EVALUATION AND IMPROVEMENT OF FINAL YIELD IN THE SAUSAGE MANUFACTURING PROCESS AT KEELLS PLC

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Yield loss is a problem along the entire food supply chain and this gives rise to great financial losses and waste of resources. In the sausage manufacturing process, there are several yield losses taking place at different manufacturing stages. Causes of yield losses need to be identified before yield potential measures are designed. Therefore, this study was conducted to evaluate and improve the final yield of sausage manufacturing process at Keells PLC in Pannala. In the first experiment, daily yield loss of sausages was recorded for a period of two months at each manufacturing stage, such as conveyer belt, mincers, mixer, linker and at chamber. The highest yield losing stage was selected based on the results of the first experiment. In the second experiment, chamber yield loss was measured at one hour intervals throughout the manufacturing process. This experiment was arranged in Complete Randomized Design. Data were analyzed using SAS and Minitab. Among sausage manufacturing stages, losses at the chamber was significant *($p<0.05$)* compared to other stages. According to second experiment, chamber losses were significantly different *($p<0.05$)* in all observed.time periods. During sausage manufacturing, the highest and least chamber losses achieved at 1st and 3rd hour from the start of the manufacturing process. There was a relationship between cooking time in the chamber and yield losses of sausages. When other conditions were constant, chamber loss was the highest at the beginning and at the end of production process. Thus, there is a possibility to increase the sausage yield turnover by applying proper processing conditions.

Keywords: Cooking chamber, Sausage manufacture, Sausage yield loss