

Growth Performance of Clonal and Seedling Accessions of Casuarina in different Agro-climatic Regions of Tamil Nadu, India

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Abstract

Casuarina is an important fast growing short rotation tree species used as raw material by wood-based paper industries in India. *Casuarina equisetifolia* is widely grown in Tamil Nadu State mainly for pulpwood, pole, shelterbelt and biomass-based energy. In recent years, *Casuarina junghuhniana* Miq. is grown in the inland areas since it is moderately drought tolerant. TNPL is producing 6 million seedlings of *C. equisetifolia* and 1.5 million clonal plants mainly of the natural hybrid clone (TNFD CJ1) of *C. junghuhniana* x *C. equisetifolia*. In order to widen the genetic base of clonal plantations on-farm trials were conducted with TNFD CJ1, a new clone of *C. junghuhniana* developed by the Institute of Forest Genetics and Tree Breeding (IFGTB CJ9), two seedlots of *C. equisetifolia* derived from seed orchard and unimproved sources in different agro climatic regions such as Western zone, North West zone, North East zone, Cauvery Delta zone and Southern zone in Tamil Nadu. Farmers involved in this farm forestry program were trained to follow Precision Silviculture Management (PSM) for spacing, pruning, drip irrigation and fertigation compared to traditional farm practices. The biometric observations like total height and Diameter at Breast Height measured during 12, 24 and 36 months after planting were used for analysis. The study revealed that growth performance of Casuarina IFGTB CJ 9 clonal plantation was better than the widely planted clone and the seedling raised plantations in the studied agro climatic conditions.