

Exocortis in the Citrus Area of Valencia

SILVERIO PLANES, FRANCISCO MARTI-FABRIGAT, CELIA FUERTES, JOAQUÍN GARCÍA, and MIGUEL APARICIO

SOUR ORANGE (*Citrus aurantium* L.) and sweet orange [*C. sinensis* (L.) Osb.] "comuna" varieties have been used exclusively as rootstocks for many years in Spain. The comparatively few old orchards on sweet orange rootstock are mainly on sandy soils. However, with the discovery of tristeza, the use of sweet orange as a tristeza-tolerant stock on suitable soils is increasing.

Because these two citrus species are symptomless carriers of exocortis virus, orchards in this area show no symptoms of the disease. However, according to recent tests as described here, the virus is present to a great extent.

Methods and Results

One hundred and eight trees without symptoms of psorosis were selected in certain orchards and each was indexed on 3 Rangpur lime (*C. limonia* Osbeck) and 3 trifoliolate orange (*Poncirus trifoliata* Raf.) seedlings. After 45 months of testing, 6 of the 59 Washington navel trees indexed for exocortis virus on Rangpur were negative and of 16 Valencia trees, 7 were negative. However, 3 navelina, 11 navelate, and 19 Salustiana sweet orange trees were all positive. Thus, 95 trees (88 per cent) of 108 tested were positive. The trifoliolate orange test plants are only now, at 45 months, beginning to exhibit bark scaling. Other trees were tested but are not described here because the tests have not run the full 45 months.

Conclusions

The navelate trees indexed were propagated from the original tree, and the Salustiana trees indexed are in one of the first orchards propagated from the original tree. Consequently, the results reported here suggest that the original trees of both varieties were infected with exocortis virus.

In the Valencia area, it is common practice to topwork trees with other varieties. This may have contributed to the high level of exocortis virus infection, 88 per cent, in the 108 trees tested. In view of this situation, it is obviously hazardous to bud exocortis-susceptible rootstock

varieties with varieties growing on symptomless stocks such as sour orange or sweet orange.

On the other hand, a high proportion (seven of eight trees tested) of the trees in one Valencia orange orchard were still negative after 45 months. These trees provide a source of exocortis-free Valencia orange for further research as well as commercial use.
