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Design and Development of an Apparatus for Grating and Peeling Fruits and Vegetables

M.K. Siti Mazlina, A.R. Nur Aliaa, H. Nor Hidayati, M.S. Intan Shaidatul Shima and W.H.W. Zuha

Abstract: Fruit grater and peeler are needed in the processing of fruits in order to save time required for fruits grating and peeling. Grating is important especially to make fruits for decoration purpose. A suitable grater is needed for specific decoration process. Grating is crucial for food (processing) industry to operate at minimal operating cost. Peeling by hand is time consuming and may require several workers to perform the operation. This may increase the operating cost. Therefore in this study, a machine was designed to automate the process of grating and peeling in one device. This new designed machine is used domestically. The machine is small-sized and lightweight and is convenient to store. It is comprised of a clamping mechanism, grater, peeling blade, movable arm and a pair of end-cutting blade. The prototype was tested for automatic grating and peeling process and manual peeling was also performed to peel the skin of selected fruits and vegetables. The prototype was able to grate several fruits and vegetables and also to peel the peeling time by 94% when compared to manual peeling.

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