Evaluation of some quality parameters of minimally processed white and violet-pigmented cauliflower curds

F. Licciardello, G. Muratore, G. Spagna, F. Branca, L. Ragusa, C. Caggia, C. Randazzo, C. Restuccia

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Abstract

The impact of minimal processing on the shelf life of White and Violet-pig-mented cauliflowers packaged in two different films was evaluated during refrigerated storage. White cauliflower was characterized by a weight loss around 8% after 5 days of storage in the perforated film, while the Violet-pigmented exceeded 22%. Packaging in the permeable film was effective at reducing the weight loss for both varieties to about 0.3%. The colorimetric analysis on racemes from both varieties did not reveal significant differences during storage, while important changes were observed on the cut surfaces of the White cultivar. Packaging in the permeable film allowed cauliflower, irrespective of the variety, to reach a steady-state O_2 level ranging from 11 to 13% and a CO_2 level of 8.5% after 72 hours. Although the initial mesophilic bacteria counts in both cultivars were high, all the analyzed samples were in compliance with the recommended microbial limits of total plate counts (8 log cfu/g). Count values for molds and yeasts reached the limit values (5 log cfu/g) after a few days of storage, especially for the White-type packaged in the perforated film, while a different behaviour was shown by *Enterobacteriaceae*, which evidenced a higher load throughout the considered storage period in samples packaged in the permeable film. The use of a non-perforated, permeable packaging determines a suitable atmosphere, limiting moisture loss. Violet cauliflower is more suitable for minimal processing due to a higher color stability on the cut surface area, however, microbial quality of raw materials represents a crucial aspect for the shelf life extension.