# The Effect of Protein and Acid Source on Growth and Carcass Characteristics in growing Boer Goats

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## Introduction

- There are over one billion goats worldwide.
- Goat populations continue to grow and become a more popular protein source around the world.
- There is very limited research on goat nutrition and how the goat functions.
- Recent studies suggest that goats require a higher level of bypass protein than previously thought.

## Objective

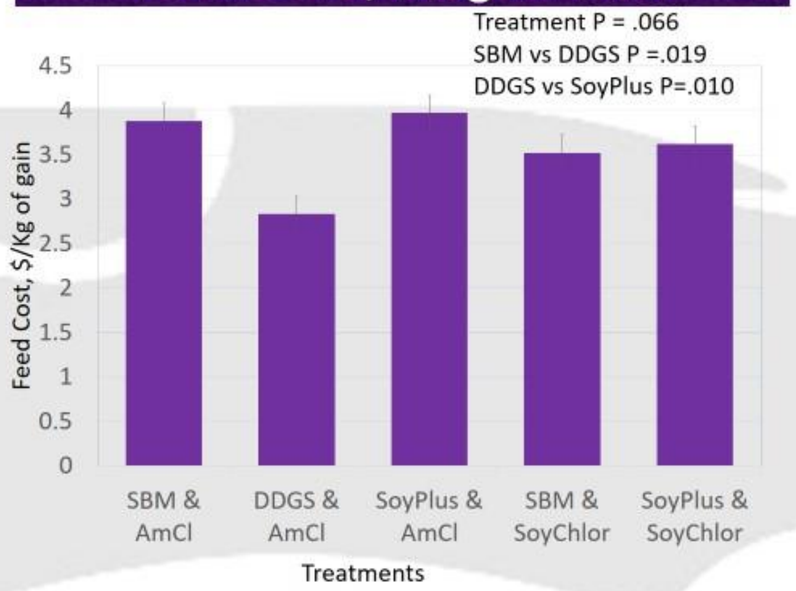
- To evaluate the impact of varying protein source and acid source on feedlot growth and carcass characteristics on growing goats

## Experimental Procedures

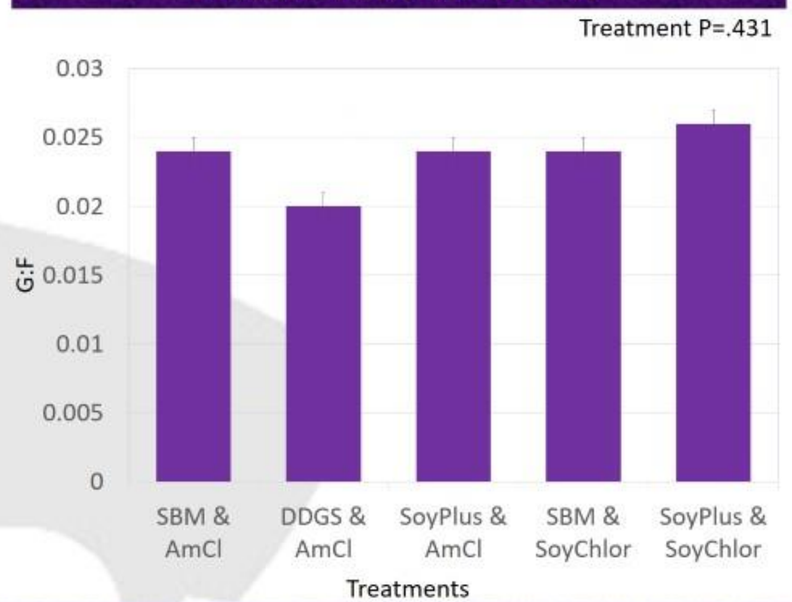
- 75 Boar Goats, starting BW 23.6kg, were split using a completely random design. Goats were divided among 5 treatments with 5 pens/treatment, and 3 goats/pen.
- Treatments:
  1. Soybean Meal (SBM) and Ammonium Chloride (AmCl)
  2. Dried Distillers Grains with Solubles (DDGS) and AmCl
  3. SoyPlus and AmCl
  4. SBM and SoyChlor
  5. SoyPlus and SoyChlor
- Goats were acclimated to their treatment diets before the study and then observed over a 42d finishing period.
- Goats were placed on a self-feeder with free choice water.
- Body Weights and feeder weights were collected every 7d. Feed added was recorded as added/needed.
- Average Body Weight (BW), Average Daily Gain (ADG), Average Daily Feed Intake (ADFI), and Gain: Feed (G:F) were calculated each week.

## Experimental Period Results

### Feed Cost, $/Kg of Gain




### Gain: Feed D 0-42




## Diet Growth Results

| | Treatments | | | | | | | P= | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | SBM & AmCl | DDGS & AmCl | SoyPlus & AmCl | SBM & SoyChlor | SoyPlus & SoyChlor | SEM | Treatment | SBM vs DDGS | SBM vs SoyPlus | DDGS vs SoyPlus | AmCl vs SoyChlor |
| BW, Kg | | | | | | | | | | | |
| d 0 | 24.7 | 23.4 | 22.2 | 24.0 | 23.3 | 1.07 | 0.570 | 0.442 | 0.147 | 0.659 | 0.809 |
| d 42 | 30.1 | 29.0 | 27.0 | 31.4 | 29.8 | 1.39 | 0.284 | 0.311 | 0.107 | 0.738 | 0.149 |
| ADG, g/d | 128 | 134 | 114 | 176 | 156 | 16.3 | 0.099 | 0.378 | 0.309 | 0.961 | 0.013 |
| ADFI, g/d | 2810 | 2780 | 2392 | 3228 | 2804 | 211.5 | 0.140 | 0.367 | 0.060 | 0.490 | 0.081 |
| G:F | 0.024 | 0.020 | 0.024 | 0.024 | 0.026 | 0.0022 | 0.431 | 0.152 | 0.653 | 0.077 | 0.257 |
| $/kg of feed | 0.166 | 0.138 | 0.179 | 0.190 | 0.196 | - | - | - | - | - | - |
| $/goat | 19.60 | 16.07 | 18.03 | 25.82 | 23.14 | 1.412 | 0.001 | 0.001 | 0.149 | 0.017 | 0.0001 |
| $/kg of gain | 3.88 | 2.83 | 3.97 | 3.52 | 3.62 | 0.277 | 0.066 | 0.019 | 0.736 | 0.010 | 0.960 |

## Conclusions

- There was no significant differences within the growth factors measured (P>.05).
- There was significant statistical differences in the cost of gain for the different diets. The diets with DDGS when measuring $/kg of gain were cheaper (P<.05) when compared to the other diets.

## Acknowledgements

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