

Development of a hazard analysis critical control point (HACCP) manual for chicken sausages, chicken meatballs, chicken ham, cooked ham, streaky and back bacon

M A N I Kumara* and I Wickramasinghe

¹Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka, Buttala

After the application of the Hazard Analysis Critical Control Point (HACCP) approach and by eliminating hazards such as biological, chemical and physical, consumers would receive a hazard-free and safe food product. HACCP is a systematic approach to the identification and assessment of the hazards and risks associated with a food manufacturing operation in defining the means to their control.

An HACCP manual was developed to establish such an effective system through identifying critical control points, dealing with the manufacturing process of meat based products. This approach is enriched by seven principles as analysis of potential hazards, determination of critical control points, establishment of monitoring procedures, verification procedures and establishment of record keeping and documentation.

After identification of all potential hazards from each and every raw material, ingredient and process steps from receiving up to product distribution, several critical control points were discovered. They were weighing of restricted ingredient (Nitrite: E 250), cooking in chamber, vacuum packaging and storage processes. Out of those steps, raw materials were covered under Supplier Quality Assurance (SQA). After chamber operation then processed products were not subjected to any stage of addition of raw materials. Process steps were covered under good manufacturing practices (GMPs).

Critical limits of chicken sausages and chicken meatballs manufacturing processes were nitrite as 125 mg per kg of meat (maximum limit), cooking in chamber at 68 °C for 23 seconds, vacuum packaging where there must not be any leaked product to leave and storage in blast freezer at -18 °C for 3 hours. Critical limits of chicken ham and cooked ham manufacturing were nitrite as 125 mg per kg of meat (maximum limit), cooking in chamber at 64 °C for 115 seconds. In vacuum packaging, there must not be any leaked product to leave and storage in chiller at 10 °C or below. Critical limits of streaky and back bacon manufacturing were nitrite as 125 mg per kg of meat (maximum limit), drying in chamber at 50 °C for 30 min and storage in blast freezer at -18 °C for 3 h.