The Effects of Corn Gluten Feed and Corn Dried Distillers Grains as a Replacement for Soybean Meal on Boer Type Goat Diets

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Introduction

- The number of goats in the U.S. has increased by 211% in the last 15 years. That's going from 1.3 million to 2.6 million (NASS, 2012 and 2017).
- No information regarding the use of corn dried distillers grains (DDGS) or corn gluten feed (CGF) is available in the 2007 Nutrient Requirements of Small Ruminants (NRC, 2007)
- There is an increased demand for economical diets for meat goats.
- Corn co-products are relatively cheap to use as a protein source.

Objective

- To evaluate the ability for CGF and DDGS with soluble to economically replace soybean meal (SBM) in a Boer type goat growth performance.

Materials and Methods

- **Experimental Design: C**ompletely randomized
- **Experiment Unit:** Pen
- **Treatments:**
  - 1) SBM
  - 2) 100% DDGS/0% CGF
  - 3) 66% DDGS/33% CGF
  - 4) 33% DDGS/66% CGF
  - 5) 0% DDGS/100% CGF
- **Collection Details:** The study lasted 35 d and used 75 Boer type goats approximately 70 d of age and 26.9 ± 0.2 kg of weight.
- There were 25 pens with 3 goats per pen.
- Feed added was weighed daily.
- Goats and feeders were weighed weekly to calculate ADG, ADFI, and F:G ratio.
- **Data Analysis: U**sed GLIMMAX procedure of SAS (Cary, NC., v. 4.4).

Results

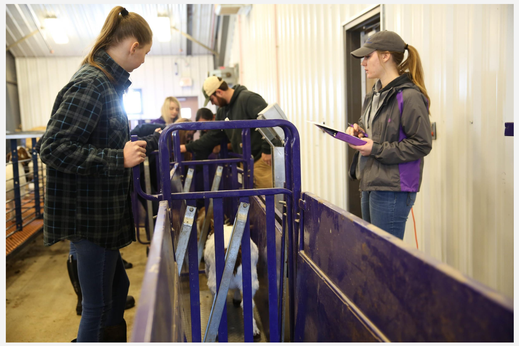


Figure 1. Weekly weighing of goats.

Figure 2. Pulling feeders out of pens to weigh them.

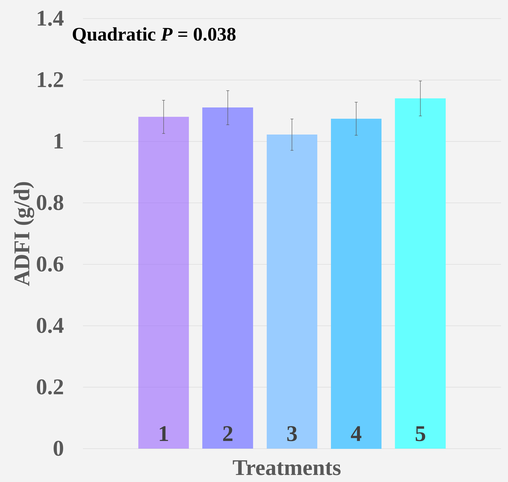


Figure 3. ADFI Based on Treatment.

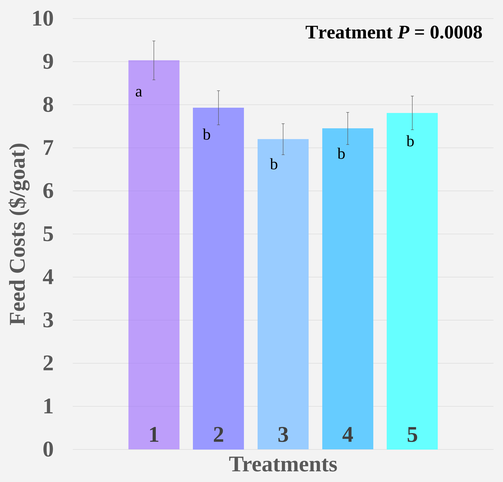


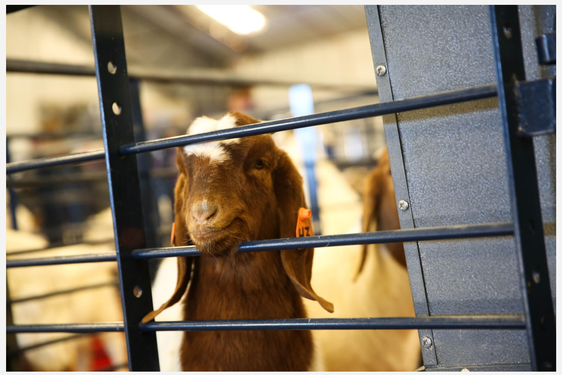
Figure 4. Feed costs per goat based on treatment.

Treatment	1	2	3	4	5	*Linear P*-value
Avg. BW d 35	32.2	32.2	31.3	31.3	31.5	0.877
ADG g/d	152	146	128	132	126	0.444
Avg. F:G	0.14	0.13	0.13	0.12	0.11	0.442

Figure 5. Average body weight on d 35, ADG, and F:G ratio for each treatment.

Results

- No detected differences between treatments according to final BW, ADG, and F:G ratio (P>0.05).
- Feed costs for goats fed corn co-products is lower (P=0.0008) than feed costs for goats feed SBM by approximately $0.04/kg of feed.
- Feeding goats corn co-products increases (P=0.038) ADFI of goats by approximately 0.045 kg/d.
- No evidence (P>0.05) of diet affecting feed costs per/kg of gain.
- CGF and corn DDGS can economically replace SBM in Boer-type goat diets.



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