

Performance of First Lactation Jersey Cows in Response to High Protein, High Fat Liquid Feeds with Varied Fatty Acid Profiles as Calves

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Our objective was to determine whether altering the fatty acid (FA) profile of milk replacer (MR) with lard versus coconut oil (CO), which contains a high concentration of medium-chain FA (MCFA), to more closely match the FA profile typically found in whole milk from Jersey cows. Most MR are formulated to meet the needs of Holstein calves, yet the milk fat from Jersey cows contains more MCFA than milk from Holstein cows. Generally, edible lard is used in MR as the fat source because of its high digestibility, but it contains primarily long-chain FA (LCFA). Female (32) and male (18) Jersey calves were assigned at birth to 1 of 4 liquid diets: 1) pasteurized Jersey saleable whole milk (pSWM; 27.9% CP, 33.5% fat); 2) 29.3% CP, 29.1% fat MR containing 100% of fat as edible lard (100:00); 3) 28.2% CP, 28.0% fat MR containing 80% lard and 20% CO (80:20); and 4) 28.2% CP, 28.3% fat MR containing 60% fat from lard and 40% of fat as CO (60:40). Calf performance was monitored from birth to 9 weeks of age (one week beyond weaning). Daily milk production data were collected from the first 16 weeks of lactation and 4 DHI test dates on 20 of the heifers from the original trial (three treatments; insufficient number of animals from the pSWM treatment remained in the herd for analysis of data from cows). Cows that were on the 80:20 treatment as calves produced more milk than cows on the 100:0 or 60:40 diets (23.7, 21.4, and 21.1 kg/d, respectively). Services per conception for cows from treatments 80:20 and 60:40 were lower than for those on 100:0. These data are indicative of some possible benefits of feeding MCFA in MR to calves on first lactation performance of cows.