

# REVIEW ON METHODS AND MACHINES AVAILABLE FOR COTTON BOLL PICKING

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**Abstract** - This Review Paper gives basic idea about the traditional methods being implemented to harvest cotton in the field. It also describes the early technologies that were available for cotton harvesting which were huge in design and not beneficial for small scale farmer's. Our machine will reduce all excessive effort for doing harvesting. Now a days cotton picking is mostly done by hand picking by deploying workers directly into the field. And also by machines. Due to this excessive effort there are unnecessary investments on machines and workers. At the same time there is wastage of manpower. By using the present machines available for cotton boll picking the strength of the cotton fibre gets reduced and these machines collect unnecessary weeds along with the required cotton. By using our machine we can collect only the required material. And by this machine the cotton fibre strength is not get affected.

**Key Words:** Traditional Methods of Harvesting, Wastage of Man Power, Excess Money Utilised, Time Consuming Process, Weak Cotton Fibres.

## 1.INTRODUCTION

Cotton is one of the most important Textiles, when it comes for clothing and comfort purpose. Cotton is a black soil plant that is generally grown in less water and humid as well as dry conditions. This crop is generally taken in India at time of rainy season. This crop is beneficial as it requires less water and can sustain dry conditions. Cotton is use for textile purpose and hence it is important for Cultivation of cotton beneficially. In India Cotton farming is normally implemented by small scale farmers because of its low investment. Cotton is harvested in time between December to January. Traditionally Cotton was harvested through utilising manpower in filed which was quiet time consuming and causes excess expenses to farmers. In India cotton is mostly picked by hands. Most of the commodity which we used mainly consists of cotton. In India Gujarat is the highest cotton producing state followed by Maharashtra and Andhra Pradesh. Also as we see China is the largest cotton producing country in the

world. Mostly cotton harvesting in these country is carried out by large machineries. But in India cotton harvesting is mostly done with human efforts. As the machine's cost is unbearable for small scale farmers.

## 1.Traditional Cotton Harvesting Process

Traditionally a small scale farmer used to deploy 2-3 workers in his farm ranging between 4-8 acres, They use to work whole day in field and harvest the farm. On an average it took 2 days for 3 workers to harvest whole farm. This traditional process was a lot more time consuming and causes excess pay to farmers. He has to pay daily wages to farmer which was not beneficial to him. At same time due industrialisation, migration of peoples from villages to cities in search of job and better life, causes the deficiency of manpower and workers in village. In hard conditions for prolong delay in harvesting causes loss to Production due to climatic factors.

## 2. Early Advancement in Cotton Harvesting Machines

With technological advancement and development in science, various new techniques were brought in use. They were deeply dependent on the suction force used to pick cotton in field. There developed various machines which use a hydraulic tool to pick cotton in filed. Some machines directly harvest the complete field through its big tool machineries equipment. The big problem arising with these machines was that excess work of separation cotton from its weed was increased. Due to mixing of cotton ball with weeds and other parts caused the adverse effect on the quality of fibres produces in cotton. They use to damage the fibres of cotton which implant poor strength to the textile.

Al so these heavy and Costly machines were inappropriate for small scale farmers as it costs much more than the total profit generated by the small scale

farmers. These machines were not useful and cause much energy consumption.

There was scope generated with idea of portable and handy machine design which was efficient than the previously developed machines. With due development of the idea to design a hand and portable machine which was able to be capable of working as compared to 2-3 workers at single device.

This idea gave birth to the design of a cotton picking machine which would work on the suction pressure developed. And this suction pressure was used to suck cotton from cotton ball. Basically the design of machine consist of a suction motor which runs on a high speed rpm to develop the desired suction pressure that can suck the cotton from cotton ball. It was basically dependent on the idea of working of vacuum cleaner machine. It has a hollow long pipe head which sucks cotton form cotton ball. This machine was inadequate and improper in use since it sucks cotton as well as the nearby weeds attached to the cotton. The sudden fall in suction pressure due to blockage in motor by weed causes the machine to stop functioning and causes improper and unnecessary interruptions to the process.

### 3. PROBLEM IDENTIFICATION

1. The main problem identified through this traditional process was the process was time consuming and was of headache to farmers with scarcity of labours.
2. The high and massive output machines mainly clear the farm along with the weed and the cotton.
3. The same problem was arriving with the suction pressure machine, due to high suction force this machine was sucking cotton along with the nearby available weeds with the cotton ball.
4. This adversely affects the quality of cotton and the strength of cotton fibres.

### 4. CONCLUSIONS

- We conclude from all above references that, the main conceptual idea behind the working of cotton picking machine was of suction force.
- All of them utilised the suction force in one or different forms which caused them to remove the unwanted weeds from the crop.

- Overall conclusion came out to be that both the high yield machine and cotton suction pressure machines creates excess work of separating cotton from weeds. It implants poor strength to the cotton fibres and lowers the quality of cotton produced.

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