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EFFECT OF AGE AT FIRST CALVING AND ONCE DAILY SUCKLING UPON DAYS OPEN AND CALVING INTERVAL IN FIRST CALF BRAHMAN X HEREFORD HEIFERS

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SUMMARY

Brahman x Hereford heifers calving first at 3 years of age return to estrus an average of 78 days earlier than heifers calving at 2 years of age. Three year old heifers had a 79 day shorter predicted calving interval than did 2 year old first calf heifers. By use of the once daily suckling management system,days from calving to pregnancy were shortened by 25 days in 3 year old heifers and 81 days in 2 year old heifers. Once daily suckled 3 year old heifers had the shortest predicted calving interval (348 days) followed by once daily suckled 2 year old heifers (369 days), normally suckled 3 year old heifers (371 days) and normally suckled 2 year old heifers (450 days). Acceptable average calving intervals may be obtained by breeding heifers to calve first as 3 year olds or by using the once daily suckling technique on heifers bred to calve as 2 year olds.

OBJECTIVES

The objective of this research was to test the once daily suckling technique on heifers bred to calve at 2 or 3 years of age and to assess the effect of the technique on fertility of the heifers and weaning weights of the calves.

PROCEDURE

Twenty-seven Brahman x Hereford F-1 heifers calving first at 3 years of age and 35 Brahman x Hereford F-1 heifers calving first at 2 years of age were assigned to either a normal or once daily suckling management system. Fourteen 3 year old and 17 two year old heifers were placed in the once daily suckling system and 13 three year old and 18 two year old heifers in the normal suckling system. The once daily suckling treatment began at 21 days after calving and ended when the heifers reached estrus. After reaching estrus the calves were allowed to suckle normally until all calves were weaned at 205 days of age. During the once daily suckling

period the two groups were maintained in separate pastures which were rotated at 3 week intervals to remove pasture effects upon cow-calf performance. Fertile bulls equipped with chin ball markers were maintained with the heifers from 21 days postcalving until all heifers were pregnant. Bulls were rotated between groups at 3 week intervals. Heifers and calves were weighed at 21 and 205 days after calving.

RESULTS

Three year old heifers were open for the shortest period of time ($P<.005$) with normal heifers getting pregnant in 81.5±7.5 days as compared to 2 year old normal suckled heifers getting pregnant in 159.6±17.8 days. Once daily suckling shortened the interval from calving to pregnancy in both age groups ($P<.005$) with 3 year olds getting pregnant in 56.3±5.3 days and 2 year olds in 78.7±8.8 days. Predicted calving intervals followed the same pattern with 3 year old once daily heifers calving in 347.5±5.0 days, 2 year old once daily heifers in 368.8±8.8 days, 3 year old normal heifers in 370.9±7.5 days and 2 year old normal heifers in 449.6±17.8 days between first and second calvings (Table 1).

Three year old heifers weaned the heaviest calves ($P<.005$) and normally suckled calves weaned at heavier weights than did once daily suckled calves ($P<.005$). The loss in calf weight at weaning, due to once daily suckling was 53.5 lbs for 3 year olds and 42.3 lbs for 2 year olds (Table 1). In a previous study we found that once daily suckling beginning at 30 days of age did not affect weaning weights. Our recommendation that calves be 30 days old when beginning the once daily suckling system is based on this data. The weight loss at weaning of the first calf will be made up by increased age at weaning and increased weight at weaning of the second calf if weaning of the calves is on a single date rather than by age of calf. When total gain of the heifer and calf are taken together no statistically significant differences were found. The weight gains of the once daily suckled heifers compensated for the lowered weaning weights by the once daily suckled calves. The loss of weaning weight is also more than compensated for by the decreased interval between first and second calves.

Table 1. EFFECT OF AGE AND SUCKLING ON COW-CALF PERFORMANCE

	SUCKLING TREATMENT			
	NORMAL		ONCE DAILY	
	AGE		AGE	
	3	2	3	2
	(Average±Standard Error)			
DAYS OPEN	81.5±7.5	159.6±17.8	56.3±5.3	78.7±8.8
CALVING INTERVAL (Days)	370.9±7.5	449.6±17.8	347.5±5.0	368.8±8.8
21 DAY COW WEIGHT (lbs)	938.8±27.2	743.4±19.0	926.8±24.0	763.2±21.1
205 DAY COW WEIGHT (lbs)	977.3±32.5	775.8±20.6	952.9±28.1	843.2±17.4
21 DAY CALF WEIGHT (lbs)	132.5±5.0	113.3±3.3	122.6±4.7	117.5±3.1
205 DAY CALF WEIGHT (lbs)	489.2±11.2	431.4±8.6	435.7±16.7	389.1±13.5
GAIN/COW-CALF UNIT (lbs)	395.2±28.9	350.2±21.8	341.4±35.9	351.8±23.4