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Research on the Influence of the Light and Compound Feed on Growth Performance into Young Quail Mixed Eggs-Meat Population of Balotesti During 28-56 Days

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Abstract

In order to study the influence of the light and compound feed on growth performance into young quail mixed-population of Balotesti was organized an experiment on 400 chicken quails. It has studied the impact of a illumination program with asymmetrical hourly intervals (10L+2N+6L+6N) compared with a program of continuous lighting in day period (16L+8N). It was used 3 types of compound feed: for growth, finishing and for adult quails. The growth performance of young quails during the period 28-49 days were superior in the case of lots of female animals (B1) and male (B2) compared with the consignments of female (A1) and male (A2). The average live weight at the age of 49 days was higher with 9.67 % at the females from the lot B1 compared with females from lot A1, while to male this was higher with 6.95 % at the males of the lot B2 compared with males from the lot A2. In the period 49-56 days the weight gain at males from the lot A2-2 has been with 6.30 g/head higher than to male from the lot of A2-1, and feed consumption rate has been reduced by 19.10 g c.f./g weight gain to the consignment A2-2 from the consignment A2-1. Increase of growth to male from the lot B2-2 has been with 6.88 g/head higher than to male from the lot B2-1 and feed consumption rate has been reduced by 17.60 g c.f./g weight gain to lot B2-2 compared the lot B2-1. Considering the superior performance recorded in the case of lots A2, B2, A2-2 and B2-2 during the periods concerned, it is recommended to use the illumination program with the hourly intervals asymmetrical with a duration of 16 hours in growth young quail still from the age of 28 days, the management of the finishing compound feed to male for meat in the period 49-56 days and the feed for adult quail females from the age of 49 days.

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1. Introduction

Generally, many breeders use continuous light in the growth of the youth quail, but it has been found that continuous light exercise a negative effect on the growth. The programs of light asymmetric fractionated presents a potential interesting for poultry whereas help to the application of the restrictions feed supply and enables savings of electricity (Popescu-Micloșanu Elena, 2007). Furthermore, it was found that the fractionated illumination programs have a positive influence for growth and feeding conversion (Mahmud et al., 2011).

A very important aspect in quail growth is ensuring at the optimum level of nutritional parameters specific to each of the ages in relation to the direction of quail exploitation. Generally, especially in the case of populations of mixed eggs-meat quail, males resulting from sexing quails are used for the production of meat, and females are directed to the production of eggs. Having regard to the evolution of the nutritional requirements of the quails depending on age, their diet is ensured in the first 3-4 weeks with a recipe of compound feed having regard 2900-3000 kcal ME and 25-27 % CP and, during the period 4 to 7 weeks, where the requirements of a protein are less, with a recipe having 3000-3100 kcal ME and 21-23 % CP. The French specialty literature (Blum J.C., 1984) recommends a recipe for finishing in youth nutrition quail species for the production of meat, with the parameters of 3200 kcal ME (13,38 MJ) and 20.6 % CP. Stock farmers quails have different opinions on the need of changing the recipe with 1 to 2 weeks before slaughter, with a recipe for finishing, being a controversy related to the possibility of improving network performance of growth and reducing expenditure with food on the weight gain in this period. In this paper was studied the cumulative effect of the use of the different programs of light and of the differentiated feeding on the performance of the youth quail during the period 28-56 days.

2. Materials and Methods

A lot consisted of 400 chicken quail of "*Balotești population*" was nourished in the first 4 weeks of life with a starter compound feed recipe, being used a program of continuous light with a duration of 24 hours/day. At the age of 28 days, the poultry have been sexed and have been divided into two groups A and B comprising 200 heads, which of 100 female and 100 male (A1 and A2 or B1 and B2). Lot A (control) has been the subject of an illumination program with continues 16 hours photoperiod and 8 hours of darkness and the lot B (experimental) has been the subject of a program of lighting with 16 hours light, but with hourly intervals asymmetrical (10L+2N+6L+6N). In the period 28-49 days females and males from both groups have received a compound feed of growth for young quails, being studied only the effect of the factor program of light on the females and the males of the lots A and B.

In the period 49 - 56 days the females from the two lots have received specific compound feed and the males of each lot were divided into two groups such: a lot of male has been subject to continuous lighting and received a growth compound feed (Lot A2-1), a lot of male has been subject to continuous lighting and received the finishing compound feed (Lot A2-2), a lot of male has been the subject of a program of illumination with asymmetrical intervals and received the growth compound feed (Lot B2-1) and the 4-th male lot has been the subject of a program of illumination with asymmetrical intervals and received the finishing compound feed (Lot B2-2). In the period 49-56 days was studied both the effect of the factor program of the light and the differentiated feeding rates (tab.1). The parameters for the starter recipe used in 0-28 days and the parameters for growth, finishing and for quail hens used in the experimental period are shown in tab. 2. The structure of the recipes has been made up of: cereals, groats, corn gluten, oil, amino acids, monocalcium phosphate, calcium carbonate, salt and vitamin-mineral premix.

The research was carried out in the quail farm of Ionita T. Lucian Individual Enterprise, located in the Gherghita commune, Prahova County, Romania.

The environmental conditions were within the limits laid down by the specialty literature. The data have been processed using Microsoft Excel 2010, and the significance of the differences between the averages has been tested using Student test.

Table 1. The experimental design used to the concerned lots of youth quail in the period 28 - 56 days

Specification	The period 28-49 days The lot type of feed	The period 49-56 days The lot type of feed
Lot A Illumination program with continuous photoperiod (16L+8N)	Lot A1 - females Growth C.F.	Lot A1 - females Laying C.F.
	Lot A2 –males Growth C.F.	Lot A2-1 - male Growth C.F. Lot A2-2 - males Finisher C.F.
LotB Illumination program with asymmetrical hourly intervals (10L+2N+6 L+6N)	Lot B1 - females Growth C.F.	Lot B1 - females Laying C.F.
	Lot B2 – males Growth C.F.	Lot B2-1 – males Growth C.F. Lot B2-2 – males Finisher C.F.

Table 2. The parameters of the recipes for compounds feed used in the experimental period

Nutritional Parameters	Starter compound feed	Growth compound feed	Finisher compound feed	Adult quails compound feed
Metabolizable energy/kg(kcal;Mj)	3010(12.60)	3140(13)	3260 (13,64)	2810(11.76)
Crude protein (%)	24.80	22.50	20.82	19.8
Crude fat (%)	5.10	6.10	7.32	5.8
Methionine + cystine (%)	0.97	0.98	0.90	0.88
Lysine (%)	1.58	1.33	1.20	1.16
Calcium (%)	0.96	0.96	0.86	3.5
Phosphorus (%)	0.78	0.75	0.69	0.70
Choline (%)	0.03	0.03	0.03	0.03
Salt	0.40	0.40	0.35	0.4

3. Results and Discussions

3.1. The average growth performance to the chicks of the initial lot in the period 1-28 days

Table 3. The average growth performance to the chicks of the initial lot in the period 1-28 days

Live weight (g/head)		Average gain weight (g/head)		Average consumption of feed (g c.f./head)		Specific consumption (g c.f./g gain)	% mortality
1 Day	28 days	Per day	Total	Per day	Total		
8.87 ± 0.87	129.36 ± 2.35	4.30	120.49	11.14	312.12	2.59	2.19

At the age of 1 day the average weight of the chicks from the initial lot has been 8.87 ± 0.87 g, and at the age of 28 days this was 129.36 ± 2.35 g/head. The total weight gain in the period 0-28 days was of 120.49 g/head, respectively 4.30 g/head/day). The total consumption of the compound feed was 312.12 g/head (11.14 g/head/day), and the specific consumption was of 2.59 g c.f./g gain. The average mortality recorded in the period 0-28 days was of 2.19 %.

3.2. The average growth performance in the period 28 – 49 days of females and males from the lots concerned

Table 4. The average growth performance at males and females of the four lots in the period 28 – 49 days (g)

Specification	Lot A ₁ (females)	Lot B ₁ (females)	Lot A ₂ (males)	Lot B ₂ (males)
Live weight (g) at 28 days	129.55 ± 2.35ns	130.45 ± 2.57ns	128.77 ± 2.56ns	129.05 ± 2.33ns
Live weight (g) at 35 days	150.00 ± 1.57ns	155.00 ± 1.72ns	148.55 ± 1.49ns	152.10 ± 1.87ns
Live weight (g) at 42 days	166.00 ± 2.15 ^{aaa}	175.50 ± 2.25 ^{aaa}	162.00 ± 1.86 ^{bbb}	173.00 ± 2.15 ^{bbb}
Live weight (g) at 49 days	177.50 ± 1.45 ^{aaa}	196.50 ± 2.37 ^{aaa}	172.15 ± 1.77 ^{bbb}	185.00 ± 2.56 ^{bbb}
Average weight gain in the week V of growth (g/head)	20.45	24.55	19.78	23.5
Average gain in the week VI of growth (g/head)	16.00	20.50	13.95	20.90
Average gain in the week VII of growth (g/head)	11.50	21.00	9.65	12.00
Average weekly gain of growth in the period 28 – 49 days (g/head)	16.10	22.44	14.91	18.67
Weekly total weight gain in the period 28 - 49 days (g/head)	47.95	66.05	43.38	55.95
Consumption of compounds feed in the period 28 – 49 days (g/head)	537.81	573.10	524.16	551.88
Specific consumption in the period 28 – 49 days (g c.f./g gain)	11.22	8.68	12.8	9.86
Average percentage of mortality in the period 28 – 49 days (%)	0.50	-	1.00	-

3.2.1. The average growth performance of females from lots A1 and B1 in the period 28- 49 days

Generally, in the period 28 – 49 days the performance of growth have been higher at the females from the lot B1 (tab. 4, fig. 1) compared with those in the lot A1. The live weight at the age of 49 days (196.50 ± 2.37 g/head) was higher with 9.67 % at the females from the lot B1 compared with females from the lot A1, differences between the two lots being very significant. The average weight gain has been higher at females from the lot B1 with 28.30 %, consumption of compounds feed has been higher with 6.16 % and specific consumption has been reduced by 22.63 % to the lot B1 compared with A1. Also, at the lot B1 there has been no mortality.

3.2.2. The growth performance at males from the lots A₂ and B₂ in the period 28 – 49 days

Generally, in the period 28 - 49 days males from the lot B2 (tab. 4, fig. 1) have recorded higher growth performance than males from the lot A2. The average live weight at the age of 49 days (185.00 ± 2.56 g/head) was higher with 6.95 % at the males of the lot B2 compared with males from the lot A2, difference between the two lots being very significant. The average weight gain has been higher at males from lot B2 with 20.14 %, consumption of compounds feed has been more raised with 5.02 % and specific consumption has been reduced by 18.37 % at lot B2 against A2. Also, at the lot B2 there has been no mortality.

The both results obtained in the case of females from lots A1 and B1, and in the case of the males of the lots A2 and B2 indicate a very significant influence of the program of light on the performance of growth of youth quail from population of Balotesti during the period 28 - 49 days.

Some authors have determined the similar results to the youth quail at different ages similar or different from those of this experiment, depending on the purpose of the investigations. At the age of 28 days, El Full et al. (Egypt, 2001) have led to a live weight at the age of 28 days of 127.09 g/head at both sexes. Vali N. (Iran, 2009) has led to a

weight of 115.54 g/head at the age of 4 weeks. At the age of 35 days, Tikk and Tikk (Estonia, 1993) mention an average live weight at the age of five weeks of 140 g to males and 150 g to females. At the age of 42 days, El Full et al. reported an average live weight of 176.62 g/head. Vali N. (Iran, 2009) triggered a live weight average 177.5 g/head at the age of 6 weeks. In Turkey, Balcioglu et al. investigated the effect of the divergent selection for body weight at 5 weeks of age and they found that body weight at 49 days were 257 g and 218.6 g (selected) compared with 204.4 and 171.6 (check) for females and males respectively. Vali reported that, body weight at 7 weeks of age in Japanese quail was 193.89 g.

Kumar et al. reported the body weight at 8 weeks was 176.2 g, 174.6 g, 168.0 g and 169.2 g.

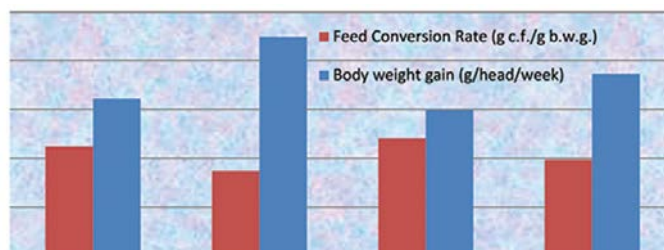


Fig. 1. The average weekly weight gain and specific consumption of compound feed to the females and males from the four lots in the period 28- 49 days

3.3. The performance of growth in the period 49 - 56 days to the males of the four lots analyzed

Table 5. The average results of male slaughtering to the four lots at the age of 56 days

Specification	Lot A ₂₋₁	Lot B ₂₋₁	Lot A ₂₋₂	Lot B ₂₋₂
Average weight at 49 days (g/head)	172.25 ± 1.86 ^{aaa}	184.55 ± 2.25 ^{aaa}	173.55 ± 1.75 ^{bbb}	186.67 ± 1.96 ^{bbb}
Live weight at 56 days (g/head)	177.93 ± 1.53 ^{aaa ccc}	190.60 ± 3.55 ^{aaa ddd}	185.53 ± 2.30 ^{bbb ccc}	199.60 ± 2.67 ^{bbb ddd}
Average weight gain (g/head) during the period from 49 to 56 days	5.68	7.88	11.98	12.93
Average consumption of compound feed (g c.f./head) in the period 49 - 56 days	192.50	189.35	177.31	180.25
Specific consumption (g c.f./g gain) during the period from 49 to 56 days	33.90	31.30	14.80	13.94
Weight of the carcass after bleeding (g)	174.06 ± 1.62 ^{aaa ccc}	186.00 ± 3.47 ^{aaa ddd}	181.60 ± 2.05 ^{bbb ccc}	194.60 ± 2.14 ^{bbb ddd}
Weight of the carcass after plucking (g)	154.60 ± 1.28 ^{aaa ccc}	165.00 ± 3.28 ^{aaa ddd}	161.20 ± 2.10 ^{bbb ccc}	173.60 ± 2.18 ^{bbb ddd}
Weight of the carcass after evisceration (g)	116.60 ± 1.52 ^{aaa ccc}	123.67 ± 2.59 ^{aaa ddd}	119.60 ± 2.07 ^{bbb ccc}	135.40 ± 1.62 ^{bbb ddd}
Slaughter yield (eviscerate carcass /live weight) (%)	65.50 ± 0.39ns	65.23 ± 0.53ns	64.55 ± 0.75ns	67.84 ± 0.40ns
Weight of the blood (g)	3.87 ± 0.22ns	4.00 ± 0.26ns	4.13 ± 0.34ns	5.00 ± 0.18ns
Weight of the plumage (g)	19.20 ± 1.04ns	21.00 ± 0.38ns	20.20 ± 0.50ns	21.00 ± 0.52ns
Weight of the organs and the intestines (g)	29.27 ± 0.41ns	25.00 ± 0.52ns	31.7 ± 0.64ns	23.60 ± 0.78ns
Proportion of the blood (%)	2.18 ± 0.13ns	2.11 ± 0.13ns	2.21 ± 0.16ns	2.50 ± 0.08ns
Proportion of plumage (%)	11.10 ± 0.53ns	11.30 ± 0.10ns	11.15 ± 0.28ns	10.79 ± 0.25ns
Proportion of the organs and intestines (%)	18.92 ± 0.31ns	15.30 ± 0.63ns	19.26 ± 0.26ns	13.58 ± 0.42ns

3.3.1. The influence of light on the growth performance of the males from lots of A2-1 and B2-1 during the period 49 - 56 days

The average live weight at the age of 56 days was higher by 6.65% to males from the lot B2-1 (190.60 ± 3.55 g/head), the difference between the two lots being very significant. Average gain weight in the period 49-56 days has been with 6.51% higher in the case of the lot B2-1, consumption of compounds feed has been with 1.64 % higher at lot A2-1, and specific consumption has been with 8.31 % reduced to the lot B2-1 compared with the lot A2-1.

3.3.2. The influence of the compound feed on growth performance of the males of the lots A2-2 and B2-2 during the period 49 - 56 days

The average live weight at the age of 56 days was higher by 7.05 % to male from the lot B2-2 (199.60 ± 2.67 g/head), the difference between the two lots being very significant. Weight gain in the period 49 - 56 days has been with 7.35 % higher in the case of the lot B2-2, consumption of compound feed has been with 7.93 % higher at lot A2-2, and specific consumption has been with 6.17 % reduced to the lot B2-1 compared with the lot A2-2.

The results obtained from the four lots of males in the period 49 - 56 days indicate on the one hand that the light has influenced the performance of growth at them (the case of lots A2-1 and B2-1), and on the other hand the performance of growth was significantly influenced by the compound feed (the case of lots A2-2 and B2-2).

In the period 49 - 56 days weight gain into males from the lot of A2-2 has been with 6.30 g/head higher than to male from the lot of A2-1, and specific consumption has been reduced by 19.10 g c.f./g gain to lot A2-2 from lot A2-1. Weight gain into males from the lot B2-2 has been with 6.88 g/head higher than to males from the lot B2-1, and specific consumption has been reduced by 17.60 g c.f./g gain to lot B2-2 than the lot B2-1.

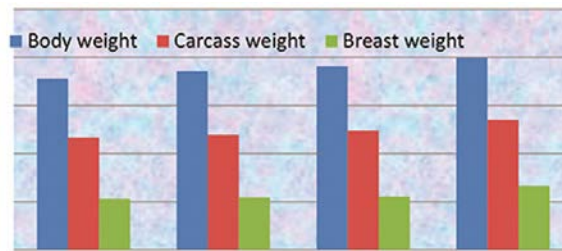


Fig. 2. The body weight, the weight of the carcass and the weight of the breast from the four lots

3.3.3. The results obtained at the time of slaughter to male from the four lots at the age of 56 days

The average carcass weight to lot B2-1 (tab. 5, fig. 1) has been with 5.72 % higher than the lot A2-1, the differences are very significant. The carcass efficiency on the consignment A2-1 was 65.55 %, while the lot B2-1 this was of 65.23 %. The blood proportion was average in the lot A2-1 and the lot B2-1. The average proportion of the plumage has been from the lot A2-1 and from the lot B2-1. The average proportion of the organs and the intestines has been from the lot A2-1 and from the lot B2-1.

The results at the time of slaughter obtained from males from lots of A2-1 and B2-1 indicates a positive influence of the use of the program with the hourly intervals asymmetrical of 16 hours compared with the program of continuous light of 16 hours.

The carcass weight to lot B2-2 has been with 11.67 % higher than the lot A2-2, the difference is very significant. The carcass efficiency on the lot B2-2 was 67.84 %, while the lot of A2-2 this was of 64.55 %. The average proportion of the blood was of 2.50 % at lot B2-2 and 2.21 % at the lot A2-2. The average proportion of the feathers was 10.79 % at lot B2-2 and 11.15 % at the lot A2-2. The average proportion of the organs and the intestines was 13.58 % at lot B 2-2 and 19.26 % at the lot A2-2.

The upper results to the slaughter obtained to lots A2-2 and B2-2 indicates the positive influence the administration of finishing compound feed in the period 49 - 56 days on these results.

Table 6. The weight and the proportion of the component parts of the carcass on the males of the two lots at the age of 56 days

Average results	Lot A ₂₋₁	Lot B ₂₋₁	Lot A ₂₋₂	Lot B ₂₋₂
Weight of the breast (g)	52.93 ± 0.75 ^{ns}	54.53 ± 0.89 ^{ns}	55.67 ± 1.04 ^{bbb}	66.40 ± 0.94 ^{bbb}
Weight of the thighs (g)	27.93 ± 0.67 ^{ns}	27.73 ± 0.54 ^{ns}	28.00 ± 0.93 ^{ns}	31.60 ± 0.23 ^{ns}
Weight of the back (g)	23.27 ± 0.62 ^{ns}	24.40 ± 0.70 ^{ns}	23.67 ± 0.75 ^{ns}	26.00 ± 0.61 ^{ns}
Weight of the wings (g)	8.07 ± .32 ^{ns}	8.20 ± 0.34 ^{ns}	8.67 ± 0.15 ^{ns}	8.00 ± 0.18 ^{ns}
Proportion of the breast (%)	45.44 ± 0.59 ^{ns}	45.60 ± 0.55 ^{ns}	45.03 ± 0.18 ^{ns}	49.02 ± 0.53 ^{ns}
Proportion of the thighs (%)	23.93 ± 0.40 ^{ns}	23.21 ± 0.46 ^{ns}	22.59 ± 0.27 ^{ns}	23.34 ± 0.20 ^{ns}
Proportion of the back (%)	20.00 ± 0.58 ^{ns}	20.40 ± 0.55 ^{ns}	19.10 ± 0.22 ^{ns}	19.22 ± 0.50 ^{ns}
Proportion of the wings (%)	6.91 ± 0.24 ^{ns}	6.86 ± 0.28 ^{ns}	7.02 ± 0.11 ^{ns}	5.91 ± 0.12 ^{ns}
Weight of meat of the breast (g)	37.33 ± 0.77 ^{ns}	37.92 ± 0.81 ^{ns}	41.33 ± 0.83 ^{bbb}	47.80 ± 0.63 ^{bbb}
Proportion of breast meat (%)	70.51 ± 0.97 ^{ns}	69.68 ± 1.42 ^{ns}	71.33 ± 0.41 ^{ns}	72.03 ± 0.81 ^{ns}

The lot B2-1 (54.53 ± 0.89 g) has registered an average weight of the breast with the 2.93 % higher compared with the lot A2-1, the differences are not significant (tab. 6, fig. 3). The average proportion of the breast in the eviscerated carcass was 45.44 % at the lot A2-1 and 45.60 % at lot B2-1, the average proportion of the thighs in eviscerated carcass was 23.93 % at the lot A2-1 and 23.21 % at lot B2-1, the average proportion of the back in eviscerated shell was 20.00 % at the lot A2-1 and 20.40 % at lot B2-1, while the average proportion of the wings was of 6.91 % to the lot A2-1 and 6.86 % at lot B2-1. The average weight of the meat on the breast was higher to the lot B2-1 (37.92 ± 0.81 g) with 1.56 % than the lot A2-1. The average proportion of the meat on the breast of the total weight of the breast was 69.68 % at lot B2-1 and 70.51 % at the lot A2-1.

The lot B2-2 (66.40 ± 0.94 g) has registered an average weight of the breast higher as compared with the lot A2-2, the differences are not significant. The average proportion of the breast in the eviscerated carcass was 45.03 % at the lot A2-2 and 49.02 % at lot B2-2, the average proportion of the thighs in eviscerated carcass was 22.59 % at the lot A2-2 and 23.34 % at the lot B2-2, the average proportion of the back in the eviscerated carcass was 19.10 % at the lot A2-2 and 19.22% at lot B2-2, while the average proportion of the wings was of 7.02 % to the lot A2-2 and 5.91 % at lot B2-2. The average weight of the meat on the breast was higher to the lot B2-2 (47.80 ± 0.63 g) with 13.54 % compared to the lot A2-2. The average proportion of the meat on the breast of the total weight of the breast was 71.33 % at lot B2-2 and 72.03 % at the lot A2-2.

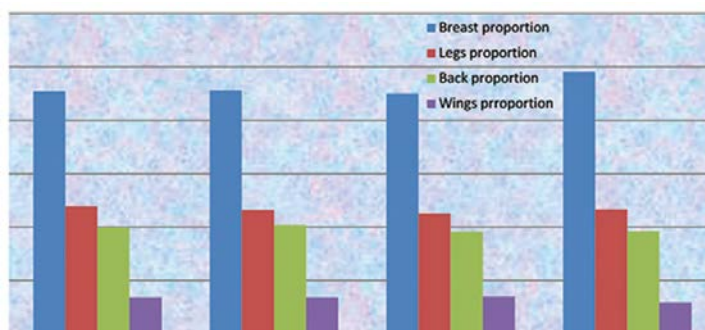


Fig. 3. The average proportions of the component parts of the carcass male from the four lots

3.4. The average performance of growth recorded at the females from the lot A1 and B1 in the period 49-56 days

Table 7. The average performance of growth recorded at the females from the lot A1 and B1 in the period 49-56 days

Specification	Lot A ₁	Lot B ₁
Live weight at 49 days (g/head)	177.50 ± 1.45 ^{aaa}	196.50 ± 2.37 ^{aaa}
Live weight at 56 days (g/head)	189.00 ± 2.55 ^{aaa}	222.50 ± 2.25 ^{aaa}
Weight gain in the period 49 - 56 days (g/head)	11.50	26.00
Consumption of compound feed from 49 to 56 days (g c.f./head)	207.97	224.49
Specific consumption (g c.f./g gain) from 49 to 56 days	18.8	8.63

The average live weight at the age of 56 days was higher 15.5 % at the females from the lot B1 (222.50 ± 2.25 g/head), the differences between the two lots being very significant. Gain growth in the period 49 - 56 days has been with 14.50 g/head higher in the case of the lot B1, consumption of compound feed has been with 7.94 % higher at lot B1, while the specific consumption has been with 9.45 g c.f./g gain more responsive to the lot B1 compared with the lot A1.

The results obtained from the females from the two lots in the period 49 - 56 days indicate on the one hand that the light has influenced very significant the performance of their growth, and on the other hand the performance of growth was significantly influenced by the adult feed compound administered to both lots from the age of 49 days because in the period 49 - 56 days females have registered higher weight gains compared to the lots of male which have received growth compound feed and in comparison with lots of male which have received finishing compound feed.

4. Conclusions

The growth performance of youth quail during the period 28-49 days were superior in the case of lots of females (B1) and male (B2) exposed to a illumination program with hourly intervals asymmetrical with a duration of 16 hours compared with lots of females (A1) and males (A2) subjected to a program of continuous light with a duration of 16 hours.

In the period 49 - 56 days lots of male subjected to illumination program with hourly intervals asymmetrical with a duration of 16 hours and have been administered to the finishing compounds feed (lots A2-2 and B2-2) have recorded performance of growth and average results at the time of slaughter significantly higher in comparison with lots of male subjected to the program of continuous light with a duration of 16 hours (lots A2-1 and B2-1).

Also in the period 49 - 56 days, the females from the lot submitted to the program of light with asymmetrical hourly intervals with a duration of 16 hours and who have received the compounds feed specific for adult quails (lot B1) have recorded weigh gain upper than females maintained in continuous light which have received the same type of compound feed (lot A1). The upper growth performance of the females from the lot B1 compared with those of the males of the lots A2-1, A2-2, B2-1 and B2-2 indicates the positive effect of the compound feed for adult quails administered to females from the lot B1 in the period from 49 to 56 days.

Research carried out it can be said on the one hand that the program of light significantly influence the performance of growth of the youth quail, and on the other hand the use of compounds feed age-appropriate and suitable to the direction of exploitation of youth quail lead to the recording of superior performance in the growth of the youth quails.

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