

REFORMULATION APPROACHES TO REDUCE THE USE OF NITRATES AND NITRITES IN RIPENED SAUSAGES

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Wastes and by-products from agri-food chain, such as olive leaves, may contain highly valuable bioactive substances. Several studies showed the positive impact of the addition of Olive Leaf Extract (OLE), rich of polyphenols, on the oxidative and microbial stability of several vegetable foods, while the application on meat-based products has been less studied.

In this study the addition of OLE to ripened sausages have been investigated in order to limit the amount of nitrates and nitrites, which cause the formation of N-nitroso compounds. Samples of sausages with different nitrates, nitrites and OLE ratios were produced and compared to a control containing the maximum levels of nitrates and nitrites admitted by Reg. (UE) n. 1129/2011.

The obtained results showed that the replacement with OLE did not affect the hygiene and safety microbiological parameters. Using OLE at the highest dose (800 mg/kg), alone or in combination with nitrates and nitrites at the lowest dose (75 mg/kg), did not cause any significant difference of moisture, pH, and a_w compared to control. The OLE addition further mitigated the pH increasement and positively influenced the textural parameters such as springiness and cohesivity. Colorimetric indices significantly depended on the addition of nitrates and nitrites, and yellowness was also influenced by the OLE. Accelerated oxidation stability tests highlighted the antioxidant effect of the extract.

Keywords: vegetable extract; by-products; additives; processed meat.

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