Desalination and Water Treatment
www.deswater.com
19 (2010) 26–31
July
1944-3994 / 1944-3986 © 2010 Desalination Publications. All rights reserved.
doi: 10.5004/dwt.2010.1892

Fecal indicator concentrations of surface runoff in rural watersheds, Korea

Geonha Kim[a]*, Hoando Jong[b], Jaekeun Lee[b], Dongsu Kong[c]

[a]*Department of Civil and Environmental Engineering, Hannam University, Ojungdong, Daedukku, Daejeon 306–791, Korea email: kimgh@hnu.kr*
[b]*Division of Urban Infrastructure, Daejeon Development Institute, Wolpyongdong 160-20, Daejeon 302-280, Korea*
[c]*Department of Life Science, Kyonggi University, Yi-Ui dong, Suwon, 443-760, Korea*

Received 25 September 2009; Accepted 17 March 2010

ABSTRACT

To evaluate fecal contamination discharged from diffuse sources, flow rates and fecal indicator microorganism concentrations of rainfall runoff draining three rural watersheds were monitored. Land uses of the study watersheds were mainly unpolluted forestry and crop field with area of 14–70 ha. Monitored fecal indicators were total coliform (TC), fecal coliform (FC), *Escherichia coli* (EC), and fecal streptococcus (FS). Membrane filtration technique was adopted to measure all fecal indicators. Event mean concentrations of each fecal indicators were; TC was 2.32×10^2–3.68×10^5 CFU/100 ml; FC was 2.29×10^2–1.66×10^5 CFU/100 ml; EC was 1.76×10^2–1.21×10^2 CFU/100 ml; and FS was 1.42×10^2–8.48×10^4 CFU/100 ml.

Keywords: Coliform; Diffuse sources; Event mean concentration; Fecal contamination; Rainfall runoff; Water quality

* Corresponding author.