ACEH CATTLE: BETWEEN TRADITION AND THE NEED OF SOPHISTICATED BREEDING STRATEGY

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INTRODUCTION

Aceh cattle are another Indonesian native breed with still unknown about its origin. They carry the mixture of Bos indicus, Bos javanicus and a little bit of Bos taurus in their genetic constitution. Aceh cattle play important role on farmer's livelihood. This article discusses the phenotypic variation within Aceh cattle breeding center population as well as between the breeding center and the common Aceh cattle owned by farmers.

MATERIALS AND METHODS

In total 982 records were obtained from Aceh Cattle Breeding Centre (BC) and common cattle (CC, owned by farmers) from both sexes and various ages (retrieved around year 2011-2013). The records contained information on observed body weight (BW), chest girth (CG), body length (BL) and wither height (WH). We divided age cattle into 3 classes: AG1 (< 1 yr old), AG2 (1-2 yrs) and AG3 (> 2 yrs). A Linear model incorporating the systematic effect of age and groups (CC or BC) was built to analyze the data (for each sex separately).

RESULTS AND DISCUSSION

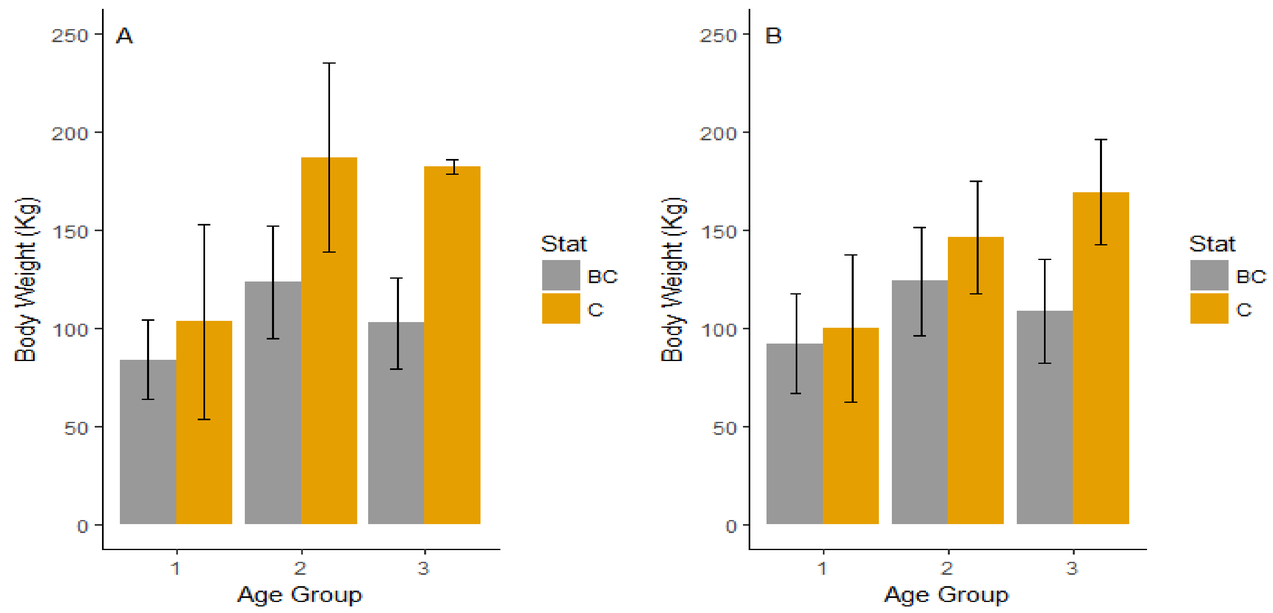

Figure 1. Aceh cattle body weights in Kg: A) Female; B) Male

In AG1, CC were heavier (99.8±37.4 Kg) compared to BC (92.3±25.5 Kg) under P<0.05. The averages BW for AG1 were 146.1±28.7 and 124.1±27.4 Kg; AG2 were 169.4±27.0 and 108.7±26.4 Kg for CC and BC, respectively. Results for female cattle, CC were also heavier compared to BC (103.4±49.3 and 82.1±25.5; 187.0±48.3 and 116.5±40.2; 182.5±3.5 and 100.8±26.7) for AG1, AG2 and AG3 respectively. Aceh cattle body build is relatively small with remarkable variations among individuals. The environment and management factors were suspected to play role over this fact. Moreover, the *'meugang'* (beef-feast event) requires large amount of male cattle to be slaughtered 3 times/yr. Tradition wise, people would only consume Aceh cattle. Without a proper breeding strategy, the event will eventually exhaust the superior male genetic resources.

Table 2. Statistics of Aceh cattle's body measurements

Variable	AG1		AG2		AG3	
	BC	CC	BC	CC	BC	CC
Female						
CG (cm)	101.93±8.95	108.80±20.24	116.62±10.53	137.76±13.18	109.37±8.13	139.00±0.00
WH (cm)	87.26±5.13	88.84±13.93	94.63±5.24	105.95±6.54	91.19±4.74	107.00±0.00
BL (cm)	80.06±6.49	92.78±15.72	91.06±7.69	115.02±7.83	85.41±7.78	117.70±2.40
Male						
CG (cm)	103.98±9.79	110.04±15.99	115.22±9.69	127.20±7.91	110.81±10.03	132.77±7.74
WH (cm)	89.75±5.55	88.09±10.32	97.29±6.77	97.64±5.18	93.39±6.22	100.45±4.87
BL (cm)	81.88±8.37	92.67±11.91	90.84±11.76	109.09±11.24	85.79±8.10	113.07±6.35

CONCLUSION

Population of Aceh cattle is small and specific, whilst the real population structure is unknown. The performance of Aceh cattle is decreasing due to negative selection, poor management and possibly of inbreeding. The 'Meugang' tradition requires large number of Aceh cattle every year and resulting on exhaustion of male genetic resources. It appears of possibility of not well programmed selection procedures. Selection and breeding should be carefully planned by accounting for the local resources and wisdom Incomplete records

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