Proses nitrifikasi oleh kultur mikroba penitrifikasi n-sw dan zeolit [nitrification by mix culture of nitrifying bacteria n-sw and zeolite]

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Abstrak

The addition of zeolite into the mix culture of nitrifying bacteria N-Sw was investigated in order to improve the nitrification activity. In this experiment, the ammonium conversion was investigated by zeolite as a sole agent and also mixed with nitrifying culture N-Sw.The mix culture of nitrifying bacteria N-Sw was developed from the sludge of wastewater treatment of palm oil industry, which acclimated by ammonium sulfate for about one year. The result show that the nitrification efficiency on the treatment using nitrifying culture N-Sw was 30.76%, the ammonium elimination rate was 7.46 mg N-NH /L/hour.The addition of 10 g/l zeolite, increase both the nitrification efficiency (64.58%), and the ammonium elimination rate (14.0 mg N-NH /L/hour).The nitrification efficiency increased to be 100% on the second and third day operation, and the ammonium elimination rate was increased to be 22.4–22.9 mg N-NH /L/hour. From this experiment indicated that the role of zeolite on the improving the nitrification activity was as an absorbent of ammonium.