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AUTOMATIC LOAM SOIL MACHINE

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ABSTRACT

Nowadays, the farmer has a problem to minimize the soil compaction due to the usage of the huge and heavy machine such as tractor. The farmer also has a problem to afford to pay a fuel bills due to consumption of fuel when we use tractor.

Arduino Uno Board will be chosen to make a Automatic Loam Soil Machine for Final Year Project 1 (FYP 1). There are also problem occur when the farmer need to control the modern tractor manually that takes time and energy , so Automatic Loam Soil Machine will use ultrasonic sensor to detect the upcoming obstacle.

In order to overcome these types of problem, exploration has been carried out with Automatic Loam Soil Machine was the answer to minimize the soil compaction. Other than that, Automatic Loam Soil Machine will always keep tract the condition of the soil. In return, the man energy can be reduced this is the reason and the important of why we are doing this project.

CHAPTER 1: STUDY ON PREVIOUS WORK REVIEW

Previous project of loam soil machine was done by some inventors using mechanical DC motor to loam the soil. However, the inventions had some weaknesses. The machine needed to control manually and it uses a lot of fuel. There is some risk that the DC motor may be damaged due to the direct transfer of electricity. Also this machine is so huge and heavy so it can cause a major soil compaction to the crop field.

Our project focuses on upgrading this invention because our main point is to create a machine that uses a Bluetooth to control it wireless. We planned on using a much smaller solar panel and reducing the size of its body so that it takes lesser space and easier to carry anywhere. Thus, the farmer can loam the soil anytime they like.

This project use ultrasonic sensor. The purpose of this sensor is to detect the distance and a barrier so it can maneuver itself. This is because most of the farmer are busy to do other job than just loam the soil. Thus by using the ultrasonic sensor, we plan on not only making the device portable but also easy to control.



Figure 1.1 : A soil compaction



Figure 1.1 : Example of conventional loam soil machine

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