

The Application of Design of Experiment for Improvement on Filtration Process of Thickness Chicken Soup Manufacturing throughout Cooperative and Work Integrated Education Program (CWIE)

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Abstract

The clogged pipe problem in thickness chicken soup manufacturing affecting to production time loss and microorganism contamination risk in food manufacturing. Moreover operators could be accidentally injured during cleaning and changing equipment. The objective of this study was to improve filtering process in order to reduce ingredient clogged. Throughout Cooperative and Work Integaretd Education Program (CWIE), CWIE team mebers that included a student, an academic supervisor and a job mentor worked together for 6 months for above matter. Cause and effect daigram was created for discussion before One-Way ANOVA was applied. Rough grinding pepper contained in chicken seasoning powder used in thickness chicken soup production was found as the most serious reason. Alternative form of pepper, fine grinding pepper, was prepared and applied to improve filtering process. After using fine grinding pepper, number of times for cleaning due to clogged pipe problem was reduced. Products attribute with new ingredient was analyzed through sensory evaluation. Multi-sample test and 9-Point Hedonic Scaling test were deployed for different test and acceptance *test respectively*) $\alpha=0.05$ (and we found that consumers accepted new products and no different between new product from control. Furthermore, production time could be saved and operators could work conveniently. In addition, likelihood for cross- contamination could be reduced.

Keywords

Thickness Chicken Soup, Food Additive, Sensory Evolution, Loss Reduction, Process Improvement