

Development of HACCP Plan for Steam Boiled Meat of Asian Blue Swimming Crab (*Portunus pelagicus*)

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In past few years' concern regarding food safety has increased and continuous reports on food borne disease out breaks has been a major impetus in the application of new quality management systems such as Hazard Analysis and Critical Control Point (HACCP), developed to eliminate the risks associated with foods and reduce the incidence of food poisoning out breaks. The present study aimed to identify the HACCP in steam boiled crab meat production line. The existing production line was observed to determine the adequacy of safety measures adopted. Good Manufacturing Practices (GMP), Standard Sanitary Operating Procedures (SSOP) and Standard Operating Procedures (SOP) were developed and documented as pre-requisite programs for HACCP plan development. The product description, intended uses, flow diagrams and plant schematic diagrams were constructed and potential hazards associated with entire process from raw material reception to dispatch of the end product were identified by critically evaluating each processing step. The microbiological, chemical and physical hazards and their significance and likely occurrence at each step of the process were observed and arisk assessment matrix was used to analyze the significance of the hazards. Then Critical Control Points (CCP's) were determined based on CCP decision tree. The CCP's of steam boiled crab meat production line were identified as the receiving of raw materials, steam cooking, picking of crabs and chill/cold storage. Then Critical Limits of identified CCP's were established using government regulations, company policies, proved scientific data with effective monitoring activities, corrective actions and verification procedures and the number or percentage of live crabs, steaming temperature of 15 minutes at 100 °C, cooling crab meat temperature of 4.5 °C or less within 2 hours during or after picking are identified as the critical limits. Corrective actions were established for deviations that observed during monitoring such as, supplying of wet sacs, removing the improperly cooked crab meat. Finally, a HACCP plan was developed and verified for its validity.

Key Words: - Critical control points; Critical limits; HACCP; Hazards; Pre-requisite