



**UNIVERSITI TEKNOLOGI MARA**  
**CAWANGAN BUKIT BESI**

**MEC299**

**SEMI-AUTOMATIC SILICONE GARLIC PEELER  
MACHINE**

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## **ABSTRACT**

There are many ways to peel off the garlic, one of the most common ways to removed them is by using hands. The traditional hand peeling garlic method is very tedious and take a lot of time to peel a garlic. The pungent smell of garlic will make the uncomfortable for user's eyes and hands. Therefore, the objective of this project is to design a garlic peeling machine by using Solidwork software and to reduce the cost of machine used. This peeler will be equipped with a silicone blade which provide high friction to unpeel the garlic skin. Besides that, the mechanism used are gear for the blade to rotate. Methodology, by using standard design process flow, the research scopes involved of gathering information from the previous research and market survey, generate idea concepts which use Morphological Chart. After idea generation, the final design was selected using Pugh Chart. The final selection has been made through all the process that involve from gathering information to fabricate a garlic peeler machine. Without any expectation, countless problems must be overcome in order for this project to succeed; ergo, solutions must be identified beforehand. There are a few key factors that ensures the project's success; discussion with supervisor, engineer assistance and friends. To summarize, this project's success will benefit individuals and give comfort in everyday life.

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# CHAPTER 1 INTRODUCTION

## 1.0 Background of Study

Garlic is widely utilized in Malaysia due to the multiple health benefits of its component. Extraction of garlic oil from the garlic was one of the most used ways. The garlic must first peel before it can be extracted. Many individuals began to create and build a garlic peeler machine to remedy the problem because traditional methods required a lot of labour skill and were exhausting to use. However, because they consume a lot of electricity, most of the existing machines on the market are quite expensive and require a large amount of money to operate.

As a result, the suggested project proposes to design and construct a semi-automatic silicone garlic peeler machine to solve the mentioned problem. This machine can peel the garlic from its skin in a bulk at once. The frame, roller blade, gear, and handle would be the most crucial aspects of this project. The structure of frame must be strong enough to support the weight of the garlic and the silicone blade. Furthermore, the blade material must be strong enough to separate the garlic skin from the garlic.

## 1.1 Problem Statement

The issues of garlic peeling are garlic has thin skin which is not easy to peel cleanly and fast by hands and can cause finger injuries. The pungent smell of garlic will make the uncomfortable for user's hands and eyes. It is also unaffordable to buy the garlic peeler automatic machine at the market since the price are quite expensive for the average people.

## **1.2 Objectives**

The main objectives of this project are:

1. To propose and design garlic peeler machine by using Solid work software.
2. To fabricate a semi- automatic silicone garlic peeler machine with an affordable cost.

## **1.3 Scope of Work**

The scope of work for this designed project is:

1. The product must be easy for user to utilize.
2. Estimate the product cost.
3. The fabrication process includes joining process.
4. The designed process used are Solid works software.
5. This product is to be used by all kind of society.