

Thesis Title Green Production Process Improvement in a Canned-Fruit
Manufacturing Factory

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ABSTRACT

This study aims at investigating an improvement of green production process in a canned-fruit manufacturing factory in order to reduce the material and resources consumption, and to study the eco-efficiency index in relation to the material use such as water consumption, electricity use, and firewood. Comparing with the canned-sweet corn manufacturing process; its 0.095 tons manufacturing process uses 1 cubic meter of water; its 0.020 tons manufacturing process consumes 1 kilowatt-hour of electricity; and its 4.09 tons manufacturing process uses 1 tons of firewood in generating the steam. When the eco-efficiency index is known, the Green Productivity (GP) has been used to improve the green production process accordingly by controlling the water consumption in the cleaning process, covering the steam tunnel to reduce its heat and consumption, and reducing the electricity consumption by improving the efficiency of the air compressor.

After the completion of the green production process improvement, it has increased the eco-efficiency index; that is, the sweet corn manufacturing process of 0.134 tons consumes 1 cubic meter of water; its 0.021 tons manufacturing process consumes 1 kilowatt-hour of electricity; its 4.14 tons manufacturing process consumes 1 tons of firewood. In conclusion, based on this study, it is evident that the green production process improvement reduces the consumption of water, electricity, and firewood, which reduce the use of material and resources including the cost of product.