THE EFFECT OF THE USE OF BIOSACA ELISITORS ON THE GROWTH OF ARABICA COFFEE SEEDLINGS *(Coffea arabica* L.*)*

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ABSTRACT

Arabica coffee (Coffea arabica L.) is a high-value plantation commodity that requires quality seeds to support plant productivity. One effort to increase seedling growth is through the application of Biosaka elicitor, which functions to stimulate plant physiological responses. This study aims to determine the effect of Biosaka elicitor concentration and application time interval on the growth of Arabica coffee seedlings and to determine the best treatment. The study was conducted at the Wire House and Seed Production Engineering Laboratory of Jember State Polytechnic from December 2025 to April 2026 using a two-factorial Randomized Block Design (RBD) with four replications. The first factor was the Biosaka elicitor concentration (10%, 20%, 30%, and 40%), while the second factor was the application interval (once a week and once every two weeks). The parameters observed included plant height, number of leaves, stem diameter, root length, fresh weight, total dry weight, and the ratio of dry weight of the shoot to the root. Data were analyzed using ANOVA and continued with the Least Significant Difference (LSD) test at the 5% level. The results showed that the concentration of the Biosaka elicitor significantly affected plant height, leaf number, stem diameter, root length, fresh weight, and total dry weight, but did not significantly affect the shoot-to-root dry weight ratio. The application time interval significantly affected leaf number, root length, fresh weight, and total dry weight. There was an interaction between the Biosaka elicitor concentration and the application time interval on the leaf number parameter. The 10% Biosaka elicitor concentration treatment with a biweekly application interval (P1M1) was the most efficient treatment and provided the best growth response in Arabica coffee seedlings.

Keywords: *Biosaka, elicitor, Arabica coffee, concentration, time interval, seedling growth.*