

ABSTRACT

The Study was aimed at development of HACCP manual for comminuted meat products of Gills Food Products (Pvt) Ltd, one of developing meat-processing company in Sri Lanka. The HACCP plan was developed for four major products categorized as Stuffing, Forming products, Cold meat and Slices and Uncooked products.

Good Manufacturing Practices (GMP) manual, Standard Sanitary Operating Procedures (SSOP) and Standard Operating Procedures (SOP) were developed and documented as pre-requisite programs for HACCP plan development.

All potential hazards associated with each processing step, beginning from raw material reception to transportation of end products were identified. Then Critical Control Points (CCP's) were determined based on Codex alimentarius guidelines. According to this study, similar CCP's were identified in stuffing, forming and cold meat and slices as raw meat reception, sensitive ingredients weighing, chamber operation, vacuum packaging and metal detection. CCP's of uncooked products were identified as raw meat reception, raw meat cold storage, thawing of meat, vacuum packaging and metal detection.

Then Critical Limits of identified CCP's were established with effective monitoring activities, corrective actions and verification procedures. During meat reception, hazard of toxin and pathogen presence in raw beef and frozen chicken was successfully controlled through the microbiological analysis of *Staphylococcus aureus* not more than 1000 per gram, *Escherichia coli* not more than 100 per gram and *Salmonella* spp. absent in 25 gram of meat. Raw meat storage is needed to maintain at (-18°C)-(-22°C) temperature and 0°C-4°C temperatures for raw meat thawing chiller in order to maintain biological hazards related to uncooked products.

Chemical hazard associated with Nitrites were needed to overcome using 100ppm of Nitrite during product formulation and supervision during weighing. Critical limits estimated for chamber operation were maintained at core temperature 72°C for Stuffing and forming products and 68°C for 30 seconds for Cold meat and Slices.

Visual inspection by trained personnel is monitored for no single vacuum leaked product during vacuum packaging of meat products. The critical limit for metal detection was purposed as the detector capable of detecting 1/32 inch metal fragment. Safety assurance can be obtained with higher consumer satisfaction through the effective implementation of developed HACCP plan into production process.