

Al-Malack, M. H.; Bukhari, A. A. and Abuzaid, N. S. "Fate of Pathogens in Sludge Sand Drying Beds: A Case Study". *International Journal of Environmental Research*, v. 1, no. 1, pp. 19-27, 2007.

Abstract. Due to uncontrolled dump of dried municipal sludge and its use by farmers as soil conditioner and/or fertilizer, an extensive research was conducted in order to determine the microbiological characteristics of municipal sludges produced at three major cities, namely, Qateef, Dammam and Khobar in the Eastern Province of Saudi Arabia. Sludge samples were collected, from sand drying beds, twice a season for one year and were analyzed for certain potential microbiological parameters such as *fecal coliform* and *salmonella*. The results indicated that municipal sludge produced at the three cities was not suitable for utilization in agricultural activities due to the high levels of *salmonella* even after 14 days of drying at Qateef wastewater treatment plant. Dried sludge samples collected from Qateef, Dammam and Khobar were found to contain *salmonella species* on the average of 22, 107 and 127 MPN per gram of dried sludge, respectively.