

Distillers Dried Grain with Solubles Effectively Replaces Soybean Meal as Protein Source in Boer Goat Diets

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Introduction

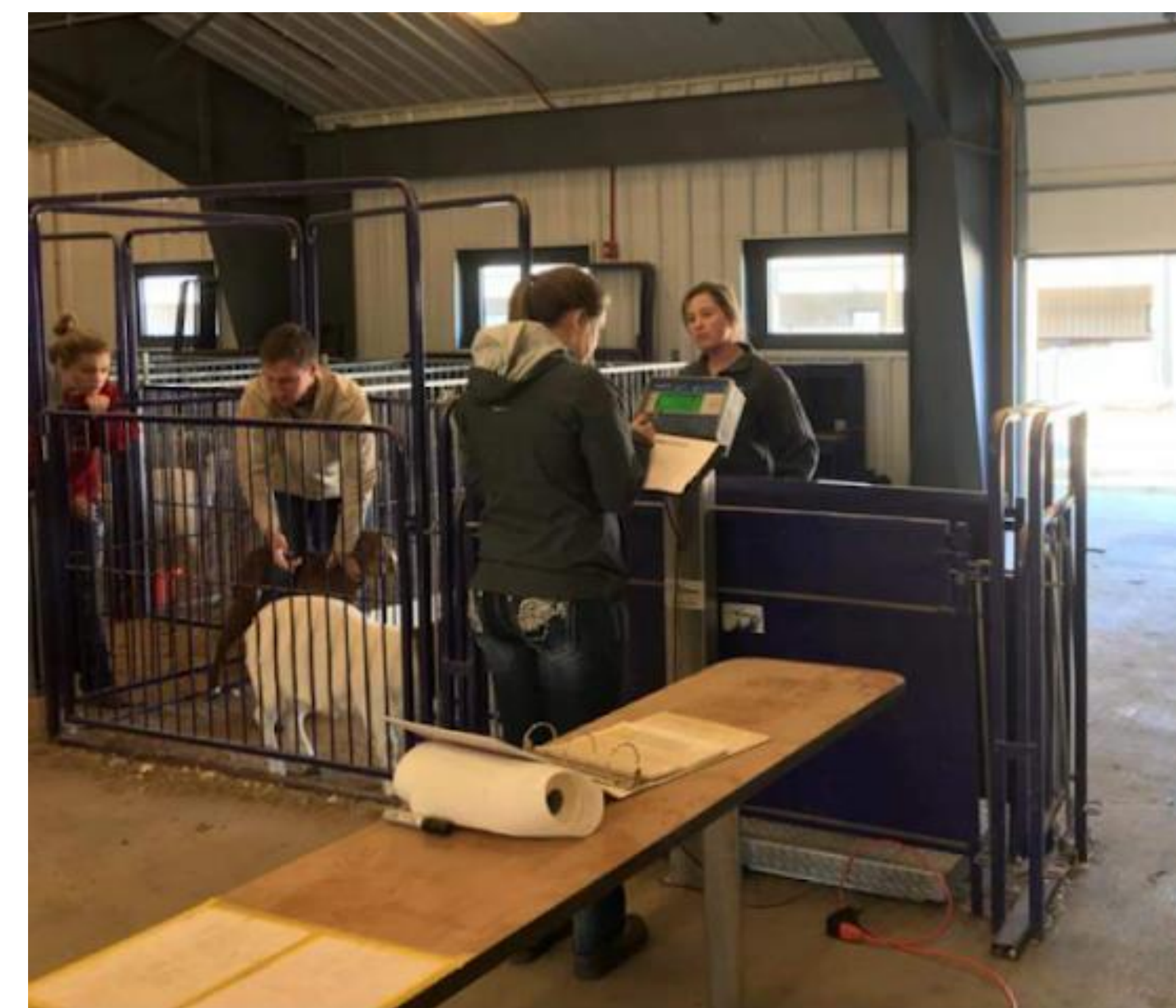
- There is very limited research regarding DDGS inclusion in goat diets
- Research shows that in growing lambs diets DDGS can completely replace SBM, so it is plausible that we can achieve a similar result in another small ruminant such as the goat
- Including DDGS as a protein source to replace SBM in Boer goat diets is a viable option for reducing feed costs
- With the per protein unit cost advantage of DDGS over SBM being \$1.86, DDGS would clearly price into goat diets as a protein source (October 26, 2017 U.S. Grains Council Report)

Objective

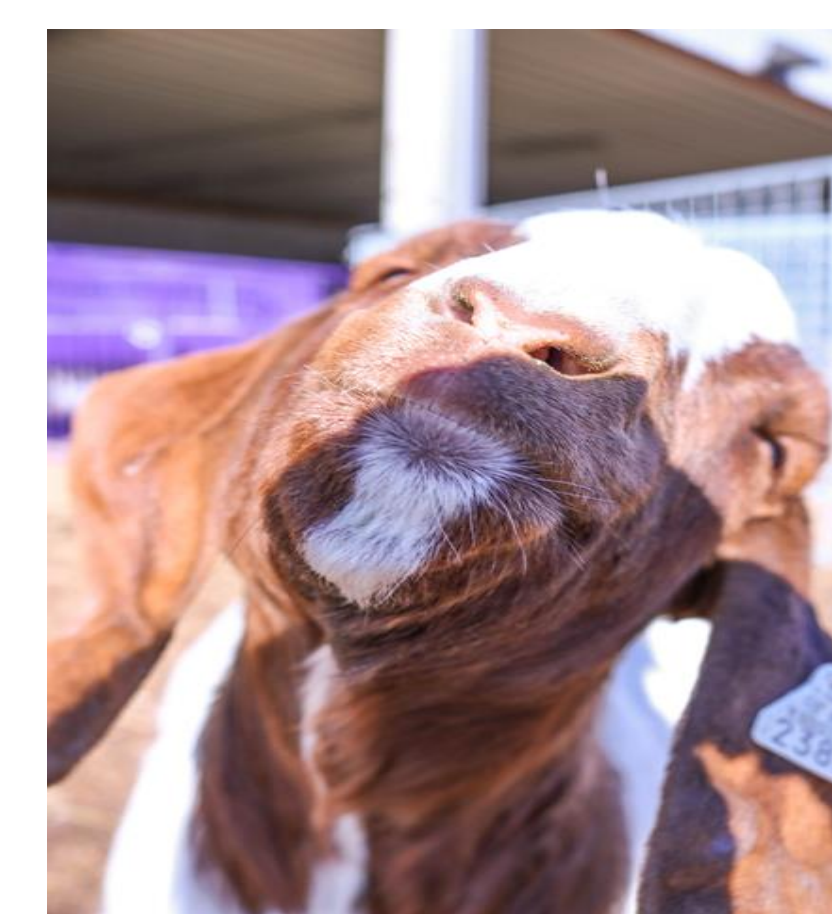
To evaluate the efficacy of DDGS as a replacement for SBM (SBM) in a Boer goat diet.

Methods

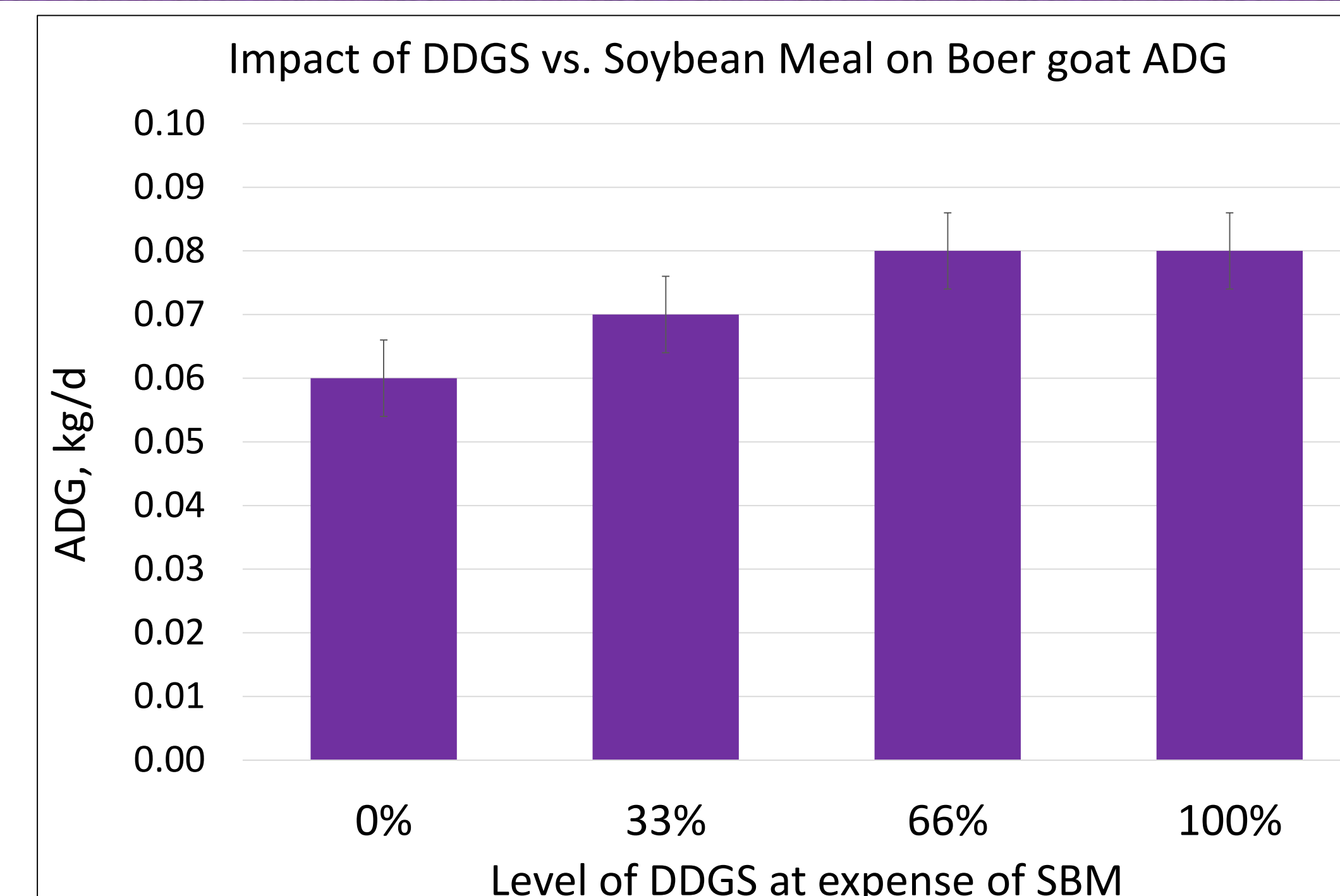
- 48 meat goat kids (approximately 70 d of age) of similar weights were used in a completely randomized design
- Kids were housed with 3 kids per pen (4 pens per treatment) at the KSU Sheep and Meat Goat Center
- Kids were allotted into 1 of 4 experimental diets:
 - 1: 0% SBM replaced by DDGS
 - 2: 33% SBM replaced by DDGS
 - 3: 66% SBM replaced by DDGS
 - 4: 100% SBM replaced by DDGS
- All diets were pelleted and contained roughage, so no supplemental forage will be needed.
 - This will facilitate more precise calculation of ADFI and G:F.
- Diets were fed for 47 days after a 14 day step up period, with (ADG), ADFI, and G:F calculated weekly.
- Data was analyzed using the GLIMMIX procedure of SAS (SAS Inst., Cary, NC) with pen serving as the experimental unit.
- At the end of the experimental period, 2 goats from each pen were randomly selected to have carcass traits (such as hot carcass weight, loin eye area, and 13th rib fat depth) evaluated at a USDA inspected facility



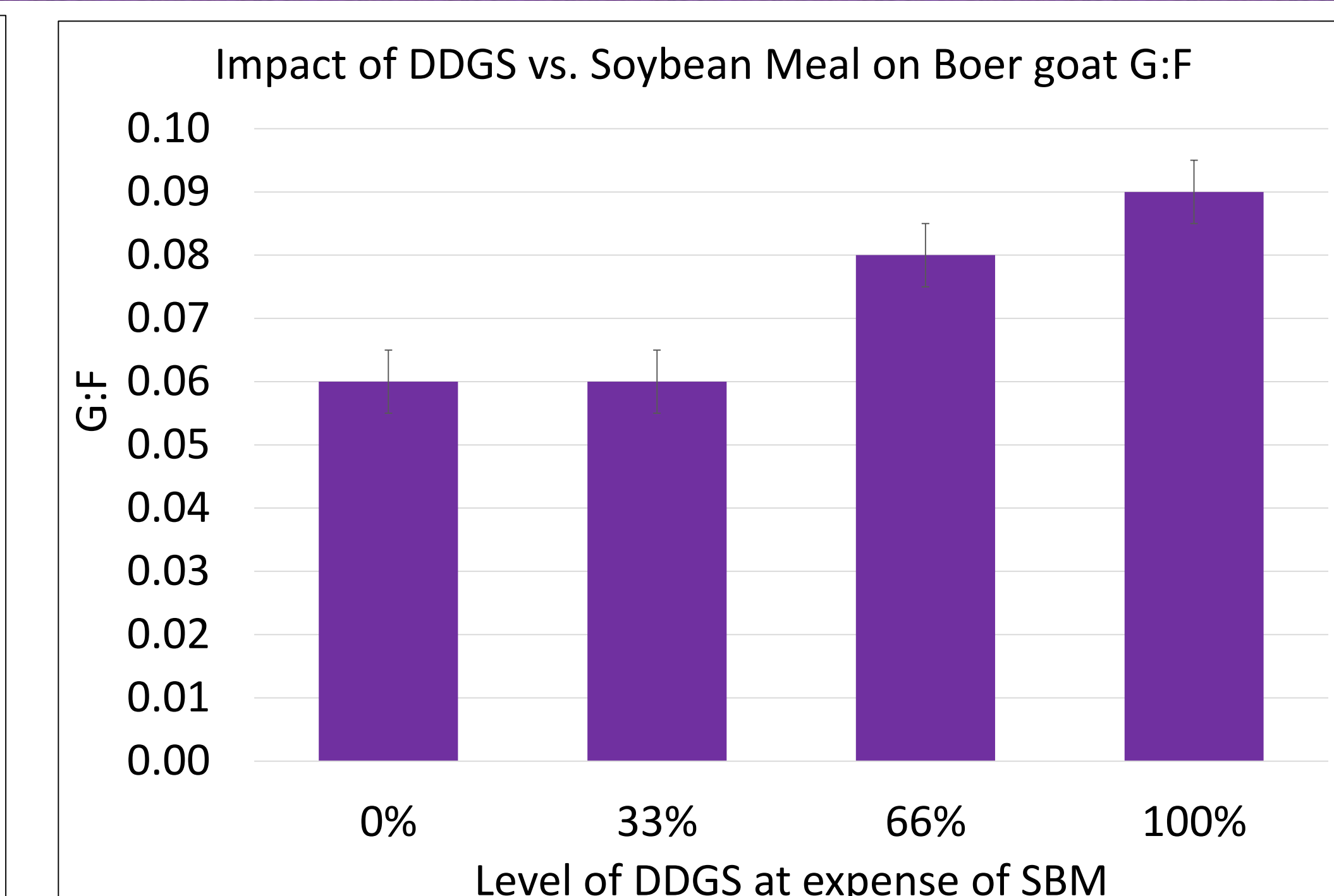
DDGS (Distillers Dried Grain with Solubles): DDGS is a corn byproduct of ethanol production that is commonly used as a source of protein and energy in production diets. This ingredient is highly available and is a relatively inexpensive protein source compared to other ingredients (such as soybean meal).



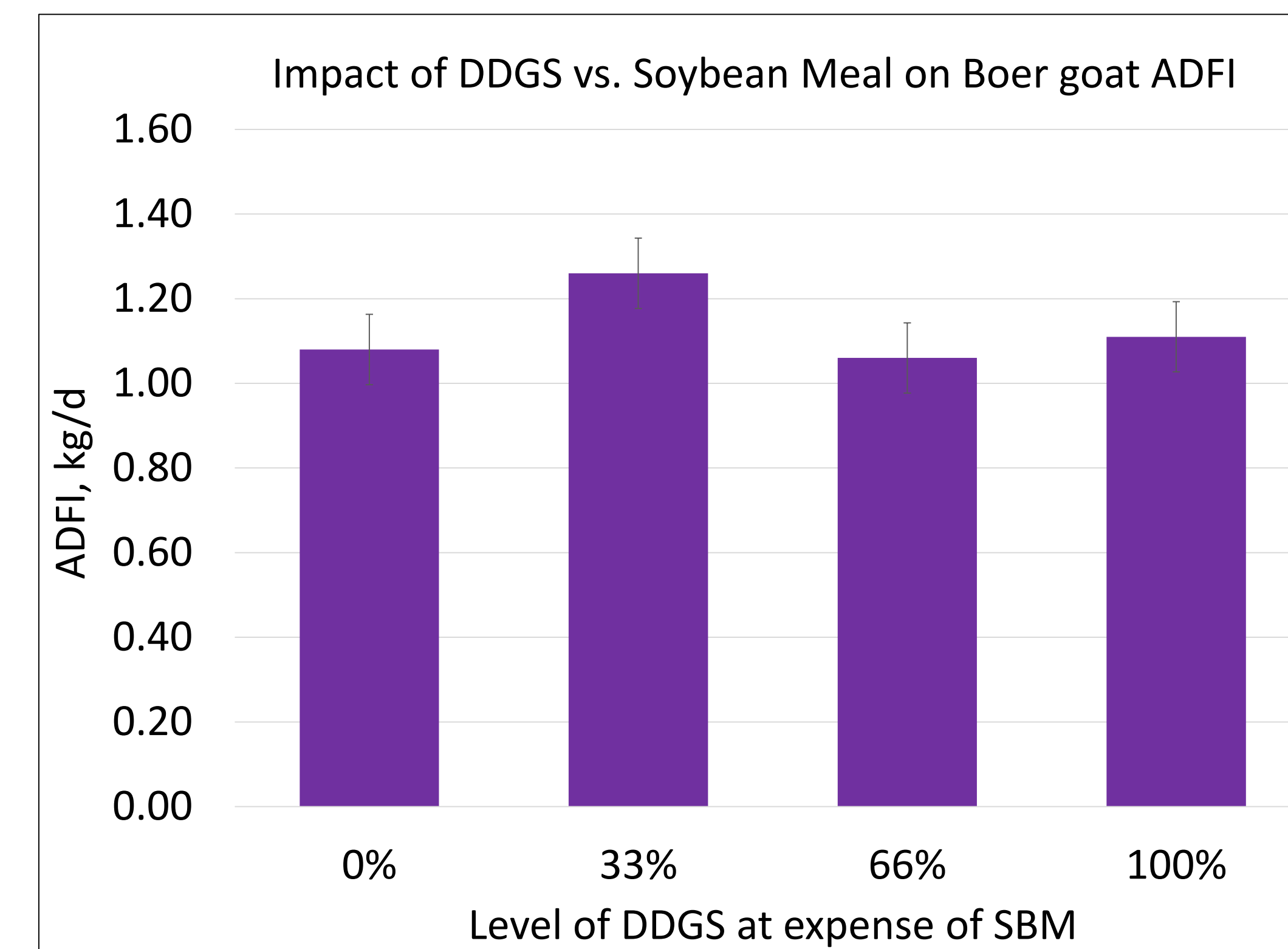
Results



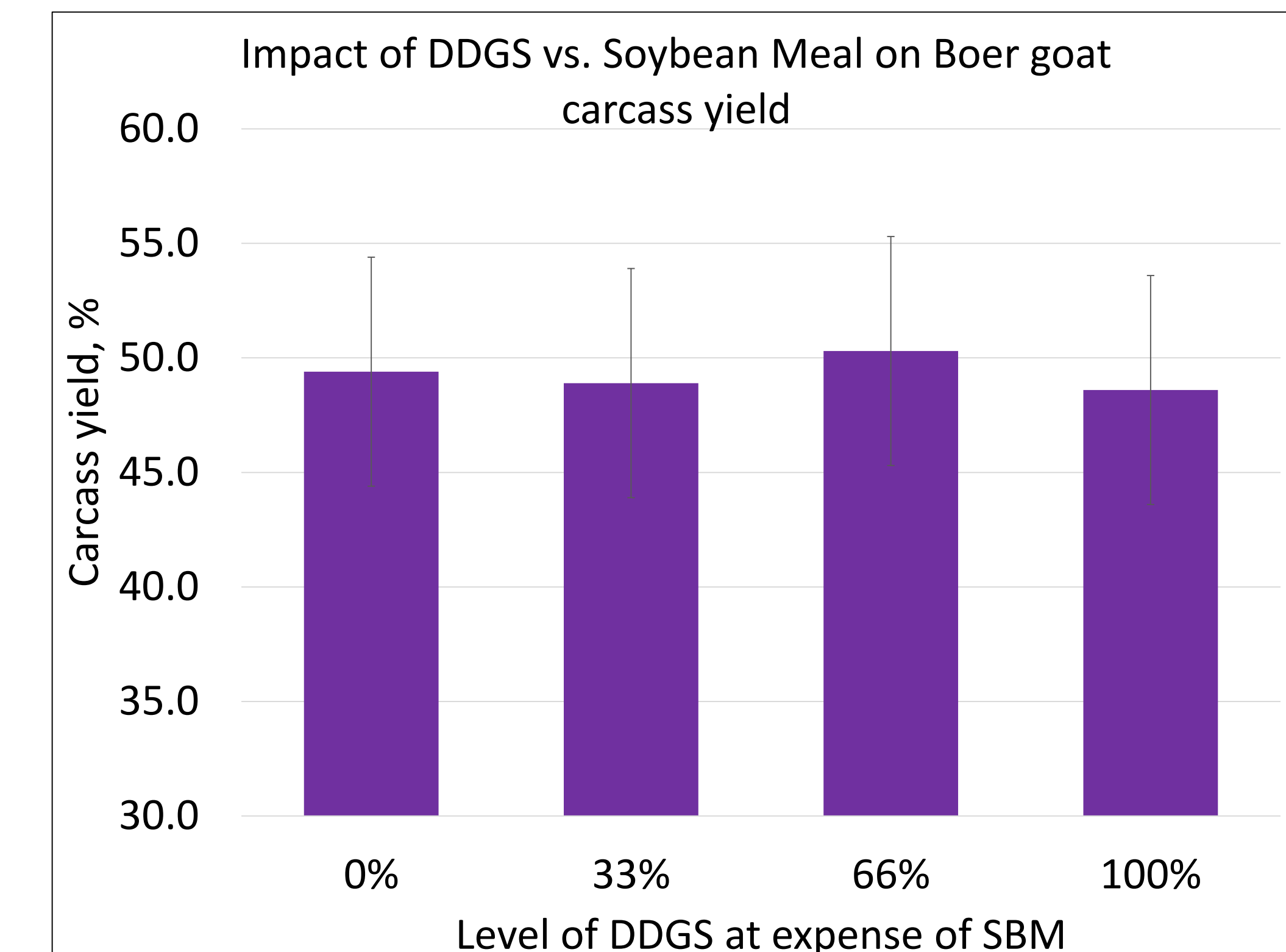
DDGS vs. None ADG: $P= 0.032$



DDGS vs. None G:F: $P= 0.005$



DDGS vs. None ADFI: $P= 0.538$



DDGS vs. None Carcass Yield: $P= 0.0878$

Summary and Conclusion

- There were no statistical differences in ADG, ADFI, and G:F when we replaced SBM with DDGS
- There were no statistical differences in HCW, LEA, LED, BF, BWT, and carcass yield when DDGS was replaced by SBM
- Numerically, goats fed 66% and 100% DDGS in place of SBM gained 0.02kg/d more than treatment 1 goats
- The lack of statistical differences in each treatment presents a strong case that producers can effectively use DDGS as a protein source in Boer goat diets to yield relatively similar performance and carcass characteristics as diets utilizing SBM.

Acknowledgements



This project received funding from the Kansas Corn Commission. We also gratefully acknowledge Joseph Hubbard and the employees at the KSU Sheep and Meat Goat Center for their assistance.