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BIOLOGICAL CONTROL OF *PODOSPHAERA* SP., THE CAUSAL AGENT OF EGGPLANT POWDERY MILDEW DISEASE BY *ILLEIS CINCTA* (COLEOPTERA: COCCINELLIDAE)

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Eggplant, *Solanum melongena* L. is infected by many diseases, including powdery mildew caused by *Podosphaera* spp. (Family: Erysiphaceae), which seriously affects yield. The mycophagous coccinellids play an important role as biocontrol agents in controlling powdery mildew disease. The present study investigates the efficacy of the coccinellid beetle, *Illeis cincta* (Fabricius), in controlling powdery mildew disease in eggplant. The study was conducted at Meewathura farm, Peradeniya, Sri Lanka from December 2021 to April 2022. The 100 m^2 cultivation area had 76 one-square-meter plots, each with an eggplant. As symptoms of powdery mildew disease appeared on leaves, a survey was conducted to determine the abundance of associated coccinellid beetles. Randomly selected 16 plots were sampled twice a week for five weeks; both sides of all leaves from top to bottom of each plant were observed for symptoms. The number of infected and healthy leaves per plant per plot was also recorded. Plant disease incidence was determined using a disease index and severity scale. The abundance of *I. cincta* larvae and adults was quantified per plot. Identification revealed *Podosphaera* sp. as the causal agent of powdery mildew. During the flowering stage, *I. cincta* population density positively correlated to disease severity while disease incidence negatively correlated with *I. cincta* population density. *Illeis cincta* abundance is significantly higher ($p < 0.05$) in the voracious larval stage than in the adult stage and the larvae had more negative impact on the disease. Initially, the total abundance of *I. cincta* increased with time but started decreasing by the second week with decreasing disease severity. The present study revealed that *I. cincta* abundance was positively related to the damage severity of powdery mildew. Increase in *I. cincta* abundance with disease severity may lower further spread of the disease. Overall, *I. cincta* is a vital biocontrol agent to control powdery mildew disease on eggplants. Biodiversity enhancement within agroecosystems by conserving natural enemies will be an effective alternative for pesticide usage and managing pests/diseases in eco-friendly cropping systems.

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