



## MULTIPURPOSE THREE IN ONE AGRICULTURE AUTOMATION SYSTEM

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**Abstract**—This agriculture is most important economic activity, providing the food, feed, fiber and fuel necessary for the survival. As the global population is increasing rapidly, agriculture production must double if it is to meet the increasing demands for food and bio energy. Automation can play a significant role in society meeting agriculture production needs. For six decades robots and automation have played a fundamental role in increasing the efficiency and reducing the cost industrial production and product. So by considering same approach we have developed a Multipurpose Agriculture Automation System which will do 3 task in one go that is we can cut grass, spray liquid insecticide and sowing machine at the same time using single system

**Keywords**-Agriculture; Automation; Switches; sprayer; liquid tank; cutter; crops.

### I. INTRODUCTION [10pt times new roman, Bold, Uppercase]

All in a proposed system we have design a structure consists of three configuration that is DC motor, Vacuum Sprayer and Tank - Pipe spray arrangement. In first configuration the cutter is connected to motor shaft which will use for grass cutting. DC motor through switch through switch S1. In second one the vacuum sprayer will be used to spray powder on the crops. AC supply of 230 volts is provided to powder sprayer through switch S2. And in third configuration tank is fitted with a liquid insecticide. We have inserted a small pump in tank and the pipe has taken out from the pump to the spray, AC 230V supply is provided to the pump through switch S3. In this way we can perform three different task using single Automated System. This system will be efficient and will definitely save time and labor work for agriculture work

### REASON FOR SELECTING THE PROBLEM

- Lack of mechanization in farming
- Required excess efforts for different process
- Required more man power
- Excess time consumption for performing individual

### SCOPE OF THE PROJECT.

For Multifunctional agriculture instrument mainly focus on the basic problem faced by the farmer i.e. Seed Sowing, fertilizer spraying, and grass cutting. We are looking this project as revolution in small farm in India, which is most uncovered area in this sector is cost and more efficient way

### LITERATURE REVIEW

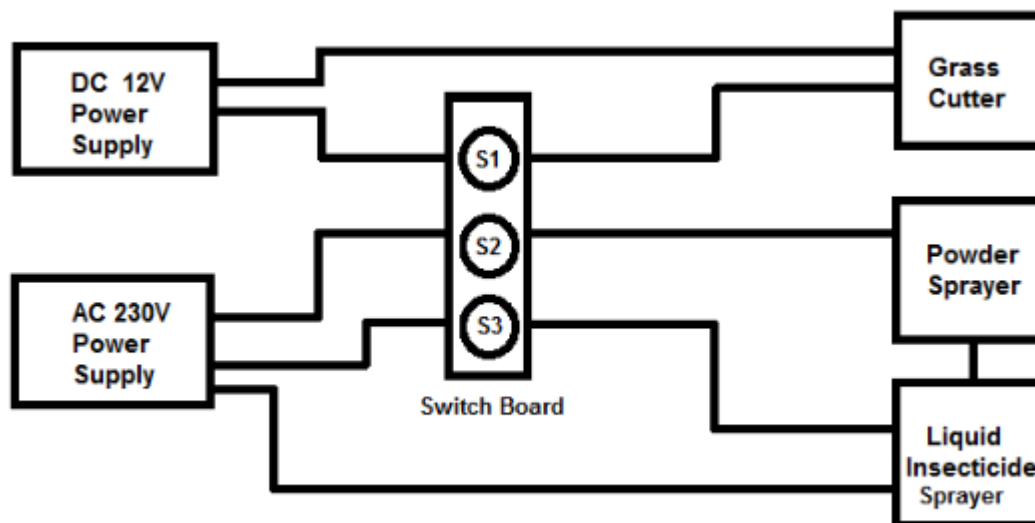
**Rashmi S.Chimote**, (2016), in this research paper author has mentioned that human and animal efforts can be replaced by some advance mechanization which will be suitable for small scale farmer from economical and effort point of view. So we are developing this equipment which will satisfy all this need and to solve labour problem.

**Nataraj.G.K**, (2016), in this research author has mentioned that As agriculture was the mainstay of the population, farmer required hand tools to do work, improve labor productivity and quality of work, therefore the results in poor productivity and obtain low yield MAE( Multipurpose Agriculture Equipment) was developed. We have developed agriculture needs to find new ways to improve efficiency. One approach is to utilize available information technologies in the form of more intelligent machines to reduce and target energy inputs in more effective ways than in the past. The

advent of new concept gives the opportunity to develop a complete new range of agricultural equipment based on small smart machines that can do the right thing, in the right place, at the right time in the right way.

**Aditi D. Kokate** ,( 2017 ) , in this research paper author has mentioned that robot capable of performing operations like automatic seeding, irrigation, fertilization. It also provides manual as well as auto control. The main component here is the ARDUINO that supervises the entire process. At the present time, robots are increasingly being integrated into working tasks to replace humans especially to perform repetitive task. Seeding is one of the first steps in farming.

**Ahuja Jayesh**, (2017) , This paper represents an innovative multipurpose machine for carrying out different farming activities efficiently with less effort and in less time. Different farming operations proposed to be carried out by this machine are seeding, digging and spraying. It is an ecofriendly device working on solar energy



**Block diagram of Multipurpose Agriculture Automation system:**

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