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Ozone as a Useful Technology for Management of Postharvest Decay and Quality of Strawberry

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Abstract—*Increasing consumer health concerns has led to the decline in the demand of fungicide treated fruits and adoption of alternative eco-friendly techniques to reduce decay incidence and enhancement of postharvest storage life. Ozonation is one such potential clean technology to maintain fruit safety and quality that leaves no toxic residue in the fruits. Strawberry being a delicate fruit, is prone to microbial attack and rapid postharvest losses. The present investigation was aimed at reducing the microbial load, extending postharvest storage life and maintaining the quality of the strawberry fruits by application of aqueous ozone. To achieve this, strawberry fruits were exposed to aqueous ozone @ 0.1 ppm for 2 min. After air drying, the fruits were stored under ambient (25±2°C and 45-50% RH) and low temperature (2±1°C and 90% RH)conditions. A21% lower weight loss and 16% higher firmness of ozone treated fruits was observed as compared to control fruits. Also, fruits exhibited 15% lesser change in colour and 32% higher phenolic content as compared to untreated fruits. Nearly 27 % higher decay was observed in untreated fruits over the ozone treated ones. Application of aqueous ozone was thus able to extend storage life of strawberry fruits till 14 days under low temperature storage and 2 days under ambient storage conditions by controlling microbial decay and suppressing changes in the fruit quality.*

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