

## EVALUATING ACCURACY OF PLS EQUATIONS: PREDICTING AMINO ACID REQUIREMENTS

PLS uses a unique approach that balances amino acids to energy, allowing producers to maximize feed efficiency and minimize cost of gain.

In this trial, calves were fed one of three diets (during the growth phase) that were formulated to provide 80%, 100% or 120% of the first limiting amino acid.

After the growth phase, all calves were fed a common diet, balanced to amino acid requirements at their finished body weight.

### Energy and Lysine Efficiency of Diets

	80% Group	100% Group	120% Group
Energy Efficiency	114	99	99
Lysine % of Reqt	100	99	117

### PREDICTION

If the PLS model is accurate in predicting amino acid requirements, **growth performance should increase in calves fed the 100% diet compared to calves fed the 80% diet, but not differ between calves fed the 100% or 120% diet.**

### >>> RESULTS <<<

**The feed-to-gain ratio improved from 5.97 lbs of feed per pound of gain for the 80% calves to 5.63 for the 100% calves, while no difference was observed between the 100% and 120% groups.**

### Growth Performance & Carcass Measurements of Calves Fed Treatment Diets

	80% Group	100% Group	120% Group	P<
Initial Body Weight, Lbs	646	658	632	
End Body Weight, Lbs	878	936	889	
Feed Intake, Lbs	18.7	21.1	19.4	0.23
Daily Gain, Lbs	3.13	3.75	3.44	0.07
Feed to Gain	5.97	5.63	5.64	
Hot Carcass Wt, Lbs	825	826	838	0.4
Ribeye Area, sq in	12.8	13	13	0.85
Backfat, in	0.71	0.64	0.68	0.33
CAB + Prime, %	81	83	83	0.99
Days on Feed (Finish)	181	175	192	
Finished Body Weight, Lbs	1377	1283	1370	
Dressing %	59.9	64.4	61.2	

### Ingredient Composition (%) of Diets Fed to Calves in Trial

	80% Group	100% Group	120% Group
Corn	80	75.55	70.55
Hay	7	7	7
PLS GroFin 40	4	4	4
PLS Protein	9	13.45	18.45
Crude Protein	13	14.8	16.6