

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF A SHREDDER
MACHINE FOR ORGANIC WASTE**

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ABSTRACT

Malaysia provides a fertile ground for research owing to its diverse cultural practices, dynamic economy, and pressing environmental issues. One notable area of investigation is the Malaysian passion for food and its impact on organic waste production, especially considering the high density of restaurants across the country. The generation of organic waste in Malaysia is influenced by various factors such as environmental context, local waste composition, and cultural and social practices, all of which must be considered. The objective of this project is to design and simulate an organic waste shredder machine that can aid in managing organic waste effectively. By addressing the unique challenges presented by Malaysia's organic waste, this machine aims to provide a sustainable solution to reduce environmental impact and make the organic waste more useful to our environment. The anticipated outcome of designing an automatic organic waste shredder machine using SolidWorks is to produce a comprehensive and functional final design by the end of this semester. This detailed design will incorporate all necessary specifications and considerations, ensuring it meets the requirements for efficient waste management. Once the design is finalized, it will be ready for fabrication in the following semester, marking a significant step toward implementing practical waste management solutions in Malaysia.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

In Malaysia offers a rich landscape for research due to several factors, including cultural practices, economic dynamics, and environmental concerns. One significant aspect to explore is the Malaysian love for food and its correlation with organic waste generation, particularly in the context of the abundance of restaurants in the country.[1]

Malaysian culture places a strong emphasis on food as a central aspect of social gatherings, celebrations, and daily life. Food is not merely sustenance but a cultural identity marker and a source of pride for Malaysians. The diverse culinary heritage of Malaysia, influenced by Malay, Chinese, Indian, and indigenous cultures, contributes to a rich tapestry of flavors and dishes.

The love for food and dining out contributes significantly to the generation of organic waste in Malaysia. Restaurants produce a substantial amount of organic waste daily, including food scraps, vegetable peelings, and leftovers. Factors such as portion sizes, food spoilage, and consumer preferences also play a role in food waste generation.[1]

Many Malaysians still did not look the organic waste as a thing that can be reused. They just throw away the organic waste and it cause an air pollution as the waste did not be managed properly. There so many bad impacts that can occur if the Malaysian did not take an action to this situation. Hence, the automatic organic waste shredder machine will be designed to overcome the current issues. The machine design with motor, shredder blade, conveyor belt. The shredder machine can make the organic waste into the small pieces that can make the wastes easy to manage and restore to make a composite fertilizer.