FOOD PLANT GROWTH AND PRODUCTIVITY STIMULATOR USING BIRD SOUND

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ABSTRACT

In the first year research, the frequency range values ??of stimulators from each sound source were produced, namely Anis Merah (3000Hz-3500Hz), Cendet bird (3000Hz-4000Hz), Ciblek bird (3000Hz-3500Hz), Cucak lio 3000Hz bird, bird Pecalang starch 3000Hz, Starling Suren bird (3000Hz-5000Hz), Cricket 4500Hz, Kacer Sumatra bird 3000Hz-3500Hz, Canary bird 3500Hz-4000Hz, kangang 5000Hz, bird Kutilang 3000Hz-3500Hz, Lovebird 4000Hz-5000Hz bird, Mozambican bird 3000Hz-4000Hz, bird Mozambigue 3000Hz-4000Hz, Murai Batu 3000Hz-4000Hz, 3000Hz orong, Pentet 3000Hz-4000Hz, and Pleci 3000Hz-4000Hz. Combined stimulators are produced from various sounds with various peak frequencies of several sound sources, namely the sound of Ciblek 3000Hz birds, Pentet 3500Hz birds, Lovebird 4000Hz birds, Crickets 4500Hz, and Lovebird 5000Hz birds. In this second year the study aimed to determine the effect of variations in sound intensity levels that have been characterized by peak frequency manipulation of the broad stomata openings of secondary crops with elliptical calculation models. This study varied the sound intensity level using Bio Harmonic Audio (ABH) technology. The frequency peak output from ABH is validated using FFT MATLAB R2014. Stomata of leaf of corn plant will be printed on plastic preparations that have been prepared and observed through a light microscope and NIS Elements Viewer. Measuring the length and width of the stomata openings using Raster Image 3.0. The length and width measurements were then analyzed using Microsoft Excel 2013 to calculate the area of ??stomata openings with elliptical calculation models and to use Origin Pro 8 to display the curve between the area of ??the stomata opening and the level of sound intensity. The results showed that the average growth of the final rice plants measured in the control and treatment plant groups was 119.58 cm and 124.7 cm, respectively, with a difference of 5.12 cm. The number of control plants and treatment tillers had the same number, namely 23 tillers. The productivity of the treated plants is better than the control plants seen from the yields of 96 m2 of paddy fields with a number of clumps of 3200 clumps for control and treatment plants respectively 129,324 kg and 178,254 kg. The difference in yield between the treated and control plant groups was 48.93kg. The percentage increase in the total productivity of the treated plant group was 37.8%.

Kata Kunci: Lovebird sounds, frequency, rice plants, plant growth, plant productivity