

Effects of storage conditions of *Moringa oleifera* seeds on its performance in coagulation

ABSTRACT

Moringa oleifera is a plant whose seeds have coagulation properties for treating water and wastewater. In this study the coagulation efficiency of *Moringa oleifera* kept in different storage conditions were studied. The *Moringa oleifera* seeds were stored at different conditions and durations; open container and closed container at room temperature (28 °C) and refrigerator (3 °C) for durations of 1, 3 and 5 months. Comparison between turbidity removal efficiency of *Moringa oleifera* kept in refrigerator and room temperature revealed that there was no significant difference between them. The *Moringa oleifera* kept in refrigerator and room temperature for one month showed higher turbidity removal efficiency, compared to those kept for 3 and 5 months, at both containers. The coagulation efficiency of *Moringa oleifera* was found to be dependent on initial turbidity of water samples. Highest turbidity removals were obtained for water with very high initial turbidity. In summary coagulation efficiency of *Moringa oleifera* was found independent of storage temperature and container, however coagulation efficiency of *Moringa oleifera* decreased as storage duration increased. In addition, *Moringa oleifera* can be used as a potential coagulant especially for very high turbidity water.

Keyword: Water treatment; Natural coagulant; Coagulant storage; Coagulation efficiency; *Moringa oleifera*