

Review of Solar Operated Seed Sowing Machine

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ABSTRACT

Indian economy mostly based on agriculture. About half of the total population of our country has chosen agriculture as their chief occupation. The states like Maharashtra, Punjab, and Kerala, Assam are highly involved in agriculture. It all started due to the impact of, "Green Revolution" by means of which farmers came to know about the various techniques involved in farming and the advantages in it. As centuries passed, certain modern techniques were invented in agriculture due to the progress in science. These modern

techniques included the use of tractors for ploughing the field, production of pesticides, invention of tube-wells etc. Since water is the main necessity in this scenario, techniques were discovered which would help in watering the field easily, consume less water and reduce human efforts. These discoveries improved the standard of living of farmers.

KEYWORDS:- seed sowing machine, performance detection, solar panel, solar power, agriculture.

I. INTRODUCTION

India record of progress in agriculture over the past four decades has been quite impressive. The agriculture sector has been successful in keeping pace with rising demand for food. The contribution of increased land area under agricultural production has declined over time and increases in production in the past two decades have been almost entirely due to increased productivity. Contribution of agricultural growth to overall progress has been widespread. Increased productivity has helped to feed the poor, enhanced farm income and provided opportunities for both direct and indirect employment. The success of India's agriculture is attributed to a series of steps. The major sources of agricultural growth during this period were the spread of modern crop varieties, intensification of input use and investments leading to expansion in the irrigated area.

II. METHODOLOGY

The operation of solar operated seed sowing machine is simple. Machine can be operated wirelessly and Bluetooth and mobile phones etc. Solar panel use to charge the battery in day time and we are doing one electric charging option too if solar not available.

III. DESIGN PARAMETERS

Motor Load Capacity = 1kg N/m² @12vdl

Motor Speed = 30 RPM

Complete Structure Weight = 20kg

Motor Torque = 1Kg N/m²

Machine Speed = 10 kmph

Solar Panel Voltage = 12 V

Current = 1 amp

Battery = 12 V 7 AH

Battery Charging Time = 7 Hrs

PROPOSED DESIGN MODEL

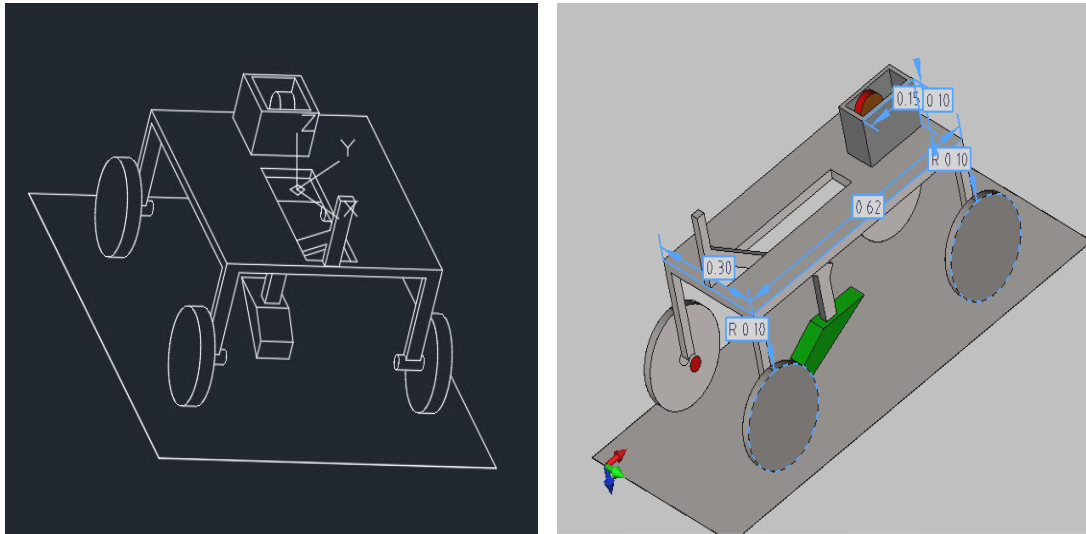


FIGURE:- 3D VIEW OF SOLAR OPERATED SEED SOWING MACHINE

CONCLUSION

As a conclusion, in order to design and develop an autonomous seeder for a fertigation farm has been successfully conducted. All the subsystems such as navigation systems and spraying systems are included. Although the navigation part has been tested, the autonomous pesticide sprayer robot can be wirelessly navigated by android app. For future works, the spraying pressure of the autonomous seeder robot will be tested and the electronic circuits need a waterproof structure. Therefore, the isolation of the electronic component should be done well by separating each electronic component in the container box to prevent it from being damaged if the flooding or leakage happened inside the robot.

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