

512 Effect of a low-moisture buffer block on subacute ruminal acidosis (SARA) in lactating dairy cows. K. M. Krause^{*1}, G. R. Oetzel¹, and D. V. Dhuyvetter², ¹*University of Wisconsin, Madison*, ²*Ridley Block Operations, Ridley Inc., Mankato, MN*.

The objective of this study was to evaluate the effect of a low-moisture buffer block (BB; ~40% buffer and alkalizers) on ruminal pH and milk production in cows challenged with SARA. Sixteen ruminally cannulated cows were randomly assigned to the treatment (access to BB) or the control (no BB) group. Ruminal pH was recorded each minute; DMI, milk yield and milk composition were measured daily. The trial lasted 12 d and consisted of a 3-d baseline period (without BB; d 1-3), after which the 8 treatment cows had access to BB, 4-d period to evaluate response to BB (d 4-7), 1-d of 50% restricted feeding (d 8), 1-d of challenge feeding (addition of 4 kg wheat/barley pellet to baseline TMR; d 9), and a 3-d recovery period (d 10-12). Intake of BB averaged 0.33 kg DM/cow/d and was highest ($P=0.05$) on d 8. Total DMI (TMR plus BB) was not affected by treatment, but DMI tended to be higher during the recovery period for cows with access to BB (19.7 vs. 18.0 kg/d, $P=0.12$). Challenging cows with SARA decreased milk yield from 28.5 to 23.7 kg/d (from d 4-7 to d 9; $P<0.001$). Cows with access to BB tended to drop less in milk when comparing d 4-7 to the recovery period (1.5 vs. 4.2 kg milk/d; $P=0.08$). The SARA challenge decreased ruminal pH in all cows from 6.15 on d 4-7 to 5.78 on d 9 ($P<0.001$). Drop in ruminal pH from d 4-7 to the SARA challenge (d 9) was less ($P=0.03$) for cows with access to BB than control cows (0.20 vs. 0.55 pH units). Cows with access to BB tended to have higher mean ruminal pH during recovery (6.26 vs. 6.07; $P=0.13$). Cows with access to BB spent fewer hours (6.04 vs. 9.25 hr/d; $P=0.05$) and had less area (111.2 vs. 200.0 min x pH/d; $P=0.03$) below pH 5.5 during the SARA challenge (d 9). Cows with access to BB increased less in time ($P=0.03$) and area ($P=0.11$) below pH 5.5 from d 4-7 to the recovery period than did control cows. Access to BB reduced duration and severity of a SARA challenge and tended to assist cows in returning to pre-SARA levels.

Key Words: Buffer Block, Subacute Ruminal Acidosis, Dairy Cows