



First report of *Pepper mottle virus* in sweet pepper in Cuba

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Sweet pepper (*Capsicum annuum*) has become one of the most important horticultural crops in Cuba in the last five years. During annual surveys in 2007-2010, a total of 600 leaf samples from sweet pepper plants showing symptoms of leaf mottle (Fig. 1), crinkling and dark green vein banding, leaf and fruit deformation (Fig. 2), and stunting, were collected from the main production areas throughout Cuba: Santiago de Cuba, Holguín and Las Tunas (eastern region), Villa Clara (central region), and Mayabeque and La Havana (western region). The samples were tested by DAS-ELISA using a polyclonal antibody to *Potato virus Y* (PVY) (Agdia, Elkhart, USA) with 470 samples (78 %) testing positive. Ten of the positive samples (selected from different regions) were analysed by electron microscopy and potyvirus-like particles were observed in all samples. Total RNA was extracted from 100 of the samples that had tested positive by ELISA. The samples were selected from different regions and used in RT-PCR with universal (PolyT/Poty 4) potyvirus primers (Truta *et al.*, 2004). Amplicons from two samples collected from each geographical region were cloned and sequenced. The amplicons were approximately 2000 bp in length, covering part of the *NIb* gene, the entire coat protein and the 3' untranslated region. The nucleotide sequences of the six clones were identical and one sequence was submitted to GenBank (JN222367). The sequences were analysed using BLASTn and shared 98% identity with *Pepper mottle virus* (PepMoV) (AF501591) and 93% identity with other PepMoV isolates (NC_001517, AY198312, AB126033 and M96425). To our knowledge this is the first identification of PepMoV in Cuba. PepMoV has been reported affecting pepper growing areas of several states of the United States (Zitter, 1972; Rodriguez-Alvarado *et al.*, 2002) and Central America (Nelson & Wheeler, 1978). In 2003, it was found in *C. annuum* in Japan (Ogawa *et al.*, 2003) and more recently in bell pepper in Taiwan (Cheng *et al.*, 2011). Further studies are required to fully characterise this isolate and determine its distribution and incidence.

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Acknowledgements



Figure 1



Figure 2

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