

ASSOCIATIONS AMONG FRUIT FIRMNESS, MORPHOLOGICAL TRAITS AND RAPD MARKERS IN 'FIRME' MUTANT OF TOMATO

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Cultivar Santa Clara is widely grown in the producing region of Viçosa (MG). Recently, plants with changes in some morphological and fruit post-harvest characteristics have been identified in this cultivar. The inheritance study and the allelism test carried out by Schuelter (1999) determined that a recessive gene with pleiotropic effects modifies the expression of morphological traits, such as the color of stigma and fruits, and the early leaf senescence. This gene was mapped on the tomato chromosome 10, in the region of the *lutescent-2* (*l-2*) gene. However, the questions concerning to the identification and location of genes that increase the firmness of 'firme' mutant fruits remain unknown. Therefore, the main objective of this work was to study the inheritance of morphological and firmness characteristics of fruits modified by the mutation using RAPD markers. Results demonstrated that the genomic region comprising the *l-2* gene increases the fruit firmness, explaining from 6,27 to 25,09% of the phenotypic variation for this trait along the 15 days-period of storage. The RAPD markers AS8₆₂₂ and AQ16₇₄₇ explained as reduced proportion of the phenotypic variation, as further each one was mapped from the *l-2* gene, indicating that the genomic region flanking the *l-2* gene increases fruit firmness due to the occurrence of linkage and/or pleiotropy.

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