

UNIVERSITI TEKNOLOGI MARA

**DESIGN, ANALYSIS AND
FABRICATION OF MECHANICAL
LEAVES SCRAPER**

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ABSTRACT

Mechanical Leaves Scraper is an innovative device inspired by the existing rake where it is widely used by many gardeners or even any people that want to clean up the dried leaves on their home yard. Currently, there are a lot of problems that people need to face when using the rake in order to collect dried leaves. For example, they need to use a lot of energy and will feel back pain when using the rake for such a long time. Thus, by having this device, it will benefit people to easily collect the dried leaves without having worries about their time and other factors that might stop them to clean up their garden as this device is easy to operate and will help people to reduce their energy during the process of collecting the dried leaves.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Mechanical Leaves Scraper is an innovation of rake that has been widely used by gardeners for them to collect dried leaves around their orchards. Hence, this project will be focusing on the problems that may occur to the users of rake. Most of the significant problems that have been identified show that their main problems when using rake were that they were having back pain, and they need to spend a lot of time collecting those dried leaves. Having this project might help them to reduce the problems that they had to face. The objectives of this project are mainly to innovate a device that will help people to collect dried leaves and to analyse the problems that people have been faced with using the rake. The methods that will be used to fabricate this project are by using welding and drilling methods. Hence, by conducting this project, users may reduce the messiness during collecting the dried leaves. Plus, it may also help users to reduce the time taken for collecting the dried leaves.

1.2 Problem Statement

Based on the survey that has been conducted on 133 citizens between the age of 18 to 59 years old by using Google Form, three-fourths of them said that they face difficulty when using the rake to collect the dried leaves. The most answer that has been recorded is users are having back pain during collecting the dried leaves by using the rake. Then, they had to spend a lot of time collecting the dried leaves. Other common answers that also have been recorded are most of the users face a lot of scattered dried leaves and they need to use a lot of energy to collect those leaves.