

**EFFECT OF GROWTH HORMONES IN THE *IN VITRO*
MICROPROPAGATION OF *Musa* sp. (BANANA)
CULTIVAR SABA**

ALLY SUZIANNA WILLIE WILLIAM

**BACHELOR OF SCIENCE (Hons.) BIOLOGY
FACULTY OF APPLIED SCIENCE
UNIVERSITI TEKNOLOGI MARA**

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ABSTRACT

EFFECT OF GROWTH HORMONES IN THE *IN VITRO* MICROPROPAGATION OF *Musa* sp. (BANANA) CULTIVAR SABA

Banana is one of the oldest fruits originated in the warm moist tropical Asia and it comes from the family of *Musaceae*. One of most planted types of banana planted in Sabah is Saba banana and it is planned to be widely produced and commercialized throughout Malaysia. Saba banana is a result of hybridization of *Musa acuminata* and *Musa balbisiana*. This study was carried out to determine the effect of growth hormones in the *in vitro* micropropagation of banana cv. Saba. Shoot and root apical meristem from three months old sword sucker were used as the explants. The explants were sterilized thoroughly and treated with two different types of hormone which is BAP + IAA as the synthetic hormone and coconut water as the natural hormone. A total of 18 replicates of MS medium treated with different concentration of coconut water (50 mg/L, 100 mg/L and 150 mg/L) and another 18 were treated with combination of BAP + IAA (2.0 + 2.0 mg/L, 4.0 + 2.0 mg/L and 6.0 + 2.0 mg/L), and the explants were cultured for four weeks. Among the different concentrations, 6.0 mg/L BAP + 2.0 mg/L IAA showed the best result where the shoot grown up to 0.2 cm for shoot apical meristem, while there are no growth for root apical meristem. Therefore, shoot apical meristem of banana cultivar Saba is the most viable for *in vitro* micropropagation techniques. Synthetic plant growth hormones (BAP + IAA) is the most suitable growth hormone for the growth of banana cultivar Saba, while coconut water is not a suitable growth hormone for the growth of banana cultivar Saba as there are no growth on both shoot and root apical meristem. The optimum concentration of synthetic plant growth hormones for *in vitro* multiplication of banana cultivar Saba is 6.0 mg/L BAP + 2.0 mg/L IAA. Therefore, it is recommended that for future research to use other types of growth hormones such as combination of BAP and NAA or IBA for *in vitro* multiplication of banana cultivar Saba.