DESIGN OF THE TRANSMISSION SYSTEM ON A BETEL NUT PEELING MACHINE USING A 6 HP DIESEL ENGINE

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Abstract

The process of stripping the betel nut by the people of Bengkalis Regency is still mostly done manually using a plow, this can slow down and take a long time. Therefore, it is necessary to make a machine using transmission that is considered surprising and affordable by the public. The purpose of this research is to get a good peel of areca nut and increase production because this machine can save time and effort. The method used is to conduct a field study then conduct a literature study and start the design and collection of data and materials that will be used in the process of making the tool. Based on the calculation of the transmission components, it uses a v-belt 64 type B, the size of the pulley is 10 inches, and the shaft diameter is 25 cm. Based on the calculation of the capacity of the tool obtained by 197.5 kg/hour. From the results of the study with 2 kg of dried betel nut, the most peeled betel nut was 1,091 kg and the unpeeled was 0.07 kg with a stripping time of 21 seconds. Quality betel nut is obtained at engine speed of 1600 rpm.

Keywords*: Betel nut peeling machine, transmission system, diesel engine, betel nut*