Disease Note

First reported occurrence of Coleus blumei viroid 3 from Coleus blumei in China

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Coleus (Coleus blumei) is an ornamental plant hosting several species of the genus Coleuviridae type member Coleus blumei viroid 1 (CbVd-1), family Pospiviroidae. CbVd-3, a recognized member of the family, has only been reported from Germany in 1996 (Spieker et al., 1996). According to their proposed rod-like secondary structure, the left portion of CbVd-3 is also preserved in CbVd-2 and CbVd-6, which are viroid chimeras (Spieker, 1996; Hou et al., 2009). Fifty leaf samples of coleus, including 30 from Beijing and five each from Tianjin, Nanjing, Fujian and Hainan (China), were collected from 2009 to 2010. Low molecular weight RNAs were extracted as previously reported (Li et al., 1995). RNA extraction from viroid-free coleus was used as negative control. Results of dot-blot hybridization using DIG-labeled CbVd-3 cRNA probe and RT-PCR using CbVd-3 specific primers (PF: 5’-CGGGTACCCAGCAACCT-GCT-3’; PR: 5’-TGGGTACCCGGAGGAGGC-3’) showed that one sample from Beijing and one from Hainan were positive for CbVd-3. Products of the expected size were amplified only from the hybridization-positive samples. After cloning, sequence analysis of five selected clones revealed that the similarities between the sequences we obtained and the CbVd-3 sequence reported previously (GenBank accession No. X57294) varied from 99.72% to 100%. The dominant sequence has been submitted to GenBank (accession No. HQ727548). These results provide experimental evidence that the two tested plants were infected by CbVd-3. To our knowledge, this is the first report of CbVd-3 from China and the only report of this viroid outside Germany.


Disease Note

First report of Alfalfa mosaic virus in eggplant in Turkey

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In May 2010, samples of field-grown eggplants (Solanum melongena) exhibiting virus-like symptoms were received from Manisa (western Turkey). Symptoms including distinct bright yellow to white mosaic or mottling (calico) appeared first on the oldest leaves and fruits were reduced in number and size. Leaf tissues from 10 symptomless and 35 symptomatic plants were sampled and analyzed by DAS-ELISA using commerical kits (Bioreba, Switzerland) to Alalfa mosaic virus (AMV), Cucumber mosaic virus (CMV), Tobacco mosaic virus (TMV), Tomato spotted wilt virus (TSWV), Tomato black ring virus (TBRV), Tobacco ringspot virus (TRSV) and Pepino mosaic virus (PepMV). All symptomatic plants were AMV-positive, and showed no reaction with the antisera to CMV, TMV, TSWV, TBRV, TRSV and PepMV. The presence of AMV was confirmed by RT-PCR using as template total RNA extracted by a silica capture method from fresh, symptomatic eggplant leaves (Foissac et al., 2001) and specific primers designed to amplify a fragment of the coat protein gene (AMVcoat-F: GTGGTGCGAGCTGGTAAA and AMVcoat-R: CACCCAGTGGAGGTCAGCATT; Martinez et al., 2004). A PCR product of the expected size (700 bp) was obtained from plants that were AMV-positive in ELISA. No amplification was observed from symptomless eggplant samples. RT-PCR and ELISA results were consistent with AMV being the causal agent of the field symptomatology. To our knowledge, this is the first report of natural AMV infection of eggplant in Turkey.
