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PERFORMANCE OF CATTLE BREEDTYPES IN A SMALLHOLDER FEEDLOT

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SUMMARY: The growth performance of five cattle breedtypes (Droughmaster, Australian Commercial Cross, Kedah-Kelantan, Friesian-Sahiwal-Jersey and Friesian-Sahiwal) in a smallholder feedlot was compared. The Droughmaster had significantly better growth rates with average daily gains of 0.75 kg/day as compared to the other breedtypes which had average daily gains between 0.62 to 0.68 kg/day. There were no significant differences between the growth rates of Australian Commercial Cross, Friesian-Sahiwal-Jersey and Friesian-Sahiwal. The Kedah-Kelantan had the lowest growth rate of 0.62 kg/day. The Droughmaster and the Friesian-Sahiwal-Jersey exhibited similar carcass dressing percentage (52.2 and 51.2 respectively) and cost per kg gain (M$2.14 and M$2.13 respectively). The Kedah-Kelantan had the highest cost per kg gain at M$3.07. Both beef and dairy cattle were found to be suitable for feedlotting.

Keywords: cattle breedtypes, feedlot, growth rate, dressing percentage

INTRODUCTION

The bulk of local beef in Malaysia is produced by smallholder farmers who are engaged either full time or part time in several intensive and extensive beef cattle production schemes. To increase the local beef production, small scale feedlotting based on palm kernel cake (PKC) is practised. Smallholder farmers usually has less than twenty animals. Due to the small herd size, minimal financial input, simple farm operation and subsistence method of farming, the operation is more commonly classified as "mini feedlots". A number of breedtypes ranging from beef cattle weaners to male dairy yearlings have been fattened for this purpose. However, the suitability of breedtype for this programme has not been evaluated extensively. The objective of this study was to compare the growth performance of the commonly used breedtypes for feedlotting in smallholder farms in Malaysia.

MATERIALS AND METHODS

Ninety heads of cattle from five breedtypes, namely, Droughmaster, Australian Commercial Cross (ACC), Kedah-Kelantan (KK), Friesian-Sahiwal-Jersery (FSJ) and Friesian-Sahiwal (FS) were penned with a floor space of 5.5 sq. metres per animal. Group feeding was practised at 5% of the average dry matter intake per day based on the animal's body weight. The ration contained 15% crude protein (CP) which comprised 85% PKC, 13% rice bran, 1% urea and 1% mineral premix on dry matter basis. The animals were fed *ad libitum* daily at 0900 and 1700 hr. Drinking water was freely available. The animals were fattened for 190 days after an adaptation period of 14 days. The entry and finished weights were recorded. The animals were slaughtered at an abattoir for carcass evaluation. The data was calculated and analyzed using the Statistical Analysis System package.

RESULTS AND DISCUSSION

Droughmaster cattle showed the highest growth rate ($P<0.05$) among the breedtypes (Table 1). There were no significant differences among the ACC, FSJ and FS. The KK exhibited the lowest growth rate of 0.62 kg/day as compared to the other breedtypes.

Table 1. Performance of different breedtypes of cattle in a smallholder farming system

Measurement	Breedtypes				
	Droughtmaster	Australian Commercial Cross	Kedah Kelantan	Friesian Sahiwal Jersey	Friesian Sahiwal
	(35)	(17)	(10)	(10)	(18)
Average growth rate (kg/d)	0.75^a	0.68^b	0.62^c	0.66^b	0.68^b
Dressing (%)	52.2^a	49.4^b	52.0^a	51.2^a	51.6^a
Cost/kg gain (M$)	2.14	2.90	3.07	2.13	2.67

^{abc} means in the same row with different superscripts differ ($P<0.05$)
( ) = Number of observations

When the cost/Kg gain was considered, there was not much difference between fattening the Droughmaster or the FSJ. The KK revealed the highest cost among the breedtypes. This might be due to a longer time for KK to reach the market weight.

There were no significant differences in the dressing percentages among the Droughmaster, FSJ and FS. Surprisingly, the KK recorded a similar percentage. However, the ACC exhibited a significantly lower dressing percentage ($P<0.05$) when compared to the other breeds (Table 1).

The present study indicated that the local market demand for meat can be achieved by fattening for about 190 days for not only beef cattle like Droughmaster but also for dairy crossbreds like SFJ. Entry weights of about 150 kg with a growth rate of 0.75

kg/day and a finished weight of about 310 kg gave a dressing percentage of 52% for the Droughmaster. The operation in the smallholder farm indicated that the economics and ultimately the success of the "mini" feedlotting are strongly influenced by the animal breedtypes, the cost of the feeder animals, feed and efficiency of the feeding system. A high dressing percentage of at least 52% can be achieved by feeding efficiently a formulated feed to breedtypes of good predisposition for beef such as the Droughmaster and Sahiwal-Friesian. It was previously reported that more differences exist between animals within a breed than between animals of different breeds (Mahyuddin and Wolf, 1982). However, this study shows the reverse. As growth is affected by breedtypes, only suitable feeder animals that respond maximally to the feeding system and environment should be selected.

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RINGKASAN

PRESTASI BAKA-BAKA LEMBU DALAM FIDLOT PENTERNAK KECILAN

Prestasi pertumbuhan lima baka lembu (Droughmaster, Australian Commercial Cross, Kedah-Kelantan, Friesian-Sahiwal-Jersey dan Friesian-Sahiwal) dalam satu fidlot penternak kecilan telah dibandingkan. Baka Droughmaster adalah lebih baik pertumbuhannya dengan purata tambahan harian pada kadar 0.75 kg/hari berbanding dengan baka lain yang purata tambahan hariannya di antara 0.62 hingga 0.68 kg/hari. Tiada perbezaan tererti terdapat di antara kadar pertumbuhan baka-baka Australian Commercial Cross, Friesian-Sahiwal-Jersey dan Friesian-Sahiwal. Baka Kedah-Kelantan menunjukkan pertumbuhan paling rendah pada kadar 0.62 kg/hari. Baka Droughmaster dan Sahiwal-Friesian-Jersey mempamerkan persamaan dalam peratus lapah karkas (masing 52 dan 51.2%) dan kos per pertambahan kg (masing-masing M$2.14 dan M$2.13). Baka Kedah-Kelantan menunjukkan kos per pertambahan kg paling tinggi iaitu M$3.07. Kedua-duanya lembu pedaging dan tenusu didapati sesuai untuk digunakan sebagai lembu fidlot.