Balanites aegyptiaca: A Multipurpose Tree Species for Forest-based Industry Development in Sudan

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ABSTRACT

Sudan is endowed with a great diversity of tree species, nevertheless the use of wood resources has traditionally concentrated on a few number of them. Despite the richness of Sudan in most basic factors required to establish forest-based industries, it still almost entirely depends on imports to satisfy its needs of the products of such industries like pulp, paper, fiberboard,…etc .The present study was carried out to investigate some wood properties of Balanites aegyptiaca and to assess its suitability for pulp, paper and flooring industries. The wood materials were collected from the Blue Nile, North Kordofan, South Kordofan and White Nile states. Some anatomical, physical and mechanical properties were investigated, and their results were used to determine the suitability of the selected tree species for pulp, paper and flooring industries. Fiber length, diameter, lumen diameter and double wall thickness were measured and the data were used to obtain the Runkel ratio, slenderness ratio and coefficient of suppleness (or flexibility coefficient). Wood density and hardness strength were determined. The results revealed that the wood anatomical, mechanical and physical properties of the study species may qualify it for pulp, paper and flooring industries. The results may encourage the establishment of such forest-based industry in Sudan. This would not only reduce imports, but it would also provide an economic incentive to the forestry and industrial sectors of Sudan.

Key words: Balanites aegyptiaca; forest-based industries; development; Sudan
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