

UNIVERSITI TEKNOLOGI MARA

**DISSERTATION ABOUT DESIGN
AND FABRICATION OF COCONUT
MEAT SCRAPPING MACHINE**

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ABSTRACT

Coconut is the fruit of the coconut palm (*Cocos nucifera*), which is commonly used for its water, milk, oil, and tasty meat. Today, coconuts have become increasingly popular for their health benefits. A study has shown that coconut is highly nutritious, antibacterial, and antioxidant. Normally, young coconut flesh or meat can be found mixed with coconut water. The common process to require coconut meat is by using a spoon. But it brings disadvantages as it is not good for human hygiene and not efficient for a large production. As it takes a lot of time and effort. Resulting in tiredness and muscle sore. Based on that statement, the coconut meat scrapping machine will be designed and fabricated in this project. For the sole purpose to make work easier, faster, and cleaner. The project objective is to design, analyse, and fabricate the coconut meat scrapping machine. As the machine works faster and cleaner than human do. The planning to complete this machine includes the design stage and analysis by using SolidWorks for FYP 1. Meanwhile, for FYP 2 the fabrication process will be conducted. The main elements of this project will be aluminium, dc motor, and mechanical custom components. The machine is approximately about 300mm length, 300mm width, and 300mm in height.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

To propose a machine that works with coconuts. It is essential for us to know and understand the basic knowledge about the coconut itself. However, to improve our machine or technology to become more efficient over the years, it is a requirement for us to deepen our understanding about the subject which is coconut.

Firstly, according to oxford dictionary coconut is the large nut of a tropical tree called a coconut palm. It grows inside a hard shell and contains a soft white substance that can be eaten and juice that can be drunk. The scientific name that has been given by experts is (*Cocos nucifera*). Other than that, a single coconut palm tree may yield 100 coconuts annually, and each fruit requires a year to fully ripen. Mature coconuts, ovoid or ellipsoid in shape, 300–450 mm in length and 150–200 mm in diameter. Coconut fruits float readily and have been dispersed widely by ocean currents and by humans throughout the tropics.

After we have knew and learned about its definitions and characteristics. It is become clear that coconut holds a thousand secret to a happy lifestyle. To put it simply, every part of the coconut tree can fulfil our daily necessities. Coconut oil, coconut water, coconut meat, wood for fuel, husk for scrubber, and ropes are some of the many things' human get from a coconut tree. Also, coconut is full of cosmetic and medicinal properties. As more study and research have been conducted, to reveal the fruit capability for curing illness. The whole world is demanding a continuous supply of coconut fruit to their supermarket.

To match the customer demand, an engineer need to find a solution. Which is to create a machine that works faster, cleaner, and more efficient. For the sole purpose to produce a large quantity of quality coconuts around the globe. A machine can work faster and longer compare than human. But still skilled workers are needed to operate the machinery.