Symbiotic impact of honey treatment and package atmosphere on quality retention and shelf life extension of jackfruit bulbs

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Abstract

This research work evaluates the synergistic effect of honey dip with vacuum(V-HB) and modified atmosphere packaging (MAP) of Ma-HB-(4%O_2/20%CO_2/76%N_2) and Mb-HB-(8%O_2/10%CO_2/ 82%N_2) on jackfruit bulbs shelf life at 4 °C for 16 days with air packaged(C-HB) samples as control and compared with untreated samples. Ma-HB samples resulted in reduced microbial growth of 5.21 and 1.61 log cfu/g for Total plate count (TPC) and yeast count, maximum retention of pH, weight-loss percentage(WLP), Total Soluble Sugar (TSS), texture with 4.63, 0.39%, 32.6°brix and 41.2 N, also lightness, hue and chroma of 53.2, 28.1° and 89.2 along with sensory score of 7.2 on day 16, followed by Mb-HB. The effect of only honey dipped or MAP packaged samples falls behind the combined effect of both in quality retention. Further vacuum packaged samples resulted more deterioration without honey treatment when compared with treated samples.