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STUDIES ON HIBISCUS CANNABINUS, HIBISCUS SABDARIFFA, AND CANNABINUS SATIVA FIBER AS A SUBSTITUTE FOR SOFTWOOD PULP- PARTIAL DELIGNIFICATION PROCESSES

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Abstract

Hibiscus cannabinus, Cannabis sativa, and Hibiscus sabdariffa, fast growing plants could provide fiber necessary to partially alleviate the world's fiber deficit. The study was aimed at producing high yield pulp and the best mechanical strength properties in a green environment by SAS-AQ, and NSSC-AQ pulping processes. A total alkali charge of 8% (as Na₂O), a ratio of 0.80, and a Na₂SO₃ charge 11.70% (as Na₂O) were found optimal for Hibiscus cannabinus. A lower kappa number and good strength properties were observed for Hibiscus sabdariffa at total alkali and Na₂SO₃ charge. SAS-AQ pulps showed good response to bleaching. NSSC-AQ pulping was conducted at a total alkali charge of 8% (as Na₂O), a ratio of sulphite-to-carbonate (100:0-0:100), and cooking time (60-120 min) at 120°C.