

Application of Appropriate Technology for Cracker Printing Machines for Mulieng Cracker Production on Mulieng Cracker Craftsmen in Padang Village, Simpang Tiga District as A Leading Product of Pidie Regency

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ABSTRACT

Besides being rich in natural and historical tourism, Aceh is also famous for its various culinary delights. One of Aceh's specialties is Krupuk Mulieng (Emping Melinjo). Mulieng crackers are one of Aceh's most famous and widely produced foods in the Pidie district. Because the chips in this area have a distinctive taste, the taste is different from the chips produced in the Sumatran area. However, the entrepreneurs of the mulieng home industry crackers are still very traditional in their production process. Still using simple tools, so it takes a lot of time, even though the market demand is very high. For this reason, innovation is needed so that time more efficient production and improved product quality.

In this study, researchers tried to create a mulieng cracker printing machine to help mulieng cracker craftsmen in Pidie district. The mulieng cracker printer has several working principles including the following (1) the mulieng cracker printer uses a hydraulic press system. (2) The electric motor used is 0.5HP/0.37KW with a rotation of 1400 rpm. (3) The cylinder bore diameter is 40mm for the melinjo press process, with a maximum working pressure of 16 Mpa.

Keywords: Mulieng; Melinjo; Chips

1. INTRODUCTION

In the village of Padang, Simpang Tiga District, Pidie Regency is one of the places for the production of mulieng crackers, one of which is Umami Siti's Emping Business. This melinjo chips business is an independent business that has been declining and has ± 10 freelancers who are local people. The main product of this business is Melinjo Fruit Chips, Melinjo Fruit is supplied by local residents and almost all houses have melinjo plants. Once produced, Umami siti can produce ± 5 kg of ready-to-sell melinjo chips with a market selling price of around Rp. 40,000,- up to Rp. 50.000,- per kilogram, the entrepreneurs of melinjo chips should be able to earn a monthly profit of \pm Rp. 6,000,000,- per month.

However, the lack of capital makes Umami Siti still use the traditional production system, so their production results are not optimal. This is because the melinjo chips business is still very traditional in the manufacturing process, which is still using stone or iron in the process of molding melinjo chips, and for roasting melinjo which will be used as crackers mulieng also still uses an ordinary cauldron which takes a lot of time. Because the process of making melinjo chips is also still done traditionally, the quality has not been standardized. From the process of peeling melinjo to the stage of printing melinjo chips, it is still done using simple household appliances.

Likewise, the melinjo chips that are sold are still not packaged properly, they still use ordinary plastic. Of the many innovations that already exist, it can be said that the process of making mulieng crackers is still lagging behind in terms of technology, especially if this business can support the economy of the surrounding community. This makes the melinjo chip entrepreneurs unable to develop their business. In fact, the selling price of melinjo chips in the market is quite high, but it is hampered by low production.

This research is to find out about the utilization of melinjo chips printing machine in order to streamline the production system. Based on the results of the research, this melinjo chip printing machine is very helpful for melinjo chips entrepreneurs in the production system.

2. LITERATURE REVIEW

2.1. Melinjo chips

Melinjo chips, in the Acehnese language (mulieng crackers) are one of the most famous Acehnese specialties and are widely produced in the Pidie district. Because the chips in the area have a distinctive taste, the taste is different from the chips produced in the Sumatran area. If you are a fan of emping crackers, you will definitely feel the difference.

These cracker snacks are produced by small entrepreneurs in the interior of Pidie. Apart from being a snack or snack, we

also get a lot of emping in serving Acehese dishes, such as fried rice, Aceh noodles, nasi lemak, and so on. The delicious emping melinjo further triggers our appetite.

These emping crackers have a crunchy, savory taste with a salty taste that fits in the mouth. very suitable to be eaten as a snack while enjoying a cup of coffee.

2.2. Production

Production is a process of converting raw materials into finished goods or adding value to a product (goods and services) in order to meet the needs of the community. The perpetrators of this production activity are called producers (both individuals and organizations), while the goods produced are called products (goods or services). Etymologically, the word "Production" comes from English, namely "To Produce" which means to produce. So, the meaning of the word production is an activity to produce or add value to an item or service through a certain process. All products, be it goods or services, that are consumed by the community every day start from the production process. After the production process, there are several more stages before the product finally reaches consumption for use

3. RESULTS AND DISCUSSION

The results that have been achieved in the manufacture of melinjo chips printer can be seen in the image below:



Figure 1. Melinjo Chips Printer

The melinjo chip printer has several working principles including the following:

1. The melinjo chips printer uses a hydraulic press system.
2. The electric motor used is 0.5HP/0.37KW with a rotation of 1400 rpm
3. The cylinder bore diameter is 40mm for the melinjo press process. With a maximum working pressure of 16 Mpa.

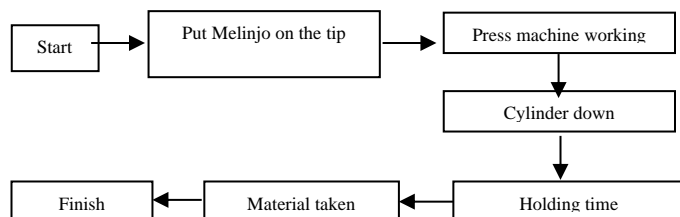


Figure 2. Work Flow

The specifications of the melinjo chip printer can provide useful information as a consideration for consumers to use as a reference. The specifications of the tool can be seen in the table below:

Table1. Machine Specification

No	Specification	Dimension
1	Total Machine weight	40 kg
2	Machine Wide	0,3 M
3	Machine Length	0,4 M
4	Machine Height	0,5 M
5	Tube Specification	Solid Iron
6	Drive Motor Specification	Dynamo
7	Press type	Cylinder
8	Printer duration/pcs	+/- 10 second

With the innovation of this melinjo chip printer, the production process for melinjo chips has increased, both in terms of time efficiency and quantity resulting from product quality.

4. CONCLUSION

The process of making melinjo chips from melinjo is dried first and then roasted and printed using a mulieng cracker printing machine.

The working principle of this melinjo chip printer is a press system using a cylindrical tube that is driven by a gear.

Equipment specifications \pm have length = 400mm, width = 300mm, and height = 500mm and weighs \pm 40 kg and is portable

The results of structural and functional tests that have been carried out on this mulieng cracker printer can be concluded that all components work according to the plan.

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