Sanitary status of stone fruit industry in the Mediterranean countries: Malta

Gatt M., Merciega V., Ferrugia V.

in

Di Terlizzi B. (ed.), Myrta A. (ed.), Savino V. (ed.).
Stone fruit viruses and certification in the Mediterranean countries: problems and prospects

Bari : CIHEAM
Options Méditerranéennes : Série B. Etudes et Recherches; n. 19

1998
pages 59-60

MALTA

Marica GATT
Vanessa MERCIECA
Victor FARRUGIA
Departament of Agriculture
Plant Health Division
Lija (Malta)

The stone fruit production area in Malta is about 294 ha with production reaching 1,500 tons. Peaches contribute 73% of the production (Census of Agriculture 1990-1991). Plums and apricots are the other main stone-fruits grown locally. At present, all the production is for local consumption, but it is intended that in the future more emphasis will be made on production for export.

No report on the sanitary status of local stone fruit industry has ever been made. In 1997, a survey was carried out with the long-term purpose of establishing a local certification scheme based on EPPO recommendations. The main aim of the survey was to test for plum pox virus (PPV). Sharka symptoms have never been reported in Malta and specific quarantine controls were made to keep this disease at bay.

During this study more than a thousand stone-fruit trees were tested by ELISA for the five main viruses infecting stone fruits, namely Prunus necrotic ringspot (PNRSV), prune dwarf (PDV), apple mosaic (ApMV) and apple chlorotic leafspot (ACLSV) and plum pox (PPV) viruses.

Surveys were made in commercial stone-fruit holdings in the North West of Malta. The local peach varieties sampled indicated the presence of at least one virus. A high incidence of PDV (66% of trees tested) was revealed while the level of infection for ACLSV was 44%. PNRSV, ApMV and PPV were not detected in any of the samples tested.

The study was also extended to the mother plants and the varietal stone fruit collection present at the Departmental Nursery in Luqa. This nursery had been supplying growers with young plants for the past six years. A total number of 36 peach, 9 plum and 24 apricot varieties were tested corresponding to 240, 50 and 55 mother sources per stone fruit species respectively. High incidences of PNRSV were detected (31% in peaches, 71% in plums and 84% in apricots). Double infections were observed in 11% of the trees, the most common

combination being PNRSV + PDV. Triple viral infections were detected in 2% of the cases. Further serological tests were carried out on 250 stone-fruit rootstock mother plants, namely bitter almond and myrobalan. Virus infections were low in bitter almond trees (3% infected by PDV) but high in myrobalan trees with 89% PNRSV and 53% PDV.

A random survey of 300 peach trees from the varietal nursery collection detected 62% of infection by PNRSV, 10% by ApMV, 12% by PDV, and 10% by ACLSV. Results obtained from a survey of 150 apricot trees again showed a high incidence of PNRSV infection (51%) and ApMV (25%). PDV and ACLSV infections were low (3%) in apricot trees.

The laboratory tests were complemented by field inspections. Various virus-associated symptoms, such as low graft uptake, leaf mosaic, and leaf distortion, were frequently observed in the trees. These were in accordance with the laboratory tests. No symptoms encountered in the field could be attributed to PPV. Absence of PPV in the Maltese islands was further confirmed by ELISA and polymerase chain reaction (PCR), the latter being used whenever ELISA tests gave doubtful results.

Our results stresses the importance of establishing a certification programme, aimed at preventing virus introductions, especially Sharka, in Malta. This can be achieved through advisory work, careful selection of propagation materials and compulsory eradication of infected trees.