

A TRANSCRIPTOMIC APPROACH TO UNDERSTAND INDUCED RESISTANCE TO BACTERIAL CANCKER OF STONEFRUITS ELICITED THROUGH TREATMENTS WITH COPPER GLUCOHUMATES. D. Dallai¹, L. Dondini² and E. Stefani¹.

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Bacterial canker of stone fruits, caused by *Xanthomonas arboricola* pv. *pruni*, is a recurrent disease in Italian peach and plum orchards. Several field and glasshouse trials on peach and plum were done, with the aim to effectively control the disease by using some novel molecules, such as glucohumates. The most remarkable results were obtained with copper glucohumates (with a reduction of the disease by ca. 80%). Results are very promising and suggest the possibility to implement effective control strategies, where copper compounds and novel molecules are both used in commercial orchards. In order to study and understand the effect of the biomolecules used, untreated and glucohumate-treated peach plants were subject to further molecular analyses in order identify possible genes/sequences involved in the induction of disease resistance. A transcriptomic approach was developed for detecting the transcripts present in plant tissues, after elicitation of an induced protection state. Total RNA was extracted, retro-transcribed and c-DNA-AFLP was done to identify different sequence fingerprints in the protected plant tissue. Discrimination of newly expressed sequences was performed with DHPLC, and comparison of transcripts was done on the complete peach genome database in order to identify the genes or sequences involved in the elicitation of induced resistance. Preliminary data showed, in treated plants, the presence of nine putative genes like a putative senescence protein, already described as being involved in the induced resistance to fire blight in other Rosaceae. Thus, copper glucohumates might be considered possible candidates for the elicitation of resistance to bacterial diseases.