

UNIVERSITI TEKNOLOGI MARA

**FABRICATION OIL PALM FRUIT
COLLECTOR**

AMIRUL AIMAN BIN RIDZUAN

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ABSTRACT

The fabrication of an oil palm fruit collector is a critical component in the palm oil industry, as it significantly impacts the efficiency and productivity of oil palm harvesting. An overview of the creation and design of oil palm collector is given in this abstract, along with a discussion of its main features, functions, and possible advantages. The purpose of the oil palm fruit collector is to help oil palm plantation employees with the difficulties they have when harvesting fruit. Conventional hand harvesting techniques require a lot of work, take a long time, and frequently wear out the workers. This automated collector, on the other hand, hopes to increase productivity overall, increase worker safety, and streamline the harvesting process. The operation of the oil palm fruit collector is straightforward. Workers simply guide the collector to the base of the oil palm bunch and drop the oil palm fruit at the fruit. Operator fatigue is minimized, and pleasant use is ensured throughout the workday thanks to the ergonomic handle and lightweight design. This artificial oil palm fruit collector has several advantages. It lowers labour expenses considerably by reducing the requirement for human labour for harvesting. Additionally, it improves worker safety by lowering exposure to dangers related to hand harvesting. The collector can also function in different weather situations, which increases productivity all year round.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

The main purpose of this project is to design, analyze and fabricate a design that is an oil palm kernel fruit collector with a low-cost budget. Oil palm kernel fruit collectors play a crucial role in the production of palm oil. They are responsible for harvesting the palm kernels which are used to produce wide range of products including food items, medical supplies, and cosmetics. These collectors work in the agricultural sector where they play an important role in ensuring that the palm oil industry continues to thrive. The process of oil palm kernel fruit collection involves several palm kernel oils. Palm kernel oil is extensively used in the food industry, cosmetics, and pharmaceuticals. The role of the oil palm kernel fruit collector is to collect the oil palm fruit bunches from the plantation and extract the kernel fruits. This is done through a process called milling. Oil palm fruit collectors use specialized tools and equipment such as a haulage truck, harvester, pruner, and bunch stripper to carry out their daily operations. Once the kernel fruits have been gathered, they are transported to a mill where they are processed to extract palm kernel oil. The first step is to separate the kernel from the mesocarp pulp surrounding the kernel, and this is done through process called threshing. This is followed by a winnowing process to remove any residual fibre or shell that may have been left over from the threshing process. The oil palm kernel fruit collector is an important part of the palm oil industry as they ensure the continuous supply of kernels for oil production. However, the process of palm kernel oil production is not without its environmental concern. Palm oil plantations have been accused of deforestation and loss of habitat for endangered species. It is crucial that the palm oil industry is aware and takes steps to minimize the impact on the environment.