

Revolutionising Agriculture with Remote-Controlled Automatic Sprayer Machines

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Abstract The agricultural sector is undergoing a rapid transformation with the integration of technology to improve efficiency, sustainability, and productivity. In this context, the development of a Remote-Controlled Pesticide Sprayer for agriculture offers a promising solution to address the challenges associated with traditional manual spraying methods. This abstract provides an overview of the concept, design, and benefits of such a system. The Remote-Controlled Pesticide Sprayer is designed to automate and optimize the process of pesticide application in agriculture. It consists of a self-propelled vehicle equipped with a pesticide spraying mechanism and remote-control capabilities.

Keywords: Pesticide Sprayer, Automation, Remote Monitoring, agriculture, harvesting,

1. Introduction

In recent years, the agriculture industry has witnessed a profound transformation due to advancements in technology. One such advancement that left an indelible mark on modern farming is the Automatic Sprayer Machine. This remarkable piece of agricultural equipment has revolutionized the way crops are cared for, making it possible to achieve higher yields, reduce resource consumption, and enhance overall productivity.

Gone are the days of manual spraying, which was not only labour-intensive but also prone to human error. With automatic sprayer machines, farmers now have access to a reliable and efficient tool that helps optimize the application of fertilizers, pesticides, and other agrochemicals while ensuring consistent coverage across fields. This review delves into the features, benefits, and implications of this technological marvel.

2. Literature Survey

Design and construction of a serious pesticide spraying device for various agricultural crops. The sprayer is a type of agricultural equipment used to apply insecticide and spray liquid on agricultural crops. The general spraying technique uses hand-operated and power sprayers that are backpack-style, which cover a very small area during application and necessitate a longer application period, increasing the labour cost of the sprayer and making it more important to have a 360-degree feature and adjustable pipe length during real-world testing on various agricultural crops [1]. Many attempts have been made to reduce the numerous tasks requiring human labour in agricultural processes. The most recent Modern technology can increase comfort, but the cost is a bigger worry. Control, output pressure and velocity, wheel rpm, field rolling resistance, mechanism, and weight on the wheels are the variables that affect pesticide and fertilizer quantity. The majority of designs rely on a slider crank mechanism, a belt and pulley, or a motor to move things. The versatile pesticide spraying device uses non-conventional energy sources, such as solar energy, to charge the batteries that power the pump. The machine has been powered by the same energy. Despite being a one-time expenditure that lowers operational and labour costs,