Optimizing Health Management through Circadian Feed Intake Rhythms: A Prognostic SciTech

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This editorial conceptually develops and discusses the significance of circadian feed intake rhythms as a feasible management tool to monitor animal health. Realistically, circadian and periprandial feed intake patterns must be quantified to enable accurate monitoring of feeding behavior and reliable predictions of feed intake in high-producing ruminants [1-3]. Circadian and day-to-day changes in intake rhythms would greatly reflect changes in rhythms of behavior and metabolism. The latter stem from and determine productivity and health [3,4]. For instance, a 10-min drop in daily eating time of dairy cows during the periparturient transition period may be linked to a two-time increase in diagnosis likelihood for metritis [5]. Evidence exists that dairy cows prone to metabolic disorders exhibit characteristic changes in feeding behavior (i.e., daily eating duration, eating rate, number of meals, number of bunk visits) [6]. Innovatively, this article elaborates on changes in circadian and periprandial rhythms of feed intake as possible biomarkers of physiology and certainly health.

Feed delivery is a major regulator of circadian rhythms in feed intake of lactating cows [7,8]. The stimulatory effects of feed delivery on eating persist even with multiple daily feeding [7]. The elongated eating time of cows fed twice daily appears to be mostly due to increased eating time overnight and before sunrise. In addition, cows fed four times daily tended to spend more time eating in evening than in morning. Most recent studies, also, suggest that feeding behavior as possible indicators for the automatic monitoring of health disorders in dairy cows. J Dairy Sci 91: 1017-1028.


References

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