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Productivity of poults of quails at use of lactic acid in feed compound

Aim. To define influence of different levels of suckling acid in the mixed fodder on the productivity and charges of feed by the quail of meat direction of the productivity. Methods. During researches zootechnic, mathematical and statistical methods are used. Results. Feeding of the mixed fodder to the sapling/pl of quail of breed pharaoh with the different level of suckling acid influenced on living mass, average daily and relative increases, stored of population and expense of feed on 1 kg of increase of living mass. Conclusions. Is it set that feeding of the mixed fodder to the quail by age 1-49 twenty-four hours, to that is suckling acid added, assists the increase of living mass on 3,1-9% and to the cost of feed cutting on 0,6-2,4%.

Key words: quail, mixed fodder, productivity, suckling acid, підкислювачі.

It is known that one of physiology features to the sapling/pl of bird of early age there are a weak secretion and subzero activity of muriatic acid of stomach. Therefore acidifying of of digestive channel plays an important role for development of useful microflora and increase of activity of digestive enzymes. In addition, acids of stomach are main and, up to a point, by a decision barrier to development of pathogenic microorganisms in a gastrointestinal tract [5, 10].

Presently in practice of application of in the poultry farming deployment was got by organic acids (ant, propionic, vinegar, milk, sorbic and other), and also salts of these acids and mixture. One of basic terms of application of organic acids there are a high degree of electrolytic dissociation and typicalness for the environment of digestive channel [4].

Among such acids suckling acid, that purchased the wide spectrum of application not only, strengthener of taste and preservative but also natural stimulator of the productivity of animals, has a positive effect, promoter of development of, means of treatment and other [4, 5, 9].

It was set on results researches of O. Kasatkina[2], that suckling, and lemon acids positively influence on the exchange processes of bird and have an antistress influence in case of vaccinal, feed and technological stresses. Besides suckling acid appeared most effective at feed stress. V.D. Sokolovasserts [6], that adding of suckling acid to the mixed fodder assisted oppression of conditionally-pathogenic microflora with repressing development of lactobacilluss.

It is experimentally set [7, 16], that addition of suckling acid or mixtures on her basis to the rations of monogastritis animals promotes intensity of exchange processes in an organism, assists the improvement of digesting of protein and comprehensibility of phosphorus, calcium and magnesium. Also a positive effect from application of suckling acid found out in a fight from Salmonella of enteritidis [10, 13,14].

The numerous researches, conducted on the animals of different kind, age and direction of the productivity, testify that organic acids differently influence on stored of population, digestible of nutritives, living mass, charges of feed on unit of increase, microflora of gastrointestinal tract. At the same time it should be noted that the effect of the use of different forms in feeding of bird is different. It is related to the mechanisms of their action, depending on a bodily condition, method of addition, with doses, combination inter se, display, age, by direction of the productivity of animals and other [8-10, 12, 15].

Actual and until now there are questions of determination of optimal levels and charts of application, in particular suckling acid, for to the sapling/pl of quail, and also the detailed study of influence of

suckling acid on the indexes of organism and productivity of bird that is the difficult dynamic process of providing of full value of feed and characterized by co-operation of various factors of environment and necessity of permanent adjustment of necessities not only in nutritives, but also biologically active additions.

An aim of researches is a study of the productivity and charges of forage by the quail of meat direction of the productivity at the different levels of suckling acid in the mixed fodder.

Materials and methods of researches. Experimental researches are conducted on the base of problem research laboratory of forage additions of department of feeding of animals and technology of forage National university of bioresources and Nature management of Ukraine.

Material for scientifically-economic experience were daily allowance female quail of breed pharaoh. A test it was carried out after the method of groups-analogues. In accordance with the chart of experience (table. 1) a 400 goal was selected in day's age. quail from that on principle of analogues formed 4 groups — control and 3 experienced, for a 100 goal. in each (50 females and 50 males). During a selection took into account age, sex and living mass of bird.

1. Chart of scientifically-economic experience

Experience lasted a 49 twenty-four hours and was divided into 7 subperiods by duration a 7 twenty-four hours each. An experimental population to the sapling/pl of quail was retained in 1-tier cellular batteries. Gave to drink a bird by means of vacuum drinking bowls. The parameters of microclimate in a poultry house answered the set norms [1].

Quail were fed with the loose fullration mixed fodder (table. 2) that was distributed twice on twenty-four (in the morning and in the evening) hours. The level of suckling acid in the mixed fodder was regulated by additional introduction (nebulized on кормосуміш and sedate interfusion). In quality food suckling acid answered DSTU 4621 [3].

During experience carried out the account of stored of population, living mass of quail, consumption of feed, calculated the absolute, average daily and relative increases of living mass, expense of feed on 1 kg of increase. Statistical treatment of research results was produced on the personal COMPUTER with the use of MS Excel software.

2. A table of contents of energy and basic nutritives is in 100 gs of the mixed fodder

Results of researches and their discussion. Feeding of the mixed fodder with the different level of suckling acid in a ration differently influenced on the dynamics of living mass of quail (table. 3).

From data of table evidently, that in day's age control sapling/pl and the experienced groups after living mass did not differ substantially. However in next age-old periods living mass of quail changed depending on content of suckling acid in the mixed fodder.

In 7-day's age quail that consumed the mixed fodder with the level of suckling acid 0,3 mls/100 gs, after living mass prevailed the bird of control group on 4,4% ($P<0,05$). Height of quail, fed the mixed fodder that with maintenance of suckling acid 0,1 and 0,5 mls/100 gs, in this period was alike, and advantage in relation to control presented 2,9% in both groups.

A population, where the level of suckling acid in the mixed fodder presented 0,3 and 0,5 mls/100 gs, prevailed control analogues accordingly on 4,4 and 3,9% ($P<0,05$) in a 14-day's and on 4,9 and 4,3% ($P<0,05$) in 21-day's age. Quail that consumed the mixed fodder with maintenance of suckling acid 0,1 mls/100 gs had higher living mass comparatively with a sapling/pl on control in these periods accordingly on 2,5 and 1,7%.

3. Living mass to the sapling/pl of quail, gs

In 28 - and 35-day's age quail, the mixed fodder was fed that with maintenance 0,3 and 0,5 mls/100 gs of suckling acid, as well as in previous 2th periods, had higher indexes of living mass in relation to control accordingly on 4; 3,8% (P<0,05) and 5 (P<0,01); 4,7% (P<0,05). And a bird, where the level of suckling acid in the mixed fodder presented 0,1 mls/100 gs, prevailed a control sapling/pl in accordance with the marked periods on 1,9 and 2%.

In 42-day's age of population that consumed the mixed fodder with the level of suckling acid 0,5 mls/100 gs, small the greatest indexes of living mass and prevailed analogues on control on 8,3% (P<0,01), and sapling/pl, where the level of suckling acid in the mixed fodder presented 0,1 and 0,3 mls/100 gs, — accordingly on 2,9 and 5%. An analogical tendency was observed at the end of growing (49 twenty-four hours). A bird the mixed fodder was fed that with the level of suckling acid 0,5 mls/100 gs prevailed control on 9% (P<0,05), and quail that consumed the mixed fodder with maintenance 0,1 and 0,3 mls/100 gs of suckling acid, — accordingly on 3,1 and 5,3%.

Average daily and relative increases changed in accordance with living mass of quail.

A sapling/pl that consumed the mixed fodder with maintenance 0,3 mls/100 gs of suckling acid and exceeded control analogues on 6,3% (P<0,05) was characterized in a first period of growing of living mass (table. 4) the greatest average daily increases. Average daily increases of bird the mixed fodder was fed that with maintenance 0,1 and 0,5 mls/100 gs of suckling acid were similar and higher, than for the bird of control group, on 3,7%.

In next 3 periods of maintenance (8-14, 15-21, 22-28 twenty-four hours) a sapling/pl that consumed the mixed fodder with maintenance of suckling acid 0,3 and 0,5 mls/100 gs prevailed control analogues after the average daily increases of living mass on 4,3%; 4,2; 3,2% (P<0,05) and 6,2% (P<0,001); 3,7(P<0,05); 7,3% (P<0,001) in accordance with groups and periods. These indexes of quail of control and group, where the level of suckling acid in the mixed fodder presented 0,1 mls/100 gs, in these periods, were alike.

4. Average daily increases of living mass of quail, gs

During the 5th week of growing (29-35 twenty-four hours) the average daily increases of living mass in the sapling/pl of quail of different groups did not differ substantially. In a period from 36 — to 42-ї twenty-four hours the greatest average daily increases were characterize a bird that consumed the mixed fodder with a level 0,5 mls/100 gs of suckling acid and prevailed a bird on control on 27,9% (P<0,01). At the same time quail that consumed the mixed fodder with maintenance 0,1 and 0,3 mls/100 gs of suckling acid, — accordingly on 7,8 and 11,4%.

An analogical tendency was observed in a final period of growing. A sapling/pl, where the level of suckling acid in the mixed fodder presented 0,5 mls/100 gs, exceeded control analogues after these indexes on 12,6% (P<0,05), and sapling/pl that consumed the mixed fodder with the level of suckling acid 0,3 mls/100 gs, — on 9,1%. Average daily increases of bird the mixed fodder was fed that with addition of suckling acid in an amount a 0,1 ml/100 gs were similar to the bird on control and did not differ substantially.

On the whole the most average daily increase of living mass for all period of growing(1-49 twenty-four hours) found out for quail that consumed the mixed fodder with maintenance 0,5 mls/100 gs of suckling acid, are 5,79 gs. It on 8,8% more than for the quail of control group.

From data of experiment found out dependence between maintenance of suckling acid in the mixed fodder and average daily increases of living mass to the sapling/pl of quail. The graphic analysis of indexes that characterize connection between maintenance of suckling acid in a stern and average daily increases of living mass (rice. 1) testifies that even for the constructions of поліноміальної curve with the high size of authenticity of approximation (R2=1) is kept linear dependence of the above-mentioned indexes.

Rice. 1. Dependence is between maintenance of suckling acid in the mixed fodder and average daily increase of living mass to the sapling/pl of quail

In theory, it is possible to assume after equalization of regression, that for the increase of content of suckling acid the indexes of average daily increases of living mass of quail will increase in a ration. However the further increase of level of suckling acid results in worsening of productive descriptions of bird [2].

In relation to the relative increases of living mass (rice. 2), then during the first week of growing the bird of all experienced groups (II, III and IV) prevailed the persons of the same age of control accordingly on 1,8% (P<0,01); 3 (P<0,001) and 1,7% (P<0,05).

During the 2th week of growing (8-14 twenty-four hours) the greatest relative increase of living mass found out for a bird that consumed the mixed fodder, where the level of suckling acid presented 0,5 mls/100 gs and exceeded control analogues on 2% (P<0,001).

Relative increases of living mass of quail of all experimental groups during the next 3th periods of maintenance (15-21, 22-28, and 29-35 twenty-four hours) were similar and did not differ substantially.

Rice. 2. Relative increase of living mass to the sapling/pl of quail

From 36 — for 42th time of growing sapling/pl that consumed the mixed fodder with maintenance of suckling acid 0,5 mls/had 100 gs higher indexes of relative increases comparatively with control on 19,9% (P<0,05), and quail the mixed fodder was fed that with maintenance of suckling acid of 0,1 i0, 3 mls/100 gs, — accordingly on 6,1 and 3,4%.

In a final period of growing from 43 for 49 twenty-four hours the relative increases of living mass of quail of all groups did not almost differ, however there was such tendency: a bird, where content of suckling acid in the mixed fodder presented 0,1 mls/100 gs, had more subzero indexes in relation to control on 6,5%, and bird the mixed fodder was fed that, where level of suckling acid — 0,3 and 0,5 mls/100 gs, opposite, had higher indexes of relative increases of living mass in relation to the analogues of control group accordingly on 8,3 and 4,7%.

In middle the relative increases of living mass of quail of all groups for period of experience did not differ substantially.

Different maintenance of suckling acid in the mixed fodder differently influenced on the charges of forage on 1 kg of increase of living mass (table. 5). In periods of growing from 1 on 7th and from 8 for 14 twenty-four hours the most subzero charges of feed on 1 kg of increase were distinguish a sapling/pl that consumed the mixed fodder with maintenance of suckling acid 0,3 mls/100 gs, that on 9 and 6,2% had more subzero values, than sapling/pl of control group.

5. Charges of feed are on 1 kg of increase of living mass, kg

During growing of quail from 15 for 21 and from 22 on 28th twenty-four hours a bird had the most subzero indexes of charges of forage on 1 kg of increase of living mass, where the level of suckling acid in the mixed fodder presented 0,5 mls/100 gs, that accordingly on 3,8 and 2,8% less than, than on control.

In periods of growing from 29-35, 36-42, 43-49-ту twenty-four hours a sapling/pl that consumed the mixed fodder with maintenance 0,3 mls/100 gs of suckling acid was characterized by the most subzero charges of feed on 1 kg of increase of living mass, that accordingly on 4,4, 1,9 and 4,2% less than, than for the persons of the same age of control group.

On the whole for periods of growing 1-35, 1-42 and 1-49 twenty-four hours a bird to the mixed fodder of that added suckling acid (0,3 mls/of 100 g) consumed least a stern on 1 kg of increase of living mass — according to 3,32; 4,05 and 4,89 kg

The different levels of suckling acid substantially did not influence on the consumption of forage an experimental bird. Yes, average daily consumption of the mixed fodder in a period growing 1-35 twenty-four hours a from 19,9 to 20,3 g/hesitated goal., in a period growing 1-42 twenty-four hours a sapling/pl on control consumed 23,8 gs/goal. Consumed most forage and bird for that the level of suckling acid in the mixed fodder presented 0,5 mls/100 gs — 25,7 gs/goal. A sapling/pl that got suckling acid in an

amount 0,1 and 0,3 mls/100 gs of the mixed fodder consumed according to 24,5 and 24,3 gs/goal. An analogical tendency was kept at the end of growing. Consequently distinguished the most consumption of forage, bird that consumed the mixed fodder with maintenance 0,5 mls/100 gs of suckling acid — 29,3 gs/goal., and on control this index presented 27,1 gs/goal.

Thus, during growing of quail on meat a period with the most subzero indexes of charges of forage presents from 1 - to 35-day's age.

Is it set during an experiment, that the use in feeding substantially does not influence the sapling/pl of quail of suckling acid on their stored that was high enough and presented 97-98%.

Conclusions

There is adding to the mixed fodder of suckling acid in an amount 0,1-0,5 mls/100 gs positively influence on the productivity to the sapling/pl of quail of breed pharaoh, however substantially affects their stored. Consumption of the mixed fodder by the sapling/pl of quail in a period from 1 — for 49 twenty-four hours with maintenance of suckling acid 0,5 mls/100 gs assist the increase of living mass on 9% ($P<0,05$), average daily and relative increases — accordingly on 8,8 ($P<0,05$) and 2,2%. Feeding of the mixed fodder to the sapling/pl of quail in a period from 1 — for 49 twenty-four hours with maintenance 0,3 and 0,5 mls/100 gs of suckling acid assist the cost of feed cutting on 1 kg of increase of living mass accordingly on 2,4 and 0,6%.

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