

## Impact of UV-C Radiation on Melon Peel

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**Background & Objectives:** Melon is a fruit with high amounts of waste parts, particularly peel. Peel has a high content of bioactive compounds and its valorisation may be attained by developing strategies to transform it into more convenient forms that may be used as food ingredients. The goal was to assess UV-C radiation effect on microbiological decontamination and some quality characteristics (phenolics and antioxidant activity) of *Cantaloupe* melon peel, during refrigerated storage.

**Method(s) and Results:** Peel was inoculated with *Listeria innocua* (non-pathogenic surrogate of *L. monocytogenes*) used as indicator of UV-C treatment efficacy. Results demonstrated that 48.4 kJ/m<sup>2</sup> of UV-C radiation dose allowed 0.9±0.4 log<sub>10</sub> cycles reduction of *L. innocua*. After 13 days of refrigerated storage, UV-C treated peel retained total phenolics and antioxidant activity, while a significant antioxidant activity decrease was observed for untreated peel.

**Conclusions:** UV-C radiation is effective for low contaminated peel. However, complementary studies are needed to assess UV-C radiation effectiveness using different dosages or even combinations with other mild technologies.

**Significance and Impact of the Study:** Wastes are abundant sources of bioactive compounds, considered to be health beneficial. The impact of non-thermal processes on quality characteristics and decontamination is of main importance.

**Conflict of interest disclosure:** The authors declare no conflict of interest, in terms of scientific, financial and personal.

**Keywords:** Melon peel; *L. innocua*; UV-C radiation; Quality; Storage