

# Properties of reformulated hot dog sausage without added nitrites during chilled storage

*Food Science & Technology International* (2016) 22, 21-30

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## Abstract

The aim of this study was to assess the effect of a complete nitrite replacement strategy using celery, carmine, sodium lactate and orange dietary fibre combined with vitamins C and E, on the quality characteristics (technological, sensorial and safety properties) of hot dog sausages (five samples) during chilled storage ( $2 \pm 1$  °C 60 days). Nitrite replacers (combined with vitamins C and E) presented antioxidant activity, reducing lipid oxidation in reformulated samples. At the end of storage redness ( $a^*$ ) was similar in the control sample (with added nitrite) and in the sample without added nitrite. Sensory evaluation detected no significant difference between samples with and without added nitrite. All the reformulated samples were judged acceptable by the panellists. At the end of storage, the control sample contained more than four times as much residual nitrite as the reformulated samples. Growth of presumptive *Clostridium perfringens* was not observed in any of the samples. Samples without added nitrite had longer shelf-lives than control sausage. Samples containing 0.1% vitamin C registered the lowest microbiological levels. This strategy could be a good alternative to reduce and/or eliminate added nitrite in hot dog sausages.