UNIVERSITI TEKNOLOGI MARA

DESIGN AND FABRICATION OF SEMI-AUTOMATIC AGRICULTURAL SPRAYER

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DIPLOMA

Feb 2024

ABSTRACT

The goal of this project is to design and create a semi-automatic system for agricultural sprayer that will allow people to cultivate and manage a water garden with little human involvement. The development of agricultural sprayer, which takes less energy to run it and maintaining, as an outcome of a growing demand for ecologically friendly and sustainable gardening methods. The foundation and development of a water garden, however, are significantly hampered by the absence of a dependable and effective irrigation system. Therefore, this project aims to create a semi-automatic system for water gardening sprayer that will reducing the need for manual labor and ensuring that plants receive the right amount of water at the appropriate time. In order to develop a system that can maximized water conservation, this project employ a selection of methods, such as analysis of data, prototypes, experimentation, and pilot testing. The anticipated outcome is a practical and effective semi-automatic agricultural sprayer device that will improve the water gardens' sustainability and aesthetic appeal.

ACKNOWLEDGEMENT

Firstly, I would like to express my gratitude to God for giving me the strength and guidance to complete this project. I would also like to thank my supervisor, Mr. Radzi Bin Abdul Rasih for their guidance and support throughout the project. Their expertise and knowledge have been invaluable in the design and fabrication of the semi-automatic agricultural sprayer.

Next, I would like to extend my appreciation to all my friends who have provided me with their support and encouragement throughout the project. Their feedback and suggestions have been instrumental in the success of this project.

Finally, I would like to thank my parents for their unwavering support and encouragement throughout my academic journey. Their love and support have been a constant source of motivation for me.

This project would not have been possible without the support and encouragement of all these individuals. I am grateful for their contributions and support in the design and fabrication of the semi-automatic agricultural sprayer.

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1.1 Background of Study

Due to the rising demand for effective and efficient gardening tools, the design and construction of a semi-automatic agricultural sprayer is an appropriate field of study. These plants require timely and frequent in order to grow. The plants could turn yellow and die if they aren't given enough water.

In the past, gardeners would water their plants using a hose or a watering pail. The manual labour required for this method can be exhausting, and uneven growth will result from inconsistent watering. Consequently, it has become crucial to design a semi-automatic water gardening sprayer.

This sprayer's purpose is to fabricate semi-automatic water garden plants, making sure they receive the ideal amount of water each day to encourage better growth without using a lot of human energy.

A complete learn of the many parts, including the pump, and the spray nozzle that make up the system is necessary for the construction of this sprayer. This involves expertise in mechanical engineering and fluid dynamics, which results in a thorough design and manufacture process.

The design and manufacture of a semi-automatic agricultural sprayer was studied, and this research resulted in the cost-effective, and highly effective gadgets that completely changed the water gardening market. Both novice and expert gardeners will benefit greatly from the finished products, which are produced by trained professionals with a thorough knowledge of the gardening field.