

**AN INSIGHT IN SOME POPULATION FEATURES OF  
*XANTHOMONAS ARBORICOLA* pv. *JUGLANDIS*. D. Giovanardi<sup>1</sup>,  
D. Dallai<sup>1</sup>, S. Bonneau<sup>2</sup>, M. Le Saux-Fischer<sup>2</sup>, C.**

**Manceau<sup>2</sup> and E. Stefani<sup>1</sup>.** <sup>1</sup>Dipartimento di Scienze Agrarie e degli Alimenti, Università di Modena e Reggio Emilia, Via Amendola 2, 42122 Reggio Emilia, Italy. <sup>2</sup>Plant Pathology Department, UMR PaVé-INRA Angers, France. E-mail: d\_giova81@yahoo.it

*Xanthomonas arboricola* pv. *juglandis* (*Xaj*) is the causal agent of bacterial blight of walnut, an emerging disease, which has the potential to severely affect walnut orchards. An Italian strain collection of *Xaj*, obtained during the past 3 years from affected orchards in Romagna, was first assayed with conventional PCR with XajF/XajR primer pair developed to confirm strain identity. The population structure of the collection of *Xaj* isolates, confirms the presence of different genetic groups identified by rep-PCR (using the REP, BOX and ERIC primers) and by multilocus sequence typing (MLST) and multilocus variable number analysis of tandem repeat (MLVA). *Xaj* and *Xaj*-like bacterial isolates from the Italian collection are currently being analysed by MLSA (multi locus sequence analysis), using 7 primers for 7 different housekeeping genes, with the purpose to better characterise the Italian isolates for phylotyping. The study of copper resistance on a wide collection of over 150 *Xaj* strains frequently showed high resistance (up to 500 ppm Cu<sup>++</sup>): two strains have been further studied confirming the presence of chromosomal genes *copA* and *copB* involved in the general *copABCD* copper resistance structure, as described for *Pseudomonas syringae*. Sequencing and comparing with other *Xanthomonads* were done. The elucidation of *Xaj* population structure may help to deeper investigate some additional aspects of the molecular epidemiology of the disease, thus allowing a better control strategy in the field.