Disease Note

FIRST REPORT OF ASSOCIATION OF *SCLEROTIUM CEPIVORUM* WITH WHITE ROT OF GARLIC IN OMAN

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In the spring of 2014, a disease of garlic (*Allium sativum*) was observed in more than 30 plots in Jabal Akhdar (Sultanate of Oman), which was characterized by premature yellowing and wilting of the leaves followed by plant death. Upon uprooting, white cottony mycelium and black sclerotia were observed on the outer layer of the bulbs, roots and surrounding soil. The infection appeared to progress from the outer layers of the bulbs to the inner ones so as to involve the whole organ. Disease incidence ranged from 20 to 100%. On potato dextrose agar (PDA), fungal isolates with whitish/grayish mycelium and small-sized sclerotia typical of *Sclerotium cepivorum* were consistently recovered from symptomatic bulbs and roots. The sequence of the internal transcribed spacer (ITS) region of the ribosomal DNA (Al-Sa'di *et al*., 2007) of three fungal isolates using ITS1 and ITS4 primers produced in all cases a nucleotide sequence 510 bp long (accession Nos. GCC3471-73) which, when compared with sequences from database revealed 99.8% nucleotide similarity to a previously published sequence (accession No. FJ460433) of the garlic isolate H-292 of *S. cepivorum* from Hungary. The disease was reproduced in healthy garlic bulbs planted in inoculated soil with an incidence ranging from 30 to more than 65%. To the best of our knowledge, this is the first report of the association of *S. cepivorum* with white rot of garlic in Oman.

Al-Sa'di A.M., Drenth A., Deadman M., de Cock A.W.A.M., Aitken E.A.B., 2007. Molecular characterization and pathogenicity of *Pythium* species associated with damping-off in greenhouse cucumber (*Cucumis sativus* L.) in Oman. *Plant Pathology* **56**: 140-149.

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Disease Note

FIRST IDENTIFICATION OF CITRUS EXOCORTIS VIROID (CEVd) AND CITRUS DWARF VIROID (CVd-III) IN CITRUS ORCHARDS IN SYRIA

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Following the first finding of Hop stunt viroid (HSVd) in Syria (Abou Kubaa *et al*., 2011), a survey of citrus was conducted during the summer 2013 to investigate the presence of other viroids in the country. Leaf samples were collected from 65 stunted trees from four commercial orchards located in Lattakia and Tartous, the most important citrus-producing areas in Syria. Each sample consisted of young leaves taken from four sides of each tree. The samples were tested for the presence of Citrus exocortis viroid (CEVd) and Citrus dwarf viroid (CVd-III). Total plant RNAs were extracted from leaves according to Foissac *et al.* (2001), and used as templates for reverse transcription (RT)-PCR using specific primers for both viroids. PCR products of the expected size (297 bp and 370 bp) for CVd-III and CEVd, respectively, were cloned and sequenced. Furthermore, previously infected budwood from five infected citrus trees were graft inoculated onto an Etrog citron (*Citrus medica*) indicator plants and maintained in a temperature controlled greenhouse. Biological indexing evidenced mild epinasty, leaf curling and typical stunting symptoms, confirming the presence of viroids. Results of RT-PCR showed that 24 out of 65 samples were infected by citrus viroids, including ten and eight that reacted positively to CEVd and CVd-III, respectively, and six that showed mixed infection by both viroids. The retrieved sequences were deposited in GenBank under accession numbers LN681197 and LN681196 for CVd-III and CEVd, respectively. To our knowledge, this is the first molecular identification of CEVd and CVd-III in citrus trees in Syria.

AbouKubaa R., El-Khateeb A., D'Onghia A.M., Djelouah K., 2011. First report of hop stunt viroid infecting citrus orchards in Syria. *Journal of Plant Pathology* **93**: S4.63-S4.89.

Foissac X., Svanella-Dumas L., Gentit P., Dulucq M.J., Candresse T., 2001. Polyvalent detection of fruit tree Tricho,Capillo and Foveavirus by nested RT-PCR using degenerated and inosine containing primers (DOP RT-PCR). *Acta Horticulturae* **550**: 37-43.

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