

# **FREEZING EFFECT ON WRINKLING AND MOISTURE LOSS OF SAUSAGES**

**K. Prasanth<sup>1</sup>, N. Lalantha<sup>2</sup> and A.M.J.B. Adikari<sup>1</sup>**

*<sup>1</sup>Department of Animal and Food Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura, Sri Lanka*

*<sup>2</sup>Keels Food Products PLC, Ekala, Ja-ela, Sri Lanka*

Loss in the appearance, moisture and weight during the freezing of sausages are major problems in its manufacturing process. The initial method of freezing directly affects moisture loss and causes the wrinkling of sausages. This study was aimed to compare the effects of slow and fast initial freezing on moisture loss and wrinkling of sausages. Study was conducted at Keells Food PLC, Pannala. Chicken bockwurst sausages were selected for the study. A total of 90 sausage samples (each sample = 1kg) either slow or fast frozen, were selected for this study. Sausage samples were kept in three different locations inside the freezer room for three weeks with 30 sausage samples at each location, and moisture loss and wrinkling of sausage samples were recorded. Data were analysed using two sample t-test and binary logistic regression in SAS. The initial freezing method had a significant effect on wrinkling of sausages ( $p < 0.05$ ); higher wrinkling of sausage was observed in slow-frozen sausages than the initial fast-frozen sausages. Fast-frozen sausages had lower moisture loss (1.25%) than the slow-frozen sausages (9.3%). It is concluded that initial fast-freezing minimizes the moisture loss and wrinkling of sausages and hence it could be recommended for commercial scale sausage production.

**Keywords:** Appearance, Bockwurst sausage, Fast-freezing, Moisture loss, Slow-freezing, Wrinkling