Effect of different postharvest chemical treatments on ethylene production, respiration rate and vital heat of stored broccoli heads

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Abstract

The present study was conducted to investigate the effects of two concentrations of each chemicals viz., 6-Benzylaminopurine (6-BAP) (0.0025 and 0.005%), calcium chloride ($CaCl_2$) (0.05 and 0.10%), ascorbic acid (0.5 and 1%), potassium permanganate ($KMnO_4$) (0.5–1 g) and distilled water (assigned as control) on postharvest response of broccoli heads stored under ambient (20 ± 2 °C and 55 ± 2% RH) and refrigerated (4 ± 1^0c and 85 ± 2% RH) conditions. The experiment results suggested that the most pronounced effect was under 6-BAP treatments (i.e. 0.0025 and 0.005%) which reduced the respiration rate, liberation of ethylene, and vital heat in treated broccoli heads under ambient and refrigerated storage when compared to other chemical treatments. Further, heads treated with 6-BAP resulted in delay in yellowing of broccoli florets and aided to increase in shelf life up to 5.5 days and 23.5 days under ambient and refrigerated conditions, respectively.