

ELIMINATION OF *ESCHERICHIA COLI* ON LETTUCE BY USING OZONATED WATER

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Experiments were done with ozonated water to evaluate its efficiency in reducing the counts of *Escherichia coli* on lettuce. Before inoculation process, shredded lettuce samples were exposed to UV-treatment for 30 min (15 min for each side), to reduce the initial microbial load of the samples. Then lettuce samples were inoculated with *E. coli* cells to provide initial population of approximately 8 log CFU/g. In the study, instead of conventional ozone generators, ozo-pen technology, which uses portable ozone generators, was used to produce ozonated water from pure water at 15°C. Inoculated samples were treated with ozonated water (2 ppm) for 5, 10 and 15 min. Pure water washing was used as control treatment. Treatment of lettuce samples with ozonated water and pure water for 5, 10 and 15 min caused significant reductions in the number of *E. coli* ranging between 2.93-3.30 and 0.64-0.86 log CFU/g, respectively ($p < 0.05$). Processed lettuce samples were also evaluated by a sensory panel. For this purpose, appearance, texture, flavor as well as total acceptability of the samples were analyzed by using scoring test and no significant differences were found among the samples ($p > 0.05$). The results demonstrated that ozonated water is promising as an alternative in controlling microbial contamination, while allowed a satisfactory retention of sensory characteristics.

Keywords: Decontamination, ozonated water, *Escherichia coli*, lettuce, sensory quality

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