DEVELOPMENT OF QUALITY ASSURANCE SYSTEM AND IMPROVEMENT OF SANITATION AND HYGIENE PRACTICE IN THE CENTRAL BAKERY PLANT AT THE 2nd BUS TERMINAL, NAKORNRATCHASIMA PROVINCE

WORRAWALAN PHOONSAWAT 4937325 SCBT/M

M.Sc.(BIOTECHNOLOGY)

THESIS ADVISORY COMMITTEE: PAIROJ LUANGPITUKSA, Dr.Agr., APINYA ASSAVANIG, Ph.D., MANOP SUPHANTHARIKA, Ph.D.

ABSTRACT

In this study, the microbiological quality of the finished bakery products, the sanitary conditions of the operation, and the Good Manufacturing Practice (GMP) status of the central bakery plant at the 2nd Bus Terminal, Nakornratchasima province were evaluated. The results showed that microbiological contamination, especially yeasts and molds, coliforms and E. coli in finished bakery products, equipment, and utensils were above acceptable levels for the Thai Community Product Standard (TCPS) and the standards of the Department of Medical Science (DMSC), Ministry of Public Health, which could be caused by lack of sanitation and hygienic practices of operators. Moreover, the evaluation of GMP status revealed that cleaning and maintenance, and personnel and worker hygiene as well as building structure were the issues of most concern, which confirmed the contamination in bakery products. Since the bakery plant is a small-scale processing plant and has financial limits, 5S-Kaizen activity with application of sanitation practices based on GMP principles were used as suitable quality tools to develop a quality assurance system. This application led to the overall reduction of total bacteria count, yeasts and molds count, and E. coli count were found to be at least 76%, 94% and 100%, respectively in the finished bakery products. There was no B. cereus or S. aureus found. Lastly, the total score of the GMP evaluation increased from 39.6% to 91.6%, which exceeds the minimum requirement of the Thai FDA.

KEY WORDS: SMALL-SCALE FOOD PROCESSING/ QUALITY ASSURANCE SYSTEM/ GMP/ 5S-KAIZEN ACTIVITY

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