



SIMPOSIO INTERNACIONAL SOBRE MATERIALES LIGNOCELULOSICOS

RESIDUAL PALM FIBERS FROM EMPTY FRUIT BUNCHES (EFB): PRODUCTION OF NANOFIBRILLAR CELLULOSE FILMS

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ABSTRACT

The micro-fluidization technique was used to produce nanofibrillated cellulose (NFC) from Empty Fruit Bunches (EFB) from palm oil residual biomass. Three different types of EFB pulps were used as feedstock, namely, soda-anthraquinone (NaOH-AQ), formosolv (FoOH) and milox. NFC films were manufactured from the respective unbleached fiber source by using an overpressure device; their morphological and structural features were characterized using atomic force microscopy (AFM). The physical properties as well as the interactions with water of sheets from the three different pulps were compared with those of the corresponding NFC films. Distinctive chemical and morphological characteristics and ensuing film properties were generated from the EFB, non-wood source, as a consequence of the different yields and composition.