

EKSPLORASI DAN UJI VIRULENSI BAKTERI *Bacillus* sp. ENDOFIT JAGUNG TERHADAP PENYAKIT BUSUK PELEPAH JAGUNG

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Abstract	[EXPLORATION AND VIRULENT TEST OF MAIZE ENDOPHYTE <i>Bacillus</i> sp. AGAINST MAIZE SHEATH BLIGHT]. Capability of endophytic bacterial, effectivity, and its effect on <i>R. solani</i> . and on maize seedlings growth were investigated from April 2018 to January 2019. Exploration of endophytes bacteria in maize was taken from Banyumas Regency (Sumbang, Kembaran, Baturraden) and Purbalingga Regency (Padamara, Bojongsari, Pratin). Taking plant samples using Purposive Random Sampling and Diagonal Sampling methods. Completely randomized design was used in in vitro test with 16 treatments repeated twice. Completely randomized block design was used in in planta experiment with 5 treatments repeated 5 times. The treatment consisted of control, fungicide (mankozeb), and 2 isolates of endophytes bacteria performing the best in vitro result. Variables observed included characteristics of endophytic bacteria and pathogenic fungi, inhibition diameter, incubation period, disease intensity, incidence of disease, AUDPC, plant height, leaf number, root length, plant fresh weight, canopy fresh weight, and root fresh weight. Resultshowed that the exploration obtained 15 endophytic <i>Bacillus</i> sp. isolates. The PD A.4 and BK A.1 isolates werw able to inhibit the growth of pathogenic fungi in-vitro by 56.93 and 51.5%, respectively. The soaking treatment using BK A1 was able to reduce disease intensity by 59.377%, and AUDPC value 34.19%. Endophytic bacteria influence plant height, plant fresh weight, canopy fresh weight, and fresh weight of roots respectively as 89.17 cm, 126.06 g, 106.67 g and 19.4 g.
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