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Effect of pretreatments on the quality of minimally processed green bell pepper (*Capsicum annuum* L.) strips in polyvinyl chloride packages

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The changing lifestyle and growing concern towards healthy living has increased the fresh fruit and vegetable consumption. Production of minimally processed fruits and vegetables that retain high sensory quality as well as nutritional value plays an important role in the food manufacturing and retail industries. Minimally processed bell pepper strips in polyvinyl chloride (PVC) packages stored at 5-7 °C up to seven days were evaluated for physicochemical, sensory and microbiological quality. Bell pepper strips were treated with 1% sodium chloride, 1% calcium chloride, 1% sodium + calcium chloride, 1% ascorbic acid, 1% citric acid, 0.1% chitosan or distilled water (control) before storage. The pretreatments did not significantly affect the physicochemical properties (pH, titratable acidity (TA), total soluble solids (TSS) and weight loss) when compared to the control. The values ranged from 5.3-6.3 for pH, 0.2-0.3% malic acid for TA, 3-50 Brix for TSS and 0.22-0.77% in weight loss during analysis period. There was a decrease in all the sensory attributes evaluated during the storage period where appearance, colour, odour, flavour, taste and overall acceptability data indicated that minimally processed bell pepper were satisfactory by day 7. The total plate count (TPC) ranged from 4.99 – 6.57 log₁₀ CFU/g by day 7. Yeast and mould count recorded very low values compared to TPC, which ranged from 0-3.38 log₁₀ CFU/g by day. Salmonella was not detected in any of the treatments or control. As pretreatments had no drastic effect on physicochemical properties, sensory property values were satisfactory by day 7 and the microbial counts were within safe to consume limits, minimally processed bell pepper strips in PVC packages could be recommended to be sold at supermarket chains where cold storage (5-7 °C) facility is available.