

**OPTIMAZION OF ARECA SPLITTING TOOLS WITH VARIATIONS OF  
SPLITTING PULLY AND INTRODUCING PULLY TO THE YIELD QUANTITY  
OF ARECA NUT**

Name : Siti Umira  
NIM : 2204161098  
Supervisor : Bambang Dwi Haripriadi, ST., MT

**ABSTRACT**

*The betel nut splitting machine is a tool used to speed up a job to split the betel nut to make it easier for workers and can help the nut farmers so that the work is lighter and gets good results. Areca nut splitting machine that has been made in Bengkalis State Polytechnic has several obstacles, namely uneven division. This is due to the transmission system of the splitter. Transmission systems such as pulleys are very influential in the process of splitting areca nuts, especially for regulating the rotation in the splitting and conveying section. Therefore a study was carried out using splitting pulleys with a diameter of 254 mm, 305 mm and 354 mm and varying the introduction pulleys of 254 mm, 305 mm and 354 mm with the aim of obtaining a good percentage of areca nut yield, percentage of unfavorable cleavage and the resulting capacity. After conducting the research, the percentage of unfavorable hemisphere results was found in the 254 mm splitting pulley section with a 254 mm delivery pulley that is equal to 43.6%. The highest percentage of good results is found in the 354 mm splitting pulley section with a 354 mm introductory pulley that is equal to 87%. this is due to the greater the size of the introductory pulley and splitting pulley, the better the percentage of areca nut results obtained. For the resulting capacity there is more in the 254 mm delivery pulley and the 354 mm splitting pulley. the rotation of the splitting blade is 450 Rpm caused by the splitting pulley diameter of 254 mm. the magnitude of the diameter of the introductory pulley by 354 mm causes the rotation in the introductory blades to be slower which is 48.2 rpm so that when the nut is inserted into the hopper it becomes more regular or not too fast when meeting the splitting bar.*

**KEY WORDS:** *Areca Splitting Machine, Pully, Rpm Machine,*