

STUDY ON NUTRITIONAL RECOVERY IN SWINE WASTEWATER BY ZEOLITE ADSORPTION

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Summary

Reducing the use of chemical fertilizers is recommended to recover nutrients in the waste. The study aims to utilize nutrients in swine wastewater effluent as a fertilizer through adsorption of zeolite and test the effect of organic fertilizer on green mustard. The adsorption capacity of zeolite on nitrogen and phosphorus in swine wastewater was evaluated with different masses, varying the aeration time and *Azotobacter* strain addition. Initial results showed that 30 g of zeolite was supplemented with 5 ml of bacterial medium and continuous aerobic for 72 h for maximum efficiency. After 21 days of harvesting green mustard, the results of mixed fertilizer (chemical fertilizer + organic fertilizer) gave the best result in both height and volume.

Keywords: *Azotobacter*, adsorption, green mustard, recovery nutrients, zeolite.