

USE of an ELEUTHEROCOCCUS In an AVICULTURE

The indexes enter into concept of efficiency of birds: quantity{*amount*} demolished eggs for a season of a lay, incubativ qualities eggs, which final index is the birthlevel of a nurseling, besides mass eggs, from what depends selling cost of production.

At a choice of a stimulator for rising efficiency of birds it is necessary to approach{*suit*} to it{*him*} in view of his{*its*} influence on all listed indexes.

Influence of an eleutherococcus on a lay of birds. In experiment on hens - layers 6 .5 - month age of breed a white leggorn, Карман 63, the line 18, carried out{*spent*} on the basis of the Tula chicken factory, in experienced group was 1280 layers in control — 1392 heads. The contents of birds — floor, feeding similar for both groups. To experienced group of pullets in mixed fodder from April 24 till May 23, 1969 added on 0, 2 mls on a head per day of an extract of an eleutherococcus. The control group of pullets an eleutherococcus did not receive. Starting alive mass of pullets of experienced group — 1385 g, control — 1400. Mass of an egg of pullets of experienced group — 49 g, control — 49, 2. The account of intensity of a lay was carried out{*spent*} by(with) 180 days (tab. 2).

From the data, given in the table 2, it is visible, that the addition in a forage of experienced group of pullets of an extract has increased weight of egg mass.

On a layer of experienced group 52 eggs, or from all population{*head*} of experienced group — 2972 eggs are follow-up received{*follow-up obtained*} on 2.

Monthly received of egg mass on the average from 100 layers of experienced group on 102, 09ē2, 85 kg (P < 0, 001), from the hens of control group — 83, 96ē2, 69 kg. The difference has made 18, 13 kg, or 21, 5 %.

For the following experience which has been carried out{*spent*} in state farm "«Мокроусовский" Мокроусовского of district of Kurgan area, have selected 3 groups of hens - pullets 6 1/2 -month's age of breed a white leggorn (till 1350 heads in everyone). The contents of the hens floor, feeding of all groups identical. The pullets of the first group within 10 days received with a forage a liquid extract of roots of an eleutherococcus on 0, 2 mls on a head, pullets of the second group gave the same drug 20 days. The control group of pullets a drug did not receive. The lay in groups only began. Within the first 20 days of a lay all eggs in groups daily weighed, in subsequent they were weighed monthly by(with) 25 numbers.

The increase of mass eggs at pullets receiving an eleutherococcus, went more intensively, than at a control bird, that is shown in a drawing 4. Within first five days mass has made eggs of the hens of the first group 103, 36 %, at second she{*it*} was peer to the control. The next five days mass eggs in the first group was on 3, 3 %, and in second on 2, 4 % are higher, than at a control bird. For third five dayse period mass eggs at pullets of the first group remained same, and at pullets of the second group she{*it*} was higher, than in the control 5 %, in 20 days she{*it*} was higher on 8, 1 and 9 % accordingly. Observation and account of a lay on groups order 180 days. For this period the lay of the hens of the first experienced group has made 140,9 %, second — 128,6 %, is received{*obtained*} of egg mass more on 38,2 % and 23,6 % in comparison with pullets of control group.

On the Tula chicken factory (1969) on hens - pullets of 6Y2-month's age of breed a white leggorn have lead{*carried out*} research, in which the first experienced group (1078 hens and 138 cocks) within 14 days received till 0,2 mls on a head of a liquid extract of roots of an eleutherococcus. To the second experienced group (1178 hens and 145 cocks) 14 days gave a powder of leaves of an eleutherococcus on 0,2 r on a head. The third group (1195 hens and 148 cocks) served the control. The contents of the hens of all three groups was floor, feeding identical. The account of a lay and overseeing by a bird proceeded 158 days. For this term the lay of pullets of the first group has made 115,9 %, second — 107,1 % in relation to the control. Egg

mass is received{*obtained*} from the hens of the first experienced group more, than from control, on 22.8 %, from second — on 18,2 %.

The monthly average lay of pullets of the first group (in account on 100 layers) has made 2175,0±48,4 eggs, second — 2016,84-75,0, at control group — 1879,8±66,8 eggs.

From the hens of the first experienced group all was received follow-up to the control by(with) 3180 eggs, from second — 1614 eggs.

In the following experiment which has been carried out{*spent*} there, have utilized of hens - layers of breed a white leggorn 10 1/2 monthly age. The contents of the hens floor. In experienced and control groups was till 1880 layers. To a forage to a bird of experienced group brought in a liquid extract of roots of an eleutherococcus till 0,2 mls on a head per day within 14 days. The hens of control group a drug did not receive. The ration of a feeding of the hens of experienced and control groups was identical. In the preparatory period the lay of the hens of experienced group made 1230 eggs, control — 1234 eggs. Experiment carried out{*spent*} since February, 1972 — 134 days (tab. 3)

Monthly received of egg mass from 100 hens of experienced group of 95,956 kg, control — 73,340 kg.

On months of the account the collecting of egg mass was not identical. In February the difference made 5,1 %, in March — 11,8, and in April — 33,4. in May — 31,5, in June — 15,0 %.

The augmentation of mass eggs at the hens of experienced group with simultaneous rising of a lay testifies to positive influence of a drug on efficiency of birds.

The termination{*ending*} of the account of a lay of the hens on groups has coincided with term of delivery them on a slaughter. Alive mass of the hens of experienced group was higher, than at control, on 38,2 r a layer. On experienced group was handed over, in test mass, is padding to the control of 50,5 kg of meat.

The following experiences carried out{*spent*} on the hens of the cast holding with an adjustable microclimate.

On the Tula chicken factory (1970) have utilized of hens - pullets 6 S -месячного of age of breed a white leggorn. In experienced group there were 1084 heads, in control — 780 heads. To a forage of experienced group of pullets brought in a liquid extract of eleutherococcus roots till 0,2 mls on a head within 20 days. The conditions of a feeding and contents in both groups were similar. But the control group did not receive an eleutherococcus. The account of a lay was carried out{*spent*} by(with) 206 days (tab. 4).

From 100 hens of experienced group is padding to the control have received till 211,9 eggs, and on all monthly average population{*head*} of layers for experience (948 heads) — 2010,8 eggs. On purchase of an extract of an eleutherococcus for all experienced population{*head*} have spent 26,4 rub. The cost price of each hundred follow-up received{*follow-up obtained*} eggs has made 13,2 copecs.

Monthly received of egg mass from 100 hens of experienced group of 102,01 kg, from control 85,717 kg.

In the same facilities{*economy*} on the hens 8 1/2 -month's age have received similar results. In experienced group was 705, in control — 752 layers. The experienced group of layers received with a forage till 0,2 mls on a head of a liquid extract of roots of an eleutherococcus within 20 days. The conditions of the contents and feeding of both groups were similar. The account of a lay order 206 days (tab. 5).

In account on 100 hens monthly received of egg mass from experienced group 85,398, from control — 78,541 kg, or it is less on 9,2 %.

The analysis of the tables 4 and 5 has shown, that both age groups of the hens after application

Thus, the data received{*obtained*} in experiments on hens - layers of different age and a way of the contents, have shown efficiency of an extract of roots of an eleutherococcus expressed by rising of a lay, egg mass, commodity value bodies of the hens acting on a slaughter upon termination of term of their operation.

In an aviculture the various drugs of an eleutherococcus can be utilised: a liquid extract of roots and rootstocks, powder of leaves and root of a plant. Last are easier for entering into mixed fodder immediately on feed-stuff factories. With this purpose have lead{*carried out*} a series of experiences. On Tula mill the special mixed fodder was prepared, into which alongside with other ingredients have entered a powder of leaves of an eleutherococcus at the rate of 0,2 r on 100 r of mixed fodder (prescription for the hens from 70 % by a lay).

On the Tula chicken factory (1970) given "« special feed-stuff" tested at once on two age groups of the hens placed in one premise{*room*} with an adjustable microclimate.

Experience first have lead{*carried out*} on hens - layers 6 1/2 - monthly age. In experienced group there were 692 heads, in control — 780. In the second feeding the hens of experienced group received on 100 g of special feed stuff, and control — on 100 g of usual mixed fodder. The feeding of the hens of experienced group special feed-stuff was continued by(with) 20 days. Then the hens of both groups received usual mixed fodder without addition in him{*it*} of an eleutherococcus.

The lay of the hens was taken into account by(with) 173 days (tab. 6).

Monthly received of egg mass from 100 hens of experienced group till 105,187 kg, from control — 88,417 kg, or it is less on 18,9 %.

From everyone 100 hens of experienced group are follow-up received{*follow-up obtained*} 186, 3 eggs, and on all average experienced population{*head*} (634) — 1181, 1 egg.

For the second experience on the Tula chicken factory have selected of hens - layers 8 S - months age. The experienced group received in the second feeding on 100 g special feed-stuff within 20 days. The account order 173 days (tab. 7).

Monthly from 100 hens of experienced group collected on 101, 9 kg of egg mass, from control — 80, 5 or it is less on 26, 6 %.

Egg efficiency of pullets received{*obtained*} from eggs of the hens, stimulated by an eleutherococcus. The subsequent efficiency of the hens is pawned during their cultivation (Зелинский, 1959). The pullets which are lagging behind in body height and development first two months of life, further will not give high efficiency. The stimulator raising intensity of body height and development of chickens, should also render positive influence on their subsequent efficiency. In the literature to this question not enough attention is given, and about an eleutherococcus as about a stimulator of the subsequent efficiency of pullets of the reports in general is not present.

In birds breeding factory Kataysky of Kurgan area to the hens of 10-month's age entered into a forage 14 days in succession extract of an eleutherococcus on 0, 3 mls on a head. The control group of the hens of a stimulator did not receive. Eggs received{*obtained*} from the hens of both groups hatched simultaneously. All chickens have received individual numbers and up to 60-day's age grew up together. Experienced group included 270 pullets, in control — 216. Each pullet had individual number, on which carried out{*spent*} the account of a lay within 8 months. The lay passed in jacks such as "«barrel"{*«roll"*}, that warned mistakes in the account. The lay in groups began simultaneously, but for the first 20 days in experienced group the lay began at 26, 3 % of a population{*head*}, in control — 16, 5 %, in subsequent 30 days — at 63, 3 % and 62, 55 % of a population{*head*} accordingly. In 60 days from a beginning of a lay in experienced group 3 % of the hens, in control — 81, 6 % was carried 93. In a drawing 6 the beginning of a lay of pullets of both groups is shown.

For 8 months of the account 1, 8 % of a populations{*head*} of pullets of experimental group layed from 169 up to 192 eggs, while in control — only 0, 8 % of a populations{*head*} layed the same quantity{*amount*} eggs. The highest lay of the hens of experienced group — 205 eggs

on a layer, control — 192 eggs (at 0, 6 % of a population{*head*}). Hence, the pullets received{*obtained*} from eggs of the hens, stimulated by an eleutherococcus, on the efficiency were better, than analogues received{*obtained*} from eggs of the hens, not receiving of a drug. For all 8 months of the account the lay of the hens of experienced group has made 104, 5 % in relation to control group.

The similar results have received in experience, where the pullets received an eleutherococcus in the age of with 30 about 60 days.

Lay of the hens who have undergone to influence of the adverse factors of external medium after application of an eleutherococcus. Ability of an animal organism to resist to changed conditions of external medium was developed during evolution. The process of the adaptation (acclimatization) is accompanied by complex{*difficult*} reorganization of work of all bodies and systems in an alive organism, change of behaviour, downstroke{*drop*} of efficiency. There are such stimuluses, which break work of internal bodies and systems, that considerably changes efficiency.

In practice of an aviculture stimuluses causing downstroke{*drop*} of efficiency, are: excessive hum in a premise{*room*}, anxiety of birds at its{*her*} recalculation, transplantation, transportation, and also various changes of a microclimate. The augmentation of a level of physiological acclimatization is reached{*achieved*} appropriate training of an organism, that at all is not reasonable to a bird. Therefore there are references directed on putting off{*taking out*} of stressful reactions at birds. Freeman (1971) has offered to utilize for the hens Acidum ascorbinicum, for chickens — Dibazolium, that hardly can find wide application, as the large expenses of agents and time are required.

In the domestic literature enough data on adaptogenic property of an eleutherococcus cumulative. Last interferes with development of negative reactions in an organism of an animal on influence of the various factors causing an overwork (Брехман, 1958, 1960; Коробков, 1961, 1962; Линденбратен, 1962; Колотилин etc., 1963; Кириллов, 1964; Дамбуева etc., 1966; Розин, 1966, and many others). The rising of nonspecific resistance achievable with the help of adaptogens, contacts to increase of a level of physiological acclimatization at the expense of activation of processes of mobilization of energy and its{*her*} reduction (Кириллов etc., 1966; Дардымов, 1967). The mechanism of rising of a level of physiological acclimatization at a stimulation by drugs of an eleutherococcus can be partially explained by ability of glycosides of an eleutherococcus (eletherosides) to take out an oppression (3-lipoproteins of the first stages of salvaging of a glucose. Enough rising, given about communication,{*connection,*} of a general{*common*} nonspecific resistance under influence of an eleutherococcus, about a regulation by him{*it*} of a power metabolism cumulatives, that obliquely has an effect for rate of synthesis of protein and nucleic acids.

In winter time the author in state farm " Lesniki" of Kurgan area carried out{*spent*} experiment on hens - layers 7 S -месячного of age (in experienced — 3319, in control — 3216 hens). Into a forage of experienced group entered an extract of roots of an eleutherococcus till 0,2 mls on a head per day within 10 days. The control group of the hens of a stimulator did not receive. The feeding and contents of the hens of both groups was similar. Both groups of the hens had an easy approach to walking yards. Daily carried out{*spent*} registration of the meteorological data and account of a lay. Soon ambassador of a beginning of a stimulation of the hens temperature of fresh air has decreased. At the hens of control group the lay sharply has fallen, she{*it*} remained with experienced group at a former level. For 90 days of the account the lay of the hens of experienced group has made 180, 4 % to the control. Mass eggs at the hens of experienced group was higher, than at control, all period of the account on 6,7 %.

On Talashinskaya chicken factory hens from experimental group (1388) of 61/2 months age and cast holding were obtained in a period from October 3 till October 13 the same preparation 10 days by 0,2 mls on a head per day. For 148 days of the account of a lay from the hens of experienced group have received eggs more, than from control, on 42,8 % (tab. 8).

Monthly average lay of the hens of experienced group in account on 100 layers — 1609, 4 eggs, control — 1126, 4 eggs. The difference is statistically authentic ($P < 0,025$). Egg mass is received{*obtained*} from experienced group of the hens more on 44,6%. In January at the hens of both groups the mew began which has passed amicably at a bird of experienced group and has concluded completely by February, at the hens of control group she{*it*} was and in February.

In a drawing 7 the daily lay of the hens of both groups in December (falloff of temperature is displayed began from December 6).

On Tula chicken factory the experimental group of hens of 10 1/2 months age of white leggorn breed obtained eleutherococcus extract in amount 0,2 mls on a head. The second group of the hens was the control. In one of days during a thunder-storm the transmission line was damaged{*injured*} and the bird at 8 hours has remained without light and water. The conditions of the contents were same for the hens of both groups, as they were placed in one poultry house. The lay of the hens of control group per day previous to a stress, made 53,6% on herd. Per day of influence of the stress factor to 29% has decreased, and the next day up to 62% has risen. At the hens of experienced group per all days the lay made 66%, under influence of a stress she{*it*} was declined up to 45%, but the next day up to 70% has risen. In four days again there was a similar situation in the electric system.

The secondary influence of the stress factor has caused the hens of control group more rough reaction, whereas at the hens of experienced group she{*it*} completely was absent. The lay remained at a level 70% all days (fig. 8).

Influence of an eleutherococcus on a lay of geese. Physiological feature of water swimming birds is their rather low lay. The augmentation of quantity{*amount*} eggs on 1 — 2 has an effect for profitability, on a yield of a business nursing and meat efficiency.

Test of influence of an eleutherococcus for a lay of geese the author carried out{*spent*} on a bird of shadrinsky breed and on their hybrids with the Chinese breed on base Kataysky chicken breeding factory in 1964 — 1966 with scope of all productive period of each year.

In the first experience in control group there were 24 geese and 6 gengers, in experienced accordingly 19 and 5. A liquid extract of roots of an eleutherococcus the experienced group of jacks received with potable water from water-throughs within 15 days. At the rate of 3 mls on a head per day. In the preparatory period (it{*he*} proceeded 60 days) from geese of experienced group have received 1710 eggs in account on 100 heads, from control — 1720. From a beginning of the experienced period up to the end of a lay 2043 eggs, from 100 geese of control group — 1846 eggs are received{*obtained*}, in account on 100 geese on experienced group, or it is less on 10,6%.

In experiment of 1965 have formed 3 experienced and one control group of jacks. In the first experienced group there were 15 geese, in second — 14, in third — 16, in control — 15 and till 5 gengers in each group. As a stimulator applied a Powder of leaves of an eleutherococcus on 2 r on a head within 14 days. Experience carried out{*spent*} under the circuit (tab. 9).

For all season of a lay from the first group of geese the eggs are received{*obtained*} on 3,1%, than from control, from second on 15,4%, from third on 5,1% more. The most appreciable influence on the given index was rendered by (with) an eleutherococcus in that group, where it{*him*} applied to geese. The general{*common*} padding collecting the eggs from geese of three experienced groups, in account on 100 layers, have made 1054 eggs. 14,4 roubles are spent on a stimulation.

For experience in 1966 have selected 2 groups of jacks. In 37 geese and 11 gengers, in control — 34 and 10 accordingly were experienced. Geese and the gengers of each experienced jack received individually within 10 days a powder of leaves of an eleutherococcus on 2 r on a head. A bolus with leaves of an eleutherococcus prepared from mixed fodder. The control bird of a stimulator did not receive. Experience have begun in the period prior to the beginning a lay. For a season of a lay 4397 eggs, control — 3753 eggs are received{*obtained*} in account on 100