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The Occurrence of Clavibacter michiganensis subsp. sepedonicus on Potato in South Sulawesi, Indonesia

Authors : Baharuddin Patandjengi, A. Pabborong, T. Kuswinanti

Abstract : Bacterial ring rot caused by a gram-positive Coryneform bacterium Corynebacterium michiganensis subsp. sepedonicus is an important disease on potato crops in the world. The disease still belongs to an A1 quarantine pathogen in Indonesia, although it was found in West Java since 2013. The objective of this study was to know the presence of bacterial ring rot in four potato district areas in South Sulawesi. Infected samples were collected from potato fields and storage warehouses in Enrekang, Gowa, Jeneponto and Bantaeng districts. Potato tuber samples were cut and observed their vasiculer vessels and the bacterial ooze was used for isolation on Nutrient Agar and Nutrient Broth–Yeast extract medium. Bacterial isolates were then morphologically and physiologically characterized. A patogenicity test on eggplant and molecular characterization using PCR with specific primer for Cms (50F and Cms 50 R) was revealed for further identification. The results showed that Cms has become widespread in four districts of South Sulawesi. The bacterial ringrot disease incidence in these districts was reached above 30 %. All of 14 bacterial isolates that identified before using standard methods of EPPO, showed DNA band in size of 224 bp in PCR test, which indicated positively belong to C. michiganensis subsp. sepedonicus.

Keywords : bacterial ring rot, clavibacter michiganensis pv. sepedonicus, PCR, potato
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