P124 Recycled nitrogen in lactating dairy cows fed high and low grain diets. A. Al-Dehneh*, R.C. Wanderley[1], J.T. Huber, C.B. Theurer, and J.C. Teixeira[2], Department of Animal Sciences & Nutritional Sciences Program, University of Arizona, Tucson.

Recycled N used by rumen bacteria and reaching the small intestine was studied in 4 duodenally cannulated lactating cows fed diets of 2:1 (C) and 1:2 (F) concentrate to forage. Urea-^{15}N was continually infused into the jugular vein for varying times up to 24 h and ^{15}N-enrichment was determined in duodenal digesta, urine and blood for 5 d. Duodenal digesta and urine were sampled every 4 h and blood twice daily, for 5 d. Enrichment patterns of digesta and urine was similar, with peaks at cessation of ^{15}N infusion. Turnover rate of rumen bacteria averaged 5%/h. Of the N in duodenal digesta, 16% came from blood urea with little difference between diets. Results were similar to two other trials where cows were infused continually for 3 d. The enrichment profile of blood, digesta and urine was similar for all cows. Moreover, there was a similarity in ^{15}N enrichment patterns between the shorter and longer-term infusions, which suggests that valid estimates of recycled N incorporated into rumen microbial protein might be obtained with decreased infusion times of ^{15}N-urea. 1) Fellow of O.A.S., 2) Fellow of CNPq.