

# Postharvest quality of orange fruit as influenced by salicylic acid, acetic acid, and carboxymethyl cellulose coating

Sedigheh Amiri, Zeinab Nicknam, Mohsen Radi, Mehran Sayadi, Foroud Bagheri, Neda Karimi Khorrami and Elahe Abedi

Journal of Food Measurement and Characterization 15: 3912–3930. 2021.

---

## Abstract

In the present study, orange fruit was coated with 1 mmol L<sup>-1</sup> salicylic acid (SA), 10 g L<sup>-1</sup> acetic acid (AA), 5 g L<sup>-1</sup> AA + 0.5 mmol L<sup>-1</sup> SA, 10 g L<sup>-1</sup> AA + 1 mmol L<sup>-1</sup> SA, and 10 g L<sup>-1</sup> carboxymethyl cellulose (CMC) solutions to improve the postharvest quality of orange over 35 days of storage. The weight loss, decay, TPC, TAA, and mold injury increased and the AAC decreased throughout the storage time. The control showed the highest TSS, weight loss, decay, and mold injury and the lowest TA, *L*<sup>\*</sup>, and *b*<sup>\*</sup> values than the treated samples. Meanwhile, CMC, SA, and 5 g L<sup>-1</sup> AA + 0.5 mmol L<sup>-1</sup> SA showed the highest AAC, TPC, and TAA. The loss or increasing rate of AAC, TPC, TAA, decay, and mold damage followed a first-order kinetic model in most cases. The SA samples obtained the highest sensory scores. Overall, the application of SA, AA + SA, and CMC, particularly SA can be recommended for improving the postharvest quality of orange fruit.