



Dried distillers grains with solubles ability to effectively replace soybean meal in Boer goat diets



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Introduction

- Literature regarding dried distillers grains with solubles (DDGS) fed to Boer goats is limited.
- Feed costs account for 65% of total production costs, which makes research assessing ways to increase the effectiveness of livestock feeds with DDGS highly valuable.
- DDGS are a more economical source of protein than SBM, cutting costs by \$1.86 per protein unit.
- Limited research restricts goat producers and small ruminant nutritionists from making these economical feed changes.

Objective

- Evaluate the efficacy of dried distillers grains with solubles as a replacement for soybean meal in a Boer goat diet.

Experimental Procedures

- 48 meat goat kids (70 d of age, initially 28.2 kg) were analyzed in a completely randomized design and housed within the Kansas State University Sheep and Meat Goat Center.
- Three kids were randomly assigned per pen, with four pens per treatment.
- Pens were allotted into one of four experimental diet groups, with a total of 12 goats per treatment.
- Treatments consisted of four experimental diets 1) 0% DDGS; 2) 33% DDGS; 3) 66% DDGS; and 4) 100% SBM replaced by DDGS.
- Diets were pelleted and fed for 47 d with goats and feeders weighed weekly to determine ADG, ADFI, G:F.
- At the conclusion of the feeding period, two goats per pen were harvested at a USDA inspected abattoir, where carcass data was collected.
- Data was analyzed utilizing the GLIMMIX procedure (SAS 9.4, Cary, NC).

Economic and Industry Impacts

Cost, \$/ton

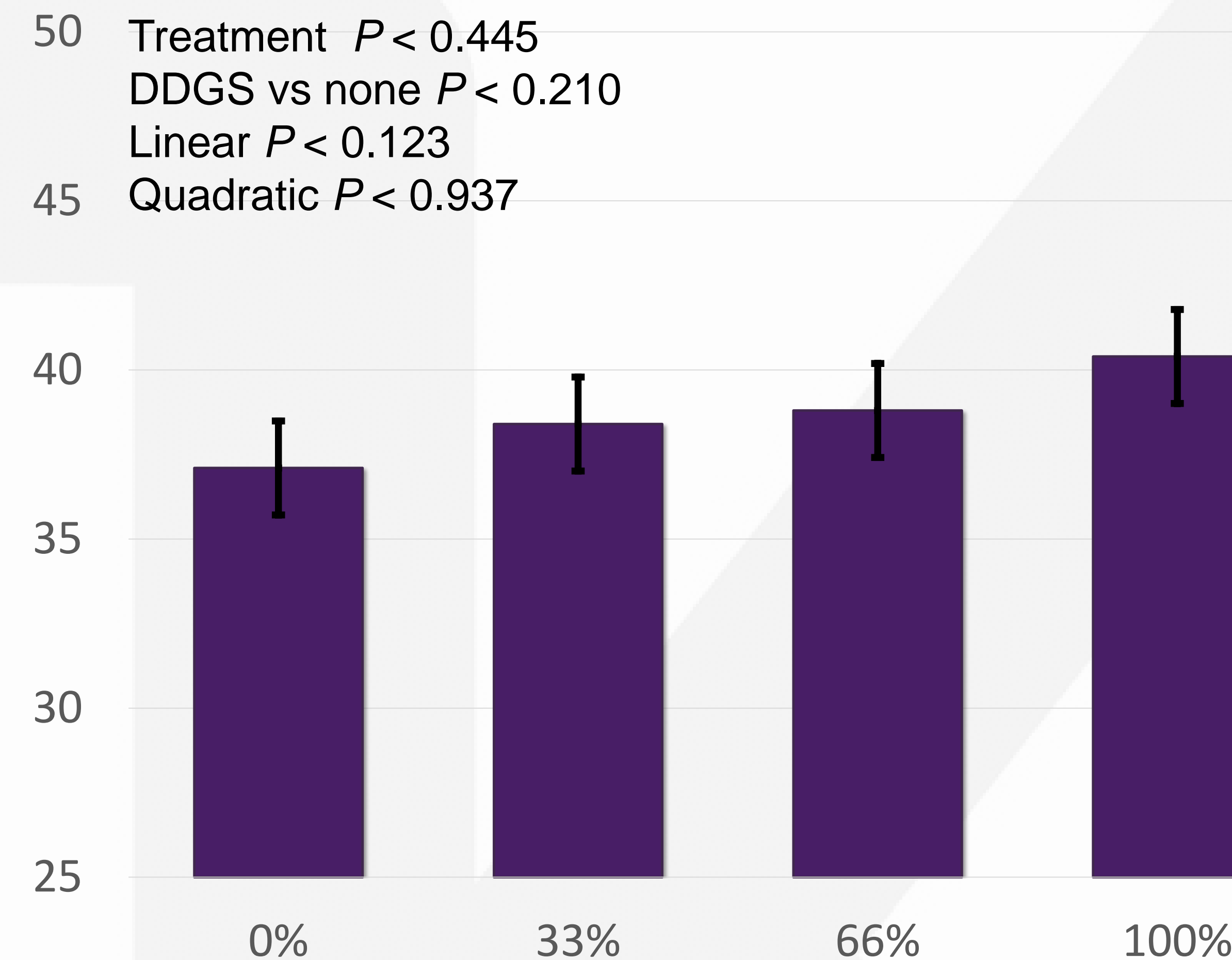
	Cost/lb	0%	33%	66%	100%
Corn DDGS	\$0.05	-	9.79	19.48	29.50
SBM, 48%	\$0.20	63.34	42.07	21.01	-
Corn	\$0.06	68.20	66.16	64.14	62.46
Soybean Hulls	\$0.06	32.41	28.26	24.14	18.80
Total Cost	-	\$163.95	\$146.28	\$128.79	\$110.76

Carcass Variables $P > 0.10$

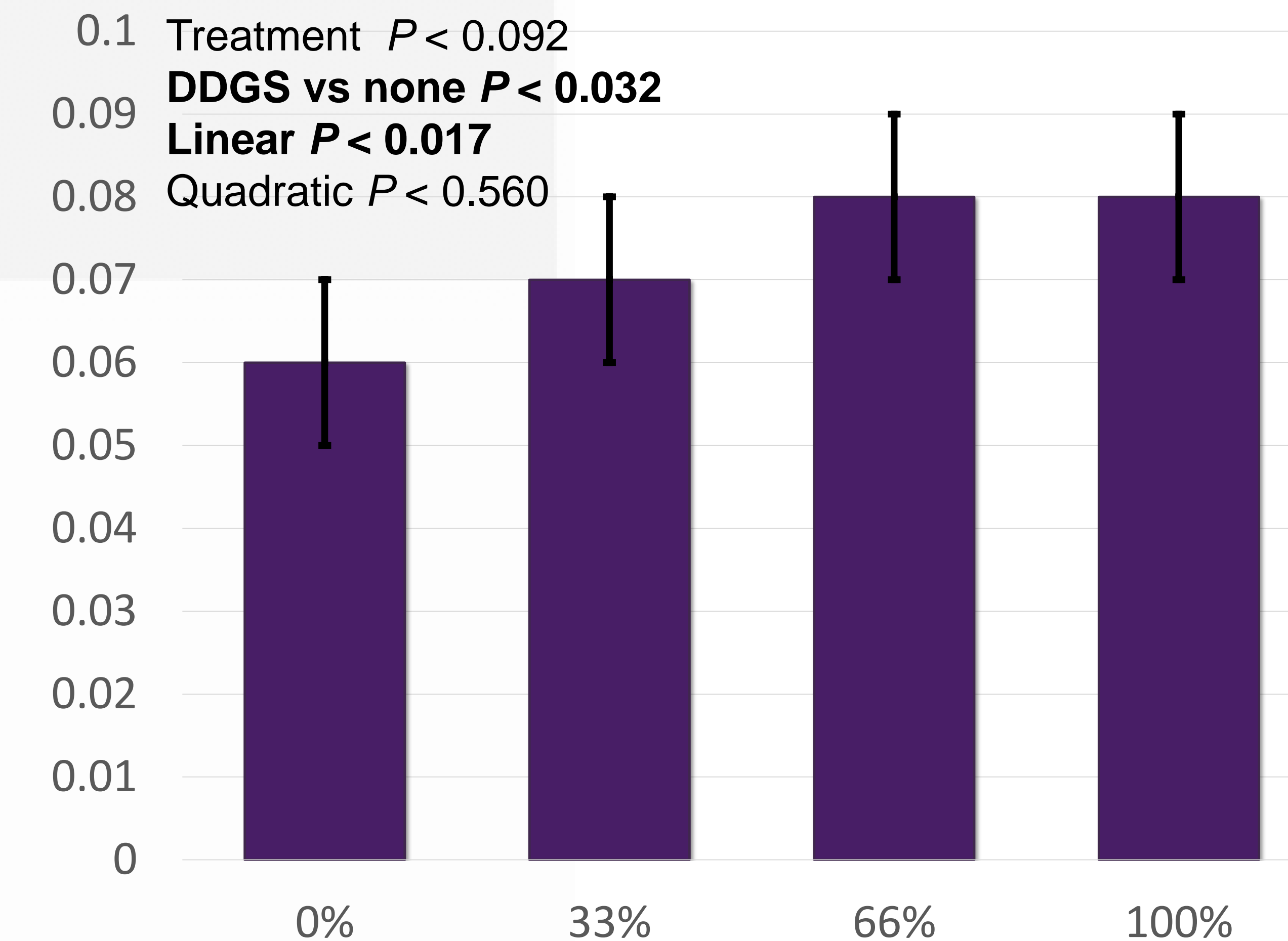
	0%	33%	66%	100%
HCW	18.4	18.4	19.6	19.8
Carcass Yield	49.4	48.9	50.3	48.6
LEA	11.6	13.1	13.3	13.5
BWT	0.24	0.27	0.26	0.28

Results

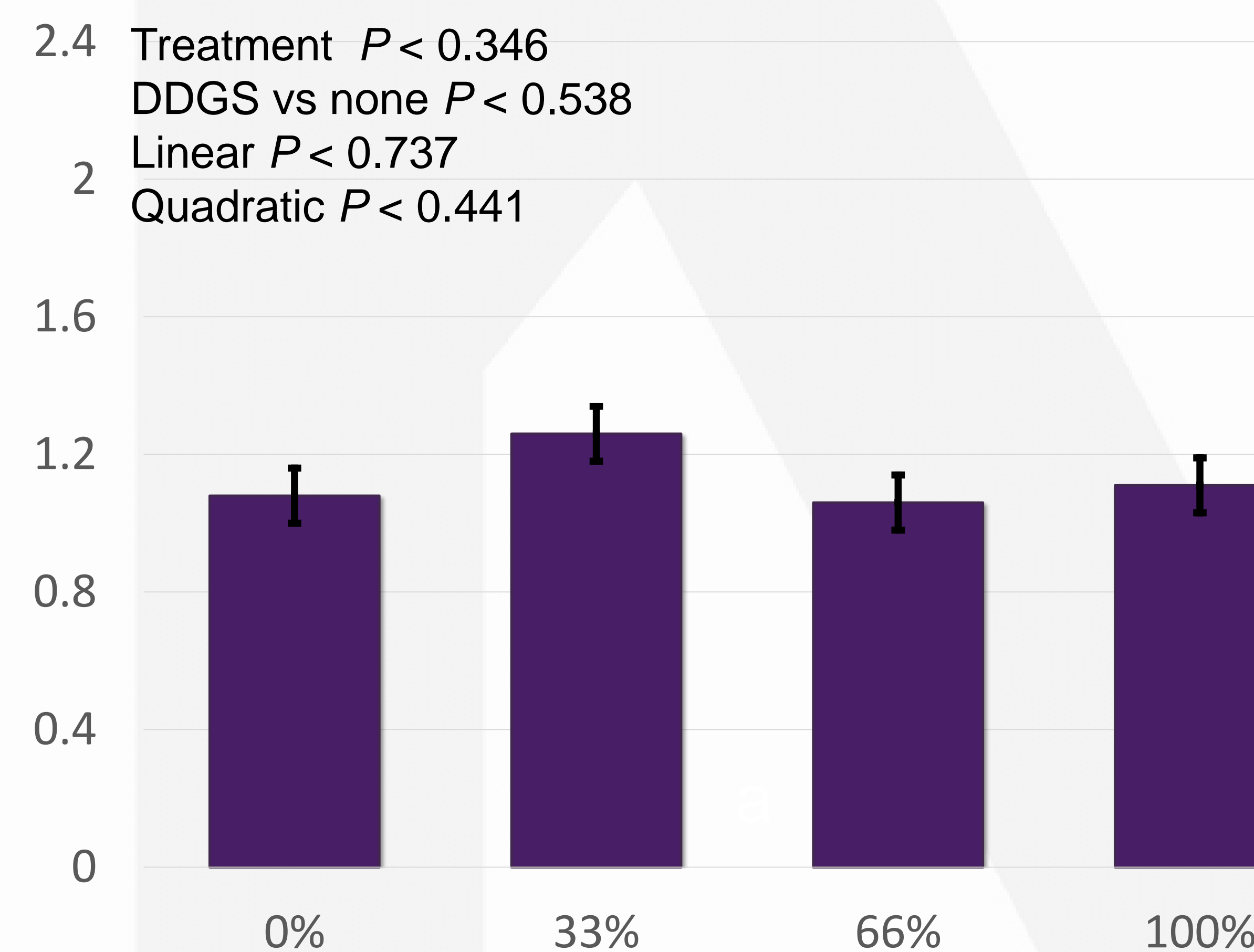
D 47 Body Weight



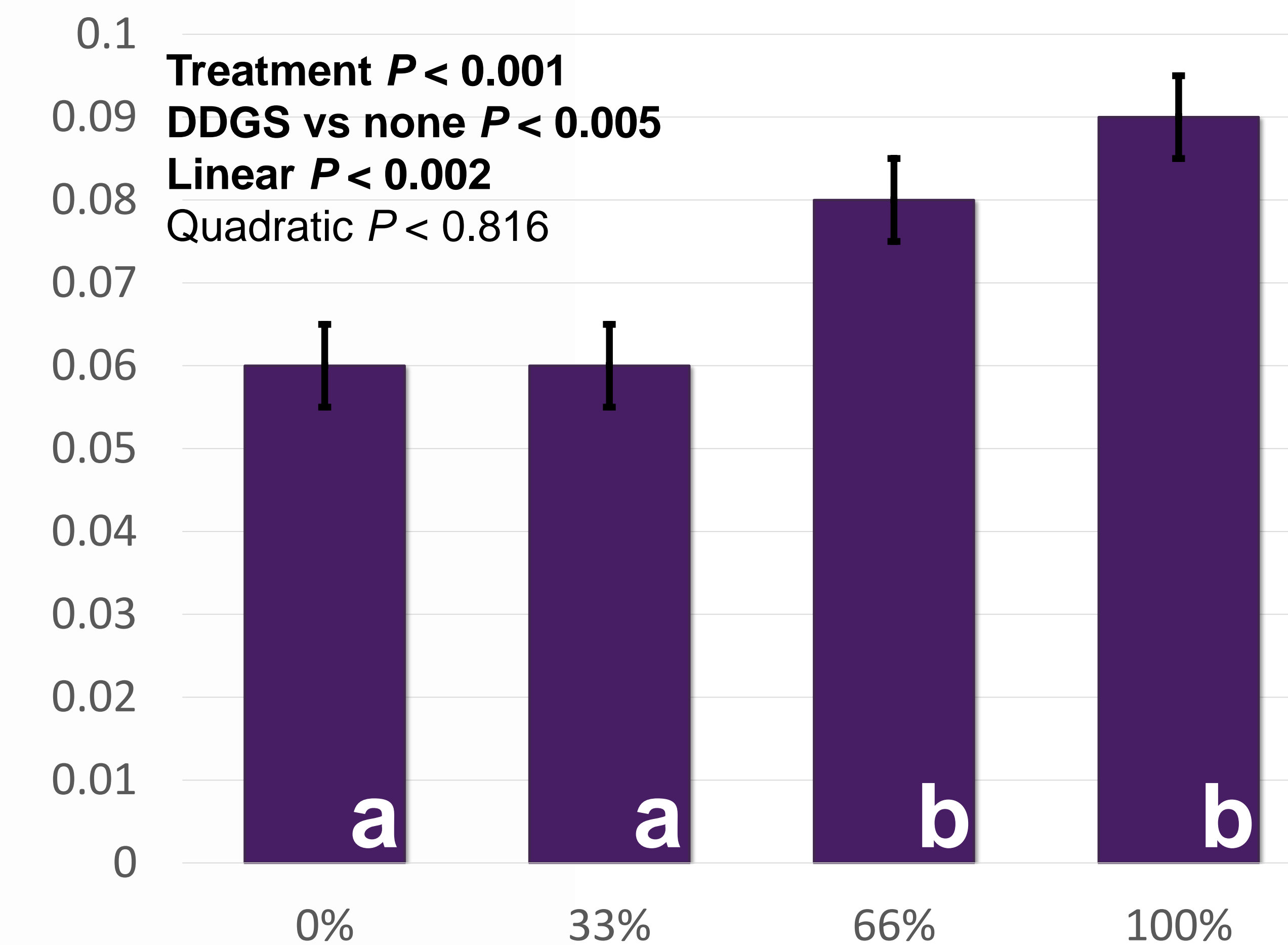
D 0-47 Average Daily Gain



D 0-47 Average Daily Feed Intake



D 0-47 Gain to Feed



Conclusion

- The inclusion of DDGS replaced by SBM at levels of 66% and 100% impacted overall G:F, but not ADG or ADFI.
- DDGS replaced by SBM at levels of 0% and 33% did not show a significant impact on overall G:F, ADG, or ADFI.
- Increasing amounts of DDGS replaced by SBM in Boer goat diets can improve overall feed efficiency, while maintaining ADG, ADFI and measured carcass variables.
- Cost savings, increased G:F and similarity between performance and carcass traits will positively impact the industry and goat producers.