

**PERFORMANCE EVALUATION OF A CHOPPER MACHINE IN
PRODUCING ANIMAL FEED OBTAINED FROM OIL PALM
FRONDS : A CASE STUDY**

MOHD SYAFIQ BIN HARON

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ABSTRACT

PERFORMANCE EVALUATION OF A CHOPPER MACHINE IN PRODUCING ANIMAL FEED OBTAINED FROM OIL PALM FRONDS

The livestock sector is a source of economic in Malaysia. According Veterinary Department of the Ministry of Agriculture and in 2010, they said Malaysia has a total of 43310 cow breeders, 3925 buffalo breeders and 25509 goat breeders across Malaysia. Nowadays, farming industry faces a problem in the production of animal feed and various means have been made to overcome this problem is through mechanization. Mechanization which is an alternative used to increase productivity for the production of for age, mechanization was introduced by scientists and researchers invented a machine which is chopper machine. Objectives this study is to identify effectiveness in producing product and research on physiological factors determining energy expenditure in terms of heart rate and rate of calorie burning while doing work. Case study was conducted in Ladang Ternakan Rusa Rong Chenok, Pasir Mas, Kelantan using chopper machines Victa model VCM-250. Based on results of the study, chopper machines shows that actual productivity lower than the theoretical productivity. Heart rate beats recommendations for a normal healthy adult males will stand at 70-80 beats per minute, heart rate and rate of calories burned for a man can change based on the type activities of certain individuals and also depends on factors such age. Thus, based on the study, conclusions can be drawn is that the chopper machine is only suitable for a small number of livestock and machinery is suitable for all ages of workers because it can help in burning calories for purposes health.

Key word : Chopper machine, oil palm fronds, livestock industry, energy expenditure, heartbeat rate, burning calories rate and operation cost.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Livestock industry in Malaysian is an important sector in the development of agriculture in the country. These was a very low level of production and still dependent import from India especially mutton and beef. Many ways and incentives that government made to meet the demand for meat in countries like increase the number of breeders and at the same time increase the number of livestock . According to Ministry of Agriculture and veterinary department (2010) said there were 43,310 cattle breeders, 3,925 buffalo breeders, goat breeders 20,602 and 23.963 sheep breeders.

Every years the number of breeders increasing and need a enough livestock feed, they can't expect natural food such as grass to their livestock because sometimes environment factor can give effect to natural resource like dry seasons and flooding season. For make sure livestock get enough feed breeders must make a own resource like silage to their livestock like using waste of oil palm plantation such as oil palm fronds, this process can finish by using chopper machine . Oil palm waste (oil palm fronds) has been less beneficial for breeders because the physical of frond that have prickly leaves and trunk is hard, often discarded after the oil palm fruits are old enough and should be harvested. It is necessary for feed processing technology in this case