

THE EFFECT OF BARRIER PLANTS ON REDUCING DISEASE DEVELOPMENT OF SHALLOT (*Allium ascalonicum* L.) IN COASTAL SANDY SOIL AREA

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ABSTRACT

Shallots are one of the main horticultural commodities prioritized for vegetable development in Indonesia's lowlands. However, their cultivation is constrained by plant diseases that reduce yield and quality. Intercropping shallots with corn may help suppress disease development by acting as a barrier. This study aimed to evaluate the effect of different corn planting times on disease incidence and severity in shallots. The experiment was arranged in a Randomized Complete Block Design (RCBD) with six treatments based on corn planting time and four replications. Diseased plant samples were collected using purposive sampling and analyzed at the Plant Protection Laboratory, Faculty of Agriculture, UPN "Veteran" Yogyakarta. Observed parameters included disease incidence, disease severity, trapped spore populations, spore identification, morphological characterization of pathogenic fungi, and AUDPC. Data were analyzed using ANOVA followed by Duncan's Multiple Range Test (DMRT) at a 5% significance level, while the relationship between spore populations and disease severity was evaluated using simple linear regression. The results showed that corn barriers and different planting times did not significantly reduce disease incidence or severity. Disease development was strongly influenced by airborne pathogen spores, except for Fusarium wilt caused by soilborne *Fusarium* sp.

Keyword : Corn, Disease, Intercropping, Shallot