



LYSOFORTE® EXTEND improves profitability in broiler production when used in reformulation in low-fat-content diets

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Summary

A broiler field trial was conducted to evaluate the effect of LYSOFORTE® EXTEND (LEX) on broiler performance over 36 days. LEX was applied in reformulation to lower AME, CP and digestible AA to every phase diet. Diets were based on corn, soybean meal and soybean oil.

- LYSOFORTE® EXTEND when supplemented at 500 g/t to the diets following feed reformulation to lower AME, CP and digestible AA reduced feed cost by 5 €/t compared to control diets whilst even improved performance parameters.
- The economic analysis revealed an increase of 15% of net income over feed cost following the supplementation of LYSOFORTE® EXTEND compared to the control feeding program. The subsequent ROI resulted in 14:1.
- LYSOFORTE® EXTEND used with reformulation in broiler diets provides a substantial economic benefit to broiler production.

ABSTRACT

A 36-day broiler field trial was conducted at a commercial broiler farm of a feed producer in Jordan. The objective was to investigate the effect of applying LYSOFORTE® EXTEND (LEX) dry in reformulation (to lower levels of AME, CP and digestible AA) to their standard commercial diets. Birds fed reformulated diets supplemented with LEX dry (which were 5 €/t cheaper) showed substantially higher BW (2176 g vs. 2052 g) and better overall FCR (1.47 vs. 1.56), leading to a substantially improved EPEF (383 vs. 342). The economic analysis revealed an increase of 15% of net income over feed cost following the supplementation of LYSOFORTE® EXTEND compared to the control feeding program. The subsequent ROI resulted in 14:1.

INTRODUCTION

During the last months of 2020 and during 2021, feed raw materials prices have steadily grown, significantly impacting feeding costs and the profitability of poultry operations all around the globe. Identifying effective and reliable strategies to cope with such impact is therefore vital to keep a healthy profitable business for both farmers and feed producers.

LYSOFORTE® EXTEND (LEX) is a new generation nutrient absorption enhancer, which combines lysophospholipids and additional synergistic molecules including monoglycerides and synthetic emulsifiers. The use of LEX has consistently proved to play an important role in animal nutrition and feed cost reduction strategies, through an improvement of feed utilization and digestibility in terms of energy, proteins, fats and fat-soluble components. The supplementation of LEX via diet reformulation, to lower AME, CP and digestible AA, provides poultry nutritionists with a smart strategy to save on feed cost without compromising broiler performance. However, one could question if a low fat content of the diet, might limit the benefit of such a reformulation strategy. Therefore an experiment was carried out to evaluate the effect of LEX when added in reformulation to low-fat-content diets for broiler chickens.

MATERIAL AND METHODS

The trial was conducted at the farm of a feed producer in Jordan. A total of 44,319 healthy, one-day-old as hatched chicks (Ross 308), were allocated to 4 different commercial houses with an approximate capacity of 11,000 birds each. A total of 32,953 broilers in 3 houses were fed with reformulated commercial diets (to lower AME, CP and digestible AA) supplemented with LYSOFORTE® EXTEND Dry at 500 g/t of feed (LEX treatment), and 11,366 broilers in the 4th house were fed only with standard commercial diets (higher in AME, CP and digestible AA) without LEX supplementation (Control).

Table 1. Description of the experimental treatments

Treatment	Experimental diets		
	Starter diet	Grower	Finisher
Control	Standard commercial diets		
LEX	Standard reformulated to lower AME, CP and digestible AA + LEX at 500 g/t		

A three-phase feeding plan was used: starter diet from 0-14 days, grower diet from 14-26 days and finisher diet from 26-36 days. The starter diet was fed as crumb and the grower and finisher diets were pelleted. Diets were based on corn, soybean meal and soybean oil. Proximate nutritional profile of the diets is shown in Table 2.

Table 2. Calculated nutrient analysis of diets, %

	Starter (0-14 d)		Grower (14-26 d)		Finisher (26-36 d)	
	Control	LEX	Control	LEX	Control	LEX
Added soybean oil	1.2	0.8	2.7	1.7	3.5	2.4
Crude fat	3.7	3.3	5.3	4.3	5.75	4.66
crude protein	23.3	23.0	21.22	20.92	19.50	19.30
dig. lys	1.3	1.28	1.15	1.13	1.05	1.03
AMEn (kcal/kg)	2965	2930	3080	3010	3140	3067

LEX was added at of 500 g/t of feed to the standard commercial diets, reformulated to lower AME, CP and digestible AA following LEX nutritional matrix. Reformulation to lower AME in the starter diet could not be fully performed due to minimum technological-palatability constraint of 0.8 % of added oil. Reformulation resulted in a total feed cost reduction of 5 €/t of feed for the LEX supplemented houses compared to the control group. Performance parameters including body weight gain (BWG), feed intake (FI) and feed conversion ratio (FCR) were measured at 7, 28 and 36 days during the trial.

RESULTS

The performance results are shown in Table 3. At all ages, the broilers fed diets supplemented with LEX in reformulation, showed better BW and FCR, despite those diets were lower in AME, CP and digestible AA compared to the control. The higher final BW (2176 g LEX vs. 2052 g control) and better overall FCR (1.47 LEX vs. 1.56 control) led to a substantially improved EPEF (383 LEX vs. 342 control).

Table 3. Performance results

		Treatment	
	Days	Control	LEX
BW	7	185	212
	28	1572	1623
	36	2052	2176
FCR	7	1.12	0.91
	28	1.30	1.16
	36	1.56	1.47
Mortality %	1-36	6.5	6.8
EPEF		342	383

BW: body weight; FCR: feed conversion rate; EPEF: European Production Efficiency Factor

The supplementation of LEX at 500 g/t of feed to reformulated diets, completely recovered the nutritional gap with the control diet whilst improving broiler performance.

ECONOMIC ANALYSIS

The economic analysis is presented in Table 4.

The calculation was made using the real performance data. The weighted average of feed cost for the overall period and according to market feed market prices (Q1 2021) was 335 €/t. The conventional broiler live weight price was considered 1 €/kg. The feed cost reduction of the reformulation, including LEX cost, was around 5 €/t in the LEX supplemented diets.

Table 4. Economic analysis of LYISOFORTE® EXTEND dry application

	Control	LEX
BWG (g)	2052	2176
FCR	1.56	1.47
Income (€/1000 bird)	2052	2176
Feed cost (€/1000 bird)	1072	1053
Net Profit (€/1000/bird)	980	1123
Net Profit difference (€/1000 bird)		143
ROI		14

CONCLUSIONS

- LYSOFORTE® EXTEND when supplemented at 500 g/t to the the diets following feed reformulation to lower AME, CP and digestible AA reduced feed cost by 5 €/t compared to control diets while even improving performance parameters.
- The economic analysis revealed an increase of 15 % of net income following the supplementation of LYSOFORTE® EXTEND compared to the control feeding program. The subsequent ROI resulted in 14:1.
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REFERENCES

Kemin internal reference TD-21-7087