

Evaluation and Biochemical Characterization of Bark Feeder Tolerant/ Resistant Candidates of Casuarina

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Abstract

Casuarina equisetifolia Forst. is an important multipurpose tree species mainly grown for fuel wood and pulp wood. It plays a major role as a windbreak and shelterbelt along coasts in several tropical countries including India. Casuarina has been extensively grown in short-rotation plantation by farmers and paper-based industries. Insect pests, native as well as invasive, infesting tree species leading to outbreaks in plantation areas have become a regular event. Casuarina is highly susceptible to bark feeding caterpillar *Indarbela quadrinotata* (Lepidoptera: Metarbelidae). Girdling by the larvae makes the stem weak and consequently the poles break at the point of infestation. Provenances tolerant/resistant to *I. quadrinotata* were identified and grown in a bark feeder-prone area to assess the growth and pest incidence. Based on the studies conducted in farmer's field, a few provenances and landraces showed better growth compared to local casuarina and were observed to be free from the pest infestations. The present study attempts to correlate the levels of bark feeder resistance in clones/provenances of casuarina to the qualitative and quantitative variation in the chemical composition of their bark besides volatile profiles interfering with the behavioural modulations of bark feeder.