

Title Effect of acetyl salicylic acid on the quality and chilling resistance of sweet pepper (*Capsicum Annum* L.) at different storage temperatures

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Abstract

The effect of pre-storage treatments of acetyl salicylic acid (ASA) in three concentration (0, 0.5 and 1 mM) on chilling resistance, proline content and qualitative parameters of sweet pepper fruits, packaged in plastic (polythene) bags and stored at 2°C and 10°C, were evaluated at 0,8 and 21 days of storage period. The chilling resistance indices such as proline content, electrolyte leakage (EL) and chilling index (CI) and qualitative parameters were elucidated in the fruits of experimental sets and they were compared with that of control set. Fruits treated with ASA and stored at 2°C showed a significant ($p < 0.05$) delay in changes of weight, total soluble solids (TSS), pH, titratable acidity (TA) and shelflife compared to untreated control fruits. Chilling symptoms were more obvious in fruits that were stored in lower temperature with longer storage time as indicated by CI. ASA treatments led to accumulation of proline as well as storage time. Thus, it may be concluded that the ASA treatments (especially in 0.5 mM concentration) may ameliorate chilling injury, enhancing the keeping quality while retaining the nutritional quality of sweet peppers more than that of control fruits in both chilling conditions.