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PROMOÇÃO:



Inheritance of coffee leaf rust resistance and identification of AFLP markers linked to the resistance gene

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The most important disease of *Coffea arabica* is coffee leaf rust caused by the fungus *Hemileia vastatrix*. The purpose of this study was to characterize the inheritance of coffee resistance gene(s) to race II of this pathogen and to identify and map molecular markers linked to this trait. Different populations were used: F₂ (160 plants), BC_r (20), and BC_s (135), derived from a cross between the resistant genotype Híbrido de Timor UFV 427-15 and the susceptible cultivar Catuai Amarelo UFV 2143-236 (IAC 30). The segregation analysis showed that the resistance of Híbrido de Timor to race II of the *H. vastatrix* is conferred by a single dominant gene. The amplification of 176 AFLP (Amplified fragment length polymorphism) primer combinations using bulked segregant analysis (BSA) allowed the identification of three molecular markers linked to the resistance gene. Genetic mapping of these three markers in the F₂ population indicated that they are distributed on both sides, flanking the resistance gene. The markers E.CTC/M.TTT405 and E.CGT/M.TGT300 were found linked to the resistance gene at 8.69 cM, (LOD 18.91) and 28.00 cM (LOD 4.02), respectively, while E.CCT/M.TTC230 was localized on the other side of the gene, at 20.50 cM (LOD 6.15). These markers are the first rust resistance markers identified in Híbrido de Timor and can be useful for marker assisted selection in coffee breeding programs.

Key words: Coffee leaf rust, resistance gene, AFLP marker, Bulked segregant analysis

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