

## Abstract

The sustaining of Thailand food industries is very important for overall economic situation, thus this independent study emphasizes on a case study of bakery filling manufacturing of the food process improvement. The techniques for improvement applied in this case study are line balancing, ECRS, Fool Proof and computer simulation. Objectives of using these techniques are easiness of analyzing, ability of reducing waste and increasing productivity. Moreover, simulation model is flexible and easy to adjust production line in the model without necessity to do on the real production line.

From study and analysis of this case study, it was found that there were idle workers in some stations due to unbalance of the production line. After improvement by using ECRS, Fool Proof and line balancing techniques, the new model has shown that the number of worker can be decreased from 19 to 10 men. This can increase labor productivity by 111.76% and average utilization of operators by 25.47% while production level is the same as the one before improvement. Besides, this improved model can support for more purchasing orders which may increase up to 25% in the future. In conclusion, production line could be balanced and improved by using above techniques which can increase labor productivity and utilization of operators from the current situation.