

Biofilms



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Based on a preliminary study of the presence of Biofilms on food contact surfaces carried out in Sri Lankan Fish and Shrimp factories, by Kariyawasam and Jay Asooriya, 2006, the topic has attracted many researchers who have taken it to different heights. In his correspondence to Edstrom Industries, Kariyawasam. M, 2010 define Biofilms as a composition of microorganisms brought together by their secretions attached together on a surface. Many human beings live with this Biofilms without proper knowledge on how to scrape them off or maybe they don't that they are Biofilms. A plague on an individual's teeth appears to be so minute worrying circumstance yet it is purely a Biofilms, Kariyawasam, 2010. Other Biofilms includes a slippery slime on river stones, gel like films on flowers and mould made on bread among others. Biofilm formation takes place when a clean water surface contacts water. The molecules will adhere together from the adhesive forces. Once the molecules are together, they neutralise the surface from its natural capacity of repelling bacteria hence allowing them to be attracted to that surface. The attraction brings the free floating bacteria to attach by electrostatic attractions and some physical forces. Once they have been attracted some molecules always stick deep to the surface by strong magnetic forces called sticky polymers. These sticky polymers have two charges positive and negative with neutral charges in between them. The positive and negative charges are always attracting creating the magnetic field strength that acts like a magnet to the bacteria hence slippery and stick Biofilms seen, Eloff J N, 2010; Pappermint Inhibits Microbial Biofilms, Tshwane University of Technology. Recent studies by Dr. Robert. D. Damoiseaux, 2010 indicates that 99, percent of all the bacteria attached to internal surfaces are definitely Biofilms in nature. These bacteria sometimes

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cause infections to living things like animal and plants. The most common bio film bacteria are *Pseudomonas aeruginosa*. Despite causing infections in animals and plants, Biofilms also cause corrosion of metals, and piping systems of safe drinking water. Since this Biofilms are brought a bout by bacteria in water or water form, taking good care of water will enhance chances of protection from the infections caused by the Biofilms. It is also recommended to use coated metals to prevent the Biofilms from corroding them. In March 2010, Dr Robert discovered high content screening system that could see the isolation and identification of Biofilms on any surface, Robert . D. 2010, High Content screening, for Biofilms; Molecular Screening, October 2010 . He puts a high thoughtful screening platform that provide, very fast and accurate quantitative assessments of Biofilms formation and removal on engineered surfaces. The platform is automatic and can screen more that 10, 000 wells per day. This is the highest ever reached by any scientist in the discovery of Biofilms screening process. The whole working force behind Robert's tools and platform is the adhesion force. Biofilms are to be attracted to the platform. To solve a problem you must address the cause. Many researchers have tried to find ways of denaturing or destroying *pseudomonas aeruginosa*, the most common Biofilms bacteria. The recent to make a go through is Evgeny Vinogradov March 2010. In her Glycobiology, she discovered some high level antibiotic resistance to *pseudomonas aeruginosa*. According to her, *pseudomonas* mostly affects immunocompromised individuals a result of Biofilms. As a way of preventing these bacteria from causing cystic fibrosis a life threatening disease, we should give our bodies strong antibodies that will give a strong resistance to the bacteria if accumulated in our bodies. Evgeny came with an antibody

formula that has been approved and is working out. The formula is pa14::ndvB mutant strain. This antibody is becoming is to be applied in the immunization process to help prevent complications brought by pseudomonas. New discoveries have proved that Biofilms can be given a clear view just like viewing a close range mountain with a telescope without distorting any of their body structures. Jamie. A. and Kenneth D, 2010. Clear view has enabled microbiologists to study Biofilms structures hence knowing how to research on better antibodies that could destroy them or disinfect them. The Biofilms study is very essential in many fields. In sanitation both public and home, Biofilm knowledge helps us to be prepared in purification of water and general water surface cleanliness. Authorities in water provision and public sanitation have learnt the importance of providing chlorinated water that is pure for drinking through Biofilms. In water tank manufacturing industries they coat metals with water proof substances to prevent rust process brought about by Biofilms on water container. They also use materials like stainless steel that is water proof. Water piping system should be done well to avoid those pipes from corroding. Once they are made without resistance materials they develop so much bacteria that form on the surfaces resulting to corrosion process. It is therefore important to have Biofilms education thought in other fields of direct manufacturing and not just microbiology. Biofilms is looked as an applied industrial technology because of its diverse applications. As reports Edstrom, 2010, electropolization process relies most on Biofilms study. The equilibrium attained in balancing bacteria and human health is the most important step in human life.