



## Candidate QTLs for durable resistance to *Melampsora larici-populina* leaf rust identified in hybrid poplars.

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### CANDIDATE QTLS FOR DURABLE RESISTANCE TO *Melampsora larici-populina* LEAF RUST IDENTIFIED IN HYBRID POPLARS

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*Melampsora larici-populina* is one of the main parasites affecting cultivated poplar stands in Europe. Selection for durable resistance has become a main target for breeders since previous selections for total resistance failed due to the adaptability of the pathogen. As part of a new breeding approach based on selection for partial resistance and for tolerance developed at the INRA, an interspecific *P.deltoides* x *P.trichocarpa* full-sib family (342 genotypes) is being characterised for these traits while a genetic linkage map is being constructed for the two involved parents (double pseudo testcross strategy). Several QTLs independently involved in the expression of partial resistance and tolerance have been identified in both parental genomes. Some of them appear to be highly relevant for selection as they explain more than 25% of phenotypic variation of tolerance and more than 50% of phenotypic variation of sporulation intensity. A validation of these QTL is being conducted in 9 other interspecific backgrounds.

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