

326 Chemical Composition and Digestibility of Energy, Dry Matter, Amino Acids, and Fiber in Wheat Middlings and Red Dog Fed to Growing Pigs. G. A. Casas^{*1}, D. A. Rodriguez², H. H. Stein², ¹Universidad Nacional de Colombia, Bogota, Colombia, ²University of Illinois at Urbana-Champaign, Urbana, IL

Two experiments were conducted to determine nutrient composition and apparent total tract digestibility (ATTD) of GE, DM, concentrations of DE and ME, and standardized ileal digestibility (SID) of CP and AA in 10 sources of wheat middlings and one source of red dog. In Exp 1, 12 growing pigs (initial BW: 31.0 ± 1.0 kg) were allotted to 12 dietary treatments and 8 14-d periods. A basal corn-soybean meal diet and 11 diets containing corn, soybean meal, and 39.4 % of one source of wheat middlings or of red dog were formulated. In Exp. 2, 12 pigs (BW: 29.23 ± 1.5 kg) were fitted with a T-cannula in the distal ileum and allotted to 12 diets. Ten diets contained wheat middlings, 1 diet contained red dog, and 1 diet was a N-free diet. Both experiments were conducted using a 12 × 8 Youden square design with a total of 8 replicate pigs by treatment. Results indicated that the concentration of CP was 17.0% in red dog and 17.7 ± 0.6% in wheat middlings; the concentration of total dietary fiber was 13.9% in red dog, and 36.5 ± 2.4% in wheat middlings. Red dog and wheat middlings contained 43.0% and 20.3 ± 2.4% starch, respectively. The ATTD of GE and DM in wheat middlings (67.2 and 71.2%, respectively) was less ($P < 0.05$) than in red dog (79.3 and 82.9%), and DE and ME in wheat middlings (2,990 and 2,893 kcal/kg DM) were less ($P < 0.05$) than in red dog (3,408 and 3,292 kcal/kg DM). The SID of most indispensable AA was greater ($P < 0.05$) in red dog than in wheat middlings (Table 1). In conclusion, wheat middlings contains more fiber and less starch than red dog. Digestible energy, ME, ATTD of GE, and most nutrients are greater in red dog than in wheat middlings.

Table 1. SID of CP and AA in wheat middlings and red dog

	Wheat middlings		Red dog	Red dog vs. Wheat middlings	
	Mean ¹	SD		SEM	P-value
CP, %	61.5	5.1	78.5	4.52	0.001
Indispensable AA, %					
Lys	45.9	5.2	72.3	3.19	<.0001
Met	73.6	1.8	90.6	1.24	<0.001
Thr	62.7	4.0	87.3	2.57	<0.001
Trp	70.5	4.2	88.6	1.94	<0.001

¹Mean of 10 sources of wheat middlings.

Wheat middlings and red dog have similar quantities of AA, but SID of CP and AA in red dog is greater than in wheat middlings.

Key Words: wheat coproducts, wheat middlings, digestibility