



Acceptability, nutritional and antioxidant properties of spice formulations based on *Coelocaryon oxycarpum* (Cox), ginger and pepper.

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ABSTRACT

Objectives: This study aims to carry out formulations of spices based on *Coelocaryon oxycarpum* (Cox), ginger and pepper then to determine the best formulations from the hedonic test, and to analyse the biochemical characteristics and the antioxidant properties.

Methodology and results: Cox, ginger and pepper spice powders were obtained by drying and grinding each spice. Powders obtained were used to make the formulations, and then hedonic test made it possible to select appreciated formulations. The proximate and antioxidant properties using standard analytical methods were then determined. The blend 1, 4, 6 and 10 were selected, the incorporation of 30% of ginger and pepper in the powder of the pulp of the fruit of Cox, has improved the nutritional characteristics and antioxidant properties. The blend 4 and 10 expressed the best free radical scavenging capacities DPPH.

Conclusion and application of results: Cox is aromatic plant with interesting nutritional characteristics. Four blend based on these spices, having the most interesting sensory characteristics, were selected by the panel of tasters. These are the blend 1: 100% Cox, Blend 4: 70% Cox and 30% ginger, Blend 6: 80% Cox and 20% pepper, and Blend 10: 70% Cox, 20% Ginger and 10% of pepper. The incorporation of ginger and pepper in proportions of 30% in the powder of the pulp of the fruit of Cox, has improved the nutritional characteristics and antioxidant properties of spice blends. These spice blends could be potential sources of protein, minerals, vitamins and natural sources of antioxidants easily accessible and beneficial to consumers. These spices could be recommended for seasoning dishes and as good sources of natural antioxidants. These formulations would be a good alternative for the nutritional management of people suffering from metabolic diseases like hypertension and diabetes.

Keywords: *Coelocaryon oxycarpum*, blend, pepper, ginger, antioxidants activities.