EFFICIENT PROCEDURE FOR FUNGAL INFECTED POTATOES USING FTIR MICROSCOPY

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Abstract

Phytopathogens are responsible for severe plant diseases, and may cause serious problems in food production. Thus, early identification of these fungal pathogens plays a crucial role in devising effective control strategies. Currently, available methods for identifying fungi are often time-consuming and lack specificity. Fourier-transform infrared (FTIR) microscopy is considered a sensitive method for detecting molecular changes in cells. Due to the high similarity between spectra of different fungal pathogen species, this method becomes paramount to enhance fungal discrimination in potatoes. We evaluated three potential procedures for preparing pathogen samples for examination using FTIR microscopy. Our results show that direct preparation of fungal samples from liquid growth media is the optimal method for FTIR microscopy examinations, offering improved results in the discrimination of potato fungal species.

Keywords: *FTIR microscopy, phytopathogens, spectral characteristics, fungal detection, agar.*