Title Effectiveness of stable ozone micro bubble containing water on reducing bacteria attached on the surface of selected leafy vegetables

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Abstract

Effectiveness of a novel developed sanitizer, stable ozone micro bubble containing water (ozone micro bubble water), on decontaminating inoculated *Escherichia coli* (*E. coli*) 0157:H7 or naturally attached bacteria on each of four kinds of leafy vegetable (lettuce, Chinese cabbage, spinach and cabbage) was evaluated. For the purpose of comparison, the effectiveness of gaseous ozone, chlorine water and distilled water also evaluated. Nearly one and two log CFU/g reduction of *E. coli* viable cells was observed after washing by ozone micro bubble water and chlorine water, respectively for all of tested leafy vegetables. No significant different of the effectiveness among ozone micro bubble water, ozonated water and distilled water. No reduction of viable cells was observed after exposure of leaves in ozone gas. The results shown above were same in the case of naturally attached bacteria. No significant difference of color and appearance among distilled water washing and other sanitizer treatments was observed. These results suggested that the effectiveness of surface decontamination of leafy vegetables by using ozone micro bubble water was limited.