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"MECHANICALLY OPERATED SPRAY PUMP"

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Abstract —*As on today the whole world is facing a problem of energy crisis. If we want to continue for prolonged use of energy then we must try to save it as much as we can whether it is on large scale or small scale. Today we use various spraying technologies involving use of electrical energy, chemical energy of fuels. This fact makes us know that how large content of energy is getting used at such a places where mechanical energy can be used instead of direct energy sources.*

Keywords-*Pump, spra,y, operated, farmer ,mechanical*

I. INTRODUCTION

India is land of agriculture which compromises small, marginal, medium and rich farmers. Small scale farmers are very interested in backpack type sprayer because of its price, versatility, cost and design. But this sprayer has certain limitations like it cannot maintain required pressure; it leads to problems of back pain. However this equipment can also leads to misapplication of chemicals and ineffective control of target paste which leads to loss of pesticides due to dribbling or drift during application. This phenomenon not only adds to cost of production but also cause environmental pollution and natural imbalance in echo system. The manually operated spray pump which will perform maximum rate in minimum time. Constant flow valves can be applied at nozzle to have uniform nozzle pressure. In the modern agriculture, the usage of pesticides is still increasing; moreover the 90% of these pesticides are being applied in the form of liquid spray and mostly by using the pressure gained from direct energy sources like electrical energy, chemical energy.

II. FORMATTING YOUR PAPER

• **Published in:** International Journal of Engineering Research & Technology There are different types of cultivators in India namely small, marginal, medium and rich. Small scale farmer's use conventional manually lever operated knapsack sprayers because of the three reasons; it is user friendly equipment, ease of design and cost effective machine. But it cannot maintain required pressure; it also leads to lumbar pain. However this equipment can also lead to misapplication of chemicals and ineffective control of target pest. It leads to the loss of pesticides due to dribbling or drift during application. This process not only adds to cost but also hazardous to the environment and causes imbalance in natural eco system This paper suggests a proto type of foot operated pesticide spraying pump. It helps spraying at maximum rate in less time. Performance of a chemical injection sprayer system, found the time delay of concentrated pesticides through injection sprayers to be significant, and proposed injection at the individual nozzles as a possible solution to shorten delays .Development of a direct nozzle injection system that overcame the concentration variation problems reported by previous researchers . Simulation are used to comp are chemical application accuracies for various designs of injection sprayers. They found that reducing the diameter of the fluid lines near the end of the sp ray booms imp roved overall application accuracy

III. FIRST-ORDER HEADINGS

1Frame

- **Material:** - M.S.
- **Machine**:- Cutting Machine/Drilling Machine/Tag Welding Machine/Sander
- **Operation:-** Cutting/Drilling/ Welding/Finishing
- **Specification:-** width=364,length=420,thickness=24.5mm
- **Cost:** - 400Rs.
- **Quantity:-** 1

2 **Material:** - M.S.

- **Machine**:- Cutting Machine/Drilling Machine/Tag Welding Machine/Sander
- **Operation:-** Cutting/Drilling/ Welding/Finishing
- **Specification:-** width=364,length=420,thickness=24.5mm
- **Cost:** - 400Rs.
- **Quantity:-** 1
- **Design Application:-** All assembly part mounted on frame

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