Review Paper on Automatic Mulch Laying and Hole Generation in Farm

Harshvardhan Dattatray Jadhav¹, Jitendra Jalindar Kadam², Anil Dada Karche³, Hanumant Prakash Kharat⁴, Wasnik Monish⁵
BE Student¹,²,³,⁴, Assistant Professor⁵
Department of Mechanical Engineering
S. B. Patil College of Engineering, Savitribai Phule Pune University, India

Abstract:
Mulching has become an important practice in modern field production. Mulch paper reduces the application of chemical fertilizer and herbicide, weed control and maintain the land temperature. This article reviews the published research on paper mulches and discusses the opportunities that they solving the problem in agriculture.

Keywords: Paper mulch, soil moisture, soil temperature, weeds control

I. INTRODUCTION

Farmers and horticulturists use mulching as a method of improving the condition of agricultural soils by covering the soil surface with different kinds of material. Improvement of the soil physical environment contributes to better plant production. Covering the ground with mulch adds organic matter to the soil, reduce weed growth, and reduce or eliminate erosion. In landscaping, several kinds of organic mulches are widely used to control weeds and to enhance plant health. Recently, colored and reflective paper mulches have been developed to meet the requirement of individual crops and locations. It is well known that plastic mulch film increases the yields of many crops by inhibiting weeds growth and increasing soil temperature and moisture as well as reducing pest infestations. The use of plastic mulch has also become a standard practice for many farmers to control weeds.

The main advantages are:
(1) The improvement of the physio-chemical soil properties;
(2) The management of weeds;
(3) The protection from nematodes.

II. CAD DESIGN

![Figure 1. CAD Design](image1.jpg)

Figure 1. CAD Design

III. CONSTRUCTION AND WORKING

![Figure 2. Construction and working](image2.jpg)

Figure 2. Construction and working

We are fabricate a mulch laying farming equipment consist of paper wound as shown in figure. On the paper wound rod we mount the mulch paper size of 5 foot which is adjustable. We also fabricates two mild steel rods which are tilted at an angle 15 degree parallel to each other with specific distance so that zigzag paper wound between this two tilted rods. Now parallel to the tilted rod we make the rod which is made from gray cast rod to tighten the paper. After tightened the paper on the rod it goes below the tire. So that it will automatically pack with the pressure of tire on the bed and further as the inclined two plates attached after the tire with some distance covers the paper with soil on the bed so that it help to tightened throughout the hole bed length.

IV. FUTURE SCOPE

We fabricate the mulch laying farming equipment. But it only for laying the mulch paper on the bed. In future automatic hole generation on the mulch paper also done back side of the
equipment so that human work as well as time saving work will done.

IV. REFERENCES


