A REVIEW :- AUTOMATIC SEED SOWER WITH WATER SPRAYER MACHINE

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Abstract:
Modern era is speedily trending toward rapid growth in mechanization is all sector’s including agriculture field. It is the vast field in India need to implement the new techniques which will never affect soil fertility but will increase the production rate. To meet future food demand.

This paper gives solution on the all the problem faced by Indian farmer during the sowing and spraying of fertilizer. In major field crops oats, wheat, and are sown by using the bull by traditional method. This method is costly as well as time consuming. This can be reduced the time and effort in the sowing process by using the seed sowing machines.

Also due to the financial problem and divided of land in pieces farmer are unable to purchase the tractor and other costly equipment’s so it will be helpful for them. Easy to handle and repair by farmers. The main objectives of this project is to reduces cost and get maximum efficiency in farming sector.

Keywords — Sowing techniques, Seed spacing, seed storage container, Fertilizer, Spraying

I. INTRODUCTION

In order to reduces the harm to environment and people. The R&D play important role agro industry is widely spaced in India. Inside the agricultural field enhancement is required to maintain economic balance based on farming, day by day farmers committer suicides due to low productivity and financial problem. To make the strong support need to implement such project that can be help them to grow and also made available easily and in cheap rate.

This project about the seed sowing automatically and spraying also by overcome drawback of traditional method. IT will reduces cost and save the time of farmer. For sowing seed with proper distance spacing and depth can be done by this process. Effect of farmer to carry heavy pump and harmfully pesticides on their back can be reduced by the help of this project. It is helpful for small scale farming. Even average land holder in foreign country uses proper mechanization for agriculture which lead to great achievement for increasing crop productivity. In India small farmer to purchase costly equipment is difficult.

In agriculture sector use of cheap and beneficial equipment for effective and spraying for increasing productivity which is very important for better contribution of India GDP. Near about 14% contribution in GDP and this can be done with the help of mechanization and innovating by which project. It is eco-friendly project that can help in reduce population that can be cause by use in reciprocating pump.

It also help to reduce health problem of farmer due to carrying heavy sprays and fertilizer.

2. OBJECTIVE:

The main objective of sowing operation and water spraying is given below.

- Achieve the distance between two seed to seed and depth of required for different type of crop.
- To achieve uniformly in distribution of seed as well of water.
- To manufacture this machine by the single operator.
- Different type of seed can be easily sow like maize, wheat, soybean etc.
- To easier the operation of spraying.

3. Scope:

- To reduce labour problem as well as time, cost, etc.
- Design and fabricate such equipment to perform both the operation seed sowing with water sprayer more efficiently.
- Women effort in pumping is save.
- Increase capacity of spraying.

4. Sowing and spraying technique:

Traditional sowing process:

Traditional process is the process of sowing in which seed is sow by using Bull. Traditional method include broadcasting manually, opening furrows by a country plough and dropping seed by hand. For sowing in small area dibbling that is making hols by a stick or tool and dropping seed by hand. Traditional sowing method has some limitation are given below.
• It is not possible to achieve uniformity in distribution of seed. A farmer may sow at desire seed rate but inter-row and inter-row distribution of seed is likely to be uneven resulting in bunching and gap in field.
• Labour requirement is high for dropping seed and fertilizer.
• Poor control over the depth of seed placement.
• In this method use only simply tool

![Image of Traditional Sowing Process](image1)

**Water sprayer:**

- The backpack sprayer should be well maintained during the spraying season.
- If the nozzle worn out then delivery more water.
- The tank in this sprayer about four gallons of material.
- It is use limited to small area because of the perform on a walkway of person.

![Image of Hand operated Sprayer](image2)

**Dibbling:**

This method is use in case where supply of seed is limited. Sowing is done with help of implement know as dibbler. It is wooden or iron frame with pegs and frame is press in the field and lifted then one or two seed are dropped by hand of each the hole.

![Image of Dibbling Process](image3)

**Zero Tillage Technique:**

This type of method use for sowing when sowing is delayed due to multiple reason like a preparation of seed uncertain rainfall. The zero-till-ferti-seed-drill machine has been develop at university of agriculture and technology. This help advancing sowing of wheat at the time required is save. Zero tillage machine are provided with two lower link pins and a lift pattito attach the machine with tractor.

![Image of Tillage Process](image4)

**Planting:**

It is the placing of vegetative part of crops which are vegetatively propagat in laid out field. Every seed has a unique plating depth base on it’s overall size. In general a seed planting depth is approximately two to three times it’s diameter size. Some seed’s need to deep planting location so that sub sequent roots grow deeply for solid anchoring. All of the seed’s preferred planting depth depends on their natural environment.
5. Types Of Crop :

- **Kharif crops** : This type of crop sown in June-July when rain first begin and harvested in September-October.

<table>
<thead>
<tr>
<th>NAME OF CROP’S</th>
<th>DURATION IN MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOYABEAN</td>
<td>3 MONTH</td>
</tr>
<tr>
<td>BAJRA</td>
<td>4 MONTH</td>
</tr>
<tr>
<td>GREEN GRAM</td>
<td>2 MONTH</td>
</tr>
<tr>
<td>BLACK GRAM</td>
<td>2 MONTH</td>
</tr>
<tr>
<td>COTTON</td>
<td>4 MONTH</td>
</tr>
</tbody>
</table>

Table. 1 Duration in month

- **Rabi crops** : This type of crop sown in October-November and harvested in February. Requires warm climate for generation of seed and maturation and cold climate for the growth.

<table>
<thead>
<tr>
<th>NAME OF CROP’S</th>
<th>DURATION IN MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHEAT</td>
<td>4 MONTH</td>
</tr>
<tr>
<td>OAT’S</td>
<td>3 MONTH</td>
</tr>
<tr>
<td>GRAM</td>
<td>3 MONTH</td>
</tr>
<tr>
<td>PEA</td>
<td>3 MONTH</td>
</tr>
<tr>
<td>BARLEY</td>
<td>3 MONTH</td>
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Table. 2 Duration of crop

- **Zaid Crops** :

These crops are mainly grown in the summer season. The main produce are seasonal fruits and vegetables. They require warm dry weather for major growth period and longer day length for flowering.

<table>
<thead>
<tr>
<th>NAME OF CROP’S</th>
<th>DURATION IN MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PUMPKIN</td>
<td></td>
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<td>2. CUCUMBER</td>
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<td>3. MUSK MELON</td>
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<tr>
<td>4. WATER MELON</td>
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<tr>
<td>5. BITTER GOURD</td>
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</tbody>
</table>

6. WORKING PRINCIPLE:

When the equipment is pushed forward by using handles, the front wheel rotates and the gear is mounted on the axle of the wheel. It starts to rotate and its rotation is transferred to the pinion through the chain drive. The rotary motion of the pinion is converted into the reciprocating motion by the single slider crank mechanism. Due to this arrangement, the connecting rod moves upward and downward which reciprocates the piston of the single acting reciprocating pump mounted at the top of the storage tank. During the upward motion of the connecting rod, the pesticide is drawn into the pump and during the downward motion of connecting rod, the pesticide is forced to the delivery valve. The delivery is connected to the pipe carrying the number of nozzles.

Improved seed-cum-seed drills are provided with seed and seed boxes, metering mechanism, furrow openers, covering devices, frame, ground drive system and controls for variation of seed and seed rates.

7. CONCLUSION:

This project is remarkable change in agricultural industry toward the mechanization. It will help in increasing efficiency in farming sector. The main aim of this project to reduce the human efforts as well saving time and cost of production in
farming sector. It will reduce health problem faced by farmer during the spraying of pesticides like lumber pain and breathing problems and lung diseases. Control the seed depth and proper utilisation of seed can be done with less loss.

8. **REFERENCE :**