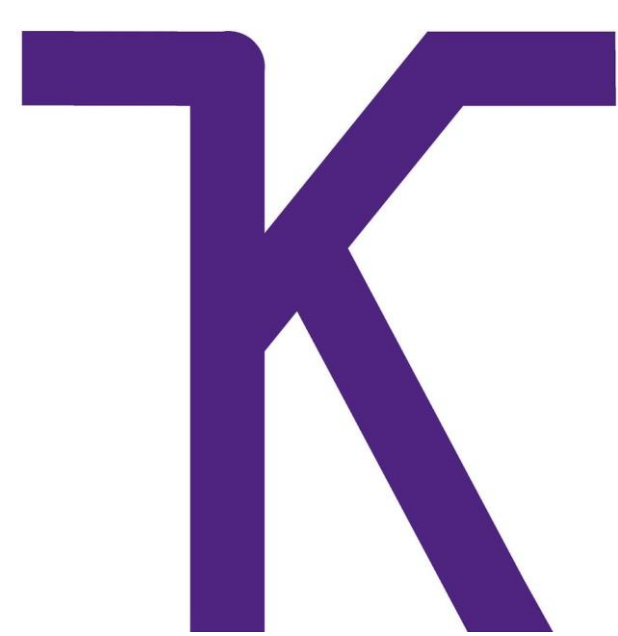




Replacing Soybean Meal with Dried Distillers Grains and Corn Gluten Feed in Meat Goats

A.R Griffin, A.R. Crane, J.L Lattimer, C.K. Jones



Department of Animal Sciences and Industry, Kansas State University, Manhattan

Introduction

- The number of goats in the U.S. has nearly doubled the past few decades.
- Not much research has been done on goats; typically, it is assumed that goats will have similar nutritional needs to sheep
- Since there is very little information on goat diets, producers of meat goats don't know which diets are more economically effective to feed growing goats

Objective

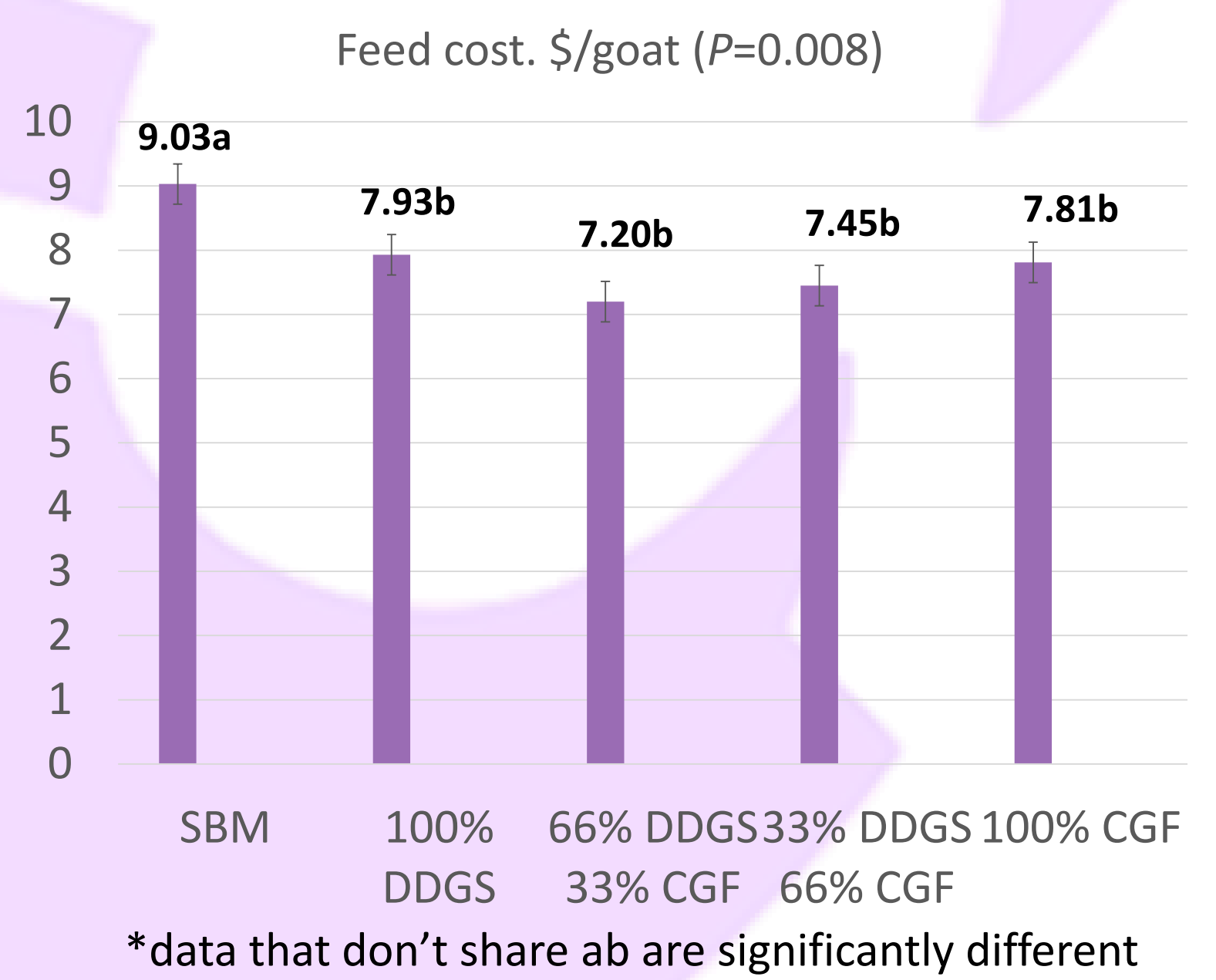
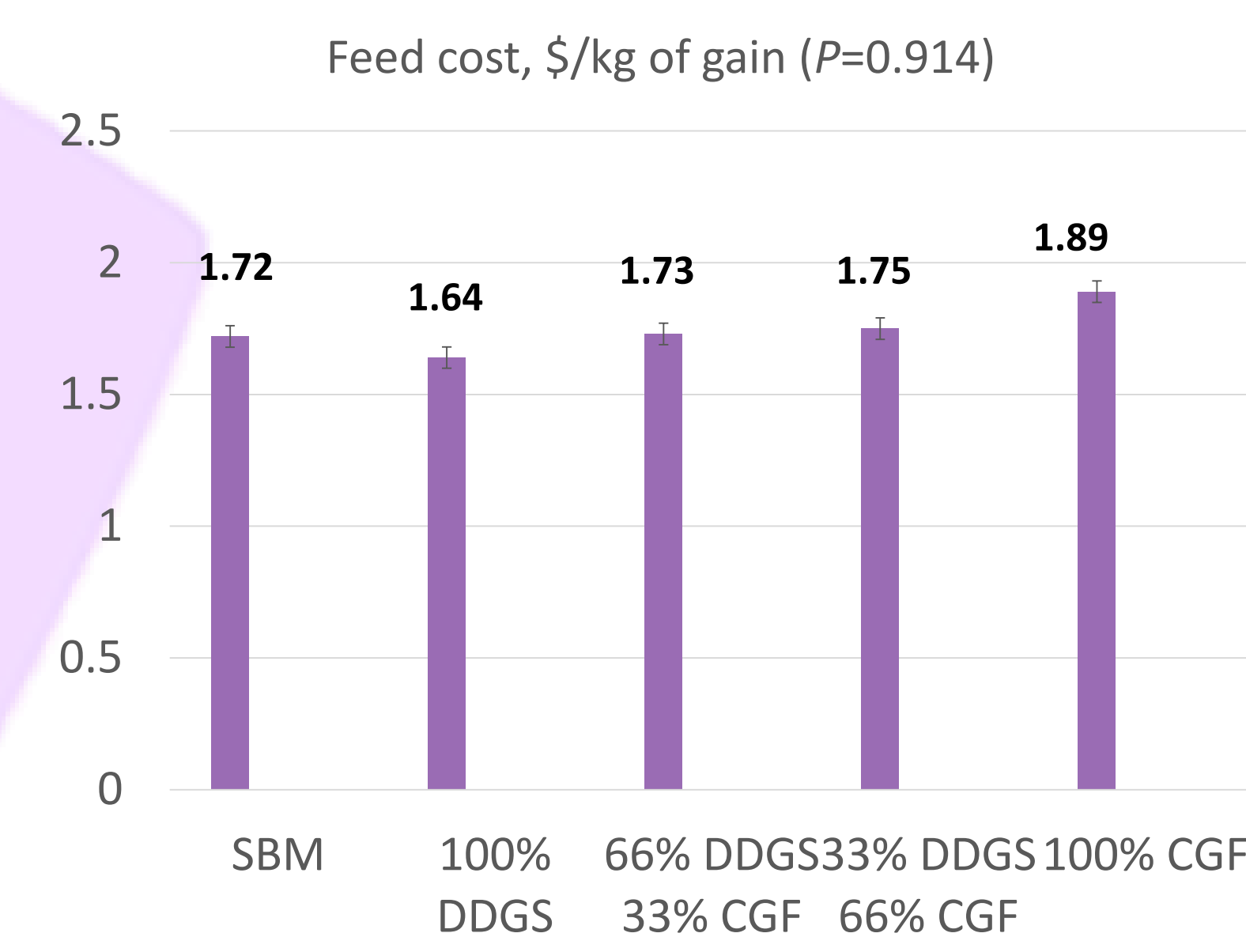
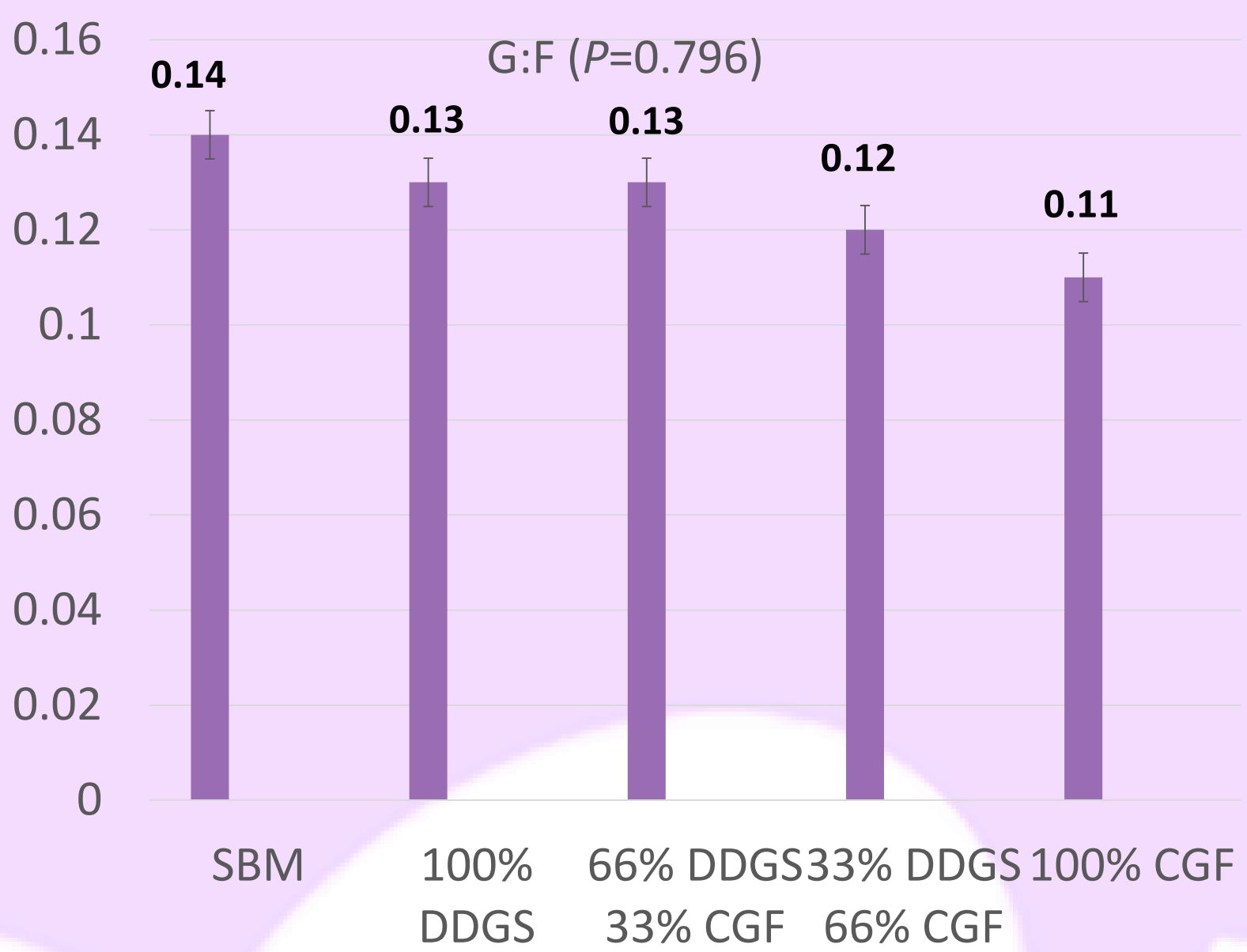
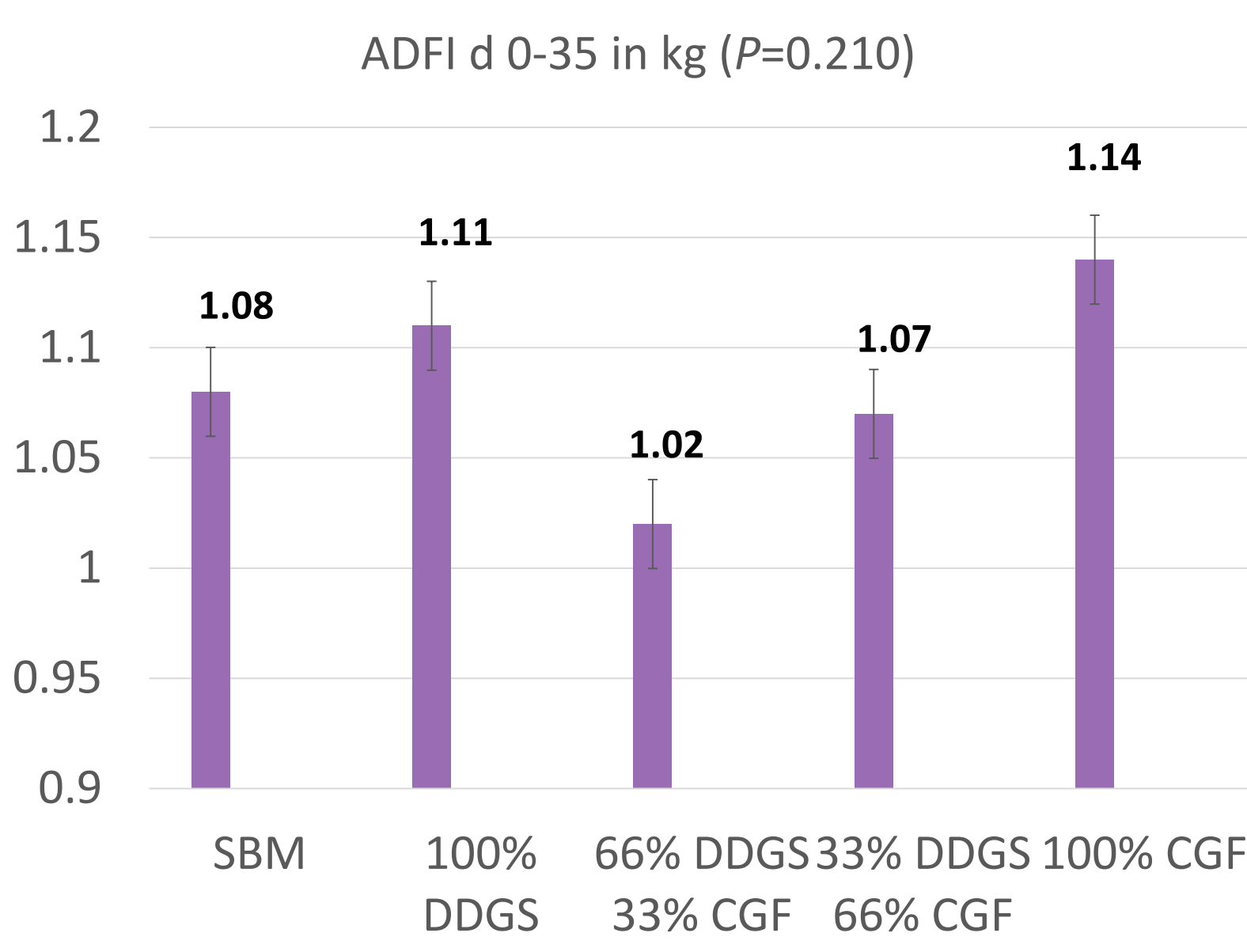
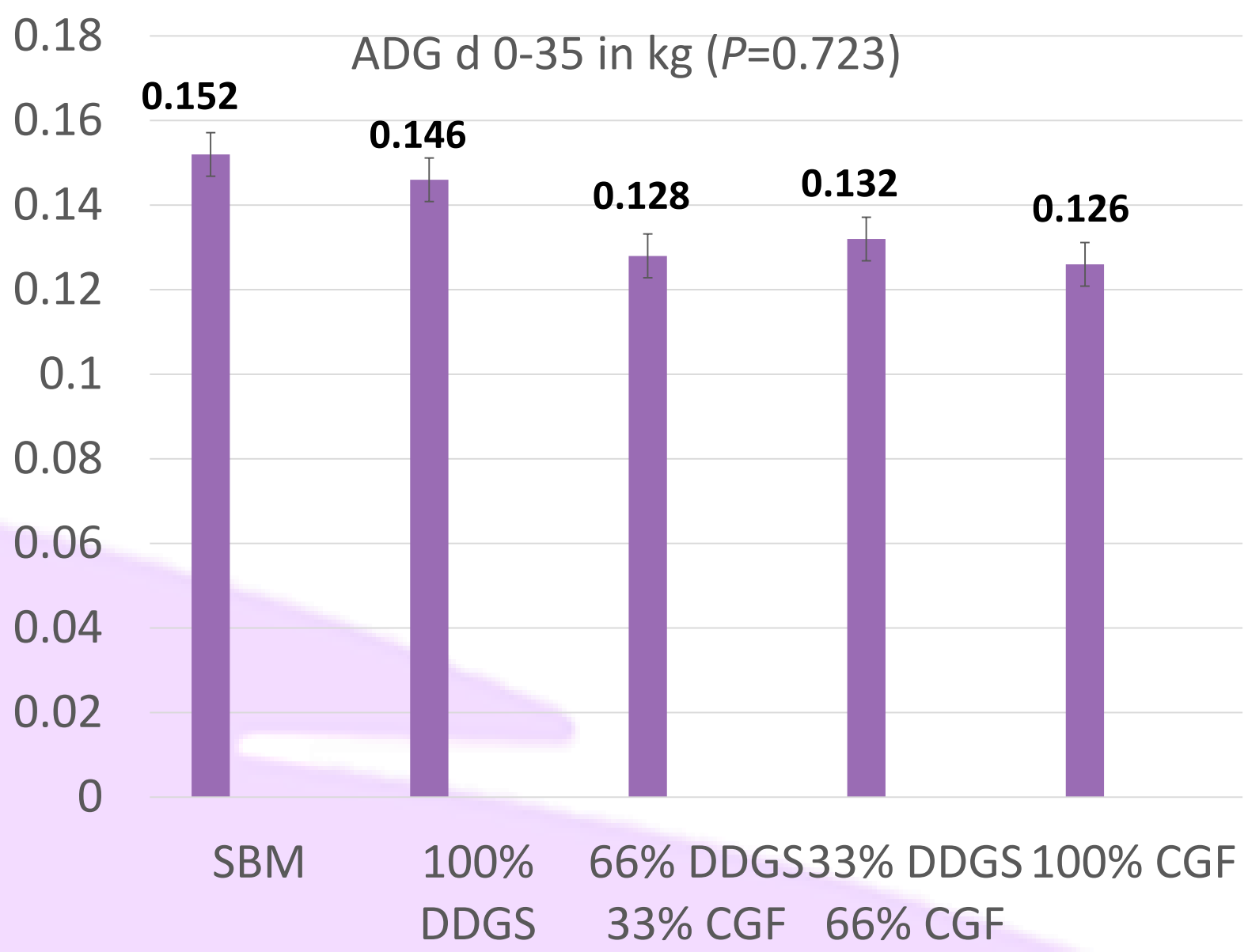
- Evaluate diets with differing levels of dried distillers grains with solubles (DDGS) and corn-gluten feed (CGF) as a protein source as economically effective diets for growing meat goats, instead of soybean meal (SBM).

Materials and Methods

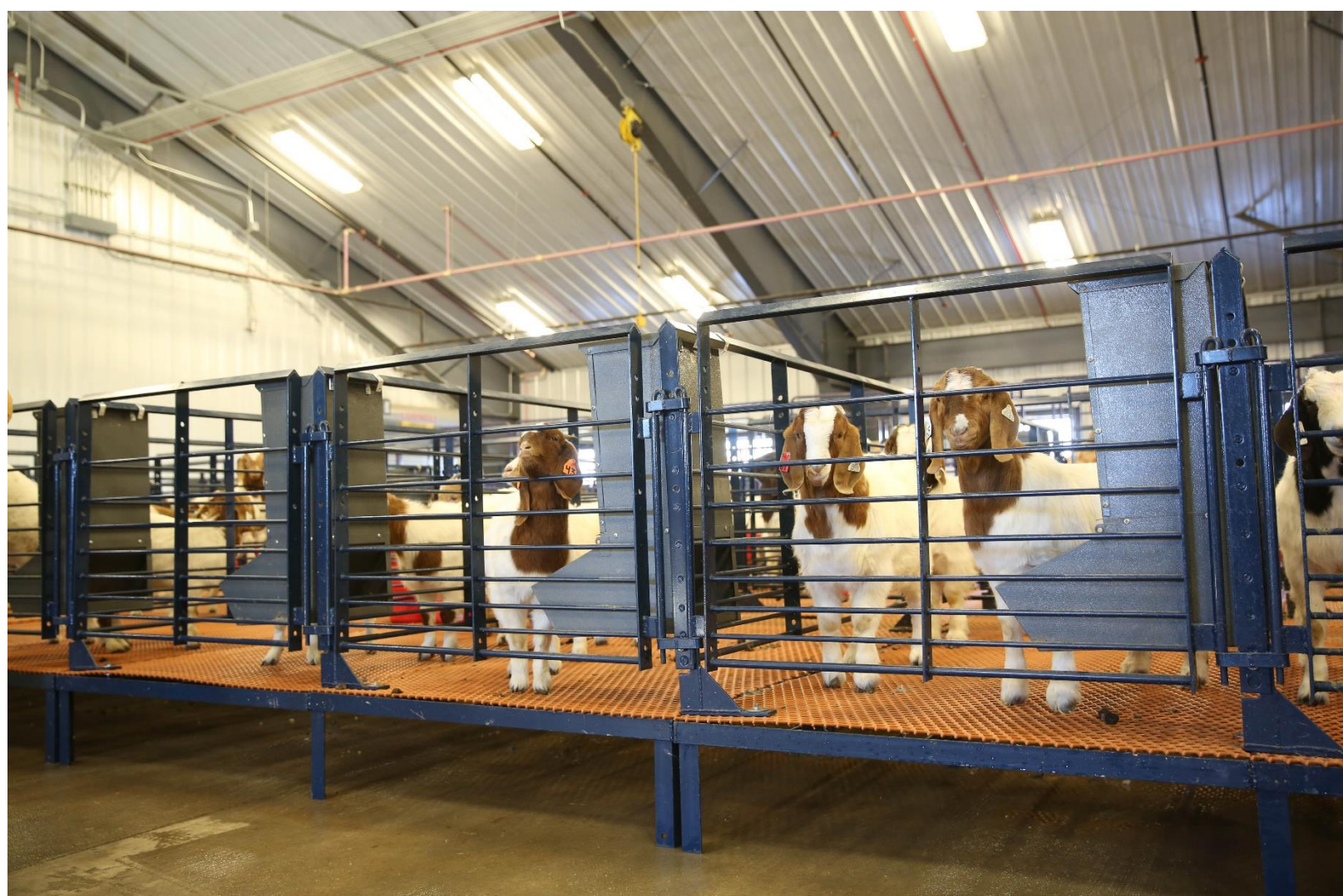
- 35 d study, 75 Boer-type growing goats, approximately 70 days of age and 26.9±0.2 kg.
- 5 isonitrogenous and isocaloric treatments: 1) 100% SBM 2) 100% DDGS 3) 66% DDGS 33% CGF 4) 33% DDGS 66% CGF 5) 100% CGF. Feed cost per kg of feed was: \$0.239, \$0.209, \$0.201, \$0.199, and \$0.196, respectively.
- Goats randomly assigned to treatments, with 15 goats per treatment, 3 goats per pen, and 5 pens per treatment.
- Experimental unit: pen
- Measured weekly: body weight (BW), ADG, ADFI, G:F ratio
- Calculated cost of feed per kg basis, cost of feed per goat, and cost per kg of gain.
- Data was collected and analyzed with the GLIMMIX procedure of Statistical Analysis System (SAS)
- A *P*-value <0.05 is considered significant

	1)	2)	3)	4)	5)
Corn Gluten Feed	0.00%	0.00%	12.63%	25.26%	37.88%
Corn DDGS	0.00%	20.24%	13.49%	6.75%	0.00%
Soybean meal (48%)	15.01%	0.00%	0.00%	0.00%	0.00%
Corn	42.67%	11.49%	13.65%	15.81%	17.96%
Soybean Hulls	35.74%	62.17%	54.16%	46.15%	38.14%
Molasses	2.50%	2.50%	2.50%	2.50%	2.50%
AmCL	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	0.00%	0.00%	0.00%	0.01%	0.01%
Vit. A 30,000	0.01%	0.01%	0.01%	0.01%	0.01%
Vit. D 30,000	0.00%	0.00%	0.00%	0.00%	0.00%
Vit. E 20,000	0.00%	0.00%	0.00%	0.00%	0.00%
Cu Sulfate	0.01%	0.01%	0.01%	0.01%	0.01%
Mono Calcium	0.96%	0.83%	0.55%	0.28%	0.00%

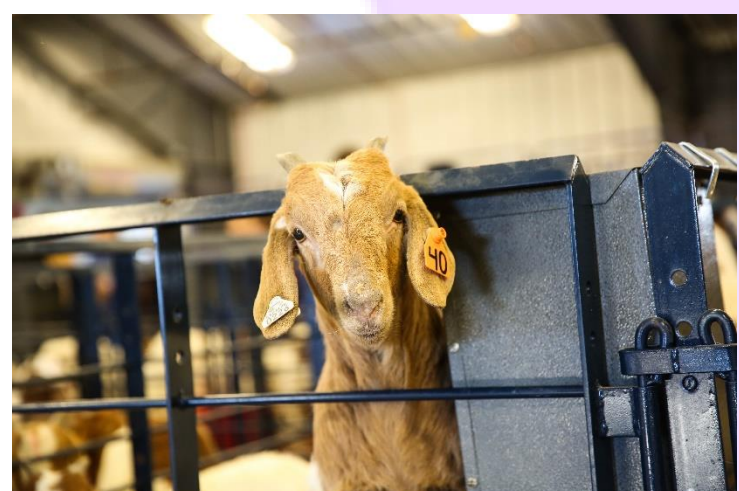
Results



- Diets with increased levels of CGF had a trend of lower BW gain, ADG, and G:F; however, they are not statistically different from other treatments (*P*>0.05).
- As levels of CGF increased ADFI tended to increase as well, but this is also not statistically significant (*P*=0.210).
- Increasing levels of CGF tended to lower cost per kg of gain (*P*=0.914).
- The inclusion of corn co-products significantly lowered the cost of feed per goat when compared to SBM (*P*=0.008).



Credit for pictures goes to Taylor Belle



Conclusions

- There was no significant evidence of treatment impacting BW, ADG, ADFI, or G:F (*P*>0.05).
- Diets that included corn co-products cost approximately \$0.04 less per kg of feed (*P*=0.914).
- Goats on diets with DDGS or CGF cost less to feed than goats on the SBM diet (*P*=0.008)
- No significant evidence that treatment impacts cost per kg of gain in a goat (*P*>0.05).
- Diets that included corn co-products can be an economically effective replacement to a SBM diet for growing goats.

Appreciation

Appreciation is given to Dr. Mark and Kim Young Undergraduate Research Fun, and to Kansas Corn Commission