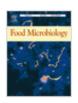


Food Microbiology

Volume 46, April 2015, Pages 507-514



Synergistic effect of gamma (γ)-irradiation and microencapsulated antimicrobials against *Listeria* monocytogenes on ready-to-eat (RTE) meat

https://doi.org/10.1016/j.fm.2014.09.013

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Highlights

- Microencapsulation was found to be an effective technology.
- y-Irradiation showed a synergistic effect with microencapsulated antimicrobials.
- Microencapsulated antimicrobials reduced the growth rate of Listeria monocytogenes.
- Microencapsulated cinnamon EO and nisin showed the best antimicrobial effect.

Abstract

Oregano essential oil (*Origanum compactum*; 250 µg/ml), cinnamon essential oil (*Cinnamomum cassia*; 250 µg/ml) and nisin (16 µg/ml) were used alone or in combination to evaluate their efficiency to inhibit the growth of *Listeria monocytogenes* on RTE ham. Microencapsulation of the antimicrobial formulations was done to verify the potential effect of the polymer to protect the antimicrobial efficiency during storage. Combined treatments of antimicrobial formulation with y-irradiation were done to verify