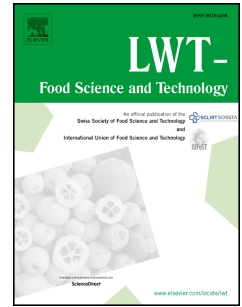


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Effect of cooking and packaging conditions on quality of semi-dried green asparagus during cold storage

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1 **Effect of cooking and packaging conditions on quality of semi-dried green**
2 **asparagus during cold storage**

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10 **ABSTRACT**

11
12 Ready-to-eat asparagus (*Asparagus officinalis* L.) is a tasty food with excellent nutraceutical
13 properties. In order to realize a new ready-to-eat product, in this study asparagus's spears were
14 cooked by blanching or microwave, and then dehydrated until they reached a weight loss of 25%,
15 and packaged in air or in modified atmosphere (30% CO₂ + 70% N₂). Sensorial, physico-chemical,
16 biochemical, and microbiological parameters were evaluated during a 30 days storage period at 4
17 °C. The microwave cooking proved to be the most effective method to preserve green colour,
18 improving the overall acceptability of the product. Moreover, the storage in the absence of O₂ and
19 in the presence of high CO₂ percentage was the most effective method to preserve phytochemical
20 composition, total antioxidant capacity, and hygienic quality. In conclusion, asparagus spears
21 cooked by microwave, semi-dried, packaged in modified atmosphere and stored at 4 °C for 30 days
22 retained their quality and sensorial properties.

23
24 **Keywords:** modified atmosphere packaging, sugars, phenols, antioxidant activity, microbial load

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