

A review of literatures related of using kenaf for pulp production (beating, fractionation, and recycled fiber)

ABSTRACT

This paper reviews several empirical studies which highlight the using of kenaf for pulp production (beating, fractionation, and recycled fiber). Kenaf is a non-wood pulp source that is already used in parts of the world. Review studies showed that being a dicotyledonous plant, kenaf stem consists of bast and core fibers that are significantly different in chemical and morphological properties. Fiber properties directly influence pulping conditions applied in pulp and papermaking production. Kenaf fibers due to different nature and structure exhibit different behavior during pulping and papermaking. Core pulp due to presence of components with a high surface area coming from pith has low freeness and enhance susceptibility to refining action and pulp rapidly attains freeness value that are quite prohibitive for practical purposes. These short comings restrict the use of core pulp, which probably better used as unrefined. On the contrary, bast pulp refines easily and develops its strength. Due to difference in the quality of bast and core fiber, some researchers have proposed to fiber separation and pulping of each fraction separately and using each pulp lonely or blending refined bast pulp and unrefined core based on final product properties. These review results showed that, there is promised to use of kenaf as whole stem (bast and core together) for technical and economical advantages.

Keyword: Kenaf; Pulp production; Beating; Fractionation; Recycled fiber