

Automatic Fruit Sorting and Grading machine

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b) Total project cost - Rs 256 lacs

c) Salient features -

This paper deals with the development of an automatic machine for fruit grading and sorting by international standards. This development is unique in the sense that similar machine is working in the national market. Automatic fruit grading and sorting has not been implemented widely for all types of fruits. In the present scenario manual sorting is more popular . India being an agricultural country , exports a huge quantity of fruits abroad. But still in our country @40% produce is wasted for want of facilities for preservation and processing. The processing industry processes a very small portion of produce These fruits have to be graded and sorted before being packed and sent to the international market for pricing. If done manually the process is slow and grading is done by visual inspection that could be error prone. Grading is done on the basis of various criteria like weight, shape , color ,size etc. In this machine these factors are taken care by image processing and weight measurement through load cell. In this development the sorting and grading is done principally by photographing the entire surface of the fruit and subsequently by processing the image. The main advantages of the present machine is it will facilitate automatic grading and sorting of apple in a non destructive method. The whole machine is cheap compared to other existing machines where robotic arms are used. It will also increase export of apple as it can process large volume in short time and does the quality assessment as per the requirement of export. In our country the entire produce of apple can not be taken to the storage place because of the lack of processing. But with this machine this can be achieved. It also facilitate the machine sorting of apple where human error is not introduced.

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