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TITLE:DESIGN AND FABRICATION OF EQUIDISTANCE MULTI SEED SOWING MACHINE

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Abstract

The equidistance seed sowing machine is mainly made for farmer purpose. Basic requirement of this machine to maintain equidistance between seeds during seed sowing. Also it is use for sowing various types of seeds such as cotton,pea,tuwal etc.sowing machine should be suitable to all farms, for seed sowing it should be reliable, this is basic requirement of sowing machine. Thus we will make sowing machine which is operated manually but reduces the effort of farmers thus increasing the efficiency of planting also reduces the problem encountered in manual planting. For this machine we can plant different types and different sizes of seed also we can vary the space between two seeds while planting. This also increased the planting efficiency and accuracy. We will make it from raw material thus it is so cheap and vary usable for small scale farmers. For effective handling of the machine by any farmer or by any untrained worker we simplified its design. Also its adjusting and maintenance method also simplified.

Keywords: Seed, Sowing, planting, Agriculture, Efficiency etc.

1.INTRODUCTION

Sowing is essential and tedious activity for any farmer in entire world, and for large scale this sowing activity is so lengthy for farmers also it needs more workers also for sowing and not getting accuracy and efficiency. Thus agriculture machines were developed to reduce the human efforts. In manual method of seed planting, we get results such as low seed placement, less spacing efficiencies. This also limited the size of field that can be planted. Hence for achieving best performance from a seed planter, the above limits should be optimized.we need to make proper design of the agriculture machine and also selection of the components is also required on the machine to suit the needs of crops.

The agriculture is the backbone of India. And for sustainable growth of India development, agriculture plays an important role. near about 75%

people are directly or indirectly depend on agriculture. The India has huge population and day by day it is growing thus demand of food is also increasing. In agriculture we saw various machines. Also many traditional methods are there. In old India traditional method is used. Also India has huge man power. This manual planting is popular in villages of india. But for large scale this method is very troublesome. The farmer has to spend his more time in planting. Thus it requires more man power to complete the task within prerequisite time which is costlier. Also more wastage of seeds happens during manual planting. Hence there is need of developing such a machine which will help the farmer to reduce his efforts and to increase sowing efficiency and accuracy while planting. This process of using machines is called as mechanization. Along with mechanization automation also helps to increase the efficacy of the process.

2. PROPOSED WORK

This machine has very less cost. This machine is very simple to use hence, unskilled farmer is also able to operate this machine. We simplified the design also made it cheaper and affordable to every rural farmer. We made various adjustments and simplified it from controlling and maintaining point of view. In this design we connected drive wheel to pinion with the help of chain drive. In upper side of machine there is hopper to store seeds. Below the hopper seed flow control arrangement are placed.



3. PARTS OF EQUIDISTANCE MULTY SEED SOWING MACHINE

1) Driving wheel:- Driving wheel are use to move forward the equidistance multi seed sowing machine. it also bear the load of hole machine. also driving wheel provide driving motion to the machine.



2) Shaft/axel:- It is long circular part of metal which mainly use to connect driving wheels. also it contain gear\pinion to transfer the driving motion from driving wheel to another pinion.

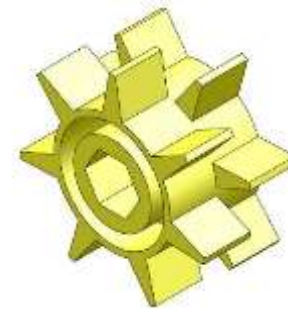


3) Hopper :- Hopper use to store seeds. it's use as reservoir of seeds. Also it help to control the flow of seeds.

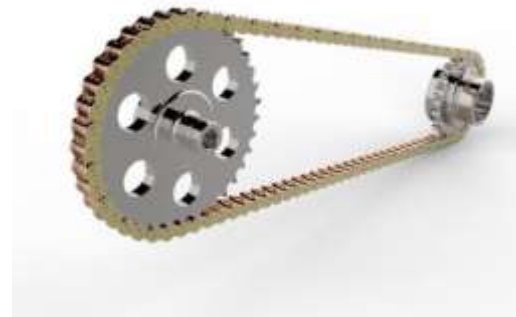
4) Soil Softening Blade & Soil Closing Blade :- Soil softening blade is use to soften the soil before sowing seed, while soil closing blade is use to cover the seed with soil.



5) Metering Unit :- Metering unit containing seed metering plate. it meter the seed at a predetermined rate/output.



6) Power Transmission Mechanism :- It's include pinions, gear and chain. Rotating axel contain pinion then this pinion transfer motion to another gear with the help of chain.



4. WORKING

Consider the equidistance multi seed sowing machine are pull forward by any mechanism then driving wheels are rotated. This wheels are joint by the mean of axel/shaft, pinion is also mounted on axel. This motion of driving wheel is then transfer to the metering unit with the help of power transmission mechanism. This power transmission mechanism contain pinion, gears, chain. Pinion of axel is connected to metering unit by the mean of chain drive. The main function of metering unit is to distribute seeds or control the rate of seed flow. First of all by this mechanism the seeds taken from the hopper then seeds pass toward the metering unit, then metering unit pass the seed uniformly into the soil with the help of seed tube. Before this method soil softening is done by soil softening blade, after softening the soil seeds are put in the soil by the mean of above process and after putting the seed into the soil then the seed is covered by soil closing blade.

5. APPLICATION

- It is mainly applicable for farmers to sowing seeds.
- It is also applicable for small space area.
- Less skill farmer can also easily operate.

6. ADVANTAGES

- Row to row spacing can be adjusted.
- Required seed spacing can be achieved.
- Less manpower is required.
- Varsity of seed can be sown.
- Seed flow can be control.
- It increases seed planting,
- Mainly it helpful for increasing efficiency of planting.

CONCLUSION

This seed sowing machine has great potential for increasing the productivity of the planting. Till now tractor was the main traction unit for nourishment in farming. With the adaptation of this seed planting machine its purpose will be done. Hence there is need to promote this technology and made available to even small scale farmers with affordable prices. This machine can be made by raw materials also which saves the cost of whole project and is easily manufactured in available workshops. The only cost is of metering device. Hence by using this machine we can achieve flexibility of distance and control depth variation for different seeds. Hence usable to all seeds.

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