Abstract

Peeled onion and green Pak Choy (GPC) was treated with different sanitizing agents: 150 ppm hydrogen peroxide (HP), 100 ppm chlorine (from sodium hypochloride) (CHL) and distilled water (as control A). After washing, the sample was pre-conditioned at different temperatures (2°C and 5°C) for 20 hr. Minimally processed onion and green Pak Choy without pre-conditioning (processed immediately after washing) were used as control B. After 20 hr, the pre-conditioned samples were removed from cold room for minimal processing. The processed samples were packed in polypropylene (PP) container and stored at 2°C for 30 days. Physical and chemical analyses were carried out daily for samples kept at room temperature and every 3 days for samples stored at 2°C. Washing treatment showed more beneficial effect in MP green Pak Choy but not suitable for MP onion. Washing was able to reduce the CO_2 concentration and percentage weight loss and effective in maintaining chlorophyll content in MP green Pak Choy. In contrast, sanitizing agent caused an increase in CO_2 concentration, percentage weight loss and pH of MP onion. Pre-conditioning at 2°C and 5°C reduced CO_2 concentration, percentage weight loss and pH and maintained significantly the chlorophyll content of MP green Pak Choy. Pre-conditioning at 2°C showed a better effect on reducing CO_2 concentration of onion and maintaining ascorbic acid and chlorophyll contents in green Pak Choy as compared to samples pre-conditioned at 5°C. Pre-conditioned at 5°C showed a significant effect in reducing percentage weight loss and ethylene production rate of MP onion and pH of MP green Pak Choy. Hydrogen peroxide as sanitizing agent combined with pre-conditioning at 5°C was the best method of maintaining freshness and prolonging shelf life of MP onion and green Pak Choy from 20-25 days and 10-14 days, respectively.