Effects of Soybean Meal Alternatives on Boer-type Goat Growth and Related Costs

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Introduction

- Global and domestic goat populations have increased greatly in the past years
- Corn co-products are a relatively inexpensive protein source in comparison to soybean meal

Objective

- To evaluate corn dried distiller's grains with solubles (DDGS) and corn gluten feed (CGF) as replacements for soybean meal (SBM) in a Boer-type grower ration

Materials and Methods

- 75 Boer-type goats (70 days old, average BW 26.9±0.2 kg)
- Goats were fed for 35 days
- 25 pens with 3 goats in each pen
- 5 pens per treatment
- Pen as experimental unit, with alpha value of 0.05
- Data analyzed with GLIMMIX procedure of SAS
- Dietary treatments were:
  1. SBM Control
  2. 100% DDGS/ 0% CGF
  3. 66% DDGS/ 33% CGF
  4. 33% DDGS/ 66% CGF
  5. 0% DDGS/ 100% CGF

Experimental Diets

- Treatments were isocaloric and isonitrogenous

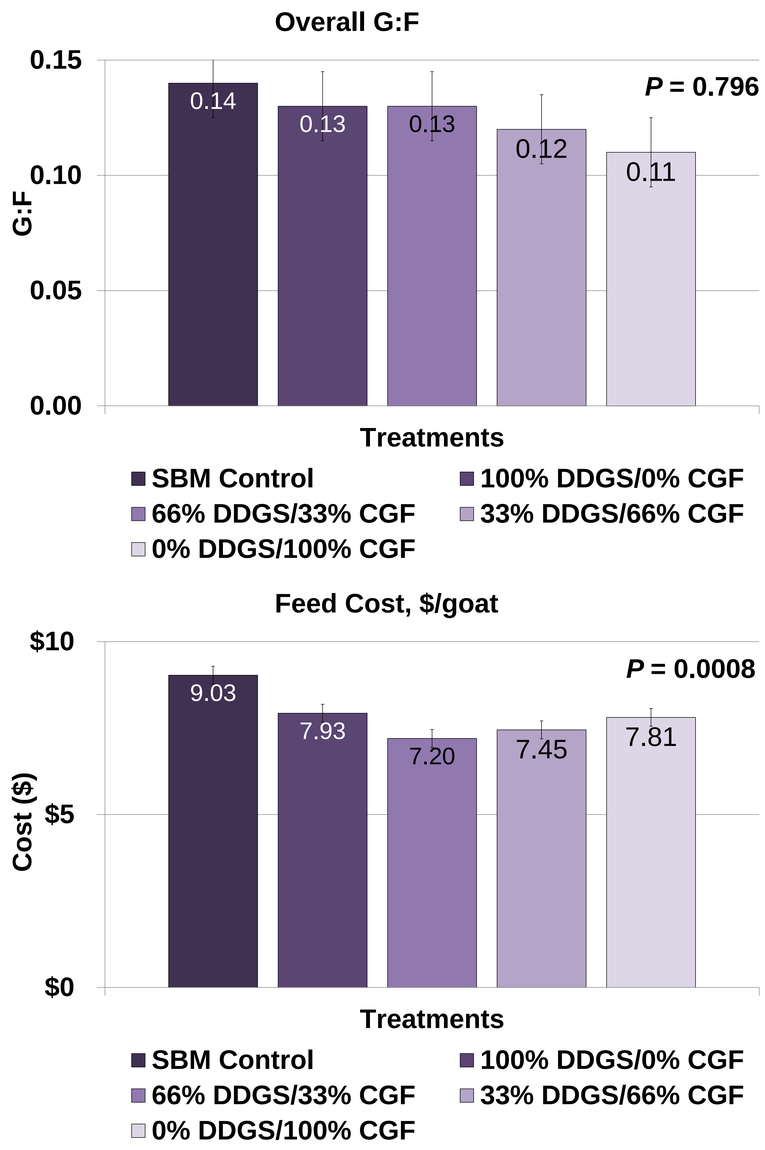
Table 1. Diet formulation and analyzed nutrient composition[1]

	SBM Control	100% DDGS/ 0% CGF	66% DDGS/ 33% CGF	33% DDGS/ 66% CGF	0% DDGS/ 100% CGF
Corn gluten feed	0.0	0.00	12.6	25.3	37.9
Corn dried distillers grains with solubles	0.0	20.2	13.5	6.8	0.0
Soybean meal, 48% CP	15.0	0.0	0.0	0.0	0.0
Corn	42.7	11.5	13.7	15.8	18.0
Soybean hulls	35.7	62.2	54.2	46.2	38.1
Molasses	2.50	2.50	2.50	2.50	2.50
Ammonium chloride	1.00	1.00	1.00	1.00	1.00
Limestone	1.58	1.23	1.48	1.73	1.98
Salt	0.50	0.50	0.50	0.50	0.50
Se Selenite	0.001	0.0001	0.001	0.0001	0.009
Vit A 30,000	0.015	0.015	0.015	0.015	0.015
Vit D 30,000	0.004	0.004	0.004	0.004	0.004
Vit E 20,000	0.001	0.001	0.001	0.001	0.001
Copper sulfate	0.008	0.008	0.008	0.008	0.008
Zn Oxide	0.008	0.008	0.008	0.008	0.008
Monocalcium phosphate	0.96	0.83	0.55		0.00
Total	100.0	100.0	100.0	100.0	100.0
Analyzed Nutrients, % as-fed					
Crude protein	16.7	17.1	17.2	16.7	17.0
Crude fat	3.10	3.27	2.74	2.36	1.94
ADF	12.0	15.6	27.4	23.8	17.8
Digestible energy, Mcal/kg	3.13	3.16	3.14	3.14	3.15
Ca	1.08	1.07	1.05	1.06	1.06
P	0.55	0.57	0.58	0.55	0.53
S	0.19	0.18	0.24	0.24	0.25

Diet Prices per Kg of Feed:

1. $0.239
2. $0.204
3. $0.201
4. $0.199
5. $0.196

Results



Conclusions

- Results suggest that diet can be chosen to fit the herd goals of the producer
- No detected differences in growth performance (*P*> 0.05)
- Economics can be the deciding factor for producers

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