DESIGN AND CONSTRUCTION OF MANGO FRUIT SORTING TOOL BASED ON WEIGHT USING IOT (INTERNET OF THINGS)

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ABSTRAK

Indramayu is one of the largest mango-producing areas, therefore sorting is one of the important stages in post-harvest activities for mangoes for farmers and collectors. This process consists of separating the product according to criteria such as weight. So that farmers and collectors try to provide the best for consumers by producing mangoes based on uniform weight. In general, the sorting process still uses human power so it requires a lot of time and energy which is relatively longer and allows the results obtained in the separation to be less than optimal. So in this study the author developed an IoT (Internet of Things) tool with a web application for monitoring the results of sorting mangoes by weight using a conveyor with Load Cell sensors and Proximity sensors. Farmers or collectors can monitor the results of mango fruit sorting data in real time at each predetermined weight grade. The results of the study are expected to facilitate the postharvest handling process of mangoes, especially at the stage of sorting mangoes by weight and obtaining uniform selection results. Based on the tests that have been carried out, the accuracy and precision values of the Load Cell sensor readings are 99.75% and 99.77%, then the accuracy and precision values from the Proximity-1 sensor readings are 100% and 100%, as well as the accuracy values. and the precision obtained from the Proximity-2 sensor readings are 100% and 100%. In other words, this tool can work well and optimally because it has an average accuracy of 99.91% and a precision of 99.92%.

Keywords*: Mango, Sorting, Weight, Monitoring*