

Estudy™ Trial Evaluator

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An Uninvited Analysis of a Trial involving
CreAMINO® feed supplement
posted on EngorMix.com, Dr. Meike
Rademacher, Alexey Yapontsev; Anastasia
Mitropolskaya; Anton Klimenko; Tatiana
Klimenko

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CreAmino® is a registered trademark of Evonics

Estudy™ Analyzes Studies

- There has to be a Control and Test Diet. The program works best if the matrix of the ingredients are available.
- In this case, the program will fit the Control Diet to the Growth of a Cobb 500 mixed sex flock to the values observed.
- Then, determine the expected growth of the other given diets, 2) control – 50 kcal and 3) control – 50 kcal plus 600 g of CreAMINO® per tonne.

The calibration of the Control Diet was very close, 1.840 kg at 36.1 days and a feed conversion of 1.630

Files Set Energy and Weight Load Ingredient Matrix Help

Study Name

CONTROL Diet TEST Diet Results

Actual Results

Flock Sex: Mixed
 Flock Final Weight: 1.84 Kg
 Flock Feed Conversion: 1.63 F2G
 Average Flock Age, Days: 36
 No. of Diets: 3
 Computed Feed Conversion: 1.630
 Fit Growth

Ing. No.	Ing. Name	Diet 1	Diet 2	Diet 3
1	Feed Weigt	.5	1	1.496
2	ENERGY	2838.00	2925.00	2998.00
3	PROTEIN	23.8	20.7	19.3
4	ARGININE	1.61	1.34	1.26
5	HISTIDINE			
6	LYSINE	1.31	1.32	1.02
7	TRYPTOPH			
8	PHE_TYRC			
9	PHENYLAL			
10	MET_CYS	1.01	0.91	0.76
11	METHIONIN			
12	THREONIN	0.94	0.77	0.71
13	LEUCINE			
14	ISOLEUCIN			
15	VALINE			

Week 1 Temp

RESULTS LIVE WT 1.840 KG AGE 36.1

Working

A value of Zero for Amino Acids to be considered non-limiting.

Next, we look at the Negative Control, Control - 50 kcal/kg which predicts close to the Observed Weights and Feed Conversions, which 1.790 observed and 1.804 kg expected, and 1.676 observed and 1.663 feed2gain expected.

The screenshot shows the 'Feed2Gain Systems' software interface. The window title is 'Feed2Gain Systems' and it has a menu bar with 'Files', 'Load Ingredient Matrix', and 'Help'. The main area is titled 'CreAmino' and is divided into three sections: 'CONTROL Diet', 'TEST Diet', and 'Results'.

Actual Results:

Flock Sex	Flock Final Weight	Flock Feed Conversion	Average Flock Age, Days	No. of Diets	Test Ing No.	Effect on:
Mixed	1.790	1.676	36	3		<input checked="" type="checkbox"/> Energy <input checked="" type="checkbox"/> Protein

Expected Results Using Initial Matrix Value:

	1.804	1.663	35.66
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A green button labeled 'Find New Value' is visible.

Ingredient Matrix Table:

Ing. No.	Ing. Name	Diet 1	Diet 2	Diet 3	Diet 4
	Feed Weigt	.5	1	1.5	
	ENERGY	2896	2884	2899	
	PROTEIN	23.1	20.6	18.2	
	ARGININE	1.53	1.35	1.18	
	HISTIDINE		0	0	
	LYSINE	1.37	1.25	1	
	TRYPTOPH		0	0	
	PHE_TYRC		0	0	
	PHENYLAL		0	0	
	MET_CYS	1.05	0.86	0.72	
	METHIONIN				
	THREONIN	0.92	0.78	0.67	
	LEUCINE				

Week and Temp Table:

Week	Temp
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	

Lastly, we look at the Test Material, CreAmino®. Estudy found an expected growth of 1.822 kg, 49 g less than observed and a feed2gain of 1.646, well below the observed 1.581

Feed2Gain Systems

Files Set Energy and Weight Load Ingredient Matrix Help

CreAmino

CONTROL Diet TEST Diet Results

Actual Results

Flock Sex: Mixed
 Flock Final Weight: 1.871
 Flock Feed Conversion: 1.603
 Average Flock Age, Days: 36
 No. of Diets: 3
 Test Ing No.:
 Effect on:
 Energy
 Protein

Expected Results Using Initial Matrix Value

1.822 1.646 35.90

Find New Value

Ing. No.	Ing. Name	Diet 1	Diet 2	Diet 3	Diet 4
	Feed Weigh	.5	1	1.5	
	ENERGY	2861	2902	2947	
	PROTEIN	22.7	20.7	19	
	ARGININE	1.5	1.34	1.23	
	HISTIDINE		0	0	
	LYSINE	1.5	1.31	0.99	
	TRYPTOPH		0	0	
	PHE_TYRC		0	0	
	PHENYLAL		0	0	
	MET_CYS	0.99	0.9	0.99	
	METHIONIN				
	THREONIN	0.92	0.77	0.7	
	LEUCINE				

Week	Temp
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

Variation is part of the Results of Any Study, so we used BroilerOpt™ Feed Program to find values that were within the estimated error of the study.

From the given statistically significant differences observed we felt that 100 grams of feed and 0.03 feed conversion would be reasonable.

The green highlighted areas are the values that could explain the results seen, within this tolerance, and the blue is the best fit estimate.

	0	1	2	3	4	5	6	7	8	10
0	1828 1.642	1834 1.639	1839 1.635	1844 1.632	1849 1.629	1853 1.625	1857 1.622	1861 1.618	1865 1.615	1878 1.608
1	1825 1.628	1831 1.624	1835 1.622	1840 1.618	1845 1.615	1850 1.612	1854 1.608	1858 1.605	1862 1.601	1875 1.594
2	1821 1.615	1827 1.611	1832 1.608	1838 1.604	1843 1.601	1848 1.597	1852 1.594	1857 1.591	1860 1.587	1871 1.581
3	1815 1.602	1822 1.598	1826 1.595	1834 1.591	1839 1.588	1844 1.584	1849 1.581	1853 1.578	1858 1.574	1868 1.568
4	1810 1.589	1817 1.585	1823 1.582	1829 1.578	1835 1.575	1840 1.572	1845 1.568	1850 1.565	1854 1.562	1864 1.554

All these values in the green are better outcomes than the Control so the reported statistically significant difference in feed conversion looks very good.

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So, Predictive Programs Help in Ways Beyond Cost Optimization

- Here two programs that match current growth, or the control diet in this case, are used to evaluate a published study.
- The programs confirm that the improvements in Live Weight and Feed Conversion are not simply the effects of random errors but indicate a range of possible improvements in the diets that may have led to the observed outcomes.
- With the Ingredients entered, Estudy™ Feed Program would give an estimate of the matrix values that must have come from the Test material to cause the growth result. Without the ingredients, only the quality of fit is given.
- See www.feed2gain.com for more information.