Title Combined ozone and active oxygen treatment of tomatoes and bananas delays ripening and reduces quality

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Abstract

Green bananas and mature tomatoes were subjected to a combination of ozone and active oxygen or ambient air (control) treatment at 10°C for up to 25 days. Visual observation indicated that bananas stored in the active oxygen and ozone chamber remained greener than those stored in the control chamber after the first week of storage. Treated bananas retained significantly lower hue angle values than the controls in all three sites (top, middle and bottom) measured after 14 and 25 days of storage. Tops of the bananas exposed to ozone and active oxygen were still noticeably greener than control bananas when measured on day twenty-five, suggesting that the combination treatment was able to delay the ripening process. Also, fungal growth was visible only on the control bananas during storage. Decay indices calculated for tomatoes stored in ozone and active oxygen were 25% and 43% lower than those calculated for control tomatoes on days 14 and 25, respectively. More fungal growth was visibly apparent on control tomatoes than on treated fruit. The ozone and active oxygen treatment evaluated in this study provides a chemical free alternative for maintaining postharvest quality and is therefore of potential value to the produce industry.