

**Title** Short hypobaric treatment in combination with CaCl<sub>2</sub> improved storage life of strawberry fruits

**Author** Modares B., Ali A. Ramin and C. Ghobadi

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#### **Abstract**

The effectiveness of CaCl<sub>2</sub> and short period of hypobaric (LP) treatment, alone or in combination, to increase storage life of strawberry fruits, was investigated. In single treatment, CaCl<sub>2</sub> was applied by postharvest dipping at concentrations of 0 (control), 0.25, 0.5, and 0.75 mM; hypobaric (LP) treatments at 0.4 and 0.8 atmosphere were applied for 2 h. Untreated strawberry kept at normal pressure (near 1.00 atmospheres) was used as controls. Fruit quality and decay incidence was evaluated after 14 days storage at 1°C, followed by 24 h at 20°C. CaCl<sub>2</sub> and Hypobaric treatments applied alone significantly reduced fruit decay after 14 days storage at 1°C. Percentage of marketable fruits, fruit firmness, total soluble solid and vitamin C was superior in fruits treated by CaCl<sub>2</sub> or short period hypobaric treatments after 14 days storage. A combined treatment with 0.75 μM CaCl<sub>2</sub> and 0.8 atm was the best in controlling fruits decay and enhancing quality of fruits during storage. The results indicated that the combination of hypobaric and CaCl<sub>2</sub> treatment is a valid strategy for increasing the effectiveness of the treatment in controlling postharvest decay and improving strawberry fruit quality during storage.