

Conditioning of sewage sludge by prickly pear cactus (*Opuntia ficus Indica*) juice (2014) Ecological Engineering

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Description

The possibility of using a plant material, prickly pear cactus, *Opuntia ficus Indica*, juice (OFIJ), for conditioning the Beni-messous wastewater treatment plant sludge was examined. Optimum dosage of OFIJ was found to be 0.4gkg⁻¹ of dry matter. The residual turbidity, the dryness of filtration cake and the specific resistance of filtration were found to be 2.5 NTU, 24% and 0.13×10¹² mkg⁻¹ respectively. The results obtained with OFIJ were compared to those obtained with polyelectrolytes: Chimfloc C4346, a cationic polymer, Sedipur NF 102, a nonionic polymer and Sedipu AF 400, an anionic polymer, and inorganic conditioners, FeCl₃ and Al₂(SO₄)₃. The optimum dosages of those conditioners were found to be 0.4gkg⁻¹ for OFIJ, 0.8gkg⁻¹ for Chimfloc C4346, 80gkg⁻¹ for FeCl₃ and 60 gkg⁻¹ for Al₂(SO₄)₃.