

B320 Lytic characters of *Anabaena cylindrica* by *Penicillium oxalicum*(HCLF-34)

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The algal-lysing fungi(*Penicillium oxalicum* HCLF-34) was isolated from Wangsong reservoir(Kyunggi-Do province) shown in eutrophication, and revealed that lytic activity due to the extracellular materials from HCLF-34 was occurred in broad range of blue-green algae. In the mixed culture of *Anabaena cylindrica* and cultured supernatant of HCLF-34, the algae was segmented and lysed in 12 hours. On the other hand, *Anabaena cylindrica* was aggregated, segmented, and lysed within 6 hours in the mixture of *Anabaena cylindrica* and extra- cellular materials of HCLF-34. In the mixed culture of *Anabaena cylindrica* and Britton's buffer(pH3.5), *Anabaena cylindrica* was not changed morphology within 12 hours. Based on these results we will discuss on the characteristics and the isolation of the extra-cellular materials of *Penicillium oxalicum*(HCLF-34).

B321 Control efficiencies of bacterial biofilms on water pipe coupons by free chlorine and chloramine residuals

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The control efficiencies of development of bacterial biofilms on galvanized-iron pipe coupons in batch reactors were evaluated using free chlorine and chloramine residuals as a disinfectant. A mean control efficiency of five species of biofilm bacteria, *Pseudomonas fluorescens*, *Enterobacter agglomerans*, *Enterococcus faecalis*, *Salmonella typhimurium*, and *Shigella dysenteriae*, by 0.5 and 1.0 mg/ℓ of free chlorine residuals and 1.5 and 2.5 mg/ℓ of chloramine residuals for two weeks were 97.84, 99.51, 100.00, and 100.00 %, respectively, when compared with no addition of any disinfectants. The results represent that the maintenance of chlorine residuals is essential and chloramine is more efficient than free chlorine for preventing bacterial biofilm formation on water pipes.