B330 Seasonal Distribution of Enterovirures in Source Water

Seung-Hoon Lee* and Sang-Jong Kim
Department of Microbiology, Seoul National University

A seasonal distribution of enteroviruses in source water of Seoul, Korea, was observed over a 12-month surveillance period. All samples were tested by using cell culture technique combined with PCR. Enterovirus concentration levels of upstream, tributary and downstream ranged from 0-17.3, 0-14.0 and 0-12.0, MPN infectious unit per 100 liter(MPNIU/100L), and the average levels were 5.9, 33.0 and 5.2 MPNIU/100L, respectively. Although the enterovirus was usually found in spring-summer(Apr. to Aug., 1998), in winter season(Dec., 1997), enterovirus were detected. The levels of enteroviruses were similar throughout all positive samples and the peak time of enterovirus occurrence was not found.

B331 Bacterial community analysis with fatty acid profiles of culturable fraction in the groundwater ecosystem

Yoe-Jin Choo* and Sang-Jong Kim
Department of Microbiology, Seoul National University

Culturable bacterial fractions from 2 boreholes(K1, K2) used for natural mineral water and 3 boreholes(W1, W3, B8) located in a stockfarming area were investigated using fatty acid profiles in March and May, 1998. W3 are less contaminated by livestock wastewater than the others (W1 and B8). The colonies grown on R_2A media were isolated, transferred to TSBA media and incubated at 28℃, 24h. Cellular fatty acids were extracted and transformed to fatty acid methyl ether (FAME). The compositions of FAMEs were characterized by gas chromatography and used for individual bacterial identification by Sherlock system. It was shown that the culturable bacterial fractions in K1, K2 did not change dramatically with time. *Rhodococcus* was dominant in K1, K2. In contrast, it was shown that those in W1, B8 changed significantly and the dominant groups at each time also changed with time. In March, *Cytophaga johnsonae* was dominant group in W1, W3, B8. In May, *Hydrogenophaga pseudoflava* was dominant in W1. And in W3, *Stenotrophomonas maltophilia*, *Brevundimonas diminuta*, *Cellulomonas flavigena* were major group at the same time. FAME analysis revealed that culturable bacterial fractions could reflect the characteristics of groundwater.