

Effect of storage of shelled *Moringa oleifera* seeds from reaping time on turbidity removal

ABSTRACT

Moringa oleifera is an indigenous plant to Malaysia whose seeds are used for water purification. Many studies on *Moringa oleifera* have shown that it is highly effective as a natural coagulant for turbidity removal. In this study, two different methods for extraction of *Moringa*'s active ingredient were investigated. Results of sodium chloride (NaCl) and distilled water extraction of *Moringa oleifera* seeds showed that salt solution extraction was more efficient than distilled water in extracting *Moringa*'s active coagulant ingredient. The optimum dosage of shelled *Moringa oleifera* seeds extracted by the NaCl solution was comparable with that of the conventional chemical coagulant alum. Moreover, the turbidity removal efficiency was investigated for shelled *Moringa oleifera* seeds before drying in the oven under different storage conditions (i.e. open and closed containers at room temperature, 27 °C) and durations (fresh, and storage for 2, 4, 6 and 8 weeks from the time the seeds were picked from the trees). Our results indicate that there are no significant differences in coagulation efficiencies and, accordingly, turbidity removals between the examined storage conditions and periods.

Keyword: Extraction methods; *Moringa oleifera*; Natural coagulant; Sources of seeds; Storage; Turbidity removal