

ABSTRACT:

The aim of this work is the development and the characterization of biodegradable films obtained from a mixture of soluble starch and sodium alginate. The influence of sodium alginate ratio on the behavior of these films is also studied in order to use them as new formulations to produce food packaging. The obtained films are generally homogeneous, thin, smooth and having a good coherence with no visual defects. The results of the FTIR, SEM and XRD tests have shown the existence of a good compatibility, between alginate and starch due to both kind of strong interactions like hydrogen bonds and ionic interactions. Water sorption isotherm, water vapor permeability, and mechanical tests were strongly influenced by the addition of sodium alginate in the different formulations. This influence is caused by the plasticization effect of sodium alginate.