

Characterization of a Phytotoxic Glycoprotein Produced by *Phoma eupyrena* – A Pathogen on Water Lettuce

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Phoma eupyrena, the causal agent of leaf blight disease of water lettuce, when purified by affinity and ion exchange chromatography produced an extracellular glycoprotein (Pe 65) in concentrations of $\sim 8 \mu\text{g ml}^{-1}$ in the stationary culture. Coomassie-blue stained SDS-PAGE analysis of culture filtrates and purified Pe 65 showed its molecular mass to be 65 kDa. The blighting and necrosis of leaf tissues were observed within 4–6 days when 1–5 μg of Pe 65 was injected into the mesophyll of water lettuce. These symptoms closely resembled those caused by foliar inoculation with the pathogen. Recognition of Pe 65 by N-glycosidase F treatment and by polyclonal antibodies raised in rabbit against the whole glycoprotein, strongly indicated that the protein is a highly glycosylated protein (50% carbohydrate) and that it is strongly enclosed by the antigenic glycosidic moiety.

KEY WORDS: *Pistia stratiotes*; *Phoma eupyrena*; phytotoxic glycoprotein; toxin; water lettuce.

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