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Personal Groundnut Separation Machine for Local Farmers (GS Machine)

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ABSTRACT
Applying improper crop cutting techniques can result in loss and damage to crop harvesting. The process of pruning crops from roots like peanuts can be done manually or mechanically. The mechanical cutting process is performed using a threshing machine. Studies have shown that the machine is rarely detected in the area. Purpose of this study is to create or develop ideas of cropping machines for separating crops from root. With this idea, the farmers can easily segregate their crops from roots easily. This research used the knowledge of farmers about existing machine and the results is recorded as data to develop ideation to design a proper cropping machine. The responses analysis shows that ideation of designing the cropping machine is acceptable and recommended by most farmers besides studying important elements in designing the machine.

Key Words: Crops, groundnut harvesting, manual harvesting, mechanical harvesting.

1 INTRODUCTION

Agricultural machinery is a machine used in livestock or other agriculture. There are many types of such tools, from hand tools and machine tools to tractors and the endless kinds of farm implements that they tow or run. In both organic and non-organic farming, diverse arrays of machinery are used. Agricultural machinery is an invaluable part of how the earth is nurtured, particularly after the advent of mechanised agriculture. Motorized threshing is normally performed in the field or near the field. Many stationary paddy threshers have peg-toothed threshed drums, but they are often used with wire-loop or rasp bars. Additional cleaning instruments, such as an oscillating panel, a centrifugal blower and a windboard, are equipped with broad stationary reservoirs. In several countries, computer threshes are operated by individuals who sell personalised operations to farmers. This allows farmers to arrange harvesting dates.

The method of pruning root crops, such as peanuts, can be easily carried out by using the same threshing machine. Unfortunately, the machine is rarely seen or used in a local farm and thus the process is carried out manually by most farmers, particularly smallholders. The installation of effective cereal harvesting machinery will reduce the time of harvesting and the loss of grain due to slow work in the manual harvesting process (Ojha and Nath, 1980). The aim of this study is therefore to create a structure, to create a concept and to define the role of a crop machine to distinguish crops from roots.

In addition to allowing local farmers to prune their groundnut quickly without compromising the quality of crops, one of the essential for the research is to provide an alternative simple and reliable way to build a cropping machine. Besides, the root separating machine intended to provide an effective technique for pruning groundnut particularly from their roots. These efficient methods of pruning will not only help to increase farm production but will also minimise the time required for the operation to be carried out. It is also intended to help local farmers, particularly smallholders, to have a modern machine for better output from their farms.