

**SETTING OF LIGHTING DURATION AND VARIOUS BROWNING  
INHIBITORS ON THE GROWTH OF CAVENDISH BANANA  
PLANTLETS (*Musa acuminata* L.) SECARA IN VITRO**

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**ABSTRACT**

The development of *cavendish* banana cultivation has great potential due to high market demand in Indonesia. This study aims to examine the interaction between long-term irradiation treatment and various browning inhibitors, obtaining the best composition in *cavendish* banana plantlets in vitro. The research method used is a laboratory experiment method prepared with a two-factor Split Plot Design. The main plot is irradiation in the incubation room with irradiation durations of 24, 12, and 10 hours/day. The sub-plots were browning inhibitors, namely activated charcoal, *polyvinylpyrrolidone* (PVP), and vitamin C. Data were analyzed using ANOVA (Analysis of Variance) at a real level of 5% and further tested with Duncan's Multiple Range Test at the level of 5%. The results showed that there was an interaction between the long treatment of irradiation and browning inhibitors on the browning rate in *cavendish* banana plantlets. The duration of irradiation of 24 hours/day is best for the number of shoots, fresh weight, number of leaves, and amount of chlorophyll in *cavendish* banana plantlets. Vitamin C browning inhibitor 1 mg/L is best against the fresh weight of *cavendish* banana plantlets.

**Keywords:** *tissue culture, irradiation, browning, cavendish bananas*