



Fertility & LIFETIME TRAITS of Santa Gertrudis cows

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INTRODUCTION

Fertility is crucial in a beef cattle herd and can be defined by indicator traits such as age at first calving (AFC), inter-calving period (ICP), and scrotal circumference. AFC measures heifer fertility and is influenced by the breeder's management practices. Cow fertility is measured by ICP. Selecting for earlier calving and shorter inter-calving periods should theoretically lead to cows producing more calves in their lifetime.

AIM

To investigate fertility measurements and lifetime production in Santa Gertrudis cows.

MATERIALS & METHODS

Fertility and calving data of 14-year-old cows (born in 2010), as well as fertility data of currently active cows was obtained from the Logix database of SA Stud Book. Both groups had measurements for AFC as well as ICP 1 (ICP between first and second calf). The lifetime production (number of calves produced) by all the 2010-born cows were also determined. The AFC measurements of the two groups were compared and Pearson correlation coefficients were determined.

RESULTS & DISCUSSION

Table 1: Basic statistics of the two groups of Santa Gertrudis cows.

	Number	AFC (months)			ICP 1 (days)			Number of calves		
		Avg $\pm$ SD	Min	Max	Avg $\pm$ SD	Min	Max	Avg $\pm$ SD	Min	Max
2010 born cows	876	34.6 $\pm$ 3.7	21	45	501 $\pm$ 92	290	820	4.6 $\pm$ 2.9	1	13
Active cows	3 272	33.3 $\pm$ 4.3	20	49	467 $\pm$ 74	280	802	-	-	-

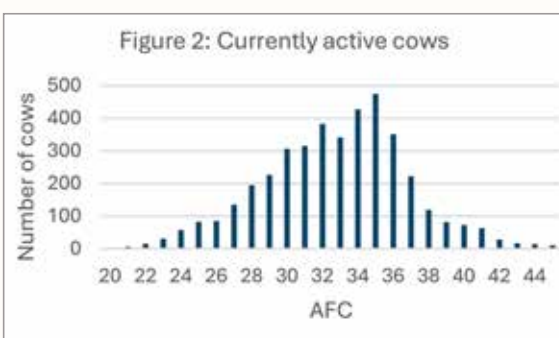
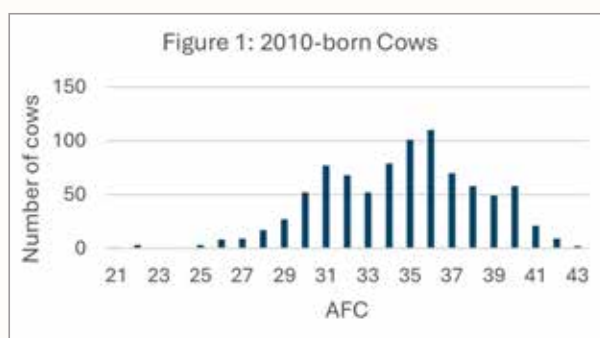
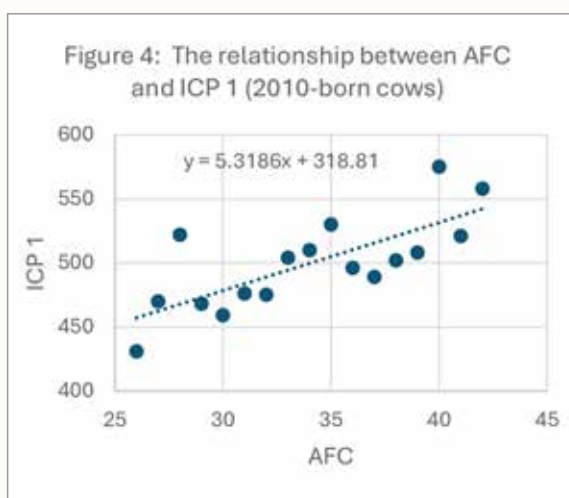
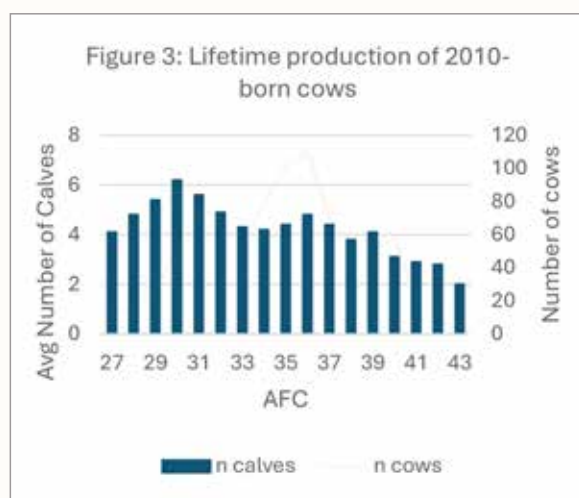


Figure 1 show that the median average age at first calving (AFC) for Santa Gertrudis cows born in 2010 is 35-36 months and according to Figure 2 it is currently 34-35 months, with later calvers becoming much less. It is possible that management practices have been adjusted due to the change in the maximum AFC from 45 to 40 months, which was implemented by the Breeders' Society and came into effect on January 1, 2023. The focus is clearly on earlier calving rather than later calving, as can also be seen from Table 1. However, both graphs show that Santa Gertrudis breeders do not practice very early first calving at 24 months of age.



In Figure 3, it is shown that cows that calve for the first time between 29 to 31 months of age tend to have the most calves on average, even though most heifers only calve at 36 months.

Table 2: Pearson correlations between AFC, ICP1 and number of calves in the 2010-born cows

Pearson correlation	r ²	Interpretation
AFC - ICP1	0,24	Early calving heifers tend to have a shorter ICP1
AFC - number of calves	-0,26	Early calving heifers tend to have more calves in her lifetime
ICP1 - number of calves	-0,4	Cows with a short ICP1 tend to have more calves

There is a positive correlation between Age at First Calving (AFC) and Inter-calving Period 1 (ICP1) in Figure 4 and Table 2, meaning that cows that calve earlier tend to have a shorter ICP1 and from Table 2, also tend to produce more calves. Figure 2 suggests that breeders are likely selecting against cows with a poor AFC.

CONCLUSION

Early fertility traits such as AFC and ICP1 are positive indicators of lifetime production in Santa Gertrudis cows. Santa Gertrudis breeders have been successful in improving fertility.



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Yolanda Venter receiving 3rd place in presenting the best poster at the SASAT congress.

Topic: Fertility and lifetime traits of Santa Gertrudis cows.

