

Title The effect of warm water treatments and recovery time on the induction of two heat shock proteins in avocado fruits

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Abstract

Local avocado fruits were treated by warm water at 36, 38, 40, and 42° for 5, 10, 20, and 30 minutes. Following heat treatment, fruits were allowed to recover at 25 ° for 2h. Heat shock protein 70 (HSP70) and small heat shock proteins (sHSP) in flesh of the fruits were analyzed by Western blots. Water temperature at 38°C for 20 min appeared optimal for the induction of HSP70. To induce the maximum sHSP production, fruits heated at 38° for 5 min was required. For obtaining the maximum production of HSPs, heated fruits were kept at 25° for 1, 2, 3, and 4h to recover. Results showed that the optimal recovery time for the production of HSP70 and sHSP was 3h and 2h respectively.