

Analysis of an industrial waste water treatment plant

Problem: The waste water treatment plant to be analysed was built in 1998 and installed in the existing liquid manure storage pit (two rows; see picture). The purpose is the treatment of wastewater from dairy and slaughterhouse. The system works in just two steps, a primary activated sludge basin (ASB) and a secondary settler. The intermitting aeration in the ASB serves for carbon degradation and nitrification, as well. The daily load is in the range of 50 m³ and transported through the WWTP only by daytime.

The current effects are an insufficient CSB reduction as well as increased nitrate and phosphate values.

Task: Aim of this study is to figure out the cause of insufficient performance of a wastewater treatment plant. Therefore, a complete mass balance has to be done and the results have to be discussed with respect to organic/nitrogen load, biomass availability and retention time.

The scope of the assignment is a study project.

Especially suitable for students of the disciplines: **WaSE**

More Details: <http://wasserchemie.ebi.kit.edu/>

Type of work: Primarily theoretical

Beginning: Immediately, after consultation

Supervision: Engler-Bunte-Institut, chair of water chemistry and water technology

Contact: horn@kit.edu