Vectors identification of phytoplasmas belonging to apple proliferation and stolbur groups in Spain

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Vectors and host plants of '*Candidatus* Phytoplasma pyri' and '*Ca.* P. prunorum' were studied in Spain. For '*Ca.* P. pyri' its vector, *Cacopsylla pyri* was identified, the vector population dynamics was determined as well as the percentage of infective individuals, and the transmission efficiency throughout the year (Garcia-Chapa *et al*., European Journal of Plant Pathology, 152, 432-437. 2005). In the case of '*Ca*. P. prunorum' its vector *C. pruni* was identified (Sabaté *et al.* Bulletin of Insectology, 60, 193-194. 2007). The cycle of *C. pruni* was studied during four years in wild *Prunus* (*P. mahaleb* and *P. spinosa*) and in commercial orchards of *P. salicina.* The populations reached two maximums, at the end of March (re-immigrant with the higher percentage of phytoplasma carriers) and in June, with inter-annual fluctuations *(*Sabaté *et al.,* XXI ICVF, 47. 2009*).*

The stolbur phytoplasma was identified in Spain in several woody and vegetable crops. In grapevine areas a positive correlation between the disease incidence and the importance of *Hyalesthes obsoletus* populations was found, although these are always low (Sabaté *et al*., Bulletin of Insectology, 60, 367-368. 2007). The percentage of stolbur-bearing *H. obsoletus* individuals ranged from 20 to 100%. The study of stolbur isolates revealed the presence in Spain of two Tuf and three stol 1-H10 strains (Batlle *et al*., XVI ICGV, 190-192. 2009). In other areas with stolbur affected crops, *H. obsolethus* was not identified and other leaf and planthoppers were identified as potential vectors. Transmission was obtained to different plant species with *Macrosteles quadripunctulatus* (Batlle *et al*., Annals of Applied Biology, 152, 235-242. 2008). Transmission assays to insect feeding medium and to *in vitro* plants showed transmission with several leafhoppers (Laviña *et al*., XV ICGV, 218-220. 2006).

The objectives for the next years are to continue the studies on transmission of different stolbur isolates by *H. obsoletus* and by other plant and leafhopper vectors. Epidemiological studies on '*Ca*. P. mali' with identification of the vectors and host plants will be started.