THE EFFECT OF INSECT POLINATOR VISITATION ON FLOWER DEVELOPMENT AND PRODUCTIVITY OF CHILI PLANTS

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ABSTRACT

Insect pollinators play a role in providing ecosystem service services to agricultural ecosystems. This is because many agricultural crops require insect pollinator services to increase their productivity. The purpose of this study is to find out; (1) any insect that acts as a pollinator for chili plants; (2) the influence of pollinator insect visitation on the development of chili plant flowers as an agricultural plant; and (3) the influence of pollinator insect visitation on the productivity of chili plants seen from the number and weight of fruit per plant. The study was conducted in the biology garden of the Faculty of Mathematics and Natural Sciences, UNY. This experimental study was designed with a factorial completely randomized design, namely the presence or absence of pollinator visitation. Each treatment consisted of 5 replicating plots, and each plot contained 4 potted plants each. The distance between the pots is 20 cm, while the distance between the plots is 1 meter. The independent variable is visitation of pollinator insects on plants, while the dependent variables are types of pollinators visiting, flower development (number of flowers per plant and age of flowers), and productivity of chili plants as agricultural crops, which are seen from the number of fruits and weight of fruit per plant . Observation of flower development is carried out as long as the chili plants flower. Retrieval of plant productivity data is carried out at harvest which includes the number of fruits per plant and weight of fruit per plant. As supporting data is the frequency and longevity of visit of insect pollinators. The results of the study, pollinator insects on chili plants are Trigona, Apis, Lasioglossum, and Camponotus all of which belong to the order Hymenoptera. The highest frequency of visitations is Trigona and Camponotus, while the highest longevity is Camponotus. The inhibition treatment of insect pollinator visitation affects the speed of the plants starting to flower and the age of the flower, ie the plants begin to flower more slowly and the flower blooms last longer than without inhibitory treatment. The inhibitory treatment of insect pollinator visitation also affected the speed of the plants starting to bear fruit, as well as the average number and weight of the fruit per plant, ie 2 months chili harvest slower, and the average number and weight of fruit per plant also tended to be lower than without inhibitory treatment

Kata Kunci: *visitation, insect pollinator, productivity of chili plants*