

**DEVELOPMENT OF KURAKKAN (*Eleusine
coracana*) INCORPORATED LOW FAT CHICKEN
SAUSAGE**

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By

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ABSTRACT

The growing demand by consumers for healthier meat products is stimulating the development of meat products with reduced fat contents and/or altered fatty acid profiles. Low-fat or calorie products were originally developed for diabetics and people with specific health problems and they were considerably expensive. Nowadays, consumers' demand for low-fat or calorie products has significantly risen in an attempt to limit health problems, to lose or stabilize their weight, and to work within the frame of a healthier diet. This Product development for a low fat chicken sausage with Kurakkan was conducted with the aspects of improving the healthy value of meat products and to avoid the health complications associated with the meat and meat products.

This study was carried out to evaluate the physicochemical and sensory evaluation of low fat chicken sausage incorporated with Kurakkan, at Norfolk Foods (pvt) Ltd, Homagama. The research was conducted with three preliminary trials. First and the second trials were conducted to select the best treatment for the low fat control. At first trial four different treatments were prepared by replacing the fat content with water such as 13%, 11%, 9% and 7%. Treatment 3 and 4 were equally scored in the sensory panelists and the second trial was conducted by preparing three treatments of fat such as 9%, 8% and 7%. The sensory evaluation showed significance different in the treatment scores and the treatment with 9% fat had the highest mean scores from the Friedman non-parametric test analyzed by the MINITAB statistical package. The third preliminary trial was conducted to select the best amount of Kurakkan that can be incorporated into the sausage by replacing the cereal binder from 2%, 4%, 6% and 8%. The sensory panelists showed a significant difference in the treatments and the treatment with 2% Kurakkan and the control was found to be better in subjective measurements.

Treatment with 2%, 4% and control was subjected to the chemical and keeping quality analysis to select the best treatment. The results showed a strong relation between the chemical composition improvements with the addition of Kurakkan incorporation to the low fat chicken sausages. However, with the incorporation of Kurakkan into the different treatment showed that the moisture content has increased compared to the

control sample. This effect may be due to the effect of bulkiness in Kurakkan having caused for the absorption of more water. However, the microbial counts, pH and WHC were in the standard limits of the SLSI food standards. Nevertheless, Kurakkan incorporated treatments showed less springiness, chewiness and mouth-feel compared to the control.

In conclusion, this research project illustrates that the use of Kurakkan in to the low fat meat products to replace binder may have a beneficial effect to human health.