



EVALUATION OF RESISTANCE TO *PLASMOPARA VITICOLA* IN A SELF-FERTILIZED SEGREGATING POPULATION FROM 'VILLARD BLANC' (*VITIS* SPP.)

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Plasmopara viticola is an oomycete pathogen that causes downy mildew in grapevine. This disease generates large economic impacts in grape producing areas and may result in partial or total crop losses. *Vitis vinifera* cultivars are highly susceptible to downy mildew, whereas cultivars resulted from crossings with North-American and Asian species exhibit variable levels of resistance. The purpose of this work was to evaluate the inheritance of resistance to downy mildew in a progeny generated by self-fertilization of 'Villard Blanc', known by its property to transmit the highest level of downy mildew resistance. Fourteen leaf discs of 1 cm diameter were excised from at least four leaves with a cork borer and plated onto wet paper in Petri dishes with the abaxial side up. The discs were sprayed with *P. viticola* inoculum suspension at 3×10^5 sporangia/mL and incubated at 22 °C with photoperiod of 16 h. In the growing cycles of 2010 and 2012, 71 seedlings were evaluated. The inoculum was obtained from *V. labrusca* leaves infected with *P. viticola* from local vineyards. Disease progression was monitored daily during 8 days after inoculation. The rating of plant reaction was scored according to the OIV452 descriptor. Individuals with score between 1 and 3 were considered resistant and individuals between 5 and 9 were considered susceptible. Resistance was observed in 54 individuals in 2010 and in 58 individuals in 2012. The resistance ability segregated as a Mendelian trait ($\chi^2=0.57$ in 2010 and $\chi^2=1.693$ in 2012) with 'Villard Blanc' being probably heterozygous for a major dominant allele (3:1) controlling the resistance. Our results provide additional evidence for the inheritance pattern to *P. viticola* in grapevine. Moreover, assessing the allelic variation at this locus in such population will allow the selection of resistant homozygous seedlings that may be used as resistance donors in a breeding strategy.

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