

Effects of Corn Dried Distiller Grains or Corn Gluten Feed as a Replacement for Soybean Meal in Boer Goats

K.E. Grider, R.J. Sorensen, 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

- Little published research on corn co-product effects in goat diets
- From 2002-2017 the US goat inventory has increased from about 1.3 to 2.6 million goats [1]
- Significant to countries the US exports goats and goat meat to

Objective

To compare the growth performance and cost efficiency of corn gluten feed (CGF) or corn dried distiller grains (DDGS) as a substitute for soybean meal in Boer type goats.

Procedure

- **Location:** Kansas State University Sheep and Meat Goat Center in Manhattan, Kansas
- **Experiment Unit:** Pen
- **Length:** 35 days
- **Goats:** 75 Boer-type goats with an average weight of 26.9 ± 0.2 kg and 70 d of age
- **Experimental Design:** Randomly allocated 3 goats pen, 5 pens per treatment
- **Treatments:**
 - 1) 100% DDGS/0% CGF (control)
 - 2) 66% DDGS/33%CGF
 - 3) 66% DDGS/33% CGF
 - 4) 33% DDGS/66% CGF
 - 5) 0% DDGS/100% CGF
- **Data Analysis:** GLIMMIX procedure with Statistical Analysis System was used to analyze data (SAS Inst., Cary, NC)

Images



Image 1. Goat pen layout [2]



Image 2. One of the Boer-type goats [2]



Image 3. Students weighing an individual goat [2]

Results

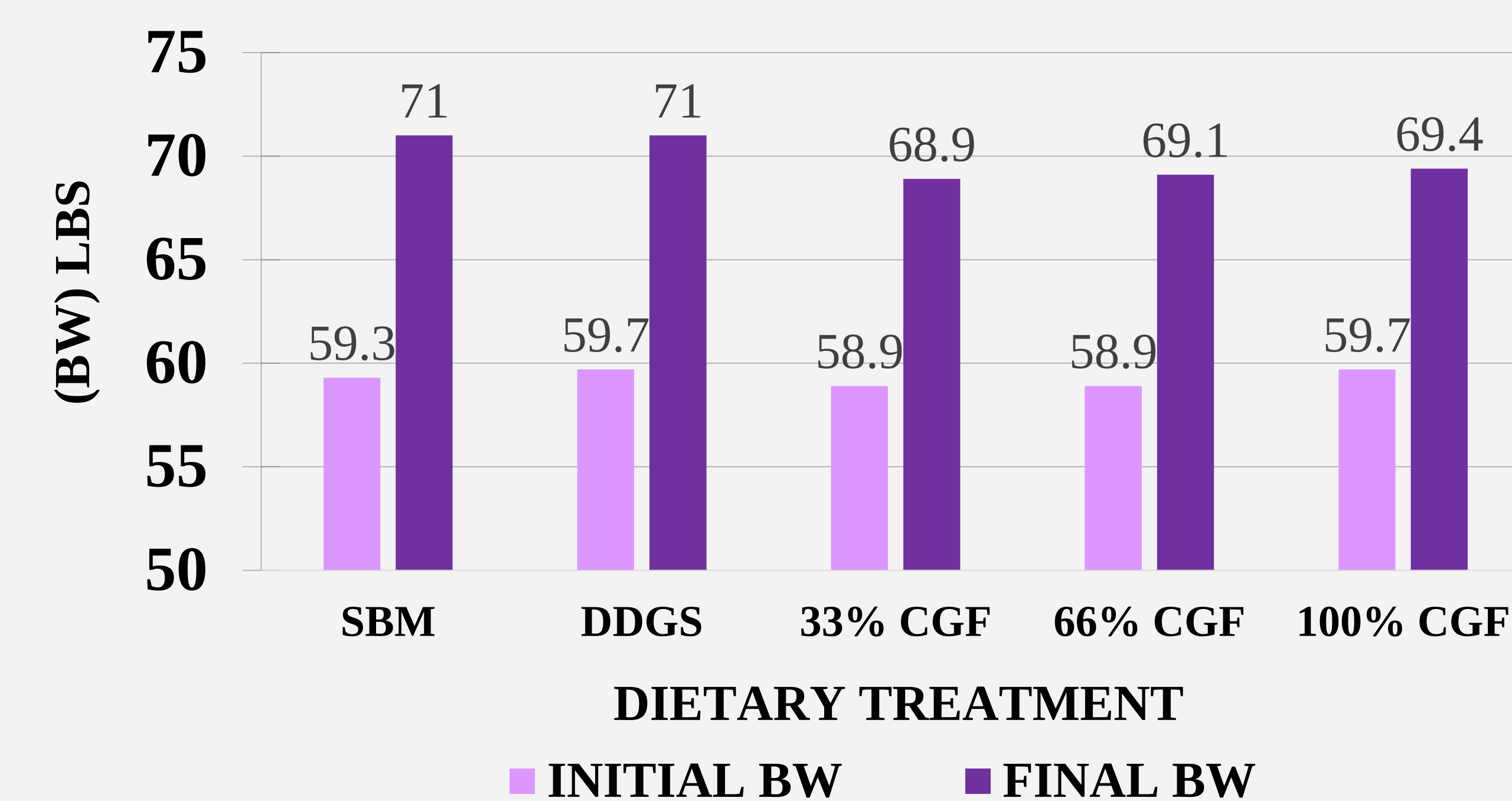


Figure 1. Effect of increasing CGF levels on BW (lbs)

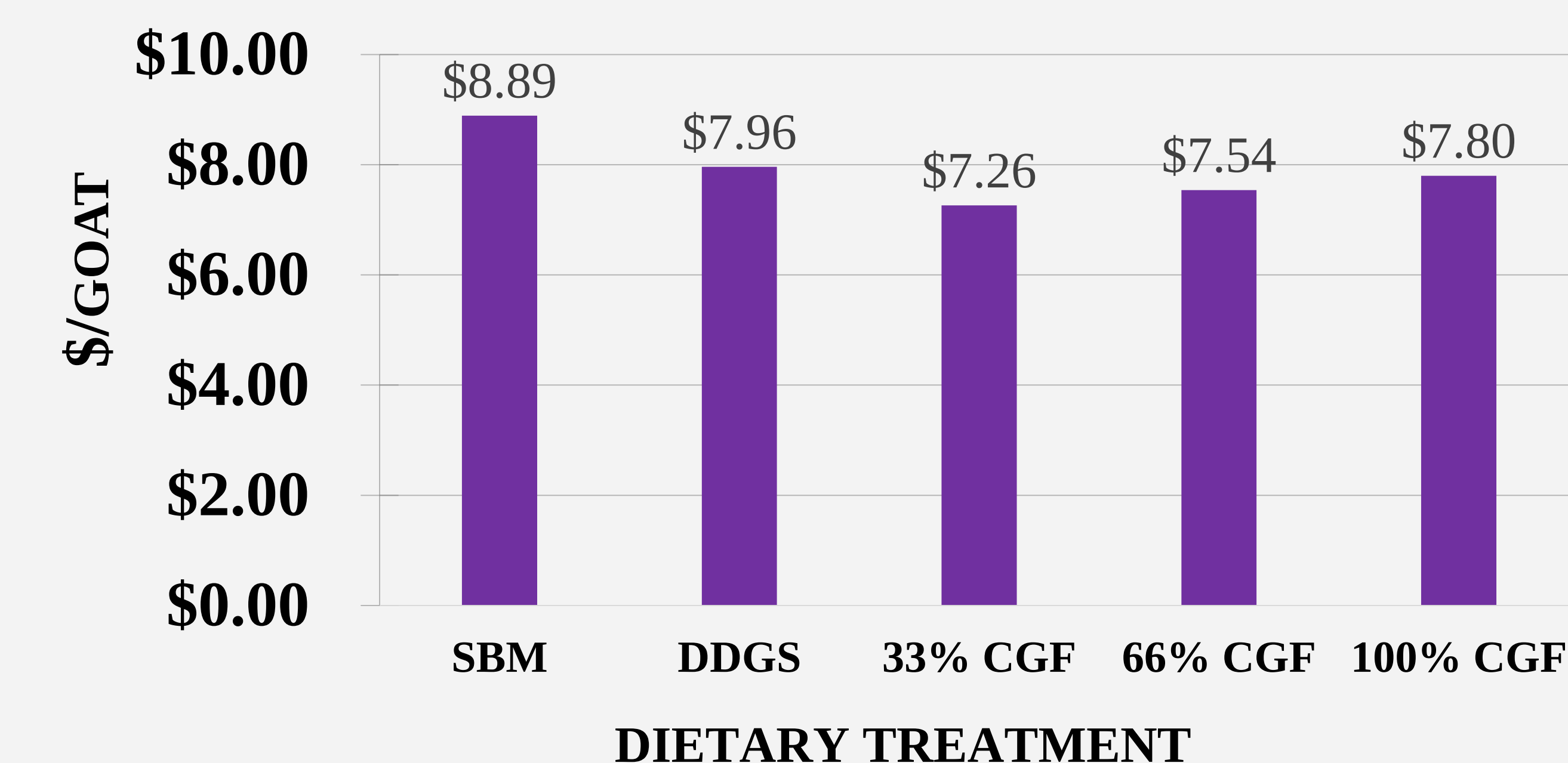


Figure 2. Effect of increasing CGF levels on Boer goat feed cost

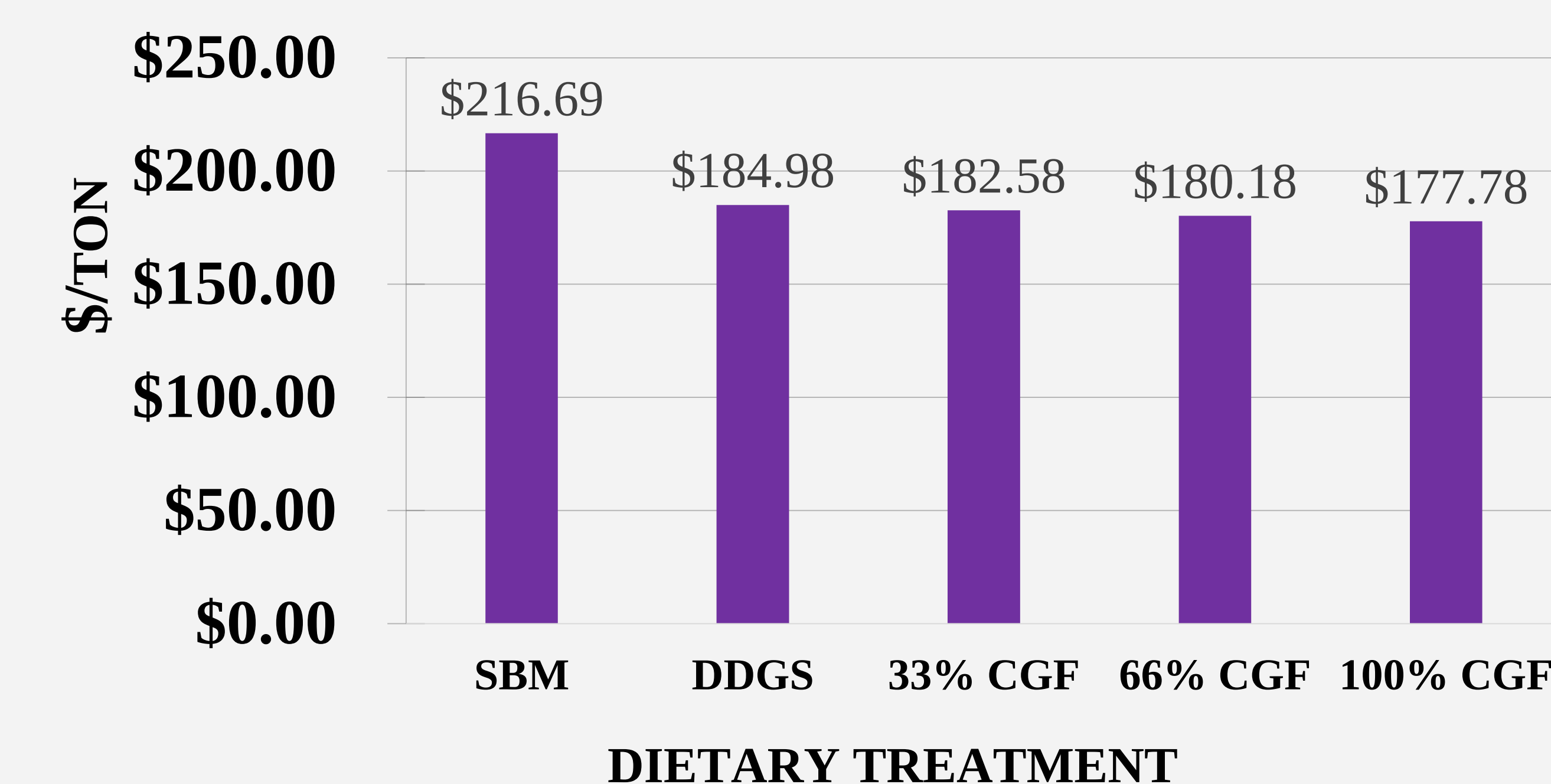


Figure 3. Effect of increasing CGF levels on Boer goat feed cost

Conclusions

- **No detected differences ($P > .05$) in:**
 - Final BW (refer to Figure 1)
 - Final ADG
 - Final ADFI
 - Final G:F
 - Feed Cost per Kg of Gain
- Corn DDGS and CGF had lower feed cost per goat ($P = .0008$) than SBM
- Experiment **supports** corn DDGS and CGF used to replace SBM

Future Directions

- Future research needs to be done in order to examine long term health effects of corn co-products in goat diets

References

- [1] National Agricultural Statistics Service of the US Department of Agriculture. (2017). *Aphis.usda.gov*. Retrieved 7 May 2019, from https://www.aphis.usda.gov/animal_health/nahms/downloads/Demographics2017.pdf
- [2] Photos captured by Taylor Matheny (2019)

Acknowledgements

This project was approved by the Institutional Animal Care and Use Committee.