**Impact of Selected Vegetable Mixture Incorporation on Physicochemical, Nutritional and Organoleptic Properties of Chicken Sausages**

# MKDH Lakshika1\*, RK Mutucumarana1, WAAS Weerasooriya2

*1Department of Livestock Production, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka*

*2. Gills International [Pvt.] Ltd., Katunayake, Sri Lanka*

*\*mkdhasini@gmail.com*

The present study was conducted to evaluate the effect of different inclusion levels (0, 6, 12 and 18%) of a pre-formulated vegetable mixture containing pumpkin (54%), carrot (45.25%) and drumstick leave powder (0.75%) on the nutritional, physicochemical and sensorial quality characteristics of chicken sausages. The experimental design was completely randomized design evaluating four treatments (Control: 0%, VM6: 6%, VM 12: 12% and VM18: 18% vegetable mixture). Each treatment had four replicates and 4-sausages (22 + 3.4g) per replicate (n=4). Treatments were analysed for the proximate composition, gross energy, cooking loss, cooking yield, pH, water holding capacity (WHC), moisture retention, texture profiles, juiciness, external and internal colour (CIE L\*, a\* and b\*), folding test qualities and the extract release volume (ERV). Sensory attributes were evaluated using 30-untrained panellists for toughness, aroma, taste, texture, juiciness, appearance, surface colour and overall acceptability on a 7-point hedonic scale. The moisture (63.09% - 67.9%) and the crude fibre (0.32% -1.4%) contents of sausages were found to be increased with increasing levels of the vegetable mixture while crude fat (12.44% - 13.58%), crude protein (15.78%- 17.02%) and ash contents (2.4%-2.83%) were found to be declined. All the physicochemical attributes except the internal colour measurements (L\*, a\* and b\*) were affected by the inclusion level (P<0.05). Among the inclusion levels tested VM18 yielded the optimal pH (6.14), the highest moisture retention (60.65%), WHC (37.35%), external a\* (18.30), juiciness (15.90%) and the lowest hardness (7.22N), folding test value (2.25) and the ERV (35.80 ml). Overall, the present study concluded that the inclusion of minced vegetable mixture in the sausage formulation at an 18% level maximally contributes to the development of the physicochemical properties tested. The inclusion of the vegetable mixture at a rate of 6% and 12% attracts panellists the most.

**Keywords**: *chicken sausages, emulsified sausages, herbs for sausages, sausage extenders*