Preliminary study of ginger bagasse - a waste from the extraction of ginger starch

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Abstract:

The aim of this study was to extract a cellulose rich material from the agricultural residue of the processing of the ginger starch (GS) - the ginger bagasse (GB). The chemical composition of ginger are oleoresins, essential oils, and other components such as proteins, ash, minerals, and starch [1]. One of the by-products generated after the extraction of ginger starch consists of a fibrous material containing cellulosic fibers and residual starch. This material is here denominated ginger bagasse (GB). Ginger processing waste has been combined with $ZnCl_2$ and H_2SO_4 to act as a bioabsorbent for water treatment from textile industries [2,3]. In this study, work the authors obtained this residue from rhizome and characterized it by FTIR, XRD and its thermal stability in nitrogen and air atmospheres. The initial results indicated success in obtaining an essentially cellulosic material with the presence of residual starch and thermal stability around 270 °C in inert atmosphere. Our future perspectives are the development of sustainable materials from biomass, attributing added value to an agro residue.

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Reference:

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