Current progress on removal of recalcitrance coloured particles from anaerobically treated effluent using coagulation–floculation

Abstract

The palm oil industry is the most important agro industries in Malaysia and most of the mills adopt anaerobic digestion as their primary treatment for palm oil mill effluent (POME). Due to the public concern, decolourisation of anaerobically treated POME (AnPOME) is becoming a great concern. Presence of recalcitrant-coloured particles hinders biological processes and coagulation–floculation may able to remove these coloured particles. Several types of inorganic and polymers-based coagulant/flocculant aids for coagulation–floculation of AnPOME have been reviewed. Researchers are currently interested in using natural coagulant and flocculant aids. Modification of the properties of natural coagulant and flocculant aids enhanced coagulation–floculation performance. Modelling and optimization of the coagulation–floculation process have also been reviewed. Chemical sludge has the potential for plant growth that can be evaluated through pot trials and phytotoxicity test. © Springer Nature Singapore Pte Ltd 2018.