ABSTRACT

This study aimed to construct a taco shell maker and to evaluate its performance in terms of operating time, shelling capacity, shelling efficiency, feed rate, and electrical energy consumption, weight, thickness, diameter, losses of taco shell; compare the performance of the motorized method and manual method of taco shell maker and financial analysis in constructing the taco shell maker.

The components taco shell maker is dough feeding assembly, cutting assembly, power transmission assembly and frame assembly.

The performance of the taco shell maker was evaluated for three trials using one-fourth (1/4) kilogram of dough samples per trial.

Performance test showed that the constructed taco shell maker achieved an operating time of 55.80 sec/pc using the motorized method, which was significantly lower than the 87.80 sec/pc, recorded for the hand-operated method. Additionally, the motorized method demonstrated a shelling capacity of 65.63 pc/hr and 41.52 pc/hr in hand-operated method; shelling efficiency of the machine was 85.33% in motorized method and 77.33% in hand-operated method; feed rate using the motorized method is 1.83kg/hr and in hand-operated method was 1.16 kg/hr; and electrical energy consumption of 0.054 kW-hr-/kg. The total cost of constructing and operating the motorized taco shell maker was Php 81,718.49 whereas the cost for the hand-operated taco shell maker was Php 64,522.75.