



Full Scale Bio Filter Ammonia Removal Performance During Filter Maturation

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Abstract

An industrial bio filter of 23 m³ in capacity, packed with a coconut fiber filter medium inoculated with compost of 12 m³ in volume was operated for a period of 45 days. Performance was monitored at gas flow rates of 1160 m³h⁻¹ to 2100 m³h⁻¹ to identify the removal efficiencies under varying conditions during filter maturation. Maximum elimination capacity of 5.9 gm⁻³h⁻¹ was reached for an inlet loading of 1.8 gm⁻³h⁻¹ for ammonia. Filter maturation periods were unexpectedly very short due to initial physical adsorption.