Proximate, physico-chemical, functional and sensory properties OF quinoa and amaranth flour AS potential binders in beef sausages

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Abstract

There is an increase in demand for sausages in developing countries, however, accessibility and cost of binders are a challenge. Amaranth and quinoa flours were evaluated for use as alternative binders to corn-starch. Proximate composition, functional and thermal properties of the flours were determined. Water holding capacity (WHC) and cooking losses of the sausages made with the flours as binders were also evaluated. To determine acceptability, sensory evaluation was carried out using a 9-point hedonic scale. Flours showed a significant difference ($p < 0.05$) on protein, carbohydrates, moisture, ash, and fat content. There were also significantly different on functional properties except emulsion stability and pH. Thermal properties of flours also had a significant difference ($p < 0.05$). Quinoa and corn-starch sausages were compared and amaranth aroma was disliked. As such, it was concluded that quinoa and amaranth can be used as alternative binders in sausage production.