

# BODY ENERGY RESERVES INFLUENCE THE ONSET OF LUTEAL ACTIVITY AFTER EARLY WEANING OF BEEF COWS

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## Story in Brief

The influence of body energy reserves, at early weaning, on the onset of luteal activity in postpartum anestrous beef cows was evaluated. Multiparous Hereford and Hereford x Angus cows were fed on range pastures during gestation to establish body condition scores (1=emaciated; 9=obese) between 3 and 6 at parturition. Concentrations of progesterone in blood plasma were determined weekly, and body weights and body condition scores were recorded biweekly for 12 weeks postpartum. Calves were weaned from anovulatory cows on day  $45 \pm 3$  postpartum. Within 25 days after weaning, 100% of the cows with a body condition score  $\geq 5$  (n=7) had initiated luteal activity, whereas only 43% of the cows with body condition score  $< 5$  (n=12) had luteal activity. The interval to the onset of ovarian activity following weaning was influenced by the body condition score of cows at early weaning.

(Key Words: Beef Cows, Body Condition, Early Weaning, Postpartum.)

## Introduction

A period of ovarian inactivity occurs following parturition in beef cows. Two factors associated with the duration of postpartum anestrus are body energy reserves and suckling. The body condition of beef cows influences reproductive performance and may be associated with the varied results observed when calf separation or early weaning are used in an attempt to induce cyclicity in anestrous cows. The objective of this study was to evaluate the influence of body condition score, at early weaning, on the onset of luteal activity in postpartum anestrous beef cows.

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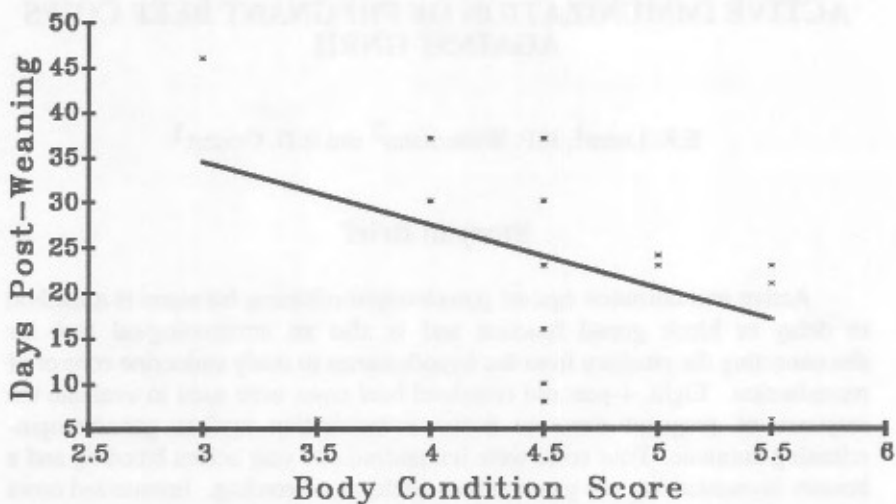


Figure 2. Relationship between body condition score (X) of beef cows at early weaning and days to luteal activity (Y). Regression equation;  $Y = 55.5 + (-6.98) X$  ( $n = 19$ ,  $r = -.426$ ,  $P < .06$ ).

BCS  $\geq 5$  ( $n=7$ ) had LA, whereas only 43% ( $P < .01$ ) of the thin cows (BCS  $< 5$ ,  $n=12$ ) had LA. In addition, fewer ( $P < .05$ ) of the thin cows, compared to the cows with BCS  $\geq 5$ , had LA at 30 and 35 days after weaning.

The relationship between BCS and days from weaning until LA is summarized in Figure 2. For each one unit increase in BCS, LA occurred an average of seven days earlier following weaning.

We conclude that the interval to the onset of ovarian activity after early weaning is influenced by the BCS of beef cows. Therefore, BCS of cows must be considered when evaluating the use of calf separation or early weaning to enhance rebreeding of beef cows.