

# Impact of protein or chloride source on Boer goat carcass characteristics

M. A. Neufeld, R. Sorenson, J. Lattimer, A. R. Crane, and C. K. Jones



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

## Introduction

- The world goat population has increased by 34% and continues to.
- There are 1.01 Billion goats worldwide.
- Ingredients in goat feed could impact carcass composition. Dried distillers grains with solubles (DDGS) are relatively inexpensive and highly available protein source.

## Objective

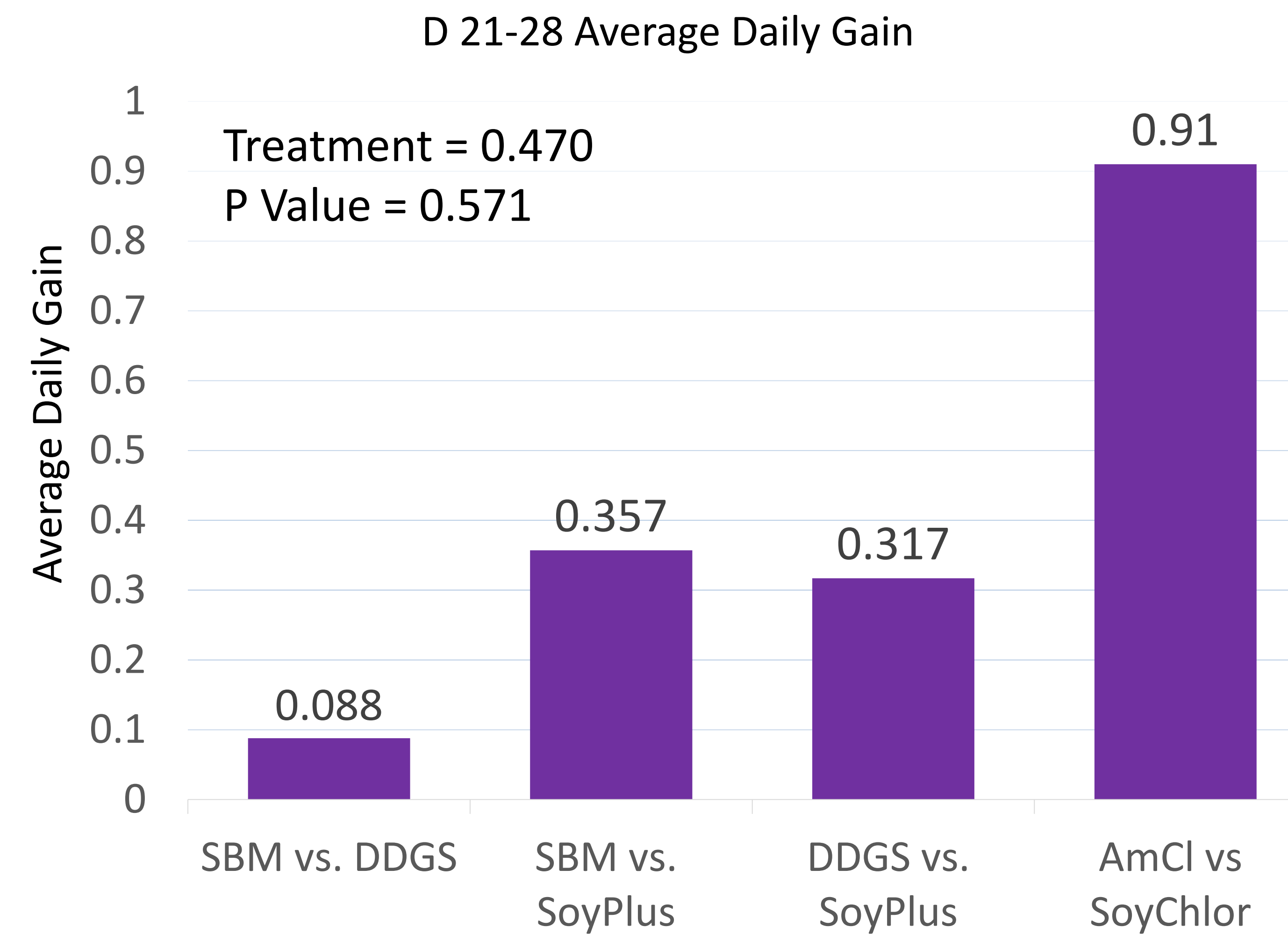
- The evaluation of the impact of protein or chloride source on Boer goat carcass characteristics.

## Experimental Procedures

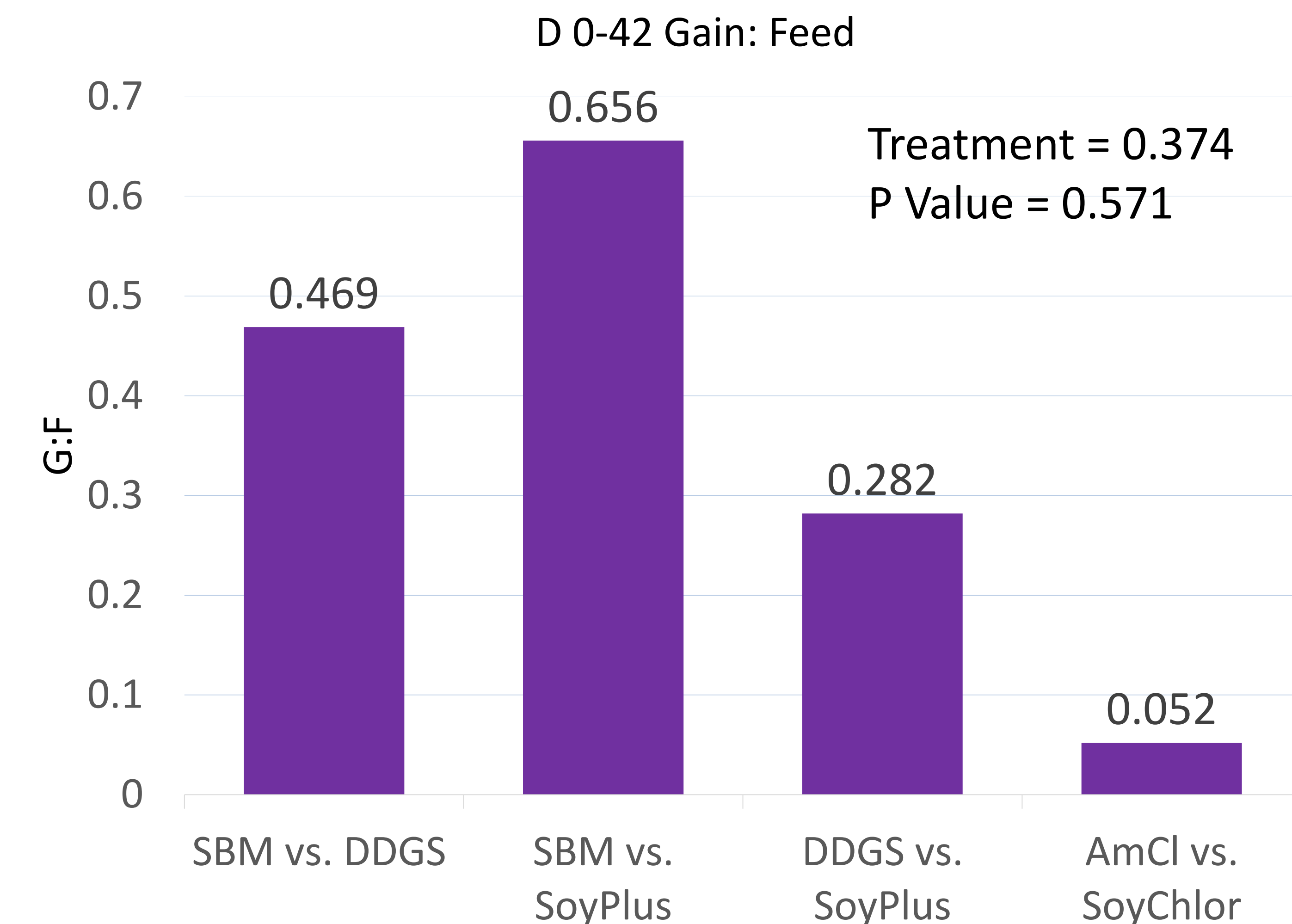
- 75 grower Boer goats, approx. 70d of age
- 60 does and 15 wethers divided evenly among five treatments
- Divided randomly into pens of 3 with 5 pens per treatment.
- Treatments consisted of:
  - Soybean meal with ammonium chloride
  - DDGS with ammonium chloride
  - SoyPlus with ammonium chloride
  - Soybean Meal with SoyChlor
  - SoyPlus with SoyChlor
- Treatments were all isocaloric and isonitrogenous
- The goats and their feeders were weighed weekly.
- ADG, ADFI, and G:F were calculated every week.
- Fifty goats (ten per treatment) were slaughtered
- Carcass traits were calculated at the end of the experiment.
  - ADG, ADFI, F:G, 13<sup>th</sup> rib fat depth, hot carcass weight, yield, rib eye area
- Randomization: pens randomly assigned to treatments, animals randomly assigned to pens

## Experimental Period Results

### D 21-28 Average Daily Gain



### D 0-42 Gain: Feed



## Carcass Trait Results

### Impact of protein source or chloride source on Boer goat growth performance and carcass characteristics.

	SBM	DDGS	SoyPlus	SBM	SoyPlus				P =				
<b>Protein source:</b>	SBM	DDGS	SoyPlus	SBM	SoyPlus					SBM vs. DDGS	SBM vs. SoyPlus	DDGS vs. SoyPlus	AmCl vs. SoyChlor
<b>Chloride source:</b>	AmCl	AmCl	AmCl	SoyChlor	SoyChlor	SEM	Treatment						
<b>n =</b>	10	10	10	10	10								
<b>Hot carcass weight, kg</b>	15.6	14.5	13.1	16.4	14.7	1.09	0.264	0.252	0.058	0.672	0.231		
<b>Carcass yield, %</b>	50.7	49.4	48.3	50.7	49.6	1.11	0.519	0.344	0.122	0.742	0.504		
<b>Loin Eye area, cm<sup>2</sup></b>	10.8 <sup>a</sup>	9.4 <sup>ab</sup>	9.5 <sup>ab</sup>	11.4 <sup>a</sup>	8.8 <sup>b</sup>	0.66	0.046	0.040	0.005	0.781	0.750		
<b>Ribeye depth, cm</b>	2.6	2.4	2.4	2.6	2.3	0.11	0.135	0.120	0.021	0.719	0.778		
<b>Backfat depth, mm</b>	0.9	1.2	1.0	1.1	1.2	0.17	0.710	0.379	0.513	0.727	0.461		
<b>Body wall thickness, cm</b>	1.5	1.6	1.5	1.7	1.5	0.13	0.756	0.928	0.515	0.534	0.437		

## Conclusions

- Ingredient type has limited impact on goat carcass characteristics when calorie and crude protein levels are held constant
- Goats fed soybean meal-based diets had greater loin eye area than those fed SoyPlus and SoyChlor.

## Acknowledgements

- This project received funding from Dr. Mark Young. Product was manufactured and distributed by Dairy Nutrition Plus. We also acknowledge Joe Hubbard and the employees at the KSU Sheep and Meat Goat Center.