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## THE EFFECT OF LONG-TERM STORAGE ON QUALITY OF “VATIKIOTIKO” ONION

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### Abstract

In the present study the effect of long-term storage on “Vatikiotiko” onion in comparison to the “Sivan F1” hybrid. Dry bulbs of both genotypes were stored in two temperatures (5 and 25 °C) and 60-70% RH. During and after storage, weight loss (%), antioxidant activity, total soluble solids content, mineral composition and organic acid content were measured. According to the results, it was found that “Vatikiotiko” onion is suitable for long-term storage (at least 7 months) at both temperatures (5 and 25 °C), without significant weight loss and sprouting incidence, whereas for “Sivan F1” sprouting was observed after 5 and 6 months of storage at 25 and 5 °C, respectively. Total soluble solids content was not affected significantly during storage in both genotypes, whereas flavonoids content increased significantly only in “Sivan F1”. The rest of antioxidant activity parameters had similar responses in both genotypes and storage temperatures and either increased ( $\beta$ -carotene, reducing power) or decreased (TBARS). Regarding mineral composition, K content increased and Ca and Mg content decreased in both genotypes, whereas for the other mineral elements the responses differed according to the genotype. Organic acids content increased in “Sivan F1” during storage, whereas no significant changes were observed in “Vatikiotiko” onion. In conclusion, ‘Vatikiotiko’ landrace has a high potential for long-term storage, at either 5 or 25 °C.

Keywords: *Allium cepa* L.; antioxidant activity; organic acids; total soluble solids