

Detection of *Elsinoë australis* in Japan

First detection of *Elsinoë australis* in Japan

- (1) In December 2012, some symptoms similar to Citrus scab, which is occurring in Japan, were observed on citrus trees in an agricultural experimental station, located in a city in Aichi Prefecture. By testing using PCR technique, *Elsinoë australis* (Natsudaidai pathotype), a fungal pathogen of Sweet orange scab, unrecorded in Japan, was detected from one sample of pomelo fruit.
- (2) For this reason, the infected tree and the rest of the same variety of pomelo (one tree) in the experimental station were incinerated.
- (3) In 2013, a survey was carried out in the city. The pathogens were detected from 3 fields in the experimental station and 4 citrus orchards in the city.

Summary of the survey in 2013

(1) Methods

Citrus fruits showing symptoms were sampled when they were not ripe. Fruits were collected from the fields in the experimental station as well as citrus orchards in the city. Laboratory tests were performed as follows:

- 1) Sections of lesion were soaked in water overnight for fungi to form spores. The spore suspensions were spread over solid media and cultured for a week or more.
- 2) Microcolonies having the characteristics of *E. australis* were picked for DNA extraction.
- 3) PCRs were performed using two sets of primers (one is specific to the species and the other is specific to the Natsudaidai pathotype). PCR products were electrophoresed to observe the respective specific bands (548bp and 578bp, Hyun et al., 2007).

(2) Results

The specific bands to the Natsudaidai pathotype of *E. australis* were detected from 8 trees (satsuma mandarin, navel orange and hybrid of natsudaidai and orange) in 3 of 17 fields (747 trees) in the experimental station as well as from plant parts (surfaces of fruits or leaves) of 8 mandarin trees in 4 of 6 citrus orchards (247 trees).

Description of host damage in Japan

In the survey, the Natsudaidai pathotype of *E. australis* was extremely rarely detected from fruits usually regarded as those with slight physical damage and no substantial damage as well as no economic loss was confirmed. In addition, any obvious symptom has not been observed after the inoculation of spores of the *E. australis* isolates detected in the survey to healthy fruits and leaves to confirm the influence on trees and fruits.

Reference literature

Hyun JW, Peres NA, Yi SY, Timmer LW, Kim KS, Kwon HM, Lim HC (2007) Development of PCR assays for the identification of species and pathotypes of *Elsinoë* causing scab on citrus. *Plant Disease* 91:865-870.

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