

Study of pollen morphology of some citrus cultivars

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In today's modern taxonomy pollen grain with its special characteristics is used as an important tool. This is possible to preserve pollen grains for a long period because of its hard shell. This is obvious that pollen storage period is depending on both genetic and environmental factors. Pollen shapes, size and pollen shell are different in various pollen genotypes. In addition fruit tree breeders use these pollen characters for cultivar identifications. Present research was carried out in order to study on external pollen grain shell (exine) of Yuzu, Shell-Mahalleh, Mohally-sweet orange, Mohally-mandarine and Siahvaraz-sweet orange using scanning electron microscopy (SEM). In this experiment polar and equatorial axis of pollen measured and recorded and photos prepared by SEM with 2000, 3000 and 10000 magnifications.

Results showed that the P/E ratio was in a range of 1.35 to 1.57. Polar axis of sour orange and Siahvaraz-sweet orange was 37.17 μ m and 29.93 μ m respectively. Equatorial axis of pollen of sour orange and Mahally-mandarin was 24.12 μ m and 21.02 μ m respectively. The result based on pollen's photo observations showed that studied pollens form oblong with tetracolporate type. This means that pollens have four furrows and pores are located on exine surface. Considering the first time observation and research on citrus pollen morphology the obtained results showed that there is a difference on pollen morphology among the studied cultivars. In conclusion this is possible to use this technique as well as obtained results on recording citrus genetic characteristics and cultivar identifications