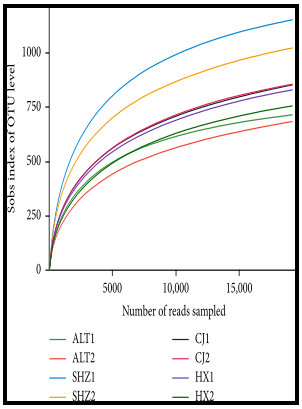
Investigation of the stable foams of activated sludge processes

University of Birmingham - A survey of filamentous bacterial populations from foaming activated sludge plants in Eastern States of Australia



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A survey of filamentous bacterial populations from foaming activated sludge plants in Eastern States of Australia

With around 10 10 cells in one milliliter of activated sludge mixed liquor , it could roughly be inferred that only a 0. Towards a taxanomic coherence between average nucleotide identity and 16S rRNA gene sequence similarity for species demarcation of prokaryotes. Since AGS is mainly applied in SBRs, secondary settlers are not needed Morgenroth et al.

Biological foams in activated sludge plants: Characterization and situation

In spite of the lower sludge concentration, the nitrogen and phosphorus removal rates increased, but the granules became less stable. Identification criteria for all these germs are documented. For the species of Actinobacteria, the number of ESCGs in a genome was empirically determined to be 105.

Influence of Activated Sludge Flocculation Time on Secondary Clarification on JSTOR

Despite this, the same functional groups of microorganisms are present in granular and floccular sludge, but with differences in the proportions between phylogenetic groups at a phylum or class level Guo et al. To be able to optimize the process further, more knowledge is needed regarding the influence of microbial communities and their metabolism on granule stability and functionality.

Detailed investigation of the microbial community in foaming activated sludge reveals novel foam formers

Recently, AGS in continuous systems has been successfully operated in lab-scale reactors inoculated with activated sludge from a full-scale biological nutrient removal plant Devlin and Oleszkiewicz. Feast-famine alternation and anaerobic feeding increases bacterial cell surface hydrophobicity, accelerate the microbial aggregation, and promote the growth of slow growers Adav et al. This observation strongly implied that other factors besides the abundance of Gordonia spp.

The mechanisms of granulation of activated sludge in wastewater treatment, its optimization, and impact on effluent quality

Their low presence in the foam might be due to their strong hydrophilicity or their cluster-growth pattern. It was more divergent from the other Gordonia species 2. In a previous study, selective removal of sludge was applied; a fraction consisting of both very light and very dense granules was removed to retain a wider size range of granules in the reactor Henriet et al.

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