The Evaluation of Commingled Calves and Dams versus Separated Calves and Dams on Behavior, Physiology, and Production

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The public views early separation of cow-calf pairs negatively. The objective was to evaluate the effects of early separation versus commingling dams and calves at d 5 on milk production, behavior, and calf physiology. Cow-calf pairs (N = 20) were separated within 6 h of calving and randomly assigned to either: group housing on pasture nightly (20:00 to 6:00) and group housing plus dams on pasture nightly, starting at d 5 postpartum. Calves were fed 4 L of 26% crude protein, 20% fat BOV SC ClariFly Medicated Dairy Herd & Beef Calf Milk Replacer (Ag Central Co Op, Madisonville, TN) through d 4 and 6 L from d 5 to d 19. Dams were housed on sand bedded freestalls (6:00 to 19:30) and separated daily, with half remaining indoors and half mixed with their calves (20:00 to 6:00) from d 5 to d 19 postpartum. IceTags (IceRobotics, Edinburgh, Scotland) and HOBO data loggers (Onset, Bourne, MA) were attached to dams and calves, respectively, at d 5 postpartum. Milk production was recorded automatically twice daily. Milk components, SCC (TN DHIA Lab), quarter teat end swabs, and calf body weight were collected weekly. The MIXED procedure (SAS 9.4, Cary, NC) was used to evaluate the effect of treatment and sex on milk production and components and calf lying and standing time. T-tests were conducted to evaluate the effect of treatment on average daily gain (ADG) and quarter teat end swabs. Milk production was greater among dams housed indoors 24 h/d than dams housed nightly with calves, respectively (28.9 ± 1.9 vs 23.8 ± 1.7 kg, $P < 0.05$). Milk fat, protein, quarter teat end swabs, and SCS did not differ between dam treatment groups. Calves housed without dams spent 2 h/d more standing than calves housed with dams (490.9 ± 28.1 vs 370.1 ± 34.1 min/d, $P < 0.01$). Calf ADG did not differ between treatment groups. Housing cows with calves did not negatively impact ADG or milk components. Commingling dams and calves at night may provide an alternative method to address negative public perception of early separation.

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