ABSTRACT

In the present investigation, the polysaccharide/mucilage from waste of Abelmoscus esculentus by modification in hot extraction using two different solvents (Acetone, Methanol) were extracted, characterized and further compared with seaweed [polysaccharide](https://www.sciencedirect.com/topics/chemistry/polysaccharide) for their potential applications. The percentage yield, emulsifying capacity and swelling index of this mucilage were determined. The macro algae and [okra](https://www.sciencedirect.com/topics/food-science/okra) waste, gave high % yield (22.2% and 8.6% respectively) and good emulsifying capacity (EC% = 52.38% and 54.76% respectively) with acetone, compared to methanol (11.3% and 0.28%; EC% = 50%) (PH = 7) while swelling index was greater with methanol than acetone extracts respectively. The infrared (I.R.) spectrum of the samples was recorded to investigate the chemical structure of mucilage. Thermal analysis of the mucilage was done with TGA (Thermal Gravimetric Analyzer) and DSC (Differential Scanning Calorimeter) which showed both okra and algal polysaccharide were thermostable hydrogels.