DISEASE NOTE

TOMATO MOSAIC VIRUS ON CUCUMBER AND POTATO IN IRAN

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During the growing seasons of 2010-2012, surveys of vegetable crops and potatoes were conducted in the central and southern provinces of Iran to detect tobamoviruses. Overall, 201 fields and greenhouses were surveyed and 1615 symptomatic leaf samples were collected. Leaf samples were tested by double-antibody sandwich enzyme-linked immunosorbent assay (DAS-ELISA) using specific antisera (Bioreba, Switzerland) produced against Tomato mosaic virus (ToMV). Results showed that 17.5% of the samples reacted to ToMV in DAS-ELISA. None of the samples collected from greenhouses were found infected with the virus. To confirm the presence of ToMV, 78 ELISA-positive samples were tested by reverse transcription-polymerase chain reaction (RT-PCR) using previously described primers designed in the coat protein gene (Letschert et al., 2002) and by sequencing. Amplicons of the expected size of ca. 0.75 and 0.80 kb were obtained by RT-PCR using primer pairs Tob-Uni1/ToMV Vspec and Tob-Uni1/Tob-Uni2, respectively. The nucleotide sequence of the coat protein gene of four representative ToMV isolates from tomato, eggplant, potato and cucumber was determined and deposited in GenBank as accession Nos. KC914397 to KC914400. BLAST analyses confirmed the presence of ToMV in these four vegetable crops and potato. This study indicated the prevalence of tobamoviruses, especially ToMV, in vegetable crops and potatoes in Iran. To our knowledge, this is the first report of ToMV on cucumber and potato in Iran. It is anticipated that our findings will help improve the quality of seed certification programs.


DISEASE NOTE

FIRST REPORT OF GUMMOSIS CAUSED BY BOTRYOSPHAERIA DOTHIDEA ON MANGO TREES IN GUANGXI, SOUTH CHINA

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Mango (Mangifera indica) is an economically important fruit crop in southern China, and gummosis is one of the most important of its diseases. Under severe conditions, the outer wood of branches cracks, and exudes a yellow to brown gum, and the whole plant declines. In June, 2012, symptomatic mango branches were collected in Guangxi province. On potato dextrose agar, isolates of similar morphological characteristics were consistently recovered, with 80% isolation rate from 45 surface-sterilized branch pieces. Conidia were hyaline, aseptate, and fusiform, and measured 18-28×4-6 μm. The fungus was identified as Botryosphaeria dothidea based on morphological characteristics (Lazzizera et al., 2008). The rDNA internal transcribed spacer region (ITS), the β-tubulin gene, and the translation elongation factor 1-α gene of one isolate (L15,) showed 99-100% identity to B. dothidea, (Gen-Bank accession Nos. GQ421485, JF441083 and HQ660485). Pathogenicity of three isolates was tested on three green twigs and three 3-year-old branches in mango orchards in Nanning (Guangxi). Three wounds were made for each location with a sterilized needle. Mycelial plugs were placed on the wounds and wrapped with parafilm. Two weeks later, typical brown lesions were observed on the branches, and gum exuded from infected tissues, but no symptoms were seen on controls inoculated with sterile agar plugs. Koch’s postulates were fulfilled by reisolation of B. dothidea from diseased branches. In China, the main causal agent of mango gummosis has been identified as Lasiodiplodia theobromae (Li et al., 2013). However, to our knowledge, this is the first report of B. dothidea causing mango gummosis in the country.

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