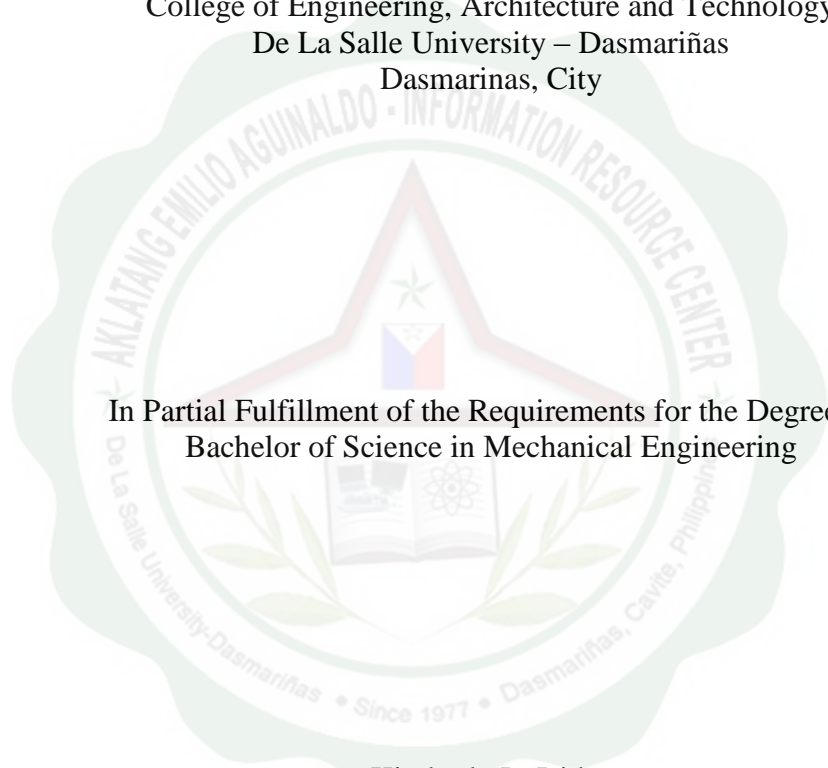


**“DEVELOPMENT OF A MACHINE FOR POST HARVEST PROCESSING
OF BLACK PEPPER”**

A Thesis Presented to the Faculty of Mechanical Engineering Department
College of Engineering, Architecture and Technology
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Bachelor of Science in Mechanical Engineering

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ABSTRACT

This undergraduate research was conducted to design and fabricate an integrated machine for threshing, sorting, and grinding process of black pepper found but not limited in Barangay, Tua, Magallanes, Cavite. Through interview with the farmers and continuous research and consultation, the mechanized processing of black pepper starts with feeding the hopper with pre-dried black pepper. The recommended drying of black pepper for the farmers is four straight days of sun drying to maximize the usage of machine. Quality of black pepper depends on the drying process of farmers and will not be covered nor improved by the machine. Upon feeding of pre dried black pepper, the thresher will separate the peppercorns from its stalk in the thresher drum. The threshed peppercorn and stalk will fall to the separator drum and automatically separate the peppercorns to its stem by continuously falling into different bins. Blower will be turned on to circulate air inside the machine to remove peppercorns and stalks that are stocked inside. Farmers will then have an option whether or not to sell grinded black pepper into the market or not. Also, the farmers have an option to manually drive the grinder or connect it to the motor for automatic grinding process of black pepper. The machine achieved a total production rate of 10.38 kgs per hour, the overall efficiency of machine is 82.77 percent and a process yield of 97.5 percent.

Keywords: Black pepper, Quality, Threshing, Sorting, Grinding