

Potential of using bio-coagulants indigenous to Malaysia for surface water clarification.

ABSTRACT

Water treatment processes in developing countries typically include coagulation and flocculation and often use alum as the coagulant. Coagulation is a critical step in drinking water treatment because of removing the colloidal particles as well as pathogens that are often attached to the particles. However, the cost of the imported chemicals in hard currency has caused to consider the natural coagulants as a promising alternative. In the present study, turbidity removal of *Moringa oleifera*, *Jatropha curcas*, chitosan, dragon fruit foliage and alum were compared using surface turbid water. The efficacy of four bio-coagulants has been tested based on some critical parameters including dosages of coagulant, pH of turbid water and change in pH value of finished water. All studied coagulants obviously possessed positive coagulation abilities.

Keyword: natural coagulants, surface water, water treatment, *jatropha curcas*, dragon fruit foliage, *moringa oleifera*, chitosan