

Confirmation of the Pathogen Causing Leaf Spot Disease on Cucumber (*Cucumis sativus* L.) in Taiwan using Morphological and Molecular Approaches

Ruvina Pramodi¹, Yu-Chung Chiang², Xiaolei Jin² and KL Wasantha Kumara^{1*}

¹Department of Agricultural Biology, Faculty of Agriculture, University of Ruhuna, Kamburupitiya, Sri Lanka

²Department of Biological Sciences National Sun Yat -Sen University Kaohsiung, Taiwan

Abstract

Leaf spot (*Corynespora cassiicola*) and anthracnose (*Colletotrichum orbiculare*) diseases are the most destructive diseases that infect cucumber in Taiwan. *Corynespora* leaf spot is often confused with other foliar diseases such as anthracnose and cannot be easily identified based on symptoms alone in the first instance. The study focused on pathogen identification based on, combined approach including symptoms on the plant, culture morphology, and molecular identification. Infected cucumber leaves were collected to obtain 480 isolates and their morphological characters were recorded. Molecular identification was done using PCR with two universal primers (ITS1 and ITS4). The cultural characteristics of isolates on potato dextrose agar (PDA) were occasionally similar to *Colletotrichum orbiculare*. However, conidial morphology of isolates was more similar to *Corynespora cassiicola*. National Centre for Biotechnology Information (NCBI) database showed that all tested isolates corresponded to the genus *Corynespora*. It is concluded that all of the isolates obtained from diseased tissues of cucumber leaves in the study area (Pingtung farm) in Taiwan belonged to the fungus *Corynespora cassiicola*.

Keywords: Anthracnose, *Colletotrichum orbiculare*, *Corynespora cassiicola*, Leaf spot, Pathogen Identification.

***Corresponding author:** wasantha@agri.ruh.ac.lk