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Selection And Potential Testing Of Dark Septate Endophyte (Dse) Fungi As A Growth From The Roots Of The Rice Plant

Abstract. Dark Septate Endophyte (DSE) fungi are a group of endophytic fungi that have dark melanin hyphae, form dark-coloured colonies on CMA, and are able to colonise plant roots without causing disease symptoms. There have been no reports on the selection and testing of the potential of DSE fungi as a biofertiliser to stimulate the growth of upland rice, particularly in Central Sulawesi. This research aims to obtain DSE isolates from Central Sulawesi that have potential as biofertiliser by selecting DSE fungal isolates from upland rice plants. The initial stages of the research were the isolation of DSE fungi from the roots of upland rice plants, macroscopic and microscopic characterisation of endophytic dark septate fungi, pathogenicity tests and in vitro growth potential tests of endophytic dark septate fungi (DSE). In this study, the results of isolation and identification of DSE fungi from the roots of upland rice plants from Central Sulawesi showed seven, namely PDG1.5, PDG1.9, PDG1.11, PDG2.4, PDG2.5, PDG3. 3, PDG3.13 were declared non-pathogenic and have the potential to act as promoters, while 38 other isolates were declared pathogenic. Future research will involve field trials on Gogoh rice plants and it is hoped that the results of this research will provide initial information on the role of DSE fungi on Gogoh rice plants in overcoming abiotic stress due to drought.

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