**Effect of management change on the manifestation and distribution of oestrus behaviour in housed heifers**

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**Abstract**

Six mature nulliparous dairy heifers were monitored for oestrus continuously for 30 consecutive months by time Lapse video recording system operated by remote control in conjunction with ovarian changes monitored through daily estimation of plasma progesterone levels.90 oestrous cycles (15 cycles for each heifer) were recorded whereby general and specific behavioral components were authenticated. Alteration in normal management practices was initiated to study the effect of such changes on manifestation of oestrus activity and distribution and intensity of behavioral components. Both general and specific activity of heifers was increased when in oestrus and the increase could be influenced by the status of the others herd mates. if more than one was in oestrous simultaneously then the general and specific activity of all oestrous heifers was significantly p<0.05 increased thus rendering oestrus detection more feasible. Standing firmly when mounted was the definite behavior for occurrence of oestrous. The distribution of most indicative sign of oestrous, standing when mounted showed a distinct nocturnal peak, with 58% being displayed between 1800 and 0600 hours. The results also indicated a biphasic pattern in oestrus activity. Each heifer during at least one of her estrous periods showed a second peak in standing to be mounted near the end of oestrous thus signifying importance of extended visual observation to improve estrus detection levels. Adoption of evening feeding instead of normal morning feeding shifted the standing to be mounted activity to the working hours whereby 72% of this activity occurred between 0600-1800 hours which favors better detection of heat. The results revealed that the presence of a bull significantly shortened the duration of estrous. Combination of both evening feeding and bull presence also favored the display of standing to be mounted during 0600-1800hours. This shift however could not be attributed to bull effect, evening feeding; the two factors combined or to some other unidentified factors which signals for further detailed investigations before firm conclusions can be drawn.

Keywords: Estrous, behavior, progesterone, heifers