

**P082 Energy concentration and phosphorus digestibility in canola, cottonseed, and sunflower products fed to growing pigs.**  
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Two experiments were conducted to determine the concentration of ME (Exp. 1) and the standardized total tract digestibility (STTD) of P (Exp. 2) in canola-, cottonseed-, and sunflower-products fed to growing pigs. Canola products included canola seeds (CS) and canola meal (CM), and cottonseed meal (CSM) was also used. Sunflower seeds (SFS), sunflower meal (SFM), and de-hulled sunflower meal (SFM-DH) were the sunflower products included, and de-hulled soybean meal (SBM) was also used. In Exp. 1, 48 growing barrows (BW: 44.8 ± 3.9 kg) were randomly allotted to 8 diets with 6 pigs per diet. A basal diet containing 97.15% corn and 7 diets containing corn and CS, CM, CSM, SFS, SFM, SFM-DH, or SBM were formulated. In Exp. 2, 84 growing barrows (BW: 13.7 ± 1.5 kg) were randomly allotted to 14 diets with 6 pigs per diet. Fourteen diets containing CS, CM, CSM, SFS, SFM, SFM-DH, or SBM without or with microbial

P081 **Table 1** The effects of increasing levels of CM.<sup>1</sup>

TRT <sup>2</sup>	1	2	3	4	5	6	SEM	P <	Lin	Quad
Initial BW, kg	15.2	15.5	15.4	15.5	15.5	15.4	0.11	0.39	0.26	0.45
ADG, g	704 <sup>a</sup>	708 <sup>a</sup>	697 <sup>a</sup>	670 <sup>b</sup>	700 <sup>a</sup>	698 <sup>a</sup>	8.68	0.07	0.01	0.09
ADFI, g	1130	1157	1162	1122	1157	1119	14.71	0.15	0.84	0.03
G:F	0.62 <sup>a</sup>	0.61 <sup>ab</sup>	0.60 <sup>c</sup>	0.60 <sup>c</sup>	0.61 <sup>bc</sup>	0.62 <sup>a</sup>	0.004	0.01	0.01	0.31
Final BW, kg	34.2	34.6	34.2	33.6	34.4	34.2	0.28	0.21	0.06	0.09

<sup>1abc</sup> Within a row, means without common superscript differ (P <0.05). <sup>2</sup>Lin and Quad (TRT 1 to 4).

phytase (500 phytase units per kg) were formulated. Results of Exp. 1 indicated that the ME in SFS and CS is greater than that of all other oilseed meals, but CM, CSM, SFM, and SFM-DH contain less ME than SBM. Results of Exp. 2 indicate that the STTD of P in CM is not different from the STTD of P in SBM and SFS, but greater than in CS, CSM, SFM, and SFM-DH. Microbial phytase increased the STTD of P in all ingredients.

**Table 1.** Concentrations of ME and STTD of P in ingredients<sup>1</sup>

Item	CS	CM	CSM	SFS	SFM	SFM-DH	SBM	SEM
ME, kcal/kg DM	5,098 <sup>b</sup>	3,306 <sup>d</sup>	2,700 <sup>e</sup>	5,739 <sup>a</sup>	2,998 <sup>de</sup>	2,860 <sup>e</sup>	4,035 <sup>c</sup>	110
STTD of P, %, -phytase <sup>2</sup>	45.6 <sup>ef</sup>	58.0 <sup>cd</sup>	45.6 <sup>ef</sup>	51.7 <sup>cd</sup>	37.4 <sup>f</sup>	50.0 <sup>de</sup>	62.0 <sup>bc</sup>	3.7
STTD of P, %, +phytase <sup>2</sup>	70.7 <sup>ab</sup>	74.6 <sup>a</sup>	60.0 <sup>bcd</sup>	73.8 <sup>a</sup>	59.8 <sup>cd</sup>	54.9 <sup>cde</sup>	78.0 <sup>a</sup>	

<sup>1</sup> a-c Values within a row lacking a common superscript letter are different ( $P < 0.01$ )

<sup>2</sup> The STTD of P was greater ( $P < 0.01$ ) for all ingredients if phytase was used, but no interactions between ingredient and phytase were observed.

**Key Words:** energy, oilseed meals, phosphorus