Innovation of Artificial Tree Branches for Raising Lac Insects to Establish Sustainable Lac Resin Production

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Lac resin secreted from lac insects is one of the important commercial agricultures of Thailand as it can be used in many industries such as medicine and printing. Currently, farmers tend to cultivate lac insects on branches of Rain tree (Samanea saman). This causes wood damage, produce deterioration and impurity-laden lac resin, often leading to the demise of the lac insects. Therefore, this project aims to establish sustainable production of lac resin by cultivation of lac insects on artificial tree branches containing specific nutrient. The findings indicate that a 10% (v/v) concentration of soybean pulp juice, administered at 7 ml per stick per application serves as an optimal nutrient source, fostering growth of lac insects, resulting in longer insect lengths and yield 82 g of lac insets per stick. Moreover, cultivation conditions at 25 °C and 70-80% humidity resulted in the highest survival rate of the lac insets. Finally, it was found that lac insects grown on artificial tree branches exhibited a significantly higher amount of lac resin with a shorter life cycle compared to those grown on Rain trees.

Awards Won:
Fourth Award of $500