

***The Effect of Bioagent-Based Liquid Fertilizer Application on
Waxy Corn (Zea mays L. var. Ceratina)***

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ABSTRACT

One of the causes of low glutinous corn yields is infestation by the armyworm (Spodoptera frugiperda); this pest can cause up to 100% damage to corn plants. This study aims to analyze the effect of applying liquid fertilizer based on biological agents on the growth, pest infestation intensity, and yield of glutinous corn. The study was conducted in Tegal Gede Village, Summersari Subdistrict, Jember Regency, East Java Province (8°09'24"S 113°40'05"E) from July to November 2025. The study used two treatments: a control (100% chemical fertilizer without the addition of POC) and the application of liquid organic fertilizer (POC) based on biological agents combined with 50% chemical fertilizer. The observed variables included plant height, number of leaves, stem diameter, pest infestation intensity, cob weight, and the weight of 100 kernels. The data were analyzed using the Kolmogorov-Smirnov normality test and the homogeneity test, followed by the Mann-Whitney test or the independent-samples t-test, in accordance with the data characteristics. The results of this study indicate that the application of bioagent-based POC yielded better results compared to the control in terms of plant height at 28 to 35 days after sowing (DAS), number of leaves, stem diameter, pest infestation intensity at 42 DAS, as well as final yields in terms of ear weight and 100-seed weight. It can be concluded that biological agent-based POC has the potential to improve the growth and yield of glutinous corn by increasing nutrient availability as well as.

Keywords : *Sticky Corn, Bioprotectant, Amino Acids*