

Assessing the impact of a hiding space on the behaviour and stress response of newborn dairy calves

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Allowing for the expression of natural behaviours and the incorporation of the natural environment into standard housing practices is important for dairy cattle welfare. One natural behaviour of dairy calves that has yet to be explored is their neonatal hiding instinct. The impact of allowing for this hiding behaviour on calf stress is unclear. The objectives of this study are to: 1) describe the hiding behaviour of indoor-housed dairy calves kept with their dam and provided a space to hide in the first week of life, and 2) assess the effect of a hide on physiological indicators of stress in calves using heart rate variability (HRV). A total of 12 cow-calf pairs housed at the Dalhousie University's Ruminant Animal Centre will be used in this study. Each pair was randomly assigned to a treatment with or without a calf hide (n = 6 per treatment). For the first objective, continuously recorded video data from calves in the hide treatment will be analyzed to assess the hide use of the calves over the first week of life. For the second objective, HRV data collected from Polar heart rate monitors on the calves in both treatments will be assessed to evaluate the impact of hides on their stress response. It is hypothesized that calves will use a hide when provided one and will progressively spend less time in the hide over the week. For the second objective, it is anticipated that calves provided a hide will have higher HRV, indicative of lower stress, compared to calves without a hide. This study will address the relationship between hide use and its effect on calf stress and will help guide producers on how to incorporate the allowance of natural behaviours to reduce stress and improve calf welfare.

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