

## **Enhancing the Safety and Quality of Strawberry using Electrolyzed Water**

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### **Abstract**

In the past decade, outbreaks of human illness associated with the consumption of fruits have increased in the world and many of these incidents were attributed to *Escherichia coli*, *Salmonella*, *Listeria*, *Shigella*, *Bacillus*, *Aeromonas*, *Clostridium* and *Campylobacter*. Many of these bacteria are naturally present in the soil and their presence on fresh produce is not rare. The Pathogen Reduction program of the United States Department of Agriculture Food Safety and Inspection Service (USDA-FSIS) recommends antimicrobial treatments as a method for reducing or inactivating pathogenic bacteria in foods. This paper will present the information on the efficacy of electrolyzed (EO) water as a non-thermal method to ensure the safety of strawberries and its effect on the quality of treated strawberries stored at 5°C for up to 13 days. Results indicated that EO water significantly reduced the *E. coli* O157:H7 on inoculated strawberries. Additional reduction of microbial population was achieved when EO water in conjunction with ultrasonication was applied. EO water treatment also did not show any negative effects on strawberry quality when compared to a tap water treatment.