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TAUNG TIP POONKASEMM : A STUDY OF FUEL BRIQUETTE FROM DURIAN PEEL
SUBSTITUTE FOR FIREWOOD AND CHARCOAL IN HOUSEHOLD USES. THESIS ADVISORS :
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This study examines the potential use of discarded durian peel as briquetted fuel. During the course of study, durian peel was sun dried until its moisture content was reduced to 45 percent or 10 percent (for cold or hot densification, respectively). The dried durian peel was densified by using hot and cold methods and energy consumption for densification and briquette energy output were analysed.

It was found that the durian peel briquetted fuel produced with hot densification method gave the highest heating value of 3,841.5 kilocalories/kg dry weight while briquettes produced with cold densification method using either no cementing agent, tapioca starch or molasses gave heating value 3,671, 3,699 or 3,625 kcal/kg dry weight respectively. These calorific outputs were comparable to eucalyptus fuel wood. Hot densification process consumed significantly more energy than the cold densification process: 0.45 and 0.08 kWh/kg dry weight respectively.

Finally, the test of heat utilization efficiency revealed that the durian peel briquetted fuel had 6 percent higher energy efficiency than eucalyptus fuel.