

## **Clonal Variation in Growth, Form and Wood Density among Hybrids of *Casuarina equisetifolia* and *C. junghuhniana* in Southern India**

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### **Abstract**

Twenty six clones were selected from two progeny trials established with intra and inter-specific hybrid families of *Casuarina equisetifolia* and *C. junghuhniana* based on superiority in growth and stem straightness. They were field tested along with two clones each of parent species, a widely planted natural hybrid clone and a seedlot of *C. junghuhniana* at coastal and inland sites. At three years age, clones differed significantly ( $P < 0.001$ ) for height, diameter, stem straightness, bark thickness, wood density and wind-hardiness. Growth was better in the coastal site than inland site where trees showed higher wood density and thinner bark. At the coastal site six hybrid clones recorded 28 % to 55% more volume than the seedling accession which was the best among the control entries. All but three of the hybrid clones recorded better growth (11 % to 161 %) than the best control entry in the inland site. Among the different hybrid combinations, the mean growth performance of intraspecific hybrid clones of *C. junghuhniana* was the best. Most of the hybrid clones possessed straight stems similar to the popular clone. Wood density of hybrid clones ranged from 0.636 to 0.765 g cm<sup>-3</sup> in inland site and 0.569 to 0.671 g cm<sup>-3</sup> in coastal site. Volume growth and wood density were found to be positively correlated. In general, clones having *C. junghuhniana* at least as one parent possessed better wind-hardiness than rest of the accessions. Site-specific hybrid clones will improve wood production and reduce harvest period benefitting farmers and industries.