A Preliminary Survey on Plum Pox Virus on Cherry in Romania

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SUMMARY

Plum pox virus (PPV) is the casual agent of the Sharka disease, one of the most destructive diseases of the stone fruits in the world. Seven strains of PPV (D, M, EA, C, W, Rec and T) have been reported so far. Intensive research in the last years revealed that D, M and Rec are the most common strains. The other four minor strains have limited geographical distribution. PPV-C is the only strain known to naturally infect cherry. Presently, PPV is endemic in Romania, and causes serious yield losses especially on sensitive plum cultivars (Minoiu, 1997). Among PPV strains, D and Rec have been showed to occur in all plum growing areas of Romania (Zagrai et al., 2010). PPV-C was also reported in a few sweet cherry trees, in an orchard from Bistrita area (Maxim et al., 2002) which was promptly rooted out. To check if PPV-C occurred accidentally or persists, a survey, focused in Bistrita area orchards surrounding the initial plot where PPV-C was previously found, was conducted. Leaves showing diffused or ring chlorotic spots, but also asymptomatic leaves were collected from sweet, sour and wild cherry. A total of 340 samples were tested. Serological tests were done by AGDIA DAS ELISA system and molecular detection was mainly performed by IC-RT-PCR using hPPV(3’)NTR / cPPV(3’)NTR primer pair. Symptomatic and symptomless samples of cherries were also subjected to IC-RT-PCR by using P1/P2 primer pair. All samples tested proved to be negative, even samples that showed PPV-like symptoms. This preliminary survey revealed that the presence of PPV-C in Bistrita area was accidental and confirmed limited occurrence of PPV in cherry trees. Currently, cherry samples from other regions of Romania are tested.

Keywords: Sharka, PPV strains, cherry

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REFERENCES