Animal Science Journal (2018)
Volume 89, 1067-1072
Original Article

ABSTRACT

Efficiency of a pedometer device for detecting estrus in standing heat and silent heat in Japanese Black cattle

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The usefulness of a radiotelemetric pedometer for estrus detection in standing (ST) heat, or in silent heat without ST events, but in which ovulation is observed, in Japanese Black cattle was investigated. The duration of an increase in steps in ST heat was 11.8 ± 1.3 hr, and it was similar to that of ST events (duration: 10.1 ± 0.8 hr). Even in silent heat, the change pattern and the duration (11.6 ± 0.2 hr) of the period with an increase in steps during estrus were not different compared with ST heat. When artificial insemination (AI) was performed at 15.5 ± 0.6 hr from the onset of estrus detected by the pedometer in ST heat cases, the conception rate was 57.1% (8/14). Furthermore, fertility in cattle that underwent silent heat was evaluated. When AI was performed at 14.4 ± 2.0 hr from the onset of estrus detected by the pedometer, the conception rate was 60% (3/5) in silent heat cases. The overall results suggest that the radiotelemetric pedometer is a valid device for detecting estrus and it can even detect silent heat in Japanese Black cattle. Moreover, even silent heat cattle are fertile when AI is performed at the appropriate time.

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