The effects of replacing soybean meal with dried distillers grain and corn gluten Feed on Boer-type grower rations

J.E. Edington, A.R. Crane, J.L. Lattimer, C. K. Jones

Department of Animal Sciences and Industry,
College of Agriculture, Kansas State University, Manhattan, KS 66506, USA

Introduction

Evaluating different Boer-type goat grower rations is important in being cost effective with goat growth and performance. There have been few research experiments done on goat growth. Diets were formulate to be isonitrogenous and isocaloric, and they varied in protein source. The protein sources were soybean meal, dried distillers grain, and corn gluten feed.

Objective

To evaluate the effects of replacing SBM with different levels of DDGS and CGF on Boer goat grower rations, and also comparing price per pound of gain.

Procedure

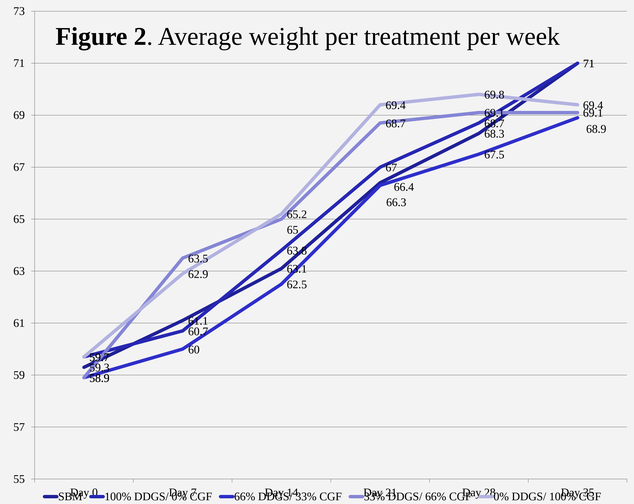
- **Experiment Unit:** Pen
- **Experimental Unit:** Completely Randomized
- 75 Boer type goats approximately 70 days of age
    - 3 goats per pen
    - 5 pens per treatment
- **Collection of data:** Goats and feeders were weighed weekly for 35 days
- **Treatments:** 1) soybean meal; 2) 100% DDGS/0% CGF; 3) 66% DDGS/33% CGF; 4) 33% DDGS/66% CGF; 5) 0% DDGS/100% CGF
- **Data Analysis:** GLIMMIX procedure of SAS with an alpha value of 0.05.

Methods

Figure 1. Diet Formulation

	SBM Control	100% DDGS 0% CGF	66% DDGS 33%CGF	33% DDGS 66%CGF	0% DDGS 100% CGF
CGF	0.0	0.00	12.6	25.2	37.9
Corn dried distillers grains with solubles	0.0	20.2	13.5	6.8	0.0
SBM 48% CP	15.0	0.00	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	050	0.50	0.50	0.50	0.50
Se Selenite	0.001	0.001	0.001	0.001	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	0.0	0.0
Total	100%	100%	100%	100%	100%

Figure 2. Average weight per treatment per week



Results

Figure 3. Average Daily Gain

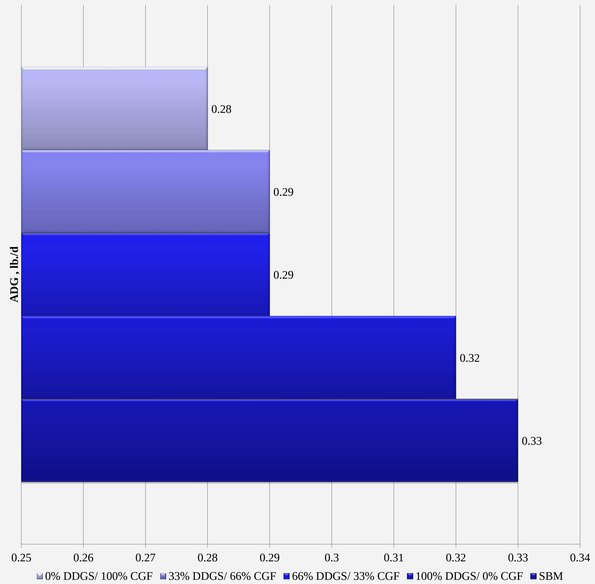
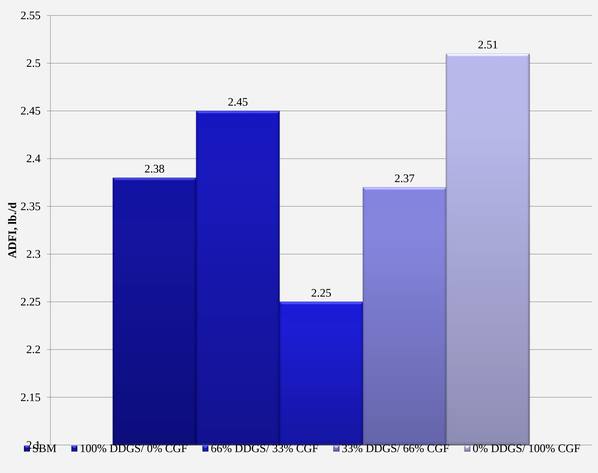
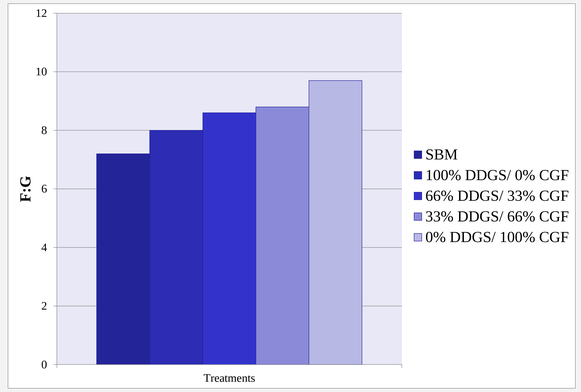


Figure 4. ADFI



Results

Figure 5. F:G



Conclusions

The linear P value of ADG was 0.444, ADFI was 0.371, and G: F was 0.442, and this concludes that there were no detectable difference among treatments for ADG, ADFI, and G: F (P>0.05). The feed cost per goat for this experiment for the SBM was $8.89, 100% DDGS/0% $7.96, 66% DDGS/33% CFG $7.26, 33% DDGS/66% CFG $7.54, and 0% DDGS/100% CFG was $7.80. Feed cost per pound of gain for each treatment groups are as followed: SBM $0.77, 100% DDGS/0% CFG $0.74, 66% DDGS/33% CFG $0.79, 33% DDGS/66% CFG $0.81, and 0% DDGS/100% CFG $0.86. The feed cost per pound of feed for the control was $0.11, and for treatments 1,2,3, and 4 it was $0.09. This project concludes that DDGS and CGF can utilized as replacements for SBM in grower rations for Boer goats.

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