

The Effect of Media Types and NAA Concentrations on Agarwood (*Aquilaria malaccensis* Lamk.) Shoot Development in In Vitro Culture

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Abstract	<p>Agarwood (<i>Aquilaria malaccensis</i> Lamk.) is a forest product commodity with high economic value, but its availability in nature is decreasing due to deforestation and overexploitation. The availability of high-quality seedlings is necessary to meet the demand and conserve the sources of agarwood plants. Therefore, this study investigates the interaction effect between media types and 1-Naphthaleneacetic acid (NAA) concentrations on agarwood shoot development. It also aims to determine the best medium type and NAA concentration to stimulate agarwood shoot development. This research had two stages, namely the shoot induction and development. The shoot induction stage was conducted experimentally, using a completely randomized design (CRD) on a factorial treatment pattern of 2 factors i.e., the types of media and NAA concentrations. The shoots produced from the induction stage were cultured on Murashige-Skoog (MS) media with the same media types but without any NAA addition. Furthermore, the variables observed in both stages were the development of agarwood shoots, and the parameters measured included the number of shoots, number of leaves and shoot lengths. The results showed that the development of agarwood shoots was controlled by the type of medium used. Liquid MS medium supported with filter paper bridge produced the highest average number of shoots with 4.93 and 5.87 shoots explants⁻¹ and length at 3.25 and 3.64 cm explant⁻¹ in the induction and development stage, respectively. These findings will facilitate mass propagation of agarwood shoots, and in turn the availability of agarwood plantlets supports its conservation and production.</p>
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