THE IMPACT OF PROCESSING PLANT HYGIENE FOR MICROBIAL QUALITY OF POULTRY MEAT

L.A.S.N. Liyanaarachchi[1], A.A.S.S. Amarasinghe [2] and A.M.J.B. Adikari[1]

[1] *Department of Agricultural Systems, Faculty of Agriculture, Rajarata University of Sri Lanka, Anuradhapura, Sri Lanka.*

[2] *Nelna Farm (Pvt) Ltd., Hathduwawatta, Ranwala, Meethirigala, Sri Lanka.*

To ensure the continued growth and competitiveness of the poultry industry, it is essential to maintain the poultry meat quality and safety during production and processing. How hygienic factors in processing plant affect the ultimate microbial quality of poultry meat, which factors mostly influence the microbial quality and which factors should require a great attention are still problems to be solved. The present study was carried out at Nelna farm with the objective of evaluating the impact of processing plant hygiene on microbial quality of poultry meat. Random samples of dressed chicken were analyzed weekly in each month during the research period to measure Aerobic Plate Count, *Staphylococcus aureus* count and presence of *Salmonella.* Processing Plant Hygiene Audit was done monthly to find out the hygienic conditions of the processing plant including contact surfaces and equipments, workers, water and atmosphere of the processing plant in terms of number of microbial colonies. Average numbers of microbial colonies per sample were analyzed by SPSS 16 (Software Package for Social Statistics) to find out the Correlation of Microbial quality of poultry meat with cleanliness of water, contact surfaces and equipments, workers and atmosphere in the processing plant. The study revealed a strong and positive correlation between Microbial quality of poultry meat and the overall hygiene in poultry processing plant. There were strong positive correlations of cleanliness of contact surfaces and equipments, workers, water and atmosphere of the processing plant with microbial quality of poultry meat when considered alone. The highest impact was given by the cleanliness of contact surfaces and equipments and the lowest impact was given by cleanliness of atmospheres. Above factors were highly correlated among each other to create a very strong effect on microbial quality of poultry meat than considered alone. It can be concluded that overall hygiene of the processing plant at Nelna farm during the research period was at the average level and the audit rate was "B" implying that the processing plant met minimum regulatory requirements.

Key words: Processing plant, Hygiene, Poultry meat, Microbial quality