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Natural curing agents as nitrite alternatives and their effects on the physicochemical, microbiological properties and sensory evaluation of sausages during storage

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ABSTRACT

This study investigated the effects of different curing agents on the physicochemical properties, microbiological properties and sensory evaluation of sausages formulated with and without nitrite over 4 weeks of cold storage. Seven batches were prepared: control, sodium nitrite 0.01%; celery powder 0.8% (T1); fruit extract powder 0.6% (T2); purple sweet potato powder 0.45% (T3); fruit and vegetable extract powders 0.5% (T4); gardenia red 0.04% (T5); paprika and blueberry powder 0.07% (T6). T1 produced significantly lighter, redder and yellower sausages compared to control and had a higher color intensity (C^*) and hue (h). The residual nitrite ion concentration was the highest in the control and declined most rapidly in control, T1, and T2 during storage. The pH, thiobarbituric acid reactive substances (TBARS), volatile basic nitrogen (VBN) content, and total microbe counts were the same for T1 and the control. T1 received comparable sensory attributes as the control. These results suggest that

¹ The authors contributed equally as first author to this work

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