

Diversity for Pulp and Paper Production Ability in Clones of *Casuarina equisetifolia*

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Abstract

Casuarina equisetifolia is grown traditional uses like in many tropical and sub-tropical countries providing excellent wood for charcoal and scaffolding. It is essential to explore further avenues to provide better options to growers to enhance their net income. The acceptability of casuarina wood based raw material for paper industries was therefore scrutinized scientifically. The basal wood logs of selected fifteen plus trees randomly were analyzed for various wood anatomical and pulping parameters to understand specific end uses with specific genetic reserve. In fact, ample variability in anatomical and pulping parameters were recorded and clones CPCE890108, CPCE890110 and CPCE890301 had high basic density and CPCE890110 contained maximum ash content of 2.48 %. The fibre length and diameter for tested clones were found to be in normal range of hard woods for pulp and paper production. The pulp ability of wood samples depended on A-B extractive and lignin content as higher quantity of lignin and A-B extract brought down pulp yield significantly. In fact, pulp yield in few of the clones was more than 50 % while the report therhold level is 47 %. Nonetheless, clones CHCE890201, CHCE890905, CHCE892604, CPCE890108 and CPCE893702 were found to be excellent raw materials for pulp and paper industries. However, Clone CPCE890110, with highest ash content with low screen yield and F.S. factor though may not be suitable for paper production, could *per se* be propagated and cultivated for production of quality charcoal and poles. The existing variability and genetic diversity from end use perspective need to be exploited appropriately which might even include slight shifting of breeding and improvement strategies accordingly.