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THE USE OF ONCE-DAILY SUCKLING AND UTERINE MANIPULATION TO ENHANCE POSTPARTUM REPRODUCTIVE PERFORMANCE IN CATTLE

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Background. One of the most important factors determining the long-term success of a cow-calf operation is calving interval. The desired calving interval for most producers is 12 months. The postpartum interval, the period of anestrus from parturition to estrus, is the major factor affecting calving interval. If the postpartum interval is lengthened and a cow conceives later in the breeding season, then the calving interval is lengthened. Some practices used to reduce the postpartum interval are: limited nursing, injections of prostaglandin or prostaglandin analogs, providing supplemental feed, and uterine manipulation.

Limited nursing of the calf has been shown to reduce the length of the postpartum interval to first estrus in first calf heifers and in mature cows. Researchers in Sweden found a significant correlation between the duration of elevated endogenous prostaglandin concentrations and the time required to complete uterine involution. Treatment with exogenous prostaglandins approximately one month after parturition decreases postpartum interval in mature cows but not in first calf heifers. The reason that first calf heifers are unaffected by prostaglandin injections is not yet clear.

Research Findings. Our laboratory has previously reported that uterine palpation had similar effects to injections of Alfaprostol, a prostaglandin analogue. Both increased the number of cows which were detected in estrus by 80 days after calving. Uterine manipulation caused an increase in blood concentrations of prostaglandin.

Cattle producers are using prostaglandin injections and limited nursing practices, such as once-daily suckling, to reduce postpartum interval. Studies have not been done evaluating the use of uterine manipulation as a source of prostaglandin in combination with once-daily suckling. The present experiment tested the effects of once-daily suckling, uterine manipulation, and a combination of once-daily suckling with uterine manipulation against cows that did not receive any treatment. Once-daily suckling started 28 days after calving. Calves were separated from cows and allowed to nurse for 30 minutes once each day. The calves were then put in a pen, which was separated from the cows by at least two fences, with creep feed and water. Cows were turned out into a coastal bermudagrass pasture overseeded with ryegrass. Cows and calves were reunited when cows were detected in estrus. Uterine manipulation was administered 30 days after calving. This was accomplished by first locating the cervix and then moving forward to massage

the body of the uterus and up each horn. The total time for massage was approximately two minutes.

Once-daily suckling alone significantly shortened the postpartum interval from 50.5 days to 41.5 days. Uterine manipulation alone did not significantly shorten the postpartum interval. An advantage was not seen for the combination of once-daily suckling and uterine manipulation compared to controls or individual treatments. Conception rates and pregnancy rates were not affected by any treatment, however there was a lengthy period between expression of first estrus postpartum and actual insemination of cattle. The effects of these treatments may be lost if there are too much time between application and breeding.

Uterine manipulation has been shown to be effective in shortening the postpartum interval in previous experiments. This laboratory has determined that uterine manipulation is most effective in mature cows which have not experienced involution of the uterus. Perhaps more valuable data could have been acquired if the degree of uterine involution had been determined during the application of uterine manipulation.

Application. The applications of once-daily suckling and/or uterine manipulation are inexpensive compared to injections of prostaglandins or supplemental feed. The expense related to once-daily suckling is the labor spent in dividing calves from cows. The expense of uterine manipulation is the price of one palpation sleeve and the labor used in manipulation and sorting cattle. One basic requirement for these management systems is good record keeping. A producer wanting to use either of these management systems must know when a calf was born and from what cow. This might work well with intensively managed herds in combination with artificial insemination. These management practices may be best used to hasten return to estrus in late calving cows when the producer wants to shorten his breeding season and the following calving season.