

Title Effects of different sanitizer along with modified atmosphere package on quality and microbial load of fresh cut carrot during storage

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Abstract

In this study effects of different sanitizer along with modified atmosphere package on quality and loads microbial of fresh cut carrot (*Daucus carota* 'Vilomorin') were examined. Treatments include disinfection with peracetic acid (concentration, 1 ml 1200 ml water), ozonated water (concentration, 1 ppm), thyme essential oil (concentration, 1000 ppm), control (washed with distilled water) and 5 time storage (4, 8, 12, 16 and 20 day). After disinfection with substances listed, amount of 250 grams slice carrots placed in package commodity of polypropylene with air condition include (5% O₂ + 5% CO₂ + 90% N₂) and packaged. After packaging, Packages stored in cold storage with temperature 4±0.5 °C and relative humidity 75%. Then every 4 day maintain in cold storage factors such as, titratable acidity, total soluble solids, ascorbic acid, total Carotenoids, Polyphenol oxidase activity, total yeast and mold count and total count of microorganisms were measured. According to results of this experiment, with increasing storage time factors such as titratable acidity, total soluble solids, ascorbic acid, total carotenoids and polyphenol oxidase activity were reduced. While factors such as total count of microorganisms and total yeast and mold count increased. The highest amount of vitamin C and total Carotenoids related to treatment with thyme essential oil. The lowest of polyphenol oxidase activity related to treatment with control. The lowest of total count of microorganism related to treatment with ozonated water and lowest of total yeast and mold count related to treatment.