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IN VITRO STUDIES IN THE QUEST FOR HERBICIDAL MYCOCHEMICALS

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Abstract

Common reed (*Phragmites australis* (Cav.) Trin. Ex Steud) is one of the most invasive cosmopolitan weeds, and its control is one of the important challenges in the world. The weed is expected to get more importance due to global warming, while the chemical control is difficult and accompanied with serious health and environmental impacts. Microbial herbicidal phytotoxins may be effective in low physiological doses and present a technically and economically more accessible alternative. Biochemical tests indicated the potential of an *Alternaria* isolate (P1) in the production of phytotoxins effective in the inhibition of photosynthetic system of common read leaf. The aqueous culture filtrate not only highly significantly reduced chlorophyll content of leaf discs but also exhibited the potential of disruption of electron transfer from photosystem II to I via the highly significant reduction of phaeophytin content. Also, the induction of hydrogen peroxide production was found as the most important criterion in the first step of screening of a numerous number of culture filtrates.

Key words: Alternaria sp., fungi, metabolite, *Phragmites*, photosynthesis, weed

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