

عنوان مقاله:

The Washing and Disinfection Efficiency of Leek in Reducing Aerobic Mesophilic Microorganisms and Escherichia Coli in an Industrial Plant in Shiraz, Southern Iran

محل انتشار:

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خلاصه مقاله:

Background: In Iran in recent years, the number of vegetable processing factories had an increasing trend. Therefore, quality of freshly cut vegetables has an important role in health that is dependent not only on the microbial flora of vegetables, but also on the hygiene of equipment and in the plant environment. This study investigated the effect of washing and packaging steps on reducing microbial contamination of freshly cut vegetables and has identified critical points during the production processes. Methods: Leek samples from different stages (raw material, washing tank, chlorine tank, ozone tank, centrifuge, chopping and packaging stage) were taken from the vegetable processing plant and transferred to the laboratory. Samples were evaluated for presence of aerobic mesophilic and Escherichia coli microorganisms. Results: In the leek vegetable plant, E. coli was shown to decrease to $0.7 \log \text{cfu g}^{-1}$. However, there was no significant difference between raw vegetables and final products regarding aerobic and E. coli microorganisms. Also, aerobic mesophilic bacteria showed a significant increase ($p=0.04$) between chopping and packing leeks and a significant decrease ($p=0.032$) between ozonization and centrifugation for E. coli. Conclusion: The processing steps in this plant had little effect on the reduction of aerobic mesophilic microorganisms and E. coli. Therefore, it is recommended to use a proper washing system and disinfectants, and also to pay attention to the cleanliness of tools and equipment in contact with vegetables.

کلمات کلیدی:

Leek, Vegetables, Escherichia coli, Aerobic mesophilic bacteria, Disinfection

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