## Evolution of shelf life parameters of ready-to-eat escarole (*Cichorium endivia* var. *latifolium*) subjected to different cutting operations

Alessandro Miceli, Raimondo Gaglio, Nicola Francesca, Alessio Ciminata,

## Giancarlo Moschetti and Luca Settanni

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## Abstract

The present work was carried out to investigate the microbiological and physicochemical parameters of minimally processed escarole (Cichorium endivia var. latifolium) subjected to two different transformation processes, a classic ready-to-eat process (cut leaves, CL) and a process that excluded the cutting operation (entire leaves, EL) as control trial. Both trials were monitored during the refrigerated (4 °C) storage extended until 15 d. Total mesophilic microorganisms, total psychrotrophic microorganisms and pseudomonads were detected at the highest cell densities in all samples. The genotypic characterization of the dominating microbial populations resulted in the identification of six Gram positive and 34 Gram negative bacterial strains and five yeast strains. Species within Pseudomonas genus were found at the highest levels and showed the highest biodiversity among the bacterial community of both CL and EL trials. The most numerous groups were represented by Pseudomonas fragi, Pseudomonas grimontii, Pseudomonas marginalis and Pseudomonas poae. Among yeasts, Candida spp. and Rhodotorula spp. were identified. A lower weight loss and colour variation and a higher soluble solid content and ascorbic acid initial retention were registered for EL production, while nitrates content and titratable acidity were not affected by processing. The integrated approach based on the monitoring of several parameters showed how the overall quality of fresh cut escarole decreased over time.