

Short abstract proposal: Predictive paper property model for fiber furnish mixtures

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Current interests are to substitute wood fiber in paper products with nonwood fiber such as bamboo, bagasse or fiber from agricultural wastes like corn stover or wheat straw. Scenarios are to substitute proportions of standard fiber with non-wood fibers which, despite the advantage of being alternative to wood, may compromise product quality and the economics of production. The proposal here is to use compile various species and pulp type fiber property data as may be obtained from the literature or otherwise through measurement. Measurements would include zero span tensile, fiber length, fiber coarseness, scattering coefficient to infer the relative bonded area. Substitution of fiber properties weighted by variable mass fractions into models such as the Page equation would indicate what may be expected in relative mechanical paper properties for various furnish mixtures. This would be a useful contribution to have available fiber data and measurements compiled and contained in a compendium for reference and calculations.