Comparison of growing-finishing performance pigs when diets containing cull chickpeas and DL-Methionine

SESSION 30
POSTER 21

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Introduction

The chickpeas grain its use at 30 % of the diet in feeding of growing pigs affecting performance (Rackz and Thacker, 1998). The cull chickpeas has been increasing its use as feedstuffs for pigs in the North West of Mexico, however, there a little information about its comparative nutritional value, Obregon et al. (2004) utilized cull chickpeas at 40 % of the diet in substitution of corn grain-soybean meal blend, without affecting growth performance.

The objective of this experiment was to determine the effect of the substitution of soybean meal and corn for cull chickpeas and DL- Methionine on growth performance and carcass traits of growing-finishing pigs.

Material and Methods

The experiment was conducted in Unit Metabolic of FMVZ-UAS, localized in Culiacan, Sinaloa, Mexico. Placed at 60 m over mean sea level, with an annual mean temperature of 25.5°C, and 675 mm of water raining by year, and with a dry tropic weather.

48 hybrid pigs (BW = 27.47 ± 0.89 kg) in groups of four were placed in 12 concrete floor pens (2.5 x 2.5 m). In a complete randomized experimental design, pens were fed one of three diets: 1) Diet with 17.21 % CP and 3.35 Mcal ME/kg, containing corn 71.0 %, soy bean meal 25 %, and premix 4 % (CONT); 2) Diet with 17.1 % CP and 3.35 Mcal ME/kg with corn 37 %, cull chickpeas 50 %, soybean meal 9 %, and premix 4 % (CHP50) and 3) Diet similar to CHP50 with 0.2 % of DL-methionine additioanated (CHP50M). Pigs were weighed at days 0, 49 and 97 of experiments and feed intake was recorded daily; so the same at the end of experiment 12 pigs by treatment were slaughtered and carcass traits measured.

Results

ADG at day 49 (0.584, 0.429 and 0.525 kg) was not similar (P=0.05) between CONT and CHP50. Body weight at day 97 (95.175, 96.650 and 96.175 kg) were not affected (P=0.91) by CONT, CHP50 and CHP50M, respectively.

ADG (0.701, 0.704 and 0.712 kg) were similar across treatment (P=0.90). Feed intake (1.968, 2.008 and 2.038 kg) was not affected (P=0.70) by treatments. Feed/gain ratio (2.775, 2.865, and 2.855) was similar (P=0.22) by treatments. Hot carcass weight (78.83, 76.13 and 77.45 kg) was similar between treatments (P=0.66), and carcass yield (78.43, 75.87 and 77.82%) was not affected by treatments (P=0.15). Backfat (1.87, 1.90 and 1.78 cm) was no affected; rib eye area (35.80, 37.25 and 35.70 cm^2) was similar between treatments.

Table 1. Chemical composition of cull chickpeas (Humid basis)

Nutriment %	Middle	DE
Humid	7.38	0.21
Crude protein	20.13	0.50
Crude fiber	6.50	1.04
Crude fat	5.10	0.17
N Free extract	57.78	1.10
Ash	3.15	0.26
Organic matter	96.85	0.26

Value average of four observations.

Table 2. Growth Performance and carcass traits of pigs feed cull chickpeas (day 97)

	Treatments				
	CONT	CHP50	CHP50 M	SEM	Pr =F
Pigs, n	16	16	16		
BW initial, kg.	27.423	27.578	27.423	0.428	0.20
BW final, kg	95.175	95.650	96.175	0.871	0.91
Average daily gain, kg	0.701	0.704	0.712	0.009	0.90
Intake kg/day	1.968	2.008	2.038	0.032	0.70
Feed/gain ratios	2.775	2.865	2.855	0.023	0.22

Conclusion

It is concluded, that cull chickpeas at 50 % in diets for growing pigs (27 to 55 kg) affect growth performance; and that cull chickpeas at 50 % added with 0.2 % of DL-methionine can be used up 50 % in diets for growing-finishing pigs without affecting growth performance and carcass traits.

Literature Cited

Obregon, J.F., J.M. Uriarte, C.R. Barajas and H.R. Güemez. 2004. Comparison of growing swine performance when fed diets containing cull chickpeas in substitution of soybean meal and corn. J. Anim. Sci. (suppl. 1) 82:172.

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