

Supplementary Materials

Moringa oleifera Lam. as a Biofloculant for Harvesting Microalgae Grown on Agricultural Wastewaters for Feed Production

Merve Konucu^{1,2*}, Dilek Tekdal², Elif Eker Develi³, Erik Meers^{1**}, Marcella Fernandes de Souza^{1**}

¹ Department of Green Chemistry and Technology, Ghent University, Ghent

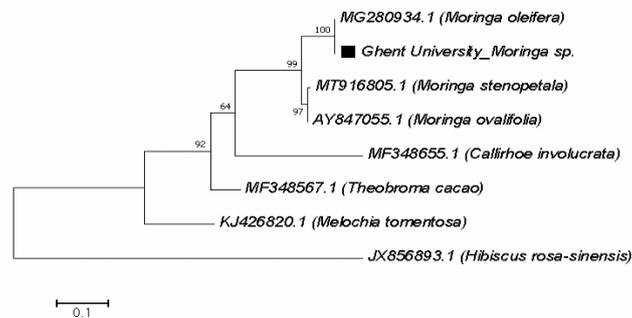
² Department of Biotechnology, Mersin University, Mersin, Turkey

³ Department of Mathematics and Science Education, Mersin University, Mersin, Turkey

*Correspondence: Merve Konucu – merve.konucu@ugent.be

**Senior authors contributed equally to this work

A



B

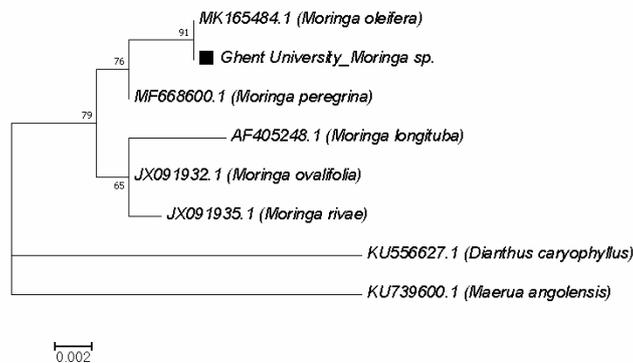


Figure S1. Figure 1. Molecular phylogenetic analysis by the Maximum Likelihood method based on: A) partial sequences of the *trnH-psbA* using the Tamura 3-parameter model [29] and B) partial sequences of *rbcL* using the Jukes-Cantor model [30].

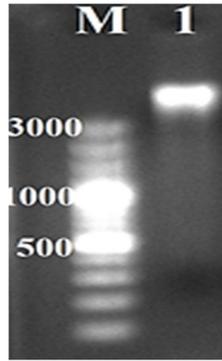


Figure S2. 1.5 % agarose gel electrophoresis results of gDNA isolated from the seed samples of *Moringa sp.* obtained from India

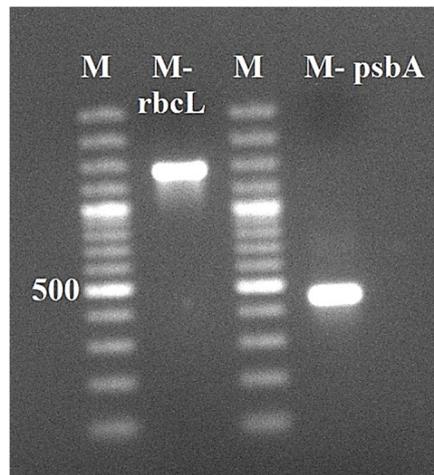


Figure S3. 1.5% agarose gel electrophoresis of PCR analysis of isolated seed samples of *Moringa* using *rbcL* and *trnH-psbA* primers

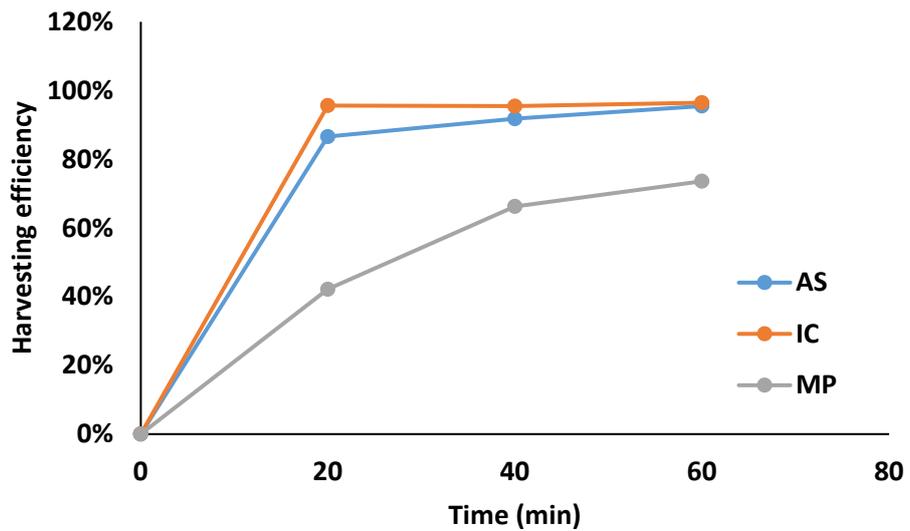


Figure S4. Harvesting efficiency of *Moringa oleifera* seed powder (MP), aluminium sulfate (AS) and iron (III) chloride (IC) added to a mixed culture of *Desmodemus* and *Chlorella* (500 mg L^{-1}) at 200 mg L^{-1}

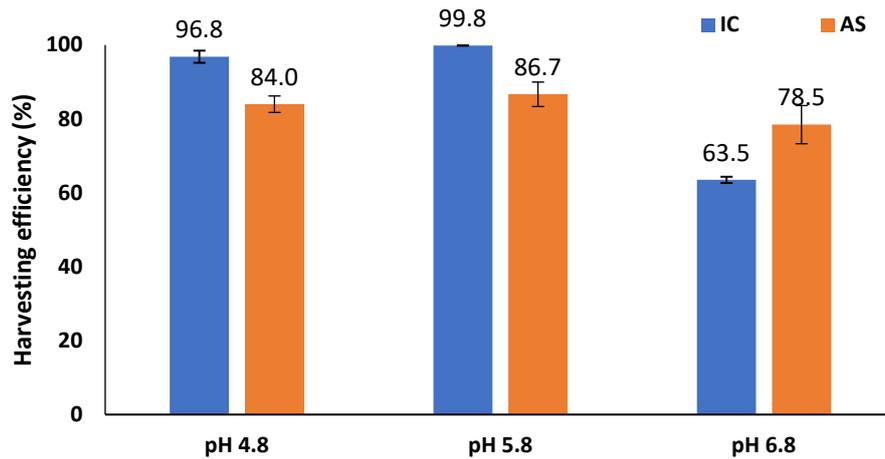


Figure S5. Influence of pH values in the harvesting efficiency of aluminium sulfate (AS) and iron (III) chloride (IC). The different pH values were obtained by the addition of either AS or IC solutions to the microalgae suspension, resulting in different final concentrations of each flocculant for a given pH.

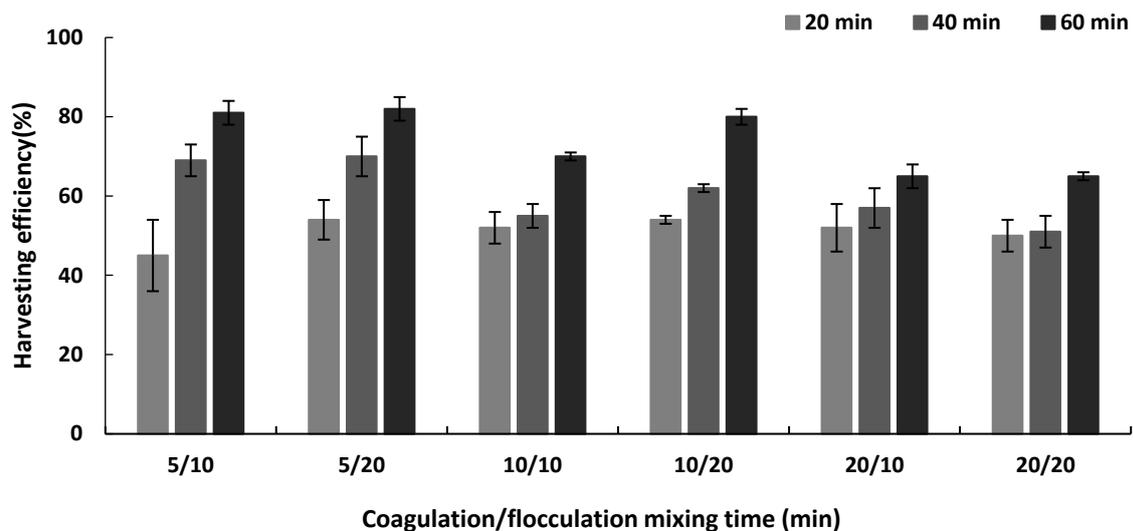


Figure S6. Effect of different duration combinations for the coagulation and flocculation steps when using *M. oleifera* seed powder for the harvest of a mixed culture of *Chlorella* and *Desmodesmus* (seed powder concentration of 500 mg L⁻¹, pH 8, coagulation and flocculation rotation speeds of 150 rpm and 30 rpm, respectively). The effect of sedimentation duration (20, 40 or 60 min) in the harvesting efficiency is also shown. Different letters indicate significant differences between the flocculation times after a one-way ANOVA followed by a Tukey test ($p < 0.05$)

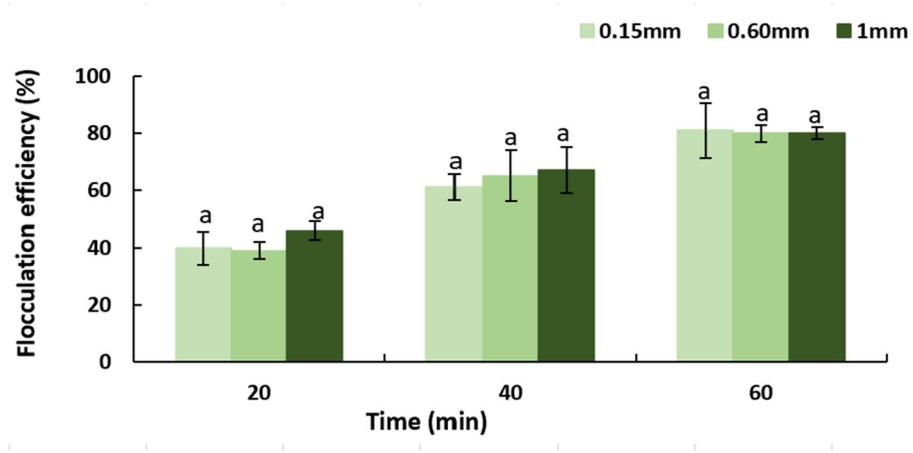


Figure S7. Effect of three different granulometries of *Moringa oleifera* seed powder on the flocculation efficiency at 60 min sedimentation (seed powder concentration: 0.5 g L⁻¹, the rotation speed and time used were 150 rpm for 5 min followed by 30 rpm for 10 min).