

Potensi ekstrak kasar metabolit sekunder yang dihasilkan *Trichoderma asperellum* dan *Pseudomonas fluorescens* untuk pengendalian antraknosa pada buah kakao

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Abstract	Cocoa pod anthracnose is an important disease of cocoa and can reduce yields. Many attempts have been made to control anthracnose rot disease on cocoa pods but have not been successful yet. This study aimed to examine the potency of secondary metabolite crude extracts produced by <i>Trichoderma asperellum</i> and <i>Pseudomonas fluorescens</i> solely or in combination in controlling anthracnose rot disease of cocoa pods in the field at Silo Bonto Village, Asahan Regency, North Sumatera Province. The secondary metabolite crude extracts was prepared by the form of conidia or <i>T. asperellum</i> and <i>P. fluorescens</i> cells. A randomized block design was used to assessed four treatments i.e. <i>T. asperellum</i> + <i>P. fluorescens</i> , <i>T. asperellum</i> , <i>P. fluorescens</i> secondary metabolite crude extracts and control, which was repeated six times. The observation parameters were the percentage of healthy and diseased pods (anthracnose fruit rot). The results showed that the secondary metabolite crude extracts of <i>T. asperellum</i> , <i>P. fluorescens</i> , and <i>T. asperellum</i> + <i>P. fluorescens</i> reduced the number of diseased fruits by 94.71, 89.09, and 92.09% compared to the control respectively. The increasing of healthy fruits number in the application of secondary metabolite crude extracts of <i>T. asperellum</i> , <i>P. fluorescens</i> , and <i>T. asperellum</i> + <i>P. fluorescens</i> was 52.68, 54.20, and 54.18%, respectively.
Publisher Name	INDONESIAN OIL PALM RESEARCH INSTITUTE
Publish Date	2023-04-29
Publish Year	2023
Doi	DOI: 10.22302/iribb.jur.mp.v91i1.524
Citation	
Source	Menara Perkebunan
Source Issue	Vol. 91 No. 1 (2023): 91 (1), 2023
Source Page	87-95
Url	http://mp.iribb.org/mpjurnal/article/view/524/444
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