

OTIMIZATION OF THE EXTRACTION OF XYLAN FOR PHARMACEUTICAL USE

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Xylan is a generic denomination for polysaccharides that present predominantly D-xylose in its structure. Several xylan properties, such as immunological activity and enzymatic substrate, have been widely studied due to its potential use in the medical field. The aim of this work was to propose an extractive method for xylan from corncobs, which correspond to a resource abundantly found in the northeast of Brazil. At first, the raw material was milled and the particles smaller than 710 μ m were dispersed in distilled water under stirring for 24h. The sample was filtered and treated with sodium hypochlorite and detergent in order to remove the lignin. The second filtration step was performed and an alkaline extraction was carried out using 4%_(v/v) NaOH. The alkaline extract was neutralized with acetic acid and xylan was extracted by settling down after methanol addition. At the end, several wash steps were performed and the sample was filtered and dried. A yellowish fine powder was obtained in a ratio of 11 \pm 1.4% and identified by infrared spectroscopy. Since agricultural waste is annually generated on a massive scale, xylan extracted from corncobs may be considered as a potential resource for pharmaceutical industry. The optimization of the process was able to increase the yield of polysaccharide in 20%. It may be concluded that this process is an alternative way to the use of corn residues.

Keywords: Corncobs, Polysaccharide, Xylan.