EFFECTS OF MODERATING FORAGE TYPE AND DRY MATTER INTAKE IN DRY COW DIETS ON POSTPARTUM PERFORMANCE

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The objectives of this study were to investigate the effects of forage type (wheat straw vs. orchard grass hay) and DM amount fed (ad libitum vs. 30% DMI restriction) prepartum on postpartum performance. A 2 x 2 factorial design with ten cows per treatment was used to determine the effects of forage type in a TMR (wheat straw (WS) vs. orchardgrass hay (GH)) and amount fed (ad libitum (A) vs. 30% intake restriction (R) in DM based on NRC, 2001. Treatments included WS TMR A (WSA); GH TMR A (GHA); WS TMR R (WSR); GH TMR R (GHR). The WS TMR (DM basis) contained 30% WS, 21% corn silage, 10% alfalfa hay, 18% ground corn, 17% soybean meal, and 4% molasses (14.8% CP, 1.5 NE_L Mcal/kg, 37% NDF). The GH TMR contained 30% GH, 46% corn silage, 10% alfalfa hay, 10% soybean meal, and 4% molasses (15% CP, 1.5 NE_L Mcal/kg, 40% NDF). Cows received one lactation diet after calving (CP 17.8%, NE_L 1.6 Mcal/kg, NDF 26%). Cows were housed in a tie-stall barn, fed once daily prepartum and fed and milked twice daily postpartum. Thirty six cows were used in the final analysis using the Mixed procedure in SAS. As designed, dry matter intake as a percent of body weight was higher ($P < 0.05$) in WSA and GHA vs.WSR and GHR prepartum, but there was no difference postpartum. Fat corrected milk yield tended to be higher ($P = 0.10$) from GHR cows. Post-partum energy balance was less negative ($P = 0.04$) for GHA for weeks 1 to 4. Milk fat production tended ($P < 0.08$) to be higher for GHR cows. Liver total lipids, body weight, body condition score, milk fat:protein, and fecal dry matter, did not differ among treatments. Feeding behavior was observed by 24 hr video surveillance and 10 minute video scans for five days pre- and post-partum. Prepartum treatment had no effect on prepartum feeding bouts or feeding time. Cows fed WSA or WSR tended ($P < 0.06$) to have more eating bouts on d 2 and 4 postpartum than cows fed GHA or GHR. Results indicate that forage type and amount of DM fed have modest effects on performance and behavior of cows in tie stall barns if diets are formulated to meet NRC, 2001 requirements.