

EFFECT OF STORAGE METHODS ON POLLEN VIABILITY OF SEVEN PISTACHIO CULTIVARS UNDER DIFFERENT PERIODS

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This study was conducted on seven pistachio cultivars to examine the effect of storage conditions on pollen viability and *in vitro* pollen germination at Maru Station Agricultural Research. Each pollen was stored in room temperature (24 °C±2), refrigerator (4°C) and freezer (-5°C) for 0, 1, 2, 3 and 4 weeks. Pollen viability was investigated by using different tests including 1% 2, 3, 5-triphenyltetrazolium chloride (TTC), IKI solution and safranin solution. In addition, *in vitro* germination medium was used to test pollen, which consisted of 1% agar, 15% sucrose and 100 ppm boric acid. The results showed that at all storage methods and periods, the cultivar Batouri had significantly the highest pollen viability under all tests, while the cultivar Marawhi had the lowest viability except in safranin solution where the cultivar Elemi had the lowest one. On the other hand, both cultivars Batouri and Ashouri had the highest *in vitro* pollen germination (42.9 %) and cultivar Elemi had the lowest (37%) germinability. Results of storage method indicated that pollen stored at room temperature had the lowest pollen viability by TTC (37.5%) when compared with frozen and refrigerated pollen for all cultivars and storage periods. In addition, *in vitro* pollen germination and viability were decreased significantly as storage period increases. This experiment showed a significant interactive effect of cultivar, storage method and period for pollen viability but not for *in vitro* pollen germination.

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