# Pretreatment and fractionation of *Helianthus tuberosus* residue by flow-through reaction

박용철, 박장한, 김준석*
경기대학교
(jskim84@kyonggi.ac.kr*)

The pretreatment of *Helianthus tuberosus* residue had been performed. The 2-step pretreatment on flow-through process were applied in the interests of increase of sugar production yield on enzymatic saccharification. The delignification by aqueous ammonia and the fractionation of hemicellulose by sulfuric acid solution as pretreatment solution were confirmed for effects of enzymatic saccharification and ethanol fermentation.
*Helianthus tuberosus* residue as lignocellulosic biomass had been investigated for optimum conditions of pretreatment through response surface methodology. The pretreatment by aqueous ammonia had an effect on ethanol production for effective process as enzymatic saccharification of fermentable sugar. These results had been able to suggest an efficient pretreatment process for production of second generation bio-ethanol. When the pretreatment of lignocellulosic biomass combined the advantages of base and acid solution, the 2-step flow-through pretreatment ($NH_4OH$ - $H_2SO_4$) process for efficient saccharification and fermentation were researched.