



Effect of Butirex C4 in 20 days old chicks on different energy level of feed

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The aim of this trial was to test the effect of BUTIREX C4 on different energy levels in broiler production. The results show the effect of Butirex C4 inclusion in the first weeks of age and how the use of Butirex C4 can affect to them.

Method and Material

The trial was carried out by Animal Nutrition Department of Polytechnic University of Madrid (Spain 2014).

The design used two energy and protein levels, and the inclusion or not of Butirex C4 at 1 kg/Mt (control vs Butirex C4), in a house flooring with wood shavings. 400 one-day old Ross 308 birds were distributed in 2x2 treatments * 4 pens (25 birds).

The diets were in pellet form and feed and drinking water were provided ad libitum. Experimental trial was done during the first 20 days of age.

Table 1: Treatments

AME ; CP	Butirex C4
3000 kcal/kg ; 22.4%	-
2940 kcal/kg ; 21.5%	-
3000 kcal/kg ; 22.4%	1 kg/ton
2940 kcal/kg ; 21.5%	1 kg/ton

Table 2. Performance parameters in chicks fed with different energy level and/or the inclusion of Butirex C4, from 0-10 and 10-20 days of age

	From 0 to 10 d			From 10 to 20 d		
	DWG, g	DFI, g	FCR	DWG, g	DFI, g	FCR
Energy						
3000 kcal AME	28,2	31,8 y	1,13 b	56,5	76,1 b	1,35 b
2940 kcal AME	28,1	33,7 x	1,20 a	56,9	80,1 a	1,41 a
Butirex C4						
Control	26,6 b	31,7 b	1,19 a	54,5 b	75,4 b	1,39 y
1 kg/ton	29,6 a	33,9 a	1,14 b	59,0 a	80,8 a	1,37 x
Energy x Butirex C4						
3000 kcal AME	26,5	31,7	1,20	55,7	77,8 y	1,40
2940 kcal AME	26,3	32,9	1,25	54,7	80,6 xy	1,48
3000 kcal AME + BC4	29,1	33,4	1,15	58,1	78,9 xy	1,36
2940 kcal AME + BC4	29,6	35,1	1,19	60,4	86,6 x	1,43

a,b P<0.01; x,y P<0.05

Performance Results

Performance parameters at first 10 days and from 10-20 days regarding the energy level, showed similar daily gain, and significant differences for feed intake and conversion according the energy level of the feed, less energy in the feed more intake and worst conversion. But regarding Butirex C4 inclusion, in the same periods, significant improves were observed for all performance parameters when chicks were fed Butirex C4, bigger growing and bigger feed intake, but with better feed efficiency. Regarding the interaction energy level and Butirex C4, from 0-10 and 10-20 days of age for all parameters: DWG, DFI and FCR and at both periods, the inclusion of Butirex C4 improves the performance.

For overall period, 0-20 days, significant effect of energy level for DFI and FCR. And again all performance parameters DWG, DFI and FCR were improved with the inclusion of Butirex C4.

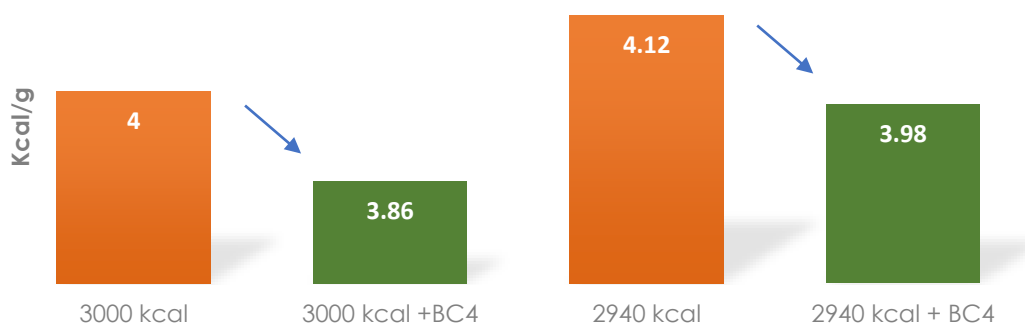
If the efficiency of the energy is measured in both energy level, indicates that more energy concentration (3000 kcal) is more efficiency in weight gain than less energy (2940 kcal). And in both cases, the inclusion of 1 kg Butirex C4, improves a 3.5% the absorption and digestibility of the energy by birds.

Table 3 Inclusion of Butirex C4 in chicks from 0-20 d.

	DWG, g	DFI, g	FCR
Energy			
3000 kcal AME	42,4	54,0 b	1,27 b
2940 kcal AME	42,5	56,9 a	1,34 a
Butirex C4			
Control	40,5 b	53,5 b	1,32 a
1 kg/ton	44,3 a	57,3 a	1,29 b
Energy x Butirex C4			
3000kcal AME	41,1	54,80 y	1,33
2940kcal AME	40,5	56,8 xy	1,40
3000kcal AME + BC4	43,6	56,1 xy	1,29
2940kcal AME + BC4	45,0	60,9 x	1,35

a,b P<0.01; x,y P<0.05

Energy intake (AME Kcal) by daily gain (g)



Conclusions

Butirex C4 is especially helpful in early diets (until 20 days), the effects on the intestinal health and the intestinal development, especially on absorption capacity and enzyme activity, improves the digestibility of the feed, reducing the needs of energy and protein (amino acids) to obtain the same body weight gain.

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