

Nitrogen and Phosphorus Removal with CNR Process

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Abstract

For the removal nitrogen and phosphorus in CNR process we studied advanced wastewater technology using media to remove nutrient in sewage waste plant. Aerobic tank is filled with cilium bio-film(media) using the adhering microorganism and floating microorganism. The influent sewage contains BOD level between 60 and 120mg/l, T-N level between 20 and 40mg/l(C/N ratio is 3). Removal effect of total nitrogen and phosphorus in municipal wastewater with temperature change from 10oC to 24oC in CNR(Cilium Nutrient Removal) process. The removal efficiencies for T-N were found to be 57.9% at 10oC below, 53.7% at 10-20oC, 52.2% at 20-24oC and 44.4% over 24oC, respectively. Nitrogen and phosphorus removal processes, employing anaerobic phosphorus release and aerobic luxury uptake for phosphorus removal and nitrification and denitrification for nitrogen removal, have evaluated and have well adopted CNR process.