

THE EFFECT OF AGE AT FIRST CALVING ON THE SUBSEQUENT INTER-CALVING PERIOD AND NUMBER OF CALVES BORN OF NGUNI COWS

by Yolanda Venter¹, C Hunlun²

¹Nguni Cattle Breeders' Society, PO Box 506, Bloemfontein, 9300, tel: 051-4487303, fax: 051-4487304, email yolanda@studbook.co.za

²SA Studbook, PO Box 270, Bloemfontein, 9300, tel: 051-4489347, fax: 051-4473964, email charl@studbook.co.za

INTRODUCTION

The reproductive performance of beef cows are evaluated by, amongst other parameters, age at first calving (AFC), the inter-calving period between first and second calving (ICP_{1,2}) and number of calves born in a given period (NCB). Reproductive efficiency is a very important aspect in beef production and producers strive to improve the reproduction capacities of their herds. Some producers believe that cows that calve early in their lives (calving age: two years) are at a disadvantage in respect of subsequent reproductive performance compared to cows that calve at a later age (calving age: three years).

AIM

The aim of this study was to investigate the effect of AFC on the ICP_{1,2} and the NCB of registered Nguni cows.

MATERIAL AND METHODS

The data of 7548 registered Nguni cows born since 1990 was extracted from the Intergis-database and analysed for the relevant parameters. The descriptive statistics for the dataset are presented in Table 1.

Table 1 Descriptive statistics for the reproductive parameters of registered Nguni cows born after 01/01/1990

	Number of records		
	AVE.	S.D.	C.V.
AFC	30.41	5.76	18.93%
ICP_{1,2}	428.69	107.28	25.02%
NCB	4.32	2.47	57.14%

RESULTS AND DISCUSSION

The majority of registered Nguni cows were born in the spring and early summer (Fig. 1) - 58 % of all registered Nguni cows were born in the period 01/09 to 30/11. In contrast with the concentration of births in spring and early summer, there was no noticeable peak of births at any other period in the year, but a rather constant number of cows (± 4.667 % per month) were born every month of the year, indicating that as many as 56% of registered Nguni cows do not calve in a fixed calving season.



Figure 1 - Distribution of birthdates of registered Nguni cows

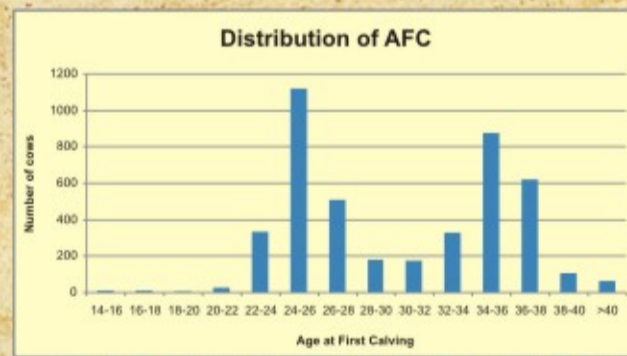


Figure 2 - Distribution of AFC of registered Nguni cows

In order to limit possible sources of variation, only the reproduction records of the cows born in the months of September to November were analysed in terms of AFC, ICP_{1,2} and NCB. The AFC's of this sample of Nguni cows are presented in Figure 2.

From Figure 2 it is evident that there are two main groups of cows - those calving early in life, i.e. before 30 months of age, and those calving later in life i.e. after 30 months of age. The descriptive statistics for AFC, ICP_{1,2} and NCB for those two groups are presented in Table 2.

Table 2 Descriptive statistics for AFC, ICP_{1,2} and NCB of registered Nguni cows born between 01/09 and 30/11

Age at first calving group (months)	22-30	30-38
Age at first calving group size	2 143	2 078
Average AFC \pm SD	25.54 \pm 1.57	35.06 \pm 1.89
Average ICP _{1,2} \pm SD	425.97 \pm 112.64	426.04 \pm 99.68
Average NCB \pm SD	4.28 \pm 2.47	4.42 \pm 2.47

CONCLUSION

It is evident from the data in Table 2 that there is no appreciable differences in any of the parameters investigated of registered Nguni cows that calved early in life compared to Nguni cows that calved later in life. Management, feeding and environment were not taken into consideration in the analysis of the data.

