Application of Moringa Oleifer Seed in Removing Colloids from Turbid Wastewater

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Abstract : Dried crushed seeds of Moringa oleifera contain an effective soluble protein; a natural cationic polyelectrolyte which causes coagulation. The present study aims to investigate the performance of Moringa oleifera seed extract as natural coagulant in clarification of secondary wastewater treatment highly charged in colloidal. A series of Jar tests was undertaken using raw wastewater providing from secondary decanter of Reghaia municipal wastewater treatment plant (MWWTP) located in East of Algiers, Algeria. Coagulation flocculation performance of Moringa oleifera was evaluated through supernatant residual turbidity. Various influence parameters namely Moringa oleifera dosage and pH have been considered. Tests on Reghaia wastewater, having 129 NTU of initial turbidity, showed a removal of 69.45% of residual turbidity with only 1.5 mg/l of Moringa oleifera. This sufficient removal capability encourages the use of this bioflocculant for treatment of turbid waters. Based on this result, the coagulant seed extract of Moringa oleifera is better suited to clarify municipal wastewater by removing turbidity. Indeed, Moringa oleifera which is a natural resource available locally (South of Algeria) coupled to the nontoxicity, biocompatibility and biodegradability, may be a very interesting alternative to the conventional coagulants used so far. **Keywords :** coagulation flocculation, colloids, moringa oleifera, secondary wastewater

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