Using prepartum feeding behavior to identify dairy cows at risk for transition health disorders

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The objective of this study was to investigate whether changes in prepartum feeding behavior could be used as an indicator of health disorders in postpartum transition cows. Retrospective daily feeding times for 925 Jersey dairy cows within 21 d prepartum were used. Data were from 2 studies: study 1, 209 prepartum cows enrolled in either a stable group of 44 cows moved to a pen with no new cows added during a 5-wk rep or conventional group with cows added once weekly to maintain a desired pen stocking density of 44 cows; or study 2, 716 prepartum cows housed at either 80% (38 cow/48 headlocks) or 100% (48 cows/48 headlocks) feedbunk stocking density with twice weekly entrance of new animals. Prepartum feeding behavior was measured using 10-min video scan sampling for 24-h periods (4 d/wk for study 1 and 2 d/wk for study 2). Blood samples were taken on days in milk (DIM) 3, 10, 17, and 24 for measuring BHBA concentrations. Cows were classified with subclinical ketosis when BHBA levels were ³ 1400 μmol/L. All cows were examined on DIM 1, 4, 7, 10, and 13 for metritis and retained fetal membrane. Lameness was evaluated on DIM - 28, 0, and 35; cows with locomotion score ³ 3 (1 to 5 scale) were classified as lame. Cows with a health disorder were excluded from the lameness analysis. Other health events were obtained from on-farm records. The MIXED procedure of SAS was used to determine if feeding times were associated with transition health
disorders. There was a reduction in daily prepartum feeding time for cows with metritis (Difference, LSMEANS ± SE min/d; 7.4 ± 2.7; P < 0.01), ketosis (15.4 ± 7.2; P = 0.03), retained fetal membrane (8.8 ± 3.9; P = 0.02), mastitis (9.2 ± 4.3; P = 0.03), lameness at DIM 0 (56.2 ± 10.0; P < 0.01), and lameness at DIM 35 (25.0 ± 6.2; P < 0.01), compared with cows without the respective disorder. There was a tendency for a reduction in feeding time for cows with displaced abomasum (P = 0.09) and cows carrying twins (P = 0.08). In conclusion, prepartum feeding behavior appears to be a useful indicator of cows at risk for transition disorders.

Key Words: feeding behavior, prepartum behavior, transition cows