

FARM MIXTURES AND SLOW BREEDING BROILERS

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ABSTRACT - For feeding slow breeding broilers, of Fermier type, we have used a foddering programme, based exclusively, on cereals mixture. It resulted in getting, at 42 days, an average weight of only 462 g, which represented 41% of the weight of broilers, fed, at the same age, only with complete mixed fodder. After 10 days of farm mixture administering, when mixed fodder was used for starting, the average weight of broilers at 42 days was by 33% higher than the weight of broilers fed only with farm mixture. The 10-day starting with mixed fodder was not sufficient, as the average weight of broilers from this group was lower by 60%, compared to the weight of broilers fed only with mixed fodder.

Key Words: food safety, foddering programme, biological value

REZUMAT - Amestecurile de fermă și broilerii de găină cu viteză lentă de creștere. În alimentația broilerilor de găină cu viteză de creștere mai redusă, de tip Fermier, un program de furajare bazat exclusiv pe amestec de cereale a dus la obținerea unei greutate medii, la 42 de zile, de numai 462 g, reprezentând circa 41% din greutatea puilor care au consumat la aceeași vârstă, doar nutreț combinat complet. După o perioadă de 10 zile, când s-a administrat amestecul de fermă, în care s-a folosit nutreț combinat pentru demaraj, greutatea medie a puilor la 42 zile a fost mai mare cu circa 33% față de cea a puilor care au consumat doar amestec de fermă. Demarajul de 10 zile cu nutreț combinat nu a fost însă suficient, deoarece greutatea medie a puilor din acest lot a fost mai mică cu circa 60% față de cea a puilor hrăniți doar cu nutreț combinat.

Cuvinte cheie: securitate alimentară, program de furajare, valoare biologică

INTRODUCTION

An important source for ensuring food safety for humans is poultry breeding, which is the most dynamic field of the world zootechny. Fast or slow broiler breeding is used in poultry farms, according to breeding system (Halga et al., 2005).

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It is well known that using hen hybrids with high productive potential must be associated to administering high biological value mixed fodder (Isar, 2003). For slow breeding broilers, foddering programmes are based, generally, on cereals mixtures (Marin, 2003; *** , 2000).

The aim of this paper was to point out the effects of using in slow breeding broilers, foddering programmes, based both on cereals mixture and on complete mixed fodder

MATERIALS AND METHODS

The study was conducted on 150 broilers, equally placed in three groups (a control group CG and two experimental groups: EG1 and EG2). We have used Fermier type-broilers, descending from parents produced by Hubbard-ISA Firm.

For each group, a differentiated foddering programme was used. Only farm mixture was administered in the control group, on the entire breeding period. A foddering programme, based on mixed fodder, was used for starting, in the experimental group EG1, in the period of 1-10 days, and farm mixture, in the period of 11-42 days. For the experimental group EG2, complete mixed fodder was administered. The stages of foddering phases were 1-21 days for starting, 22-40 days for breeding, and 41-42 days for breeding-finishing. Nutritive characteristics and structure of used farm mixture are presented in *Table 1*.

Table 1
Composition and nutritive characteristics of farm mixture administered in the food of broilers from the control group and experimental group EG1

Structure	UM	Cereals-based farm mixture
Maize	%	37
Wheat	%	60
Wheat bran	%	3
Metabolizable energy	Kcal/kg	2939
Raw protein	%	10.55
Lysine	%	0.30
Methionine + cystine	%	0.45
Treonine	%	0.33
Indole amino-propionic acid	%	0.10
Calcium	%	0.04
Phosphorus	%	0.33
Sodium	%	0.03
Chlorine	%	0.05

The structure and nutritive characteristics of complete mixed fodder administered at experimental groups, according to foddering stages, are presented in *Table 2*.

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Table 2
Characteristics of complete mixed fodder at experimental groups EG1 and EG2

Specification	UM / kg mixed fodder	Stage		
		Starting 1-21 days	Breeding 22-34 days	Breeding-finishing 35-42 days
Raw protein	%	22	20	18
ME Broiler	Kcal/kg	3005	3100	3153
Ash	g	41.27	38.84	37.90
Raw fat	g	35.71	37.54	53.96
Raw celluloses	g	38.92	38.92	36.61
Lysine	g	12.70	11.70	10.00
Methionine + cystine	g	9.20	9.05	8.25
Treonine	g	8.50	7.65	7.00
Indole amino- propionic acid	g	2.35	2.10	1.95
Calcium	g	10.20	9.50	9.10
Phosphorus	g	7.31	7.31	6.16
Sodium	g	1.65	1.65	1.50
Chlorine	g	3.11	3.11	2.41

During the experiments, data allowing the study of indicators on evolution of body weight, food consumption and revaluation were registered.

For determining the body weight, broilers have been weighed individually at populating, and afterwards, every week, until delivery. The weight increase for that period was established by difference. Data on establishing food specific consumption were obtained by registering daily fodder consumption.

RESULTS AND DISCUSSION

An exclusive feeding, based on farm mixture, has resulted in a lower body weight at the control group by 1.3 times, in comparison with broilers, fed with mixed fodder until the age of 10 days and, then, with farm mixture, and by 3.2 times, in comparison with broilers fed exclusively with mixed fodder during the entire breeding period (*Table 3*).

During the breeding period of 42 days, the daily mean food consumption of 37 g was registered in broilers from CG, 40 g in broilers from EG1 and 75 g in broilers from EG2 (*Table 4*).

Because the used farm mixture had a lower energetic level by 47 until 195 kcal ME (according to foddering stage), compared to complete mixed fodder, the consumption index registered in 42 days (*Table 4*) was lower in experimental groups (compared to control) by 20% in EG1, respectively, by 39% in EG2.

Table 3

Body weight increase in broilers from the third experimental series

Age (weeks)	Average weight at the end of the period (g)			% to CG	
	CG	EG1	EG2	EG1	EG2
	42	42	42	100.0	100.0
1	55	83	80	150.90	145.45
2	97	169	270	174.22	278.35
3	208	309	520	148.55	250
4	290	418	800	144.13	275.86
5	372	511	1170	137.36	314.51
6	462	615	1500	133.11	324.67

Table 4

Mean consumption (g) by day, week and cumulated

Age (weeks)	Daily mean consumption			Weekly mean consumption			Cumulated mean consumption		
	CG	EG1	EG1	CG	EG1	EG2	CG	EG1	EG2
1	8	16	16	54	111	112	54	111	112
2	16	25	36	111	173	252	165	284	364
3	30	30	60	211	210	421	376	989	785
4	40	40	79	279	279	551	655	773	1336
5	58	58	113	409	407	793	1064	1180	2129
6	71	71	144	498	499	1006	1562	1679	3135

The control group, fed only with farm mixture, which achieved the lowest body weight, has registered the highest value of the consumption index cumulated in 6 weeks.

Table 5

Food consumption index

Age (weeks)	Cumulated consumption index						
	CG	EG1			EG2		
	Obtained	Obtained	% to CG	Obtained	% to CG	% to EG1	
1	0.98	1.34	136.73	1.40	142.85	103.70	
2	1.70	1.68	98.82	1.35	79.41	80.35	
3	1.81	1.60	88.39	1.51	83.42	94.37	
4	2.26	1.85	81.85	1.67	73.89	90.27	
5	2.86	2.31	80.76	1.82	63.63	78.78	
6	3.38	2.73	80.76	2.09	61.83	76.55	

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CONCLUSIONS

The use of foddering programmes based on farm mixtures in the breeding period or after a starting period with complete mixed fodder in slow breeding broilers has determined lower zootechnical results compared to foddering programmes based on complete mixed fodder, proper to broilers age.

The use of foddering programme based exclusively on cereals mixture resulted in getting broilers mean weight, at 42 days, of only 462 g. It represents 41% of the weight of broilers of the same age, fed only with complete mixed fodder.

If the farm mixture is administered after 10 days, and mixed fodder is used for starting, the mean weight of broilers at 42 days is higher by 33%, compared to broilers fed only with farm mixture. The period of 10 day-starting with mixed fodder was insufficient; the average weight of broilers from this group was more reduced by 60%, compared to broilers fed only with mixed fodder.

REFERENCES

- Halga P. et al., 2005** – *Animal feeding*. ALFA, Iași
- Isar O., 2003**- *Novelties in poultry nourishing*. Journal Avicultorul, no.2, Bucharest
- Marin Gh., 2003** - "*Puiul țărănesc*" *Romanian breed* and "*Label rouge*" *French breed*. Journal Avicultorul, no.2, Bucharest
- ***, 2000** - *Starbro broiler*, Managerial guide. Lyon, France
- ***, 2002**- *Delicios de Brașov*, Journal Avicultorul, no.3, Bucharest