Our objective was to evaluate propylene glycol (PG) and glycerol (G) as treatments for ketosis. Two experiments lasting 4 d each were conducted in which cows received 1 bolus infusion per day. All data were analyzed by ANOVA. Experiment 1 used 6 ruminally cannulated cows [28 ± 7 d in milk (DIM)] randomly assigned to 300 mL infusions of PG or G (both ≥ 99,5% pure) in a crossover design experiment. Within each period, cows were randomly assigned to sequence in a crossover for site of infusion in the abomasum (A) or reticulorumen (R). Treatments were infused in the cranial reticulorumen (R-PG and R-G) to simulate drenching and abomasum (A-PG and A-G) to prevent metabolism by ruminal microbes. Treatment did not affect DMI or milk yield. Glycerol infused abomasally increased plasma glucose concentration the most (15,2 mg/dL; interaction P < 0.05), followed by R-PG (12,0 mg/dL), A-PG (9,7 mg/dL), and R-G (7,9 mg/dL). Glucose area under the curve (AUC) was also highest for A-G (1480 min × mg/dL; interaction P < 0,10), followed by A-PG (1167 min × mg/dL), R-PG (1009 min × mg/dL), and R-G (302 min × mg/dL). Abomasal infusions increased glucose AUC compared with ruminal infusions (1324 vs. 656 min × mg/dL; P < 0.05). Experiment 2 used 4 ruminally cannulated cows (23 ± 5 DIM) randomly assigned to treatment sequence in a Latin square design experiment balanced for carry-over effects. Treatments were: 300 mL PG, 300mL G, 600 mL G (2G), and 300 mL PG + 300 mL G (GPG), all infused into the cranial reticulorumen. Infusions did not affect
DMI or milk yield, but affected time to reach plasma glucose baseline after maximum and glucose AUC (both P < 0.05). Treatment contrasts compared PG with G, 2G, and GPG. Propylene glycol increased plasma glucose concentration and glucose AUC compared with G (16.4 vs. 6.6 mg/dL and 1768 vs. 213 min × mg/dL; both P < 0.05), but not compared with 2G or GPG. Abomasal infusion of G elicited the best plasma glucose response followed by infusion of PG into the rumen or abomasum. Plasma glucose response to ruminal infusion of PG was better than G, likely because of greater ruminal metabolism of G, and no benefit was detected for doubling the dose of G or infusing G in combination with PG. A 300 mL dose of propylene glycol is as effective a treatment as twice the amount of glycerol when administered in the reticulorumen.

**Key Words:** fresh cows, glucose precursors, ketosis