FABRICATION of MULTI UTILITY AGRO MACHINE: a REVIEW

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Abstract:
India is an agriculture-based country in which, 70% of people depends on the outcome of forming. A study has been carry out to developed multi utility agricultural machine, for performing major agricultural operation like goods carrying, pesticides spraying ,dig the soil, saw the seeds, pump to spray water, plant cutter and grass cutter,theshole system of the machine works with kerosene generator. In this machine we use kerosene generator for plant cutter and sprayer form medicine tank. Next two operation are manual based on vehicle wheels which is used for operating seed sowing and grass cutter. Thespraying way for a more economical and multi usable equipment for former which also easy to clean and maintain, easy to handle.

Keywords — pesticide sprayer, plant cutter, lawn mover, seed sowing, agro machine, multipurpose agriculture machine.

I. INTRODUCTION
Agriculture is backbone of India. This field faces some problem such as how to maximize the profit. In India, we use method conventional method and mechanized type. Mechanization involves the use of a hybrid device between the power source and the work. Agricultural machinery is machinery used in forming or other agriculture. Mechanized agricultural is a process in which, we are use mechanized for increasing the farm worker efficiency. The most profit of mechanized agriculture saves labour cost. However, it also saves the energy and material and to improve the quality, accuracy and precision. The seed sowing pesticides sprinkling and crop cutting are the important stages in the agriculture field. The design of multipurpose agro equipment machine will help Indian farmers in rural side and small farm. It will reduce the cost of seed sowing, pesticides sprinkling and crop cutting the field and will help to increase economic standard of an Indian farmer.

Seed sewing machine is a device which helps in the sowing of seeds in the desire position hence assisting the farmers in the saving time and money.

II. LITERATURE REVIEW
2.1. SPRAYING METHOD
2.1.1 Backpack Sprayer:
In a backpack sprayer air is compressed and this air with a harness that allows it to be carried on the operator’s back.

Backpack sprayer is operated by hand and hydraulic pump that forces liquid pesticide through a hose and one or more nozzles.

In this process lever is used to operate pump. A pump plunger may be attached to the mechanical agitator. And sprayers can be generated pressure up to 100 pounds per square inch (psi) or more.
2.1.2 Lite-Trac

Lite-Trac is a trading name of Holmen Farm Supplies pesticide manufacturer of agricultural machines registered in England. Lite-Tractors used to very effective spraying on ground grass, and crop at medium size. Costly but effective and useful. For large farms.

Fig. 1 Backpack sprayer

2.1.3 Pump Pesticide Sprayer

The pump sprayer is mostly used for spraying medicine on crops. In conventional agriculture use of mechanized equipment is increases day to day. The main component of hydraulic sprayers are tank pump, lance and a nozzle. Sprayers makes a pesticide formulation by a mixture of water and chemical and it convert into droplets, may be large rain-type drops and very small almost invisible particles. The mixture of water and chemical can be forced through a spray nozzle under pressure.

Fig. 3 Pump Pesticide Sprayer

2.2 Grass Cutter

The grass cutter is working on two side wheels. Having two wheel contact with surface of lawn. Cutter blade are in middle which cuts the grass and collect in tin box.

Fig. 2 Lite Track

2.3 SEED SOWING

2.3.1 Seed Sowing

Mahesh R. Pundkar and A. K. Mahalleis presented review that gives information about the various types of innovations done in seed sowing machine available for plantation. In agriculture field the seed sowing is main process. If we required more benefit in agriculture product then we makes good seed sowing machine and modern equipment. Studied of mechanise equipment in agriculture, fulfil the food requirement of big population and helps to increase in income of agriculture due modernization in agriculture. Mechanization reduces the unit cost of production through higher productivity and input conservation.
2.3.2. Seed sowing by tractor

Seed sowing by tractor consists of seed box, seed tubes, furrow openers, seed and fertilizer rate adjusting lever and power transmitting wheel. Because of the shaft, the rollers are driven and it gets more power from the wheel. Fluted rollers are fixed in the seed box which receives the seeds into longitudinal grooves and it drops seed in seed tubes which is attached to furrow openers. The length of the grooves exposed to the seed is shifted by the rollers sideways. This can be increase or decrease and it done the amount of seed sown.

2.4. Plant cutter

Plant cutter consists of a cutter and bevel gear arrangement. Cutter is made up of cast iron and has 56 teeth. Bevel gear transfers motion of shaft to the cutter.


