

BROILER PERFORMANCE RESPONSE TO (LYSO-)PHOSPHOLIPID INCLUSION IN
WHEAT BASED DIETS WITH ADDED TALLOW

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The young bird's capacity to digest and absorb dietary fats is limited. Lipid digesting enzyme activity is low and bile secretion is considered to be the rate limiting factor in fat utilization in the first weeks after hatching (Nitsan *et al.*, 1991; Krogdal and Sell, 1989). Lysoforte[®] Booster Dry (LBD) is a source of phospholipids and lyso-phospholipids which has been shown to increase weaner pig performance (Carter and Henman, 2003).

Day old chicks (Ross 308) were used with four replicate cages per sex, and three LBD treatments (0, 0.5 or 1.0 g/kg) in a randomised block layout. The crumbled starter diets (0-21 d, 12.6 MJ ME/kg; 53 g total fat/kg) contained 32 g tallow/kg, and the pelleted finisher diets (21-42 d, 13.0 MJ ME/kg; 68 d total fat/kg) contained 48 g tallow/kg. All diets contained a xylanase based enzyme (Kemzyme[®]). Feed intake and weight gain were measured on a cage basis at days 21 and 42. Excreta were collected from each cage, mixed for each treatment and a single sub-sample taken for fat analysis. Broiler performance data (not excreta fat data) were analysed as three dietary treatment regimes x two sexes. The effect of Lysoforte Booster Dry on performance and excreta fat of male and female birds at 21 and 42 days of age is shown in the table.

Table Feed intake (g), weight gain (g), FCR and excreta fat (g/kg DM) at 21 and 42 d in male (M) and female (F) broiler chickens given Lysoforte Booster Dry at 0, 0.5 and 1.0 g/kg of feed

Lysoforte Booster Dry	Day 0-21 Feed intake			Day 0-21 Weight gain			Day 0-21 FCR			Day 21 excreta fat	
	M	F	Ave	M	F	Ave	M	F	Ave	M	F
0	1134	1000	1117	886	839	862	1.281	1.311	1.296 ^a	66.4	79.9
0.5	1101	1077	1089	883	838	860	1.246	1.286	1.266 ^b	45.7	41.7
1.0	1151	1070	1110	911	836	873	1.266	1.284	1.275 ^b	49.2	38.3
LSD (P<0.05)	44.99	44.99	31.68	44.57	44.57	30.62	0.030	0.030	0.021		
Lysoforte Booster Dry	Day 0-42 Feed intake			Day 0-42 Weight gain			Day 0-42 FCR			Day 42 excreta fat	
	M	F	Ave	M	F	Ave	M	F	Ave	M	F
0	4906	4476	4691	3044	2628	2836	1.608	1.703	1.656 ^a	66.1	53.6
0.5	4830	4424	4627	3077	2648	2863	1.567	1.669	1.618 ^b	56.9	55.3
1.0	5013	4423	4718	3175	2648	2911	1.591	1.670	1.630 ^b	57.7	58.9
LSD (P<0.05)	219.3	219.3	161	118.5	118.5	89.1	0.034	0.034	0.024		

^{a,b} values within a column with different superscripts are significantly different at P<0.05

Lysoforte Booster Dry significantly improved feed conversion efficiency at both inclusion levels (P<0.05). This improved efficiency appeared to be associated with reduced excreta fat concentrations in males and females at day 21 and in males at day 42.

Carter, R.R. and Henman, D.J. (2003). *In: Manipulating Pig Production IX*, p.170, ed. J.Paterson

Krogdal, A. and Sell, J.L. (1989). *Poult. Sci.*, **68**:1561-1568.

Nitsan, Z., Ben-Avraham, G., Zoref, Z., Nir, I. (1991). *Br. Poult. Sci.*, **32**:515-523.

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