Delayed Breeding Optimizes Conception in Dairy Cows with Prolonged Estrus

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Introduction

A common question of dairy farmers is whether to breed a cow that is still in estrus several hours after insemination. It is possible these cows have a longer interval between onset of estrus and ovulation time, and thus AM-PM rule is not valid. The objective of this study was to compare conception risk in cows with prolonged estrus bred once vs. twice (12 hours apart).

Materials and Methods

This was a retrospective study at a commercial 1,500 cow dairy in Spain, milking twice daily. Cows were fitted with pedometers (Afimilk, Israel). Normal estrus was indicated by single activity deviation >=75% compared to the previous 10-day average of the corresponding milking session. Prolonged estrus was defined as two consecutive readings with high activity. Proportion of cows conceiving after a single breeding or two breedings 12-hours apart were compared using a standard Z-test (alpha=5%).

Results

Significantly (P=0.004) more cows conceived among the 252 with repeated breedings (46.0%) than the 773 with single breedings (35.6%). This difference was due to decreased conception in cows with a single breeding at the beginning of prolonged estrus. Additionally, 30.1% of cows with prolonged estrus that did not conceive had another prolonged estrus.

Significance

It is likely that cows with a prolonged estrus have a longer interval between onset of estrus and ovulation. The AM-PM rule should be adjusted. Cows in heat in AM but not in PM should be bred in PM; cows in heat in AM and PM should be bred next AM to improve conception.