

**THE EFFECT OF APPLICATION OF INORGANIC FERTILIZER (NPK
PHONSKA) AND BIOLOGICAL FERTILIZER (M-BIO) ON THE GROWTH
AND YIELD OF CUCUMBER (*Cucumis sativus* L.)**

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ABSTRACT

Cucumber plants (*Cucumis sativus* L.) are a type of fruit vegetable that is preferred by all groups of people but their productivity is still relatively low. This study aims to determine the effect of the interaction between the dose of inorganic fertilizer (NPK Phonska) and the concentration of biofertilizer (M-Bio) on the growth and yield of cucumber plants. The method used in this study is a factorial group randomized design (RAK) with 2 factors and 3 replicates. The first factor consists of three levels of inorganic fertilizer (K) dose, namely k1 (NPK Phonska 100 kg/ha), k2 (NPK Phonska 200 kg/ha), k3 (NPK Phonska 300 kg/ha) and the second factor consists of four levels of M-Bio (H) biofertilizer concentration, namely h0 (without 0 ml/L of biofertilizer water), h1 (concentration of 5 ml/L of water), h2 (concentration of 10 ml/L of water), h3 (concentration of 15 ml/L of water) obtained 12 treatment combinations. The results showed that there was no interaction between the treatment of inorganic fertilizer dose (NPK Phonska) and the concentration of biofertilizer (M-Bio) on plant height, leaf area index (ILD), net assimilation rate (LAB), and plant growth rate (LTT), but for the number of fruits per plant, fruit weight per plant and fruit yield per hectare there was an interaction between the treatment of inorganic fertilizer dose (NPK Phonska) and the concentration of biofertilizer (M-Bio) on the number of planted fruits (fruit/plant), weight of cultivated fruit (g/plant) and fruit yield per hectare (t/ha). The results of the interaction tracking showed that in the application of inorganic fertilizer (NPK Phonska) of 300 kg/Ha, the addition of biological fertilizer (M-Bio) of 15 ml/L spurred an increase in cucumber yield by 6.78 tons/ha compared to no application of biological fertilizer. Furthermore, if inorganic fertilizer (NPK Phonska) is given as much as 200 kg/Ha, then with the addition of 15 ml/L of biological fertilizer (M-Bio) can spur an increase in yield of 6.36 tons/ha compared to the application of 10 ml/L.

Keywords: *yields, fertilization, NPK Phonska, M-Bio, cucumber.*