PADDY SEED BAGGING MACHINE

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Abstract

A simple manually operated seed bagging machine made of locally available materials using local manufacturing technology was designed, fabricated, and tested for collecting and bagging of grains(paddy) dried on concrete pavement. The invention belongs to the technical field of agricultural machines, and relates to a tool applied when grains are collected after being aired, in particular to a manual seed bagging machine. Grains are automatically loaded into a hooper by pushing the manual grain bagging machine with hand. then the grains in the hopper falls on the conveyor belt, which is arranged to the machine, by the rotation of the conveyor belt the grains move up wards and fall in the bag which is arranged to the machine. A simple manually operated grain collector and bagging had the following major components: frame, wheel, long pipe, vertical stand frame (bars), horizontal bars, collector, bar, motor, conveyor belt and a metal hopper. Radial flat bladed type base plate, slot bar, sweeping box, bagging area, frame and the lifting system by conveyor belt and motor. Results showed significant differences on the collecting capacity, and noise level. Other parameters such as collecting efficiency, air velocity, augmented cracked grain percentage. The design was made based on certain assumptions and calculations and the collector was built, tested and evaluated.

1. INTRODUCTION

Product design is the process of creating a new product which has to be accepted by the customers. In a broad concept, it is essentially the efficient and effective generation and development of ideas through a process that leads to new product. In a systematic approach, product designers will conceptualize and evaluate ideas, turning them into tangible inventions and products. The product designer's role is to combine art, science, and technology to create new products so, that the consumers can use.To check the

losses of agricultural grain crops in the field, it is needed to measure the amount of grains fall to the ground during harvest by combine. Separating the grains from the soil and collecting them from the ground and in the groove of the land by hand and by holders is a hard work and time consuming to that is not precisely done. Hence the need for a machine to collect the grains in the field has been identified. The development of a growing population increases the need of food day by day. This project aims to design and fabrication of collecting and storing of grains by manually. Main objective behind designing and fabricating the bagging and collecting of grains is to reduce the human effort and also reduce time taken for storing. This project mainly helpful to the former the problems faced by small scale farmers relating with availability of labors and cost of collecting and storing finally It is also capable of reducing time wastage, reduction in breakage of the grains.

2. RELATED WORK

A review of the literature reveals that, different types of grain collector machines have been successfully used for grain colleting bagging machine. However, most of the studies deal with effect of change in power sources likes electrically operated, engine operated, hydraulically, Pneumatic machines etc. to run a machine and collecting grains. Survey also provides clear idea about the drawbacks of traditional type of grain collector machine and how this machine can overcome from these drawbacks. The benefit of manually mechanically operated systems ,So, came to know there is no machine is used for collecting grains with simple mechanism using conveyor belt, therefore we develop our model to overcome those problems. The present work explores this possibility by mechanically operated collecting grains with use of electric power or battery power.

3. IMPLEMENTATION

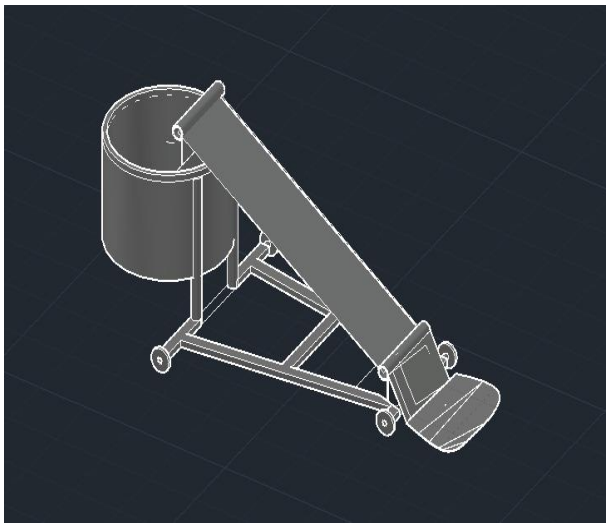
Manually filling the harvested grains in bags by the workers takes much time and more wages should give to the workers. Workers can not work more time under the hot sun for many hours. After filling of bags with the grains it is hard to carry to a storing place and that work should be done by the workers who are fit and strong, and women cannot do such work as men .To over come this type of problems our project helps more and we use a simple mechanism to run the machine easy by any one (men or women), by the use of conveyor belt.The main objective of this project work is to design and develop a manually operated grain collector that can be easily manufactured locally from

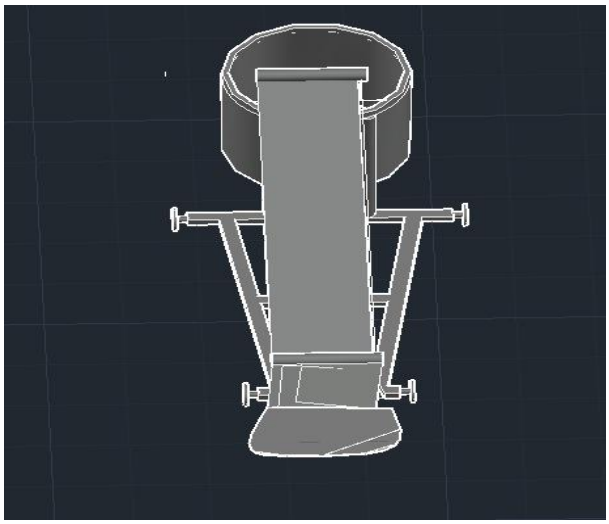
available local materials and low cost it will replace the old traditional process. A manually operated grain collector developed with major list of objectives. To fabricate and assemble the designed seed bagging machine. seed bagging machine is small machinery for efficient collection of all types of small size grins. The machine has a simple construction and is light in weight which makes it easy to handle.To minimize manpower and reduce the hard work. To minimize the time for collecting.The traditional sun drying method of a paddy is still widely practiced by most farmers. The practice includes hauling of a paddy in bags to the drying area, spreading out the paddy in the drying floor using wide board, then evened and slightly furrowed with wooden rakes. Mixing and turning the paddy are done regularly to ensure that the paddy is dried evenly. After drying, the paddy is piled using a wooden board. After wards, the paddy is placed into a bag using a metal scoop (Pancake). All of the above operations are done manually consuming too much time and effort. Collecting and bagging operation is considered one of the difficult tasks in sun drying. This study was then conceptualized by looking into existing designs of grain collector good features of the existing design were considered for adoption, adaptation, and simplification to come up with the prototype. Design requirements satisfying local condition were identified. Design data then were based on market information of available parts and components of grain collector. Based on design requirements and design data, a design drawing was prepared. Fabricated prototype was subjected to evaluation to determine its operating characteristics. Shows the conceptual framework of the study.

4. EXPERIMENTAL RESULTS

Seed bagging machine useful for collecting grains from the floor and a conceptual model was implemented and fabricated successfully. It has considerable potential to greatly increase the efficiency of collecting seeds with comparison of other traditional available techniques. The main task now is to promote this technology and have available to users at an affordable price. The seed bagging machine is made up of local components in workshop. This can be sourced at an inexpensive price from local traders. By using local materials, collecting of grains can be achieved.The grains spread over the floor that can be lifted and collected by using this collector. Here the hopper will be provided at the front of the machine and

bag is fixed back side of the machine. Machine can be operated manually when at rest position of the hopper the machine is moved the grains which is presented on the floor is to be collected in the hopper up to 4 to 5 kgs of grains.





5. CONCLUSION

The seed bagging machine that collects grains from the concrete pavement floor through the collecting bin and made to fall into the bag placed adjacent to it. This became the main motivation to fabricate this bagging machine. This machine reduces the grain collecting time and labor cost. As the main goal to reduce the usage of electricity we don't suggest the future scope with other mechanism rather the vacuum can be designed to reduce the time and mechanical force of labour or operator.

6. REFERENCE

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