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Synchronization of estrus and insemination time in beef cows

Abstract

We used 76 cows to determine the effect of inseminating at different times after detecting estrus and to evaluate Synchronization B as an estrus synchronizing agent. Cows were divided into five groups: (1) nonsynchronized bred naturally; (2) nonsynchronized bred once a day approximately 12 to 24 hours after detecting estrus; (3) nonsynchronized bred twice a day approximately 12 hours after estrus; (4) synchronized bred once a day, and (5) synchronized bred twice a day. Synchronizing did not affect conception rate with twice-a-day breeding, but did with once-a-day breeding. Conception rates during the first 25 days of the breeding season were 63.6, 70.0, 69.2, 40.0, 80.0 for groups 1 through 5, respectively.

Keywords

Report of progress (Kansas State University. Agricultural Experiment Station); 291; Cattlemen's Day, 1977; Beef; Synchronization; Estrus; Conception rates

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K**Synchronization of Estrus and Insemination
Time in Beef Cows****S**M. D. Heekin, G. H. Kiracofe,
R. R. Schalles, and H. S. Ward**U**

Summary

We used 76 cows to determine the effect of inseminating at different times after detecting estrus and to evaluate Synchronmate B as an estrus synchronizing agent.

Cows were divided into five groups: (1) nonsynchronized bred naturally; (2) nonsynchronized bred once a day approximately 12 to 24 hours after detecting estrus; (3) nonsynchronized bred twice a day approximately 12 hours after estrus; (4) synchronized bred once a day, and (5) synchronized bred twice a day.

Synchronizing did not affect conception rate with twice-a-day breeding, but did with once-a-day breeding.

Conception rates during the first 25 days of the breeding season were 63.6, 70.0, 69.2, 40.0, 80.0 for groups 1 through 5, respectively.

Introduction

Synchronmate B is the trade name for an experimental compound developed by G. D. Searle Company to synchronize estrus in cattle.

Last year we found that neither synchronizing nor artificially inseminating lowered conception of cows bred twice-a-day, twelve hours after their estrus was observed.

This year we wanted to repeat last year's experiment as well as compare conception rates with the labor saving procedure of breeding cows once-a-day, instead of the traditional twice-a-day breeding.

Synchronized and nonsynchronized cows were bred once a day and compared with cows bred twice-a-day.

Experimental Procedure

Seventy-six Polled Hereford cows 15 to 87 days post partum (average 58 days) were used for this experiment. Eighty-four percent were lactating and fifty-seven percent were cycling when implanted. Cycling was determined by visual heat detection and ovary palpation.

The cows were divided into five groups:

Group 1. Cows were allowed to mate naturally with a bull wearing a

chin ball marker. Cows were checked daily and breeding dates were recorded.

Group 2. Cows were artificially inseminated once a day approximately 12 to 24 hours after detected in heat. Those detected in heat in the morning and evening of one day were bred the next morning. After a 25-day artificial inseminating season, a bull wearing a chin ball marker was placed with the cows. Cows were checked daily and breeding dates were recorded.

Group 3. Cows were bred twice a day, approximately 12 hours after estrus was observed. Those in heat in the morning were bred in the evening and those in heat in the evening were bred the next morning. After a 25-day A.I. breeding season, cows were treated as in group 2.

Group 4. Cows were synchronized using a 6 mg. SC21009 ear implant and an intramuscular injection of estradiol valerate (6 mg.), with SC21009 (3 mg., a synthetic progestin) when implanted. Nine days later the implants were removed. Checks for estrus were made twice daily. Cows were bred only in the morning; 12 or 24 hours after estrus was observed within the 4-day synchronized period. A bull wearing a chin ball marker was then placed with the cows for 16 days. Cows returning to estrus within the next five days were artificially bred the morning following detected estrus.

Following the 2nd A.I. breeding period, a bull wearing a chin ball marker was placed with the cows for the remainder of the breeding season. Cows were checked daily and breeding dates were recorded.

Group 5. Cows were synchronized with the same treatment given to group 4. Cows in group 5 were treated as those in group 4, except they were bred twice a day approximately 12 hours after estrus was observed.

All cows were kept on range for the duration of the experiment. Bulls were removed after a 55-day breeding season (including A.I.). Pregnancy was determined by rectal palpation.

Results and Discussion

Neither synchronizing nor artificial insemination depressed conception rate, which agrees with last year's results.

There was essentially no difference in first service conception between nonsynchronized cows bred once-a-day and nonsynchronized cows bred twice-a-day.

Conception was depressed in the synchronized cows that were bred only once-a-day. This experiment indicated that breeding once-a-day is practical with nonsynchronized cows.

Table 3.1. Conception rates in cows after estrous synchronization - once-a-day and twice-a-day breeding compared.

| Group | No. of cows | Synchronization period | % conceived | |
|-------------------------------------|-------------|---------------------------|--------------------------|--------------------------|
| | | | of those bred 25 days | of total herd 55 days |
| Nonsynchronized bred naturally | 11 | ---- | 63.6 | 81.8 |
| Nonsynchronized bred once-a-day | 16 | ---- | 70.0 | 81.8 |
| Nonsynchronized bred twice-a-day | 17 | ---- | 69.2 | 88.2 |
| Synchronized bred once-a-day | 14 | 20.0 | 40 | 85.8 |
| Synchronized bred twice-a-day | 18 | 67.0 | 80 | 88.9 |