

CYTOLOGICAL CHARACTERISTICS OF GEORGIAN GRAPEVINE GENOTYPES

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The results of investigation for cell parameters of 30 Georgian commercial cultivars and clones of grapevine are discussed in this work. The meristematic tissues of root contain dissimilar, small-size (length 16.1-19.7 μm , width 11.6-15.0 μm , nuclear diameter 4.2-6.0 μm) cells. The chromosomal number of somatic cells basically are diploid ($2n = 38$), but among those five tetraploid, triploid and diploid-tetraploid clones of Tsolikouri, Rkatsiteli, Saperavi and Gorula varieties were discovered. The process of Mitosis proceeds normally, having sufficient high activity of cell division (4.8-8.6%). The frequency of abortive cells is under the rules. It is dissimilar according to varieties (0.3-2.3%) and presents as in the pre-synthetic (G_1), as in the post-synthetic (G_2) phases of Mitosis. The pollen parameters of hermaphrodite varieties are diverse: length of air-dry pollen is 21.1-38.8 μm , width is 14.7-23.0 μm , and diameter of colored grains in carmine is 8.1-27.9 μm . They basically have three pores (67.6-98.3%). Pollen of female varieties is pore-less, but infrequently, three-pores pollen grains have been discovered (0.4-2.5%). Hermaphrodite varieties are high fertile (69.2-98.9%). Single number of fertile pollen ($0.6 \pm 0.4\%$) was reported among pollen of female varieties. Pollen germination varies among 40-90% and their vitality is 7-10 days. The number of stoma is 135-227 per 1 mm^2 of leaf. Their parameters are diverse according to varieties: length is 191-295 μm , width is 16.3-21.5 μm and number of chloroplasts per stoma is 27.8-21.5. The studied cytological parameters have ampelographic value and together with the phenotypic traits successfully can be used for characterization of varieties.

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