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Effect of casing types and diameter on quality of skin on chicken sausages

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Natural and artificial casings are used as forms and containers for sausages. The casings bind and protect the delicacy of the sausage mixture; they regulate contraction and expansion of the sausage. Therefore this experiment was conducted to find out the effect of casing type and casing diameter on quality of commercially available skin on chicken sausages. Three types of chicken sausage samples were prepared using hog, sheep, and devro casings; artificial (cellulose) casing was used as a control. Samples were vacuum packed and stored for 3 months period in freezing (-18^{0}C) (quick) conditions. Cooking loss (CL) was measured just after the sample preparation. Total plate count (TPC) log CFU/g and sensory evaluation was done at 3 weeks intervals. pH, Water Holding Capacity (WHC), Purge Loss (PL), color and tenderness were also measured.

Sample stuffed in sheep casing was showed highest (11.8±0.22%) CL when compared to the other 3 types of casing. WHC decreased in all 4 types of casings during the 3 months period. Sample stuff in devro casing and sheep casing shown the highest redness (12.9±0.38) and highest yellowness (15.6±0.6) respectively. Sample stuff in sheep casing and cellulose casing showed the lowest redness (9.29±0.74) and lowest yellowness (12.16±0.32) respectively. Casing type and diameter had a significant ($P<0.05$) effect on texture of the sausage sample. The highest texture (0.046kN) was observed in sample stuff in hog casing while the cellulose casing showed the lowest texture (0.015±0.001kN). PL was high (3.48±0.01%) in artificial casing which has large diameter.

Sausage stuff in artificial and devro casing shown good appearance than other samples. However natural casing samples had better flavor, but all other quality parameters were not acceptable. Overall acceptability was high in devro casing. Highest microbial count (7.5×10^5) was observed in sheep casing when compared to other casings, but all the values were in acceptable level.

Sample stuffed in devro and cellulose casing can be stored for 3 months period and had better microbial and other quality standards when compared to hog and sheep casings.

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