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**Thesis title:** The effect of marination process on meat quality in relation to the relevance of quality management in the agrifood sector

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**Abstract:** The quality of meat products, as revealed by characteristic attributes, is sustained by appropriate safety levels/standards within the (meat) technological process. The use of marination processes combined with thermal preservation prospects should be alternatives that enhance meat product quality. Personnel's knowledge of quality and its utilization for the meat stakeholders' supply chain is crucial. This current work, therefore, performed the enhancement of marinated oven grilled meat processing in relation to the relevance of quality management in the agrifood sector. Research methodology involved relevant literature synthesis, which provided gaps that were filled by experimental activities supplemented by field surveys. The experimental activities involved the combined application of three level marination variants (concentration increments of 0.5, 1, and 1.5% by volume based on gram/mL) and fixed oven-grill process parameters (temperature = 180°C; time = 5 min) to beef entrecôte, chicken breast and pork neck meat products, followed by evaluation of resultant quality attributes. Chemical attributes involved antioxidant capacity (ABTS, DPPH), ferric reducing antioxidant power (FRAP), pH, changes in thiobarbituric acid reactive substance (TBARS). Physical attributes involved cooking weight loss, L\*a\*b\* color coordinates, and textural cutting force. Organoleptic attributes involved sensory (appearance, flavour, taste, and tenderness), as well as, texture (chewiness, gumminess, graininess, greasiness, and hardness) components. Marinated oven-grill meat processing can be enhanced when applied to different meat products, namely, chicken breast, beef entrecote, as well as pork neck, obtained distinct ranges/trends specific to chemical and physical attributes, i.e., antioxidant, pH, lipid breakdown, color and texture. However, to establish a collective organoleptic (sensory and texture) trend proved challenging given the statistical resemblances, as well as fluctuations. Marinated oven-grill meat processing promises to moderate the range values of key quality attributes of the chicken breast, beef entrecote, and pork neck products. Considering both conducted field surveys and marinated oven-grilled meat experimentation, there are relation points of quality assurance/management. Meat stakeholders deliver the quality management in agro food industry

as shown by butchers that possess good hygiene and storage practices, and food retail managers/supervisors that utilize the good practices to facilitate the identification of cleaner production components, and enhance the environmental awareness of consumers/customers. Using the context of food retail, a definition of 'cleaner food production' was suggested, which is: "the effective and efficient utilization of good practices to deliver high quality food retail products through environmental-friendly as well as sustainable processes".

**Key words:** quality, meat marination processes, quality management, oven-grilling, knowledge transfer, product development