Disease Note

FIRST REPORT OF *PECTOBACTERIUM CAROTOVORUM* SUBSP. *CAROTOVORUM* CAUSING SOFT ROT ON WATERMELON IN IRAN

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Iran is the 4th largest producer of watermelon (*Citrullus lanatus*) in the world. In 2012 a disease characterized by water-soaked lesions and soft rot was observed on mature and immature fruits of watermelon cv. Crimson sweet. Fruit samples with conspicuous symptoms were transferred to laboratory and bacterial colonies were isolated from these on nutrient agar. Hypersensitivity reaction (HR) assays (Bauer *et al*., 1994) were successfully done using 10^8 CFU/ml bacterial suspension into tobacco leaf epidermis. Bacterial isolates were Gram-negative, facultative anaerobes, able to soften potato slices and growing at 37°C. They were negative for oxidase, urease and sensitivity to erythromycin, positive for catalase, gelatinase and utilization of malonate and citrate. Isolates produced acid from lactose, cellobiose, raffinose and trehalose (Schaad *et al*., 2001). The pathogenicity of bacterial isolates was confirmed by injecting cell suspension (calibrated at 10^7 CFU/ml) in watermelon fruits. Symptoms developed on fruits 3 to 4 days post inoculation looking the same as those shown by naturally infected fruits. Control samples injected with sterilized distilled water remained healthy. A 16S ribosomal RNA fragment of 1100 bp was amplified from bacterial isolates and the partial 16S rRNA gene sequence was deposited in GenBank under the accession No. KF956742. Based on phenotypic characteristics and the 99.7% homology of 16S rRNA sequence to *Pectobacterium carotovorum* subsp. *carotovorum* (*Pcc*), the bacterium that causes water-soaked and soft rot of watermelon fruit was identified as *Pcc*. To our knowledge, this is the first report of soft rot caused by *Pcc* on watermelon from Iran.

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Received January 8, 2014
Accepted June 2, 2014

Disease Note

FIRST REPORT OF *CHERRY RASP LEAF VIRUS* INFECTING CHERRY IN SHANDONG PROVINCE, CHINA

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Cherry rasp leaf virus (CRLV, genus *Cheravirus*, family *Secoviridae*) may cause symptoms on cherry such as leaf distortion and enations on the underside of the leaves along the midribs, whereas limbs of infected trees might become bare near the base (Adaskaveg and Caprile, 2014). In 2002, CRLV was first reported in Liaoning Province based on the result of field survey, virus purification and electron microscope observations (Tan *et al*., 2002). Shandong province is one of the most important cherry production areas in China. During May and June in 2013, a survey was conducted for the occurrence of CRLV in a sweet cherry orchard in the countryside of Zoucheng city (Shandong). Although no characteristic CRLV symptoms such as leaf distortion and enations were observed, leaf samples were anyhow randomly collected from 20 cherry trees, each sample consisting of 10 leaves. These samples were subjected to RNA extraction and RT-PCR assay for amplifying the vp24 gene of CRLV RNA2 using primer pairs vp24F (5'-GGCCCTGACCCTTTTTCCTTTCATTTG-3') and vp24R (5'-GGTGTACTCAGCTTTGAGGGCTC-3'). DNA fragments of *ca.* 580 bp were amplified from 14 out of the 20 cherry leaf samples. PCR products of two randomly selected samples were cloned into pMD18-T vector (TaKaRa, Japan) and sequenced in both directions. Sequence alignment and BLAST analysis showed that the nucleotide sequences of both fragments were 100% identical to vp24 gene of a flat apple isolate of CRLV (GenBank Accession No. AY122330). To the best of out knowledge, this is the first report of the occurrence of CRLV in Shandong province based on molecular assays.

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Received February 5, 2014
Accepted July 1st, 2014