PERFORMANCE OF NGUNI AND NGUNI x ANGUS CALVES

Y. VENTER[1*], H.E. THERON[2]

INTRODUCTION

The Nguni breed is well-known in South-Africa especially for their low production cost and ability to market a good grade carcass off the veld. Longevity, high fertility and easy calving from large frame breeds makes the Nguni the ideal dam line for terminal crossbreeding. The objective of this study was to compare the profitability of Nguni and Nguni crossbred weaner calves.

RESULTS & DISCUSSION

All the crossbred calves were phenotypically more Angus than Nguni. There were no calving problems and calf mortalities. All calves were polled, as the polled gene carried by the Angus is dominant. Less cows were mated to the Angus bull than to the pure Nguni's. All expenditure was exactly the same for Nguni & Nguni x Angus calves, although the price of the Angus bulls, which are Studbook Proper appendix, and genetically black, was higher than for Nguni bulls.

MATERIALS & METHOD

Purebred Nguni cows were mated to either a purebred Nguni bull or to a purebred black Angus bull. The animals used in this analysis all came from the same farm in the Sterkstroom district, approximately 70 km north of Queenstown in the Eastern Cape. The animals were sold during June 2018. They were weighed in 3 groups according to age. There was no difference in grazing and all the animals received Kimtrafos and salt (mixture) supplementation *ad lib.* No vaccines and management costs were taken into account. The calves were weighed on 16 April, 27 May and 22 June 2018.

Table 1: Basic statistics for traits of calves sired by Angus and Nguni sires on Nguni dams

Sire breed	Number	Variable	Mean	Std Dev	Minimum	Maximum
Angus	21	Wean weight (kg)	194.7	16.7	151.0	217.0
		Wean age (days)	200.0	21.2	167.0	230.0
		Dam weight (kg)	368.0	28.8	308.0	424.0
		Dam age (months)	95.9	21.2	64.0	153.0
Nguni	33	Wean weight (kg)	162.2	20.8	117.4	213.0
		Wean age (days)	202.4	14.1	178.0	232.0
		Dam weight (kg)	343.6	43.3	262.0	415.0
		Dam age (months)	90.2	43.0	26.0	173.0

Statistical analysis: A linear model analysis of variance (ANOVA) comparing the effect of known variables on weaning weight was accomplished through the general linear method (GLM) procedure in SAS Enterprise Guide 6.1. Difference between the least square means (LSM) was determined for weaning weight by the Bonferroni test for the sire breeds. LSM indicates the means corrected for the other factors in the model. Differences were considered statistically significant at $p < 0.05$.

The Anova model fitted the data with a R^2 of 77%. Significant effects ($p < 0.05$) were Group, Dam Weight, Weaning age, Sire Breed and Sex. The least squares mean for Nguni x Angus and purebred Nguni calves were 186.4kg and 171.7 kg respectively, indicating a 14.7 kg advantage for the Nguni x Angus calves. It was significant at the 5% level.

The purebred coloured Nguni calves, which were horned, was sold at R26.50/kg. The Angus x Nguni calves with Nguni markings, were polled, but sold for R26.50.
The Angus x Nguni calves that were solid black and polled, were sold to a feedlot at R33/kg.
The average income for Angus x Nguni calves (R33/kg) and for Nguni calves (R26.50/kg) when sold to a feedlot, was as follows:

Angus x Nguni calf:
R33 x 186.4kg = R6 151.20
Nguni calf:
R26.50 x 171.7kg = R4 550.05

The average difference in price received for a Nguni x Angus calf and a pure Nguni is R1 601.05 when sold to a feedlot in this study.

CONCLUSION

It is extremely important to use pure Nguni cows to exploit the full benefits of the Nguni's good dam line qualities such as hardiness, fertility, easy calving, longevity and adaptability. The Nguni has positive attributes such as the ability to limit the size of the fetus, ease of calving and good mothering ability and therefore larger crossbred weaner calves can be produced profitably without any negative effect on the cow. Beef production can improve through terminal crossbreeding while nutritional needs of the cow herd remain low. More calves can be produced per hectare with a smaller framed dam line. The end result is substantially more profit in the farmer's pocket.

Photos provided by Angus and Nguni Breed Societies of South Africa.

Figure 1: Angus bull

Figure 2: Nguni cow

Figure 3: Angus x Nguni calf

NGUNI®
Beestelersgenootskap
Cattle Breeders' Society

This data was analyzed from only one breeder and as soon as more data is available, it will also be analyzed from breeders who do crossbreeding from other large frame sires. Recognition is given to Mr Pat Hobbs, Nguni Stud Breeder, for the use of his data.