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Analysis of the resistance to PPV in a F1 progeny derived from the apricot cultivars 'Goldrich' and 'Moniqui' - Identification of the QTLs involved

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Within the framework of the SharCo project, the genetic factors controlling resistance to PPV in the apricot 'Goldrich' cultivar were investigated using a F1 progeny. The aim was to complete our knowledge on the genetic determinism of the resistance carried by 'Goldrich' and to compare it with other apricot resistance sources.
A progeny of 180 hybrids derived from a cross between 'Goldrich' (resistant) and 'Moniqui' (susceptible) has been maintained and two genetic maps composed of 120 and 94 SSR markers widely distributed throughout the genome were then constructed for 'Goldrich' and 'Moniqui', respectively.
Concurrently, the susceptibility *vs* resistance to sharka disease, after incoulation with PPV-M, was scored in an insect-proof greenhouse, on all the F1 seedlings, and the parents, using 5 replicates for each. The observations were performed during each vegetative cycle onto both the rootstock and the scion. They were completed by a systematic ELISA test. A minimum of 5 vegetative cycles were conducted for each genotype.
The data obtained are consistent with those reported in previous studies on 'Goldrich' or other resistant cultivars. However, while 'Goldrich' carries a major resistant factor located on LG1 which is associated with symptom intensity and localization, an additional QTL was detected on LG7 and found associated with the so-called latency period, defined as the period (expressed in number of vegetative cycles) before the inoculation and the appearance of the first symptoms. 'Moniqui' carries two susceptible factors located on LG2 associated with the latency period before symptom appearance and the persistence of the observed symptoms.