Isolation and Chemical Modification by Acetylation of Cellulose From Agricultural Waste: Hura Crepitans For Industrial Applications

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Cellulose represents a new emerging biological resource of great industrial and environmental importance. The current trend of isolation of cellulose from agricultural wastes has contributed to a very large extent, in combating environmental problems such as pollution and threat to food security across the globe. Isolation of cellulose from Hura Crepitans seed pod (sand box) was by alkaline hydrolysis using an unbranded locally fabricated steel vessel, with detachable electrically controlled stirrer. Chemical modification of the cellulose was by acetylation under varying conditions of temperature and pH respectively. Degrees of acetylation were determined, and swelling capacities in relation to pH and temperature variations respectively. Fourier transfer infrared (FTIR) spectra showed that groups of the native cellulose were partially substituted by acetyl groups. Determinations of degree of acetylation and swellings capacities showed that modification occurred. Further investigation revealed that acetylation and swelling capacities increased with increase in pH and temperature respectively. It was recommended among others that isolation of cellulose from sand box is a new resource for industries and not a waste as usually termed.

Biography
Badejo, O.A his currently a PhD researcher at Department of Chemical Science, Faculty of Science, Olabisi Onabanjo University, Nigeria. A Chief Lecturer at Adeniran Ogunsanya College Of Education, Lagos, Nigeria. He has published more than 25 papers in reputed journals. Lawal, S.O his a Professor of Industrial Chemistry at Department of Chemical Science, Faculty of Science, Olabisi Onabanjo University, Ogun State, Nigeria. He has published several papers in reputed journals. Alabi-Abass M.O her currently a M.Sc student at Department of Chemical Science, Faculty of Science, Olabisi Onabanjo University, Ogun State, Nigeria.

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