

ABSTRACT

Leafy vegetables such as endive constitute an important part of a balanced diet. They are perishable products and can be contaminated throughout the food chain. Processing of leafy vegetables, including washing, may reduce the microbiological load of vegetables. Many studies have reported that chlorine, the most commonly used disinfectant agent in the food industry, fails to reduce the microbial load of fresh produce products and further more can adversely affect human health.

The aim of this study was to evaluate the appropriate concentrations of lavender and spearmint essential oils (EOs) and their mixture that do not affect the acceptability of endive, as well as their antimicrobial effect against four major food borne pathogens on fresh endive.

The results of this study indicate that the tested concentrations of EOs (0.001%, 0.01% and 0.1%) that did not adversely affect the organoleptic characteristics of endive resulted in a small but significant decrease of the microbial population of *S. aureus*, *L. monocytogenes*, *S. Enteritidis* and *E. coli*. Furthermore a decrease in endive's antioxidants and total phenolics was observed with the increase of the EOs concentration.