

ABSTRACT

PT. Perkebunan Nusantara VIII that moves in the field of tea production, having a tea plucking that produce every 70 tons dry tea every day. Using a tea plucker/harvester machine if the tea plant productivity reaches 90%, and use scissors if the plant productivity only reaches 70%. The use of the tea plucking machine affects the quality of the leafs, with the cutting rate on the Big Fish-Single Leaf leaves at 24.3%, Janum-Small Fish Leaf at 31.1%, below mother leaf (P3) at 44.7%.

This research study aims to provide a recommendation design for a tea plucker machine, to improve the quality of the tea that being plucked on P2 level in PT. Perkebunan Nusantara VIII Ciater, using DFA (Design for Assembly) method. This research analyze that tea leaves has 3 kind of height, which is divided into 3, first ones is P1 for the highest quality, P2 for the average quality, P3 for the normal quality, and the fovus of this research ishow to design a tools that can help the machine to cut the tea leaves on P2 height so it can increase the crop productivity due to shorter time than when cutting tea in P3. Data collected through observation, field notes, and documentation.

The result of this research is a design proposal of process tools that has 6.4% efficiency difference than the previous concept. In the previous concept it has 88 componente, with assembly time of 1272 seconds, and the efficiency which only reached 6.4%. After the redesign process, the component are reduced to only 56 parts, which has the assembly time of 564 seconds, and the efficiency is 13.8%, where the redesign concept has little assembly time and number of components, and easy handling, retrieval and manipulation of components. As well as having the ability to cut tea at P2 level.

Keywords: P2, Process Tools, Productivity, Tea Leaves Quality, Tea Plucking Machine, Design for Assembly, Efficiency.