IMPROVING FOOD PRODUCT QUALITY AND SAFETY BY APPLICATION OF THE FAILURE MODES AND EFFECTS ANALYSIS METHODOLOGY (FOR CHEESE MANUFACTURING)

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Abstract

Failure Modes and Effects Analysis (FMEA) it is a predictive and preventive methodology specific to non-compliance and risk management. The aim of this study was the application of the FMEA to improve scalding cheese quality. Among the steps and activities required to apply the FMEA methodology is distinguished as specificity the calculation Action Priority (AP) depending on the severity (S) of consequences of manifestation of nonconformities to the consumer, on the probability of occurrence (O) of a potential hazard for food safety and on the probability of its detection (D). The AP was determined for each category of identified potential hazards: physical (P), chemical (C) and biological (B) for all ingredients and for all stages of the technological flow for cheese manufacturing. The highest value of AP (360) was observed for non-compliant pasteurization of milk, for B hazards. Through AP, a quantitative assessment can be made of the potential food safety problems in a system, and respectively a prioritization of implementation of preventive actions; the results are clearly the improving of quality and safety of cheese, based on lowering of potential nonconformities.

Key words: food technology, failure modes and effects analysis, cheese quality