DESIGN AND DEVELOPMENT OF A VERSATILE CROP HARVESTING MACHINE

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OBJECTIVES:

1. To design and develop a crop harvesting machine
2. To evaluate the performance of the designed versatile crop harvesting machine for harvesting maize, jowar, sugar cane etc.

METHODOLOGY:

The crop harvesting machine as shown in figure. The machine is used to the hard stem or stalk of the different crops. When the vehicle moves in the forward direction the cutters are rotating in the opposite direction to each other which cuts the crop stalk and slides on the guide plate attached above the cutters. The stalks on the guide plate are slides up and move in sideway, and then fall in a line. At the same time at the bottom of the vehicle seven root ejector rotors are fixed to the shaft which will remove the roots of the crop. When forward stroke is completed cutting of stalk and remaining roots are removed. In return direction it will collect all the stalks by lifter, which can be moved up and down with the help of power screws attached at rear end of the vehicle. The collected stalks are loaded to the other vehicle by the lifter by using the double acting pneumatic cylinder arrangement. When stalks are collected then the cutters are moved inside the plate which is above the cutters, then the guide plate will comes down to the ground clearance of up to 1 to 2 inch and collect the roots which are ejected by root ejector.
EXPECTED RESULTS:

1. Reduce the cost of product.
2. Efficient harvesting of crop.
3. Reduces the manual operations.

APPLICATIONS:

1. It used in the small & medium scale agriculture.
2. It is used as low cost compact agro machinery.