

## Effect of Growth - Promoting *Treerich Biobooster* on Casuarinas

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### Abstract

Effect of *Treerich Biobooster*, made of organic biocompost like vermicompost, decomposed coir pith, vermiculite, effluent waste, decomposed green manure along with Plant Growth Promoting Rhizobacteria (PGPRs), Pink Pigmented Facultative Methylootrophs (PPFM), arbuscular mycorrhizal fungi, and Frankia was evaluated for its effect on the seedling growth of *Casuarina equisetifolia* L. and *Casuarina junghuhniana* Miq. Conventional soil potting mixture (sand, soil and farm manure) was used as control. Jartopha seed kernel cake and Aegle seed cake were also evaluated along with aforementioned biocomposts to develop a composite *Treerich Biobooster*. The inoculation of PGPRs, PPFM, AM fungi and Frankia significantly increased the germination percentage of casuarinas by 40-43 percent compared to conventional nursery practice. Nutrients such as carbohydrates, protein, chlorophyll, Ca, K, N, P Mg, S and organic carbon were found to be significantly increased in the treated seedlings when compared to control. The growth performance was found to be significant in terms of shoot length, collar diameter, biomass yield and survivability from 30 to 60 days after treatment which reduced the use of chemical fertilizers. The combined effect of bioinoculants with organic biocompost significantly increased the germination percentage, survivability and biomass yield which are considered as performance indicators of quality planting material. This may be due to the bioinoculants which can mobilize the nutrients from the substrate into the plants in usable form. Application of seed kernel cakes drastically reduced the pest incidence. Hence, the organic biocompost product, *Growth Promoting Treerich Biobooster* may be considered as a potential potting media as an alternate to conventional soil, sand, FYM mixture for production of healthy quality planting stock of Casuarinas.