Lucrări ştiinţifice **Zootehnie şi Biotehnologii**, vol. **41(1)** (**2008**), Timişoara

THE EFFECT OF DIFFERENT ENERGO – PROTEIC LEVEL ABOUT EVOLUTION OF FEED CONSUMPTION AT ARBOR ACRES HYBRID

INFLUENȚA UTILIZĂRII UNOR REȚETE AVÂND NIVELURI ENERGO-PROTEICE DIFERITE ASUPRA EVOLUȚIEI CONSUMULUI DE NUTREȚURI CONCENTRATE LA HIBRIDUL ARBOR ACRES

ALEXANDRESCU DANIELA*, ROBESCU OFELIA*

*Faculty of Environment Engineering and Biotechnologies, Târgovişte, România

In the last years, near by local hybrids who are a big percentage, others imported hybrids from famouse companies in the world: Arbor Acres, Shaver, Lohmann, Cobb which nutrition requirements don't are enough studied in our country had in view climate conditions, microclimate and raw materials parameters used in fooders fabrication. For growth performances set of the broilers from experiments, has been recorded the food quantities and the week average weights on base of are calculated the weight gains and feed coversion efficiency.
Key words: energo-proteic level, daily, weekly and cumulative feed consumption.

Introduction

In the last years, near by local hybrids who are a big percentage, others imported hybrids from famouse companies in the world: Arbor Acres (3), Shaver, Lohmann, Cobb which nutrition requirements don't are enough studied in our country had in view climate conditions, microclimate and raw materials parameters used in fooders fabrication.

Experimental researches in this paper are based on energo-protein level influence on evolution of feed consumption at Arbor Acres hybrid. Arbor Acres hybrid develop efficient food energy, protein and amino acids and has a productive potential who deserve to take in considerations by the researchers and farmers (1, 2).

Materials and Methods

Biological material has been represented by the 240 Arbor Acres hybrid broilers, which been distributed in 4 experimental groups by 60 broilers/group.

For growth performances set of the broilers from experiments, has been recorded the food quantities and the week average weights on base of are

calculated the weight gains and feed coversion efficiency. The experimental scheme is presented in table 1.

Table 1

The experimental scheme

Group	No. birds	Parameters of feed			Objectives
		Starter 1 – 21 days	Grower 22 – 35 days	Finisher 36 – 42 days	
E_1	60	3100 kcal / 13.0 Mj 20.5 % PB 1.20 % Liz. 0.53 % Met.	3150 kcal / 13.2 Mj 19.0 % PB 1.10 % Liz. 0.54 % Met.	3100 kcal / 13.5 Mj 17.5 % PB 1.00 % Liz. 0.53 % Met.	Evolution of daily, weekly and cumulative feed consumption by broilers in experimentation
E_2	60	3150 kcal / 13.2 Mj 21.0 % PB 1.30 % Liz. 0.58 % Met.	3200 kcal / 13.4 Mj 19.5 % PB 1.20 % Liz. 0.56 % Met.	3250 kcal / 13.6 Mj 18.2 % PB 1.10 % Liz. 0.58 % Met.	
E_3	60	3150 kcal / 13.2 Mj 22.1 % PB 1.40 % Liz. 0.63 % Met.	3200 kcal / 13.4 Mj 20.4 % PB 1.30 % Liz. 0.58 % Met.	3250 kcal / 13.6 Mj 18.9 % PB 1.20 % Liz. 0.62 % Met.	
E_4	60	3100 kcal / 13.0 Mj 23.0 % PB 1.34 % Liz. 0.56 % Met.	3240 kcal / 13.6 Mj 19.99 % PB 1.14 % Liz. 0.51 % Met.	3200 kcal / 13.5 Mj 18.5 % PB 0.94 % Liz. 0.38 % Met.	

Results and Discussions

The daily, weekly and cumulative feed consumption by broiler

Feed consumption is correlated with energetic and protein level and the biggest level is at E_2 group172.32 g./broiler /daily in last experimental week .

E_4 group has recorded a cumulative consumption of 3898.04 g./ broiler (table 2, fig. 1, 2, 3).

Table 2

The broilers feed consumption in experimentation

Group	Consumption	Age (weeks)					
		1	**2**	**3**	**4**	**5**	**6**
E_1	g/ broiler / daily	16.82	50.85	**78.36**	102.73	129.31	**141.47**
	g/ broiler / weekly	117.74	355.95	548.52	719.11	905.17	990.29
	g/ broiler/cumulative	117.74	473.69	1022.21	1741.32	2646.49	3636.78
E_2	g/ broiler / daily	16.68	48.59	**76.26**	92.92	126.34	**139.66**
	g/ broiler / weekly	116.76	340.13	533.82	650.44	884.38	977.62
	g/broiler/ cumulativ	116.76	456.89	990.71	1641.15	2525.53	3503.15
E_3	g/ broiler / daily	17.47	62.51	**91.79**	97.57	153.02	**172.32**
	g/ broiler / weekly	122.33	437.58	642.52	682.99	1071.1	1206.28
	g/ broiler / cumulativ	122.33	559.91	1202.43	1885.42	2956.60	4162.58
E_4	g/ broiler / daily	16.11	49.50	**73.96**	97.12	123.21	**139.82**
	g/ broiler / weekly	112.77	346.50	517.72	679.84	962.47	1078.74
	g/ broiler / cumulativ	112.77	459.27	976.99	1656.83	2619.30	3898.04

* cumulative/period

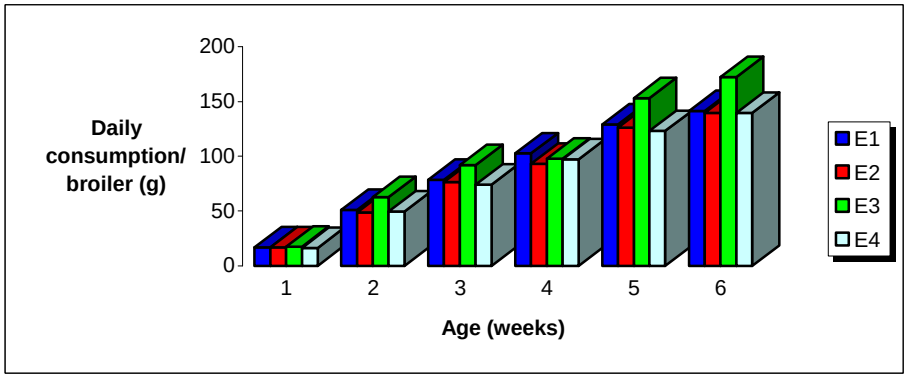

Figure 1. The daily feed consumption

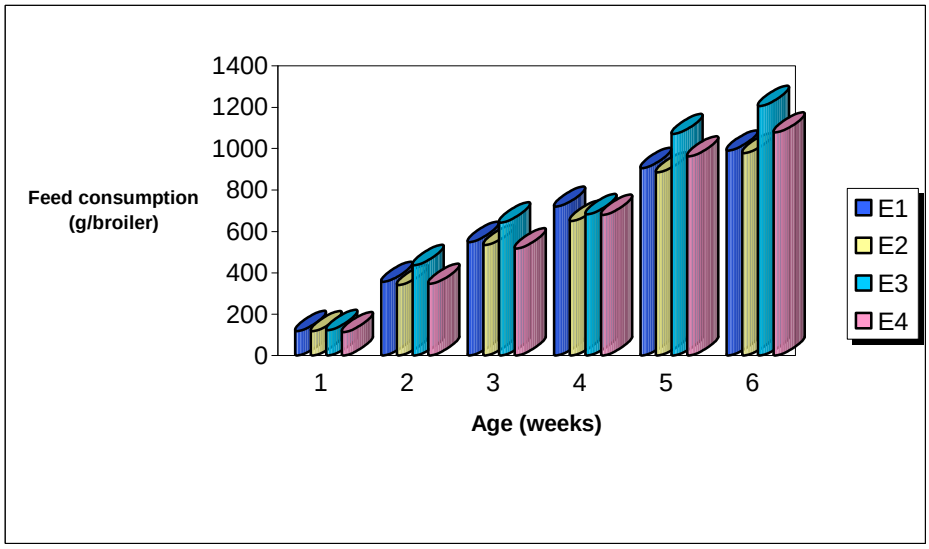

Figure 2. The weekly feed consumption

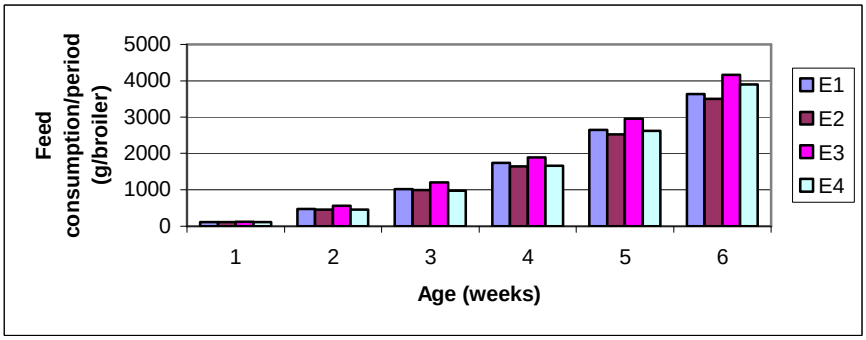

Figure 3. The cumulative feed consumption

The feed conversion efficiency

Development degree of feed it is give by the efficiency conversion to obtained gains. In table 3 and fig. 4 is represented feed conversion efficiency recorded on fourth experimental groups.

Table 3

The broilers feed conversion efficiency **(kg /kg gain)**

Group	Feed conversion efficiency on:	**Age (weeks)**					
		1	**2**	**3**	**4**	**5**	**6**
E_1	Week	1.26	1.62	1.57	1.69	1.72	2.17
	Cumulative	1.26	1.51	1.54	1.60	1.64	***1.76***
E_2	Week	1.21	1.40	1.49	1.63	1.66	2.17
	Cumulative	1.21	1.35	1.42	1.50	1.55	***1.69***
E_3	Week	1.21	1.62	1.56	1.54	1.82	2.14
	Cumulative	1.21	1.51	1.54	1.54	1.64	***1.76***
E_4	Week	1.14	1.36	1.35	1.63	1.84	2.13
	Cumulative	1.14	1.30	1.33	1.44	1.56	***1.78***

*cumulative/period

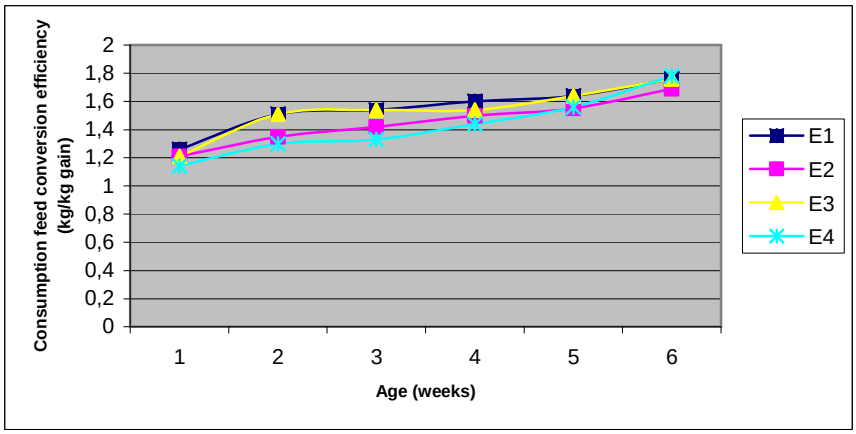

Fig. 4. The cumulative feed conversion efficiency

The weekly feed conversion efficiency has increased with age, in sixth week 2.17 kg. n.c./ kg. gain on E_1 şi E_2 groups and 2.14 kg. n.c./ kg. gain on E_3 group and 2.13 kg. n.c./ kg. gain E_4 group.

Conclusions

- Arbor Acres broilers could adapt easy on some food energy levels reduced or high but replied good at energy high densities with proteic and amino acids levels in proportion. The most good gains are obtained at next levels:

- *on starter:* 3150 kcal/kg.; 22.10% PB;
- *on grower:* 3200 kcal/kg.; 20.40% PB;
-*on finischer:* 3250 kcal/kg.; 18.90% PB;

- In broilers Arbor Acres first period of age, 1-3 weeks, the protein high level, 23%PB could be recomanded, and is obtained feed conversion efficiency lower, but statistic unsemnificatives.
- The feed conversion it was corelated with energo-proteic levels.

Bibliography

1. **Stoica I., Pana C.,Stoica Liliana,Drăgotoiu D., Marin Monica** (1995)- *Analiza nutreţurilor*, Lito – AMC, USAMV Bucureşti

2. **Stoica I.** (1997)- *Nutriţia şi alimentaţia animalelor*, Editura Coral Sanivet, Bucureşti

******* - Arbor-Acres, *Broiler Management Manual*, USA, (2000).