

Intensity of Leaf Spot Disease Attacks and Their Effects on Edamame (*Glycine max* (L.) Merrill) Yields in Two Different Planting Systems

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ABSTRACT

*Cercospora leaf spot is a symptom of damage on edamame pods, marked by the appearance of brown to black spots. Some pathogens from the genus *Cercospora* sp are known to infect parts of the edamame pod and cause spots on the pods. This study aims to analyze the differences in the intensity of bacterial leaf spot attacks and edamame crop yields between conventional farming systems and semi-organic farming systems. The study was carried out using a field comparison method with two treatments: T0 (conventional) with 100% inorganic fertilization, and T1 (semi-organic) with 50% inorganic fertilization supplemented with biofertilizer and amino acids. The variables observed included the intensity of bacterial leaf spot attacks, the number of pods per plant, the weight of pods per plant, and pod classification. The data were analyzed using an Independent Samples t-test for attack intensity, number of pods, and pod weight, while pod classification was analyzed using the Mann–Whitney test. The study results showed that the attack intensity of *Cercospora* sp. disease in the semi-organic treatment was 6.58%, which was lower than in the conventional treatment (10.82%). The edamame yield in the semi-organic treatment had an average of 42.48 pods per plant, higher than in the conventional treatment (36.04 pods), and a pod weight per plant of 101.93 g, also higher than in the conventional treatment (88.02 g). The percentage of empty pods in the semi-organic treatment was 2.51%, lower than in the conventional treatment (6.17%), while the percentage of pods with three seeds was 38.12%, higher than in the conventional treatment (25.29%).*

Keywords: *Cercospora sp, edamame, penyakit doreng, polong edamame*