thirty-third hour.