
DESIGN AND MANUFACTURING SOLAR BASED SEED SPRAY MACHINE

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ABSTRACT

Today's era is marching towards the rapid growth of all sectors including the agricultural sector. To meet the future food demands, the farmers have to implement the new techniques which will not affect the soil texture but will increase the overall crop production. In this project, an attempt has been made for the "Design and fabrication of solar seed sprayer machine".

In this technique seeds in a hopper get sprayed by means of fan or blower directly to land without human effort. By this process the seed is feed to land at the time of plough .The main benefit of using this method is to reduce the time of seed to the land and reduced human effort. Usually the manpower is needed for sowing a seeds by using this machine there is no need for human power. This system does not require any additional power source to run the fan, because here solar panel is employed as a power source.

I. INTRODUCTION

Agriculture has been the backbone of the Indian economy and it will continue to remain so for a long time. The government of India appointed a commission to assess the feasibility of increasing the crop productivity under prevailing Indian ecological conditions. In order to develop the standard of living of small farmers we should make the machines with low cost. Then only small farmers can implement the recent modern machines for farming purposes.

Components are used:

1. Arduino Board
2. Motor
3. Wheels
4. Sensors
5. Seed Dispensing mechanism
6. Solar Panel
7. Bluetooth Module
8. Power Supply
9. Mobile App

II. LITERATURE SURVEY

Our country faces the total loss of 33% of its economy from Weeds. The Losses are due to some of the following reasons, total loss of 26% from Crop Diseases, total loss of 20% from Insects and Worms, total loss of 6% from Rats. Has been Surveyed. Shrinking farm lands, acute labor shortage, decreasing income per acre of cultivation, and economic frustration are some of the key factors hurting a farmer's confidence in continuing farming. Weeding control is done by: mechanical weeding, thermal weeding: flaming, biological control, chemical control, and by farming pattern. It has always been a problem to successfully and completely remove weeds and other innocuous plants. Invariably, weeds always grow where they are not wanted. As a solution to these problems, mechanical weeder was designed and constructed. The mechanical weeder was made of two implements attachment i.e. the primary cutting edge which is in front to loose soil above and the secondary cutting edge which is behind to do cutting and lifting of weeds. The overall machine field efficiency was 98.67%. The Single Wheel Weeder being manufactured is the equipment, which is used for very special purpose when the weeding is required at narrow places or between rows. The blade is thin but very sturdy and tough besides, it is very safe to use and offers zero threat of hurting to the user, Other than the wheel, there is nothing mechanical in this single wheel weeder but, it works wonderfully under the condition where it is put into. This hassle free

equipment requires no special maintenance. It is necessary to design the weeder which minimize the human effort and provide efficient work output.

III. PROBLEM STATEMENT

Seed sowing machine is a device which helps in the sowing of seeds in a desired position hence assisting the farmers in saving time and money. The basic objective of sowing operation is to put the seed and seed in rows at desired depth and seed to seed spacing, cover the seeds with soil and provide proper compaction over the seed. Hence, there is a greater need for multiple cropping on the farms and this in turn requires efficient and high capacity machine.

IV. CONCLUSION

In India about 70% of the population lives in rural areas and their main source of income is dependent on agriculture sector. So, it is important to have special focus on agriculture sector and to apply latest technologies and methods which are more advance and efficient. This will lead to better growth rate of the country. Our machine which operates on solar power when compared to different traditional seed sowing methods, it can be concluded that:

- 1) Sowing rate can be controlled
- 2) Seed spacing can be achieved
- 3) Less manual power is required
- 4) No pollution is caused
- 5) Economical
- 6) Variety of seeds can be sowed

V. REFERENCES

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