Acta Scientific Microbiology (ASMI)
ISSN: 2581-3226
DOI: 10.31080/ASMI.2019.S01.0016

Letter To Editor

Special Issue 1- 2019

Community Structure of Waste Water Treatment Plants

Maulin P Shah*

Department Microbiology, India

***Corresponding Author:** Maulin P Shah, Department Microbiology, India.

Received: September 10, 2019
Published: November 11, 2019
ISSN: 2581-3226
DOI: 10.31080/ASMI.2019.S01.0016

In today's world, with its growing human population and the resulting pollution problems, there is growing awareness of the need to protect the environment. Our ability to control pollution caused by human activities is, in the long run, essential to the further development of humankind. Wastewater treatment is one of the fundamental processes in this regard. In the past, natural ecosystems, thanks to so-called self-purification, were able to cope with much lower levels of pollution. Microorganisms have mineralized the waste and made it available for primary production. Curiously, the most modern wastewater treatment processes still rely on the action of complex microbial communities. And even today, these communities do not deliberately encounter individual functions of known species, but continue to be the result of natural selection. The art of building an efficient wastewater treatment plant always uses as many natural processes as possible and condenses them in space and time. The treatment of the water used by the biological oxidation plants can be considered as an environmental control of the activity of the organisms concerned. A group of organisms directly involved in the treatment of wastewater are bacteria. All other groups dominate in numbers and biomass and dominate the processes of mineralization and removal of organic and inorganic nutrients. They prefer heavily loaded traditional facilities that operate with sludge retention times during their low generation times. Modern low-load systems have high retention times and also allow the presence of slower-growing bacteria and organisms with a more complex organization, such as flagella, amoebae, eyelashes or even worms. and insect larvae.

It is generally accepted that its primary role in wastewater treatment is to eliminate runoff. Microbial communities that catalyse wastewater treatment have long been considered "black boxes". Today, even engineers agree that a thorough understanding of the structure and operation of these complex communities would be a good starting point for future device optimization. For conventional techniques, however, it has not been possible to carry out a detailed analysis of the structure of the bacterial community.

Therefore, no studies have been performed on the cells that catalysed the desired reactions, but on so-called indicator organisms, morphological or phenotypic, which could be associated with good or bad plant function by their presence. The integration of higher trophic levels into our wastewater treatment models can effectively be the key to better understanding the correlations between structure and function. Molecular techniques for studying bacteria can also be very useful for enumerating and identifying at least the smallest protozoa. A detailed description of the microbial community may help to clarify the mechanisms of adaptation and selection at different trophic levels. In fact, this type of basic biological understanding could support the theory and practice of wastewater treatment.