

The Influence of 48-Hour Calf Separation on Calf Growth Rate and Milk Production in Postpartum Range Cows

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Story in Brief

Fifty-two Hereford cows calving between March 1 and April 26, 1976, were paired by calving date and divided into two groups. Control cows remained with their calves on pasture. At 50 to 80 days after calving the second group of calves was trucked to a pasture one mile away from their dams. The calves were returned 48-hours later. Milk production and calf weights were measured at one and two weeks before, and one and three weeks after calf separation.

Neither milk production nor calf growth rate were affected by calf separation. Therefore, if 48-hour calf separation is shown to be an effective treatment regime to initiate estrous cycles after calving, the separation would not have any detrimental effects on milk production and calf growth.

Introduction

A major problem in range cattle is prolonged postpartum anestrus, that is the absence of estrous cycles after calving, in a substantial number of the cows in a herd. Basic research indicates that the ovary is not functioning during this period and that the lack of gonadotropic hormone release from the pituitary gland is responsible for this anestrus. Recent evidence indicates that the suckling stimulus, acting through nerve pathways, inhibits the release of the gonadotropic hormones. Other studies indicate that cows with greater suckling intensities have longer postpartum anestrus periods.

Recently treatments regimes to initiate estrus have been reported from other experiment stations which include hormone treatments in combination with 48-hour calf separation. The purpose of this experiment was to determine if 48-hour calf separation from cows affect the lactational performance of range cows or weight gains of their calves.

Materials and Methods

Twenty Hereford cows, calving between March 1 and March 29, 1976, were paired by calving date and divided into two groups at 50 to 80 days after calving. One group of calves was removed from their dams for 48-hours and

held in a lot approximately one mile away. Calves were given free choice to alfalfa hay and creep feed during the time they were separated from their dams. Control cows remained with their calves on pasture. Estimates of 24-hour milk production were made at one and two weeks before, and one and three weeks after calf separation using the calf suckle technique. A second replication of the above experiment was conducted using 32 cows which calved between March 30 and April 26, 1976.

Results and Discussion

There was no effect of 48-hour calf removal on the milk production of Hereford range cows (Figure 1). There was an effect of time on milk production which could be the normal decline in milk production which occurs after 60 days postpartum or the result of the handling of the animals.

Growth rate of the calves was not altered by 48-hour separation from their dams (Figure 2). Both groups of calves gained 0.64 kg/day through three weeks after treatment. The average 205-day adjusted weaning weight for the control calves was 175.9 kg and the separated calves averaged 182.4 kilograms.

Cows were observed for estrus before and after calf separation using sterile bulls with chinball makers. It appeared that the treatment influenced some of the cows (Table 1). In the first replication, eight out of ten anestrus cows that were separated from their calves were in estrus within ten days after separation, whereas only four out of 11 control cows were in estrus. Environmental factors such as nutrition and temperature may have influenced the responses observed after calf separation.

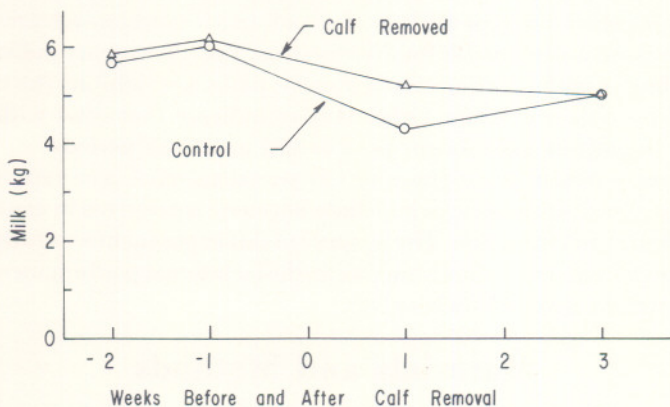


Figure 1. Influence of 48-hour calf separation on milk production in range cows.

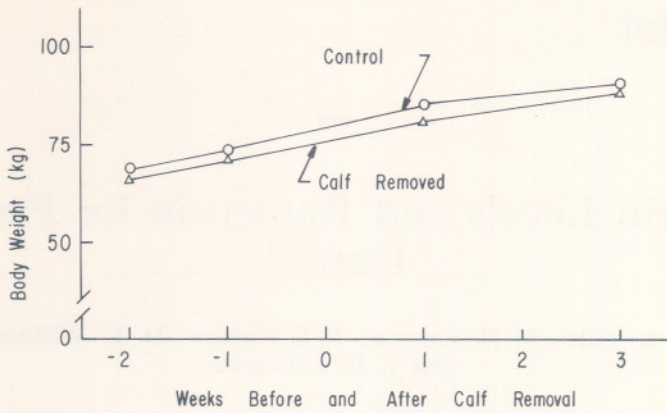


Figure 2. Influence of 48-hour calf separation on calf weight gain.

Table 1. Cows in estrus within 10 days after being separated from their calves for 48 hours at 50 to 80 days post partum

	Control cows	Separated cows
Replicate 1 (May 18)	4 of 11	8 of 10
Replicate 2 (June 15)	2 of 13	3 of 16

These results indicate that if 48-hour calf separation proved effective as a method for decreasing postpartum anestrous, the separation would not have a detrimental effect on milk production, calf growth or 205-day adjusted weaning weight.