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## Study of Ileal Amino Acid Digestibility of Soybean and Sunflower Meals in Growing Pigs Using *in Vivo* and *in Vitro* Methods

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### Abstract

The objective of this study was to determine ileal crude protein and ileal amino acid digestibility of growing pig using *in vivo* and *in vitro* methods. The *in vivo* ileal digestibility was studied in first experiment using four crossbred barrows (Large White × Landrace × Duroc) at initial average weight of 40 kg BW. The animals were surgically fitted with ileal simple T shape cannula and housed in individual metabolism cage. The experimental diets were 1) broken rice-soybean meal 2) corn-soybean meal 3) cassava starch-soybean meal and 4) cassava starch-sunflower-soybean meals. The experimental work was 4 × 4 latin square design. The *in vitro* ileal digestibility was studied with the same experimental diets as in the first experiment but using intestinal digesta collected from the same experimental animals. The average value of *in vivo* ileal digestibility for protein of all treatments (broken rice-soybean meal and corn-soybean meal, cassava starch-soybean meal and cassava starch-sunflower-soybean meals diets) and all feedstuffs (broken rice, corn, soybean meal and sunflower meal) were lower ( $p < 0.05$ ) than those of the *in vitro* method. Meanwhile, *in vivo* ileal digestibility of amino acids for all treatments and all feedstuffs were higher ( $p < 0.05$ ) than those of the *in vitro* method. The correlation coefficient of ileal digestibility for lysine and crude protein between *in vivo* and *in vitro* methods were high ( $r=0.8000$ ,  $0.6682$ , respectively). The regression equations of lysine and crude protein were  $Y=71.6471+0.1445X$  and  $Y=70.4556+0.1296X$  respectively. While, the correlation coefficient of ileal digestibility for DM and arginine between *in vivo* and *in vitro* methods were lowest. There was no correlation coefficient of ileal digestibility for threonine, valine and isoleucine between *in vivo* and *in vitro* methods.

**Keywords:** Amino acid, correlation coefficient, crude protein, *in vitro* digestibility, *in vivo* digestibility