

Ethanol production from paper waste

Wahiba TADMOURT^{1*}, Karim KHIARI¹ and Lyes TARABET¹

¹Ecole Militaire Polytechnique, BP17 - 16046 Bordj El-Bahri, Algiers, Algeria.

*Wahiba.tadmourt@g.enp.edu.dz

Abstract. Production of liquid biofuels has been as a sustainable option to overcome the problems associated with rising prices and diminishing reserves of crude oil and global warming. Ethanol is a clean alternative fuel and a renewable bio-based resource. The second generation of bioethanol is produced from lignocellulosic feedstock. Paper waste is an attractive resource which is abundant available in Algeria. This study focuses on the conversion of paper waste to bioethanol using two processes: hydrolysis of cellulose and hemicellulose to produce reducing sugars, and fermentation of the sugars to ethanol. The result shows that this waste can be converted into bioethanol 80° in concentration with a yield of 11 ml per 50g of the substrate.

Keywords: bioethanol, lignocellulosic feedstock, paper waste.