

COUGAR COATINGS Estd. 1988

WASTEWATER DIVISION

Supplying unique solutions for the water and waste water industry



BIO-BLOK® INTELLIGENT FIXED FILM BIOLOGICAL FILTER MEDIA

2.6.3. Used for Wastewater Treatment

The following is an abstract from an article by:

Odd-Ivar Lekang, Anne Marie Bomo and Ingrid Svendsen
Department of Agricultural Engineering, Norwegian University of Agriculture

A copy of the full article can be ordered from EXPO-NET on request.

Abstract

Sedimentation basins represent a low-cost system for wastewater treatment, but they need large areas and do not remove all small particles. A new sedimentation principle known as biological lamella sedimentation, has therefore been evaluated.

The process involves establishing a biofilm on bioblocks, which are placed in the sedimentation basin, and the film should improve the removal of suspended solids because it attaches small particles. A laboratory model of the sedimentation system was connected to the outlet of a small fiberglass fish tank (0.5 m³), which contained 123 rainbow trout with a mean weight of 206 g.

The 22 days study measured inlet and outlet water values of the sedimentation basin, the feed used, fish growth and collected sludge. The results showed that it was very difficult to obtain representative water samples from the outlets of the fish tank and the sedimentation basin. There were wide variations between the replicates for several of the parameters analysed.

However, mass budget estimates, i.e. measurements of feed used, fish growth, and collected sludge, gave reasonable values. This method was preferable to water sample analysis. The mass budget estimates showed reasonably good removal rates for TP (43.2%) and TN (7.3%). A total of 98.3 g (TDM) was collected per kg fish produced. The average TDM, TP and TN in the collected sludge were 2.15, 5.17 and 2.14% respectively. There is a potential for making technical improvements to the design of the biological lamella sedimentation basin as was evaluated.

Keywords: Wastewater treatment; Sedimentation; Water sampling; Sludge production

© Copyright 2002, Elsevier Science, All rights reserved.

VAT Registration Number 491201374

HEAD OFFICE: 4 Mill Hill, Gamlingay, Sandy, Bedfordshire SG19 3LW Contact details 01767 651151-
Fax: 01767 651269 e-mail: andygostling@cougarwastewater.co.uk