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MULTIPURPOSE CUTTER FOR AGRICULTURE AND DOMSTIC WORK A REVIEW

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ABSTRACT

As agriculture is one of the main occupations in India, it is very essential to discover and implement new ideas in this field, although a lot of work has been done in this area. It is a pity that these ideas are not properly implemented in the real field. This is due to the high cost and difficult for the rural population. Multi-purpose agricultural cutting equipment is the basic and main equipment involved in agriculture for maximum performance. The conventional method of planting and growing crops is a laborious process, and therefore there is a shortage of manpower, resulting in a delay in agriculture to difficulties. Multi-purpose overcome these agricultural Equipment is designed. Agriculture plays a vital role in the Indian economy. Over 70% of rural households depend on agriculture. Agriculture is an important sector of the Indian economy, contributing approximately 8.4% to the total GDP and providing employment for over 60% of the population. Indian agriculture has experienced impressive growth over past few decades

Keywords: agriculture, GDP, crops, rural.

INTRODUCTION

Presently the agriculture industry has come up with vast range of equipment for efficient forming. At the same time the main drawback is that it is not affordable by farmers with poor economical background. This machine can be used for cutting variety of crops and help the small scale farmers with the cost effective technology.

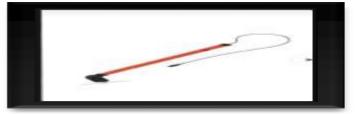
II. LITERATURE REVIEW

I.

R. Abarna et al. In this paper , we came to know that the current method of deploying sugarcane sets proved laborious, time consuming and costly, a farmer , faced acute difficulties in cultivation and alternative method of planting individual saplings did not help. It was hampered by lack of availability of saplings in large numbers. The machine can handle various sugarcane sizes and diameters. Traditional method for cutting sugarcane node cause wastage of sugarcane and time. The sugarcane bud cutting machine is very useful to small scale farmers to cutting sugarcane node. Also, time is saved by this process as compare to the traditional system of sugarcane node cutting. Prof. A.A. Tamboli et al. In this paper, we studied that sugarcane planting with traditional method is costly, time consuming, required great human force and high volume of sugarcane stalk per hectares. The risk of injury is high. To produce maximum sugarcane traditional method is not suitable as sugarcane node cutting with traditional methods is costly, time consuming and it requires more human efforts.

III. DESIGN OF MULTIPURPOSE CUTTER

The design of grass cuter consist of body frame , Blade ,battery , cable .The power system have many Options but we will use rechargeable battery powered motor Which attached to the cutting blade. Sizing of battery powerdDepends on what we powering specially the motor like Batterries.



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IV. SPECIFICATION

Material Body-glass field nylon Automation grade – manual Blade size – 7 inch Case weight – 800 gram Cutting speed – 9000rpm Input voltage – 12 v

V. WORKING

The battery is supply to the power to motor a switch is connect between motor and battery to control the motor operation by starting and stopping it. The motor is providing a high speed rotation to the blade which helps to cut the grass the edge of cutting blades is very smooth and accurate

VI. TYPES OF BLADES

Straight shape Taper shape blade Larger blade



Figure 2: Name of Graph (Font size-10)

VII. CONCLUSION

We have designed this product this m/c can be used for cutting variety of crops and help the small scale farmers with the cost effective technology. As a result time consumption, human effort, labour force, cost of labour, etc., can be reduced.

VII. REFERENCES

- [1] Bainer R, Kepner RA, Berger EL (1978) principle of farmmachinery, 3 rd edn.Willey NewYork
- [2] Chakraverty A, Mujumdar AS,vijayraghvan GS ramaswanya HS (2003) Handbook of post harvest technology cereals, fruits, vegetables, tea and spices . Marcel Dekker Inc, p 229-232
- [3] Chancellor WJ (1988)ncutting of biological materials. Handbook of engineering in Agriculture ,Vol 1. CRC prenoINC, p 35.