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## The Use of Mee Oil (*Madhuca longifolia*) as a Fat Replacer and Its Effect on Physicochemical and Sensory Characteristics of Pork Sausages

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The use of animal fat with high saturated fatty acids and lipid oxidation cause a lower preference for processed meat products amongst consumers. Therefore, this study was conducted to develop pork sausages with Mee oil as a fat replacer and to evaluate its physicochemical and sensory properties. Bitter taste of Mee oil was considerably reduced by boiling Mee seeds with Moringa leaves while extracting oil. Antioxidant capacity measured by the Ferric Reducing Antioxidant Power (FRAP) method in Mee oil was 82.32 Fe<sup>2+</sup> equivalents ( $\mu\text{M/g}$ ). Different percentages of added fat (20%, 40%, 60 %, 80%, 100%) in pork sausages were replaced with Mee oil and the control sample was with 0% Mee oil. The physicochemical, sensory and microbial characteristics of prepared pork sausages were compared. Sausage samples were subjected to sensory, physicochemical and microbiological evaluations at 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> days of storage. The sensory panel did not detect any difference in any sensory attribute in pork sausages with 20% fat replacement compared to the control. Further, odour, taste, juiciness, and overall acceptability were not significantly ( $P>0.05$ ) different in 20% and 40% Mee oil incorporated sausages compared to control. The thiobarbituric acid substances values were significantly ( $P<0.05$ ) lower in 40%, 60%, 80% & 100% fat replaced sausages during 7 days of storage compared to control and 20% fat replaced samples. There were no significant ( $P>0.05$ ) differences in total plate count among all samples during the storage. However, colour values significantly ( $P<0.05$ ) high in Mee oil incorporated sausages compared to the control. In conclusion, it is possible to replace up to 40% of pork fat in pork sausages with Moringa leaves treated Mee oil without compromising consumer acceptability and lipid stability during storage.

**Keywords:** *Madhuca longifolia*, Pork sausage, Fat replacer, Antioxidant

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