ROLE OF DOUBLE INSEMINATION TO IMPROVE THE CONCEPTION RATE IN REPEAT BREEDING GRADED BUFFALOES

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ABSTRACT

Twenty repeat breeding, pluriparous, graded buffaloes were equally divided into two groups as group I (control) and II (double AI). Group I served as control and were inseminated at mid heat during natural estrus. Group II were inseminated twice at an interval of 12 hours during the same estrus period. No difference was observed between single and double AI groups with respect to the conception rate.

KEY WORDS :Double insemination, Repeat breeder, Delayed ovulation, Pregnancy rate, Buffaloes

INTRODUCTION

A common recommendation for repeat breeding cows is a double artificial insemination (AI) at the same estrus. However, in some designed studies cows were inseminated twice during the same estrus period, and pregnancy rate was not increased consistently (Wilcox and Pfan, 1958; Graden *et al*., 1968 and Foote, 1979). Researchers have postulated that double AI might benefit late-ovulating cows (Wilcox and Pfan, 1958) or repeat breeding due to gross errors in detection of estrus (O'Farrell *et al*., 1983).

MATERIALS AND METHODS

Graded buffaloes maintained in the organised farms of Dharmapuri District in Tamil Nadu were utilized for this study. Twenty apparently healthy, pluriparous buffaloes which failed to conceive in three or more consecutive inseminations with good quality semen were selected for this study. The experimental animals were 4 to 8 years old, weighing between 350 to 450 kg and were found free from palpable abnormalities of reproductive tract on gynecological examinations conducted at 10 days interval.

The selected buffaloes were randomly assigned to two equal groups namely Group I (Control) and Group II (Double AI). Animals of group I served as control and were inseminated during natural estrus. Animals of group II were inseminated twice during natural estrus at an interval of 12 hours. All inseminated buffaloes were carefully monitored and AI was done in those animals which returned to estrus in the subsequent cycle.

RESULTS AND DISCUSSION

The mean duration of estrus in animals of control and double AI group was 21.00 ± 0.91 and 22.50 ± 0.62 hours, respectively. The mean estrus cycle length was 21.1 ± 0.18 and 21.2 ± 0.20 days in animals of control and double AI groups, respectively.

The first service conception rate in animals of control and double AI groups was 20 and 30 per cent, respectively. The second service conception rate was 12.5 and 0 per cent leading to an overall conception rate of 30 per cent each for both the groups.

The first service conception rate in double AI group was 30 per cent which is slightly higher than the control group (20 per cent). But one animal conceived in the control group and none of the animals conceived in the double AI group in the second service leading to an over all conception rate of 30 per cent each for both groups. This is in accordance with the findings of Wilcox and Pfan (1958), Graden *et al*. (1968), Foote (1979) and Stevenson *et al*. (1990) who found no difference in conception rate between single and double AI groups. Hence, the present study reveals not much of difference between single and double AI with respect to the conception rate.

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