496 Effects of ileal sample collection strategies on ileal digestibility of CP and the concentration of chromium in ileal digesta. B. G. Kim*[1,2] and H. H. Stein[1], [1]*University of Illinois*, *Urbana*, [2]*Konkuk University*, *Seoul, Korea*.

An experiment was conducted to measure the effect of ileal sample collection time on the concentration and digestibility of CP by growing pigs. Eight barrows with an initial BW of 34.6 kg (SD = 2.1) were individually fitted with a T-cannula in the distal ileum and randomly allotted to a replicated 4 × 4 Latin square design with 4 diets and 4 periods per square. Three diets contained corn, soybean meal, or distillers dried grains with solubles as the sole source of CP. An N-free diet was also prepared. All diets contained 0.5% chromic oxide as an indigestible marker. Equal meals were provided at 0800 and 2000. Ileal digesta samples were collected in 2-h intervals from 0800 to 2000 during the last 3 d of each 7-d period. The concentrations of Cr (1.22, 1.39, 1.65, 1.61, 1.39, and 1.20%; SEM = 0.06) and CP (16.3, 19.0, 23.6, 22.1, 19.4, and 17.1%; SEM = 0.7) in ileal samples collected in each of the 6 2-h periods exhibited a quadratic effect ($P < 0.001$) that increased and then decreased in pigs fed the 3 CP-containing diets. However, apparent ileal digestibility of CP (62.2, 59.5, 59.2, 60.7, 61.7, and 59.6; SEM = 2.2) was unaffected ($P = 0.745$) by collection time, and the values were comparable to the 12-h digestibility (61.6%) calculated using the Cr and CP concentrations of 12-h collection periods. The endogenous loss of CP tended to decrease (27.4, 25.7, 29.5, 26.0, 22.3, 21.4 g/kg DMI; SEM = 4.5; $P = 0.099$) with collection time. Standardized ileal digestibility values of CP linearly decreased (81.0, 77.1, 79.4, 78.5, 76.9, and 74.3%; SEM = 2.2; $P = 0.008$), but values for the third and fourth 2-h periods were comparable to the 12-h standardized ileal digestibility (78.7%). In conclusion, diurnal variation of Cr and CP concentration were observed, but the digestibility of CP was largely unaffected by collection time. We suggest that 2 to 4 h of ileal sample collection from 4 h after feeding may provide samples that allow for calculation of a representative CP digestibility.

Key Words: diurnal variation, ileal digestibility, pigs