

Growing of replacement laying hens when exposed to
SECh BAA "Artemida" and its subsequent productivity

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The positive indicators of growth, development and natural resistance obtained by us, when growing replacement young animals using the electromagnetic frequency spectrum (EFS) of a biologically active additive (BAA) "Artemis" and an increase in its subsequent egg productivity [1], formed the basis for the development of a method for growing replacement young animals kurnesushki.

The method was tested in LLC "Poultry farm Krasnodarskaya", Krasnodar, when growing replacement chickens from day old to 16 weeks. Three buildings for rearing young animals with optimal conditions of keeping were involved. Differences in the age of birds of different bodies were no more than 10 days.

Control - the number of day-old chickens in the building is 45 thousand heads.

Experience 1 - 45 thousand heads.

Experience 2 - 25 thousand heads

In the first and second experimental buildings were installed devices "IMEDIS-BRT-A" and used the dietary supplement "Artemis" (1 capsule contains: Angelica Chinese (angelica); (Angelica sinensis (Oliv. Diels); Black cohosh (Cimicifuga racemosa (L.) Nutt.); Common Bearberry (Arctostaphylos uva-ursi (L.) Sprengel); Common wormwood (Artemisia vulgaris L.); Vitamin A (500,000 IU / g) 2 mg (1,000 IU); Vitamin E (4)), the exposure was carried out around the clock, through drinking water from one day of age to 16 weeks [2].

Further, all the poultry was transferred to production buildings with 30 thousand heads each. From the chickens of two experimental rearing buildings, two production buildings were formed as follows:

1. In the case, with the designation experience / experience, the device "IMEDIS-BRT-A" was installed and the effect of SES BAA "Artemida", estradiol and insulin was carried out during the entire period of productivity, i.e. the poultry was exposed both during the growing period and during the period of use.

2. In the case, marked experience / control, bioresonance effect was not carried out, those. the bird was only exposed during the rearing period.

3. In the case, marked control / control bioresonance effect is not was carried out both during the growing period and during the period of using the poultry.

Growth indicators of replacement young laying hens of the experimental and control buildings are presented in table. one.

The safety of the young in this experiment did not differ significantly, however, the differences in favor of the experimental groups were determined in live weight at 30 and 43 g, respectively, or 2.8 and 3.1%.

Table 1

Growth rates of replacement hens at 16 weeks

Indicators	The control	Experience-1	Experience-2
Average live weight at day-old age, g Average	35	35	35
live weight, g	1350 ± 3.5	1380 ± 3.5	1393 ± 3.4
Safety,%	97.5	97.4	97.3
Herd uniformity at the end of rearing,%	80	80	81
Feed costs per 1 kg of live weight gain, kg	4.6	4.4	4.4

Feed conversion rate in experimental groups during the growing period was 4.4 kilogram per kilogram gain, in the control - 4.6, which is 4.5% higher.

The uniformity of young stock in the control and experiment and at the time of transfer to the adult herd was at the same level and amounted to - 80-81%.

The differences between the first and second experimental buildings with a population of 45 and 25 thousand were not significant and, in general, the results of rearing in these buildings are comparable with each other. The impact is effective both on the livestock of 25 thousand and 45 thousand.

The productive cycle of laying hens begins at 17-18 weeks and lasts up to 78-80 weeks of age. Over the full period of laying, it is possible to fully assess the level of bird productivity and the efficiency of egg production. For the convenience of analysis, we have divided the entire production cycle into three periods:

1. 17-42 weeks - the beginning of oviposition and reaching a plateau of productivity;
2. 43-71 weeks - a period of high productivity;
3. 72-80 weeks is a period of decline in productivity.

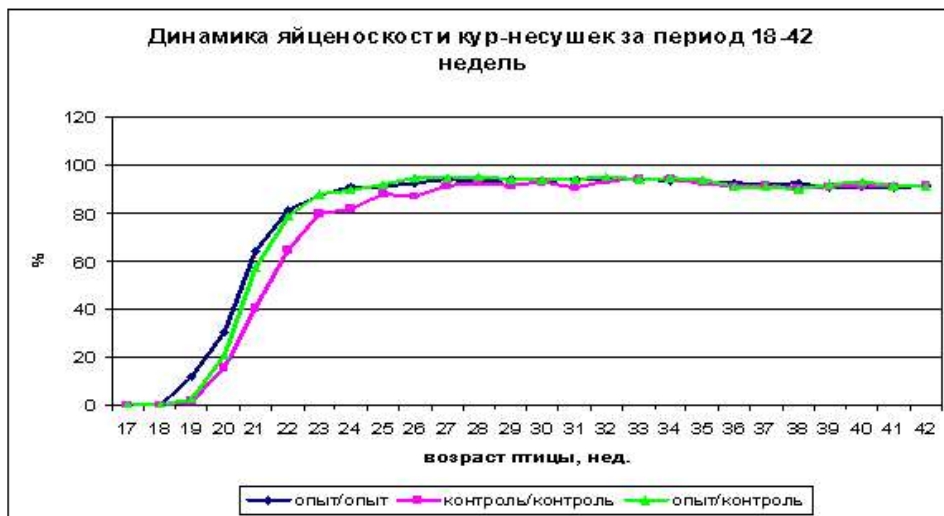
In this message, we can only estimate two periods of productivity, since the cycle is not yet complete.

table 2

Performance indicators of laying hens in the period 18-42 weeks

Indicators	1. Experience / experience	2. Experience / control	3. Control / the control
Safety, %	98.4	97.9	98.6
Live weight, g	1881	1830	1859
Egg production, %	84.9	84.0	80.5
Feed consumption for 10 eggs, kg	2.22	2.44	3.06
Egg weight, g	62.6	63.0	62.1

The safety of poultry in all groups is within the normal range, however, in the group experience / control somewhat lower. The live weight of the birds of the first group exceeds the control by 22 g, and the second group by 51 g. The egg production indicators in the first two groups exceed the control by 4.4 and 3.5%, respectively, and in these buildings the bird pays better with feed production (tab. 2). The graph shown in Fig. 1, demonstrates the dynamics of the onset of productivity, where the advantage of poultry that received exposure during growing is seen in comparison with the control, moreover, the first and second groups are practically not inferior to each other.



Rice. one.

The graph shown in Fig. 2, demonstrates the dynamics of laying hens mortality, where the group is convincingly leading experience / control, which speaks of the physiological stress in this group.



Rice. 2.

During the period of reaching a plateau of productivity, the difference in live weight of laying hens between groups increases, the heaviest bird in group 1 is 1936, which is 77 g higher than the control, while in the second group it is 29 g lower than the control and 106 g lower than the first groups.

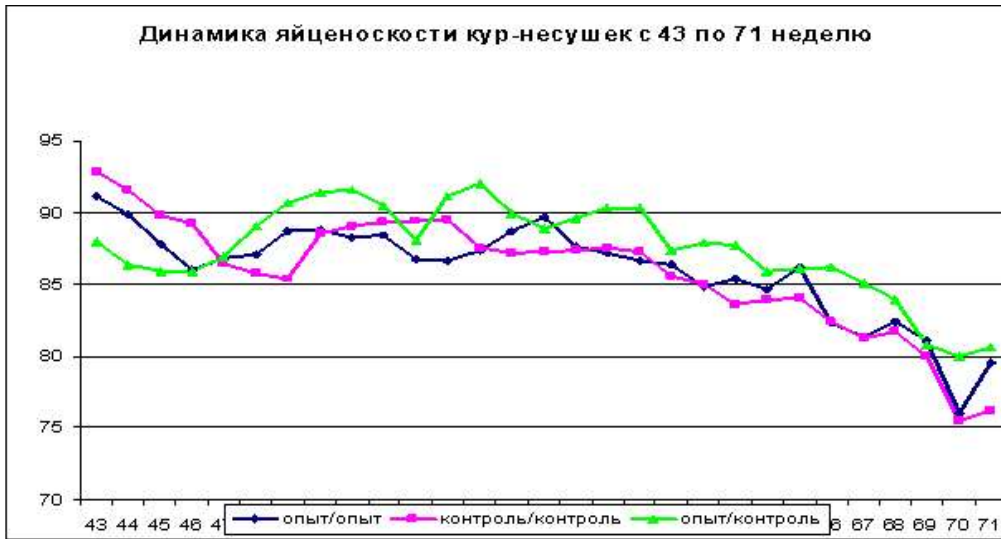
However, group 2 has an advantage in the intensity of egg-laying by 1.6%, here a higher mortality of birds was noted, in comparison with groups 1 and 3, which are practically the same in these indicators (Table 3). Economically significant indicator - feed costs in groups 1 and 2 are lower than in the control by 0.02 and 0.04, respectively, i.e. the production of 10 eggs in these groups spent 20 and 40 grams less feed. The weight of eggs in the group under the influence is lower than in the control by 1 g.

Table 3

Performance indicators of laying hens in the period 43-71 weeks

Indicators	1. Experience / experience	2. Experience / the control	3. Control / the control
Safety, %	96.7	95.2	96.8
Live weight, g	1936	1830	1859
Egg production, %	86.0	87.5	85.9
Feed consumption for 10 eggs, kg	1.49	1.47	1.51
Egg weight, g	64.1	64.9	65.1

The dynamics of egg production (Fig. 3) demonstrates the best position of the group experience / control throughout the entire period, with a better feed conversion, but at the same time there continues to be an increased mortality of chickens.



Rice. 3.

The study of the anatomical features of chickens of different groups (Table 3), showed the advantage of the group experience / experience in terms of live weight and internal fat mass, at the same time, birds in this group have a lower liver weight.

Bird group experience / control against the background of a reduced body weight and mass of internal fat, it has an increased mass of the liver, and the mass of the oviduct and its length are also increased.

Table 3

Anatomical features of laying hens at the age of 58-60 weeks

Indicators	The control		1. Experience / experience		2. Experience / control	
	M ± m	%	M ± m	%	M ± m	%
Live weight before slaughter, g	2036 ± 67	100	2187 ± 86	100	1994 ± 62	100
Weight of an unpeeled carcass, g (without feathers, blood)	1888 ± 62	92.7	2009 ± 82	91.9	1836 ± 59	92.0
Gutted carcass weight, g (without head, legs and internal organs)	1308 ± 50	64.2	1370 ± 51	62.6	1241 ± 41	62.2
Mass of muscles and skin with subcutaneous fat, g	855 ± 45	42	997 ± 85	45.6	818 ± 38	41.0
Mass of glandular and muscular stomachs with cuticles and content	52.0 ± 2.4	2.6	56.0 ± 3.1	2.6	52.0 ± 2.4	2.6
Internal fat mass, g	96.4 ± 10.5	4.7	112.0 ± 13.7	5.1	75.2 ± 13.7	3.8
Bone mass, g	435 ± 11.9	21.4	402 ± 11.7	18.4	394 ± 12.0 *	19.8
Liver weight, g	47.2 ± 1.7	2,3	48.4 ± 2.4	2.2	49.4 ± 2.5	2.5
Heart mass, g	13.4 ± 0.6	0.67	12.2 ± 0.9	0.56	13.2 ± 0.5	0.66
Ovary weight, g	14.2 ± 0.5	0.70	15.4 ± 0.6	0.70	15.8 ± 0.6	0.79
Follicle mass, g	45.8 ± 1.6	2.2	42.5 ± 1.5	1.9	45.2 ± 1.6	2,3
The ratio of ovarian mass to liver mass	0.30	-	0.32	-	0.32	-
Oviduct length, cm	72.0 ± 4.0	-	57.4 ± 3.5 *	-	77.4 ± 2.9 **	-
Oviduct weight, g	83.0 ± 3.3	4.0	83.0 ± 1.9	3.9	93.3 ± 5.6 *	4.7

* P ≤ 0.05

** P ≤ 0.005

From the results presented in this experiment, it follows that that laying hens (experience / experience) grown under the influence of SES dietary supplements "Artemida" and received during the period of productivity the effects of SES dietary supplements "Artemida", insulin and estradiol, in comparison with the control, had increased egg productivity, better feed conversion, greater live weight and mass of internal fat.

Laying hens (experience / control) grown under the influence of SES BAA "Artemis" and did not receive any effect during the period of productivity, in comparison with the control had increased egg productivity, better feed conversion, worse preservation, reduced live

mass and content of abdominal fat. A distinctive feature of birds of this group is an increase in the length and mass of the oviduct.

When comparing groups 1 and 2 with each other, it can be seen that both groups have increased productivity and better feed conversion. However, in group 2 (experience / control), physiological reserves for the continuation of the productive cycle are significantly reduced, this is expressed in a decrease in live weight, internal fat and in an increased mortality of poultry. At the same time, this group of birds is characterized by the greatest focus on high productivity at the level of the physiology of the reproductive system, namely, an increase in the mass and length of the oviduct. The impact during the cultivation period is actively implemented in the subsequent use. To achieve productivity at a given level, this bird needs to improve operating conditions.

In the first group, apparently under the influence of insulin and estradiol, more energy was spent on building the bird's body, which by 71 weeks made it possible to maintain more physiological reserves, which may have a beneficial effect on the final stage of productivity.

Literature

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