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Title (English)

Start-up of a bioreactor for sidestream hydrolysis at a waste water plant – and its impact on nitrogen and phosphorus removal

Title (Swedish)

Uppstart av en bioreaktor för sidoströmshydrolys vid ett reningsverk - och dess inverkan på biologisk kväve- och fosforavskiljning

Abstract

Enhanced biological treatment is an eco-friendly way to remove nutrients from wastewater compared to chemical removal through precipitation. The often restricted availability of easily degradable carbons in waste water limits the process. An internal production of carbon source through hydrolysis can solve this problem. In this study, a newly implemented reactor for hydrolysis of return sludge at Bålsta wastewater treatment plant was investigated. Mass balances and velocity measurements were performed before and after the start-up of the reactor, in order to study the effect of hydrolysis on phosphorus and nitrogen removal from wastewater.

Keywords

Wastewater treatment, biological phosphorus removal, denitrification, hydrolysis of return sludge, volatile fatty acids (VFA)

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