

EFFECT OF BIOADDITIONAL SUPPLEMENTS ON BROILER CHICKEN

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Abstract: Chitosan is in nature the widest widespread organic from compounds one was polysaccharide natural polymer. It is made release for raw material chitin, crustaceans epidermis structural polysaccharide, insect's cuticles and fungal cell walls is. Current restrictions on the use of this component are explained by the insufficiently developed production base for drying whey, ensuring its quality stability and production capacity. The following main directions of processing and use of whey can be distinguished: use of whey in its natural form, processing and application in the form of condensed concentrates, separation of its important components (protein, lactose) using membrane methods, biological purification of whey, processing and use in the form of dry concentrates.

Key words: Chitosan, chitin, dry whey, sorption, sorbent, broiler, protein, whey.

Introduction. The history of research on chitin and chitosan dates back about 200 years (chitin was discovered in 1811, chitosan in 1859). Chitosan and preparations based on it are successfully used in veterinary medicine to treat diseases of farm animals and poultry and to increase their productivity [1].

Structurally homogeneous biocompatible and biodegradable composite materials were obtained based on blends of high-strength chitosan with 8-block copolymers of D, L-lactide chitosan [2].

However, the metabolism and physiological status of broiler chicks fed with chitosan and whey powder as part of the feed has not been studied much with modern breeding technologies. The optimal doses for its addition to the feed at different stages of production have not been determined, and therefore there is no clear understanding of how this affects physiological status, productivity, product quality and economic efficiency.

The aim of the study was to assess the adequacy of protein and energy nutrition to meet the physiological needs of Cobb broiler chicks when fed chitosan and whey powder.

Literature analysis. Some polysaccharides, including chitosan, are attractive for use in food due to their properties. Chitosan, when introduced with food, is able to be enzymatically degraded and assimilated in the form of low molecular weight compounds. Chitosan oligomers affect nonspecific resistance factors that stimulate the immune system [3,4].

The role of biologically active substances of natural origin in increasing the efficiency of complete feeding of broiler chicks is discussed in detail, and scientific development of methods for activating the immune system and metabolic processes in industrial broiler chicks is proposed [5].

BS feed of the suffix broiler chicks liver to the state impact studied. BS feed addition in use in the liver happened to be processes histological check and comparative check control and experimental in chicks physiological, compensatory and pathological processes complex [6,7].

To date, research is underway to find various feed additives that maintain the normal physiological state of birds, prevent the development of diseases, accelerate growth without harming their health, and increase their productivity by affecting the intensity of reproduction of genetic information [8]. Traditional feed additives for poultry from microalgae of the genus *Chlorella* and chitosan has been considered. A balanced diet for farm animals can reduce their morbidity, increase their weight, and increase milk production [9].

In nature 2 types of sorption available: adsorption and absorption. Adsorption - sorbent hard particles the surface to tie ability, absorption - sorbent whole size according to absorbed of the substance adsorption. Adsorbents mainly village animals and poultry in feeding is used [10].

Sorbin to the feature has the widest widespread feed additions aerosil, bentonite, tripoli, zeolite, vermiculite, glauconite, diatomite and others mineral supplements such as [11].

Food sorbents various kind toxic substances quickly to tie ability has. Sorbents at different pH values stable and feed in granulation is thermostable. Sorption to the feature has was many feed additions vitamins, micronutrients and macronutrients does not bind [12].

Sorbent feed additions many from mycotoxins outside pathogen bacteria toxins, heavy metals ions and radioactive compounds to tie to the feature has [13].

Chemical to nature according to feed sorbents one how many to groups to be possible, carbon based on sorbents, natural and synthetic resins or to oils-based sorbents, silica based on sorbents, lignin, chitin, pectins based natural sorbents and combined sorbents [14].

The issues of increasing the crude protein content and improving the amino acid composition of biomass remain open and require further research. In addition, the study of the effect of such protein on the physiological and productive parameters of broiler chickens is of scientific and practical importance. The aim of the work is to develop a method for obtaining alternative feed protein with a high crude protein content and improved amino acid composition [15,16].

The effects of methionine and whey powder on the storage parameters, average total weight, distribution of broilers by category, and chemical composition of meat were studied. When methionine was added to the basic diet, the survival rate of chicks and roosters increased by 0.3%, the average weight of chicks after 30 days - by 10.03%, and roosters - by 6.25%, after 60 days [17,18].

Studies have been conducted on the use of high-protein feed additives for growing broiler chicks from secondary raw materials from "organic" processing industries, and optimal standards have been determined, and their effect on the growth, development, and meat quality of poultry has been studied [19].

Currently, various ingredients are included in the diet as feed additives. Whey has been studied in poultry diets and a skim milk powder enriched with microbial proteins and vitamins has been obtained [20,21,22].

The possibility of using whey powder as part of a mixed feed for broiler chickens was studied. In the experimental groups, 3.5 and 10% whey powder was introduced into the feed for chicks instead of feed yeast and corn and wheat grains. Birds in the control group received a standard compound feed enriched with microelements and vitamins based on current recommendations. The inclusion of 3 and 5% whey powder in the compound feed helps to increase the live weight of chicks and reduce feed costs [23,24,25].

Whey, due to its content of the indigestible disaccharide lactose (85% of dry matter), is not used in sufficient quantities for feed, as a result of which most of it is dumped and pollutes the environment. It is known that one cubic meter of whey, when released into water, contaminates 1000 m³ of water. In this regard, the development of simple and advanced methods for processing whey will allow expanding the production of valuable feed [26,27,28,29].

Particular attention should be paid to the possibility of using whey in some formulas of whole milk replacers, which allows saving equivalent amounts of skim and whole milk for food purposes and at the same time obtaining a product with high nutritional value [30].

Whey, a by-product of cheese, cottage cheese, and casein production, is a valuable food raw material, from which a complete nutritious dairy products and semi-finished products can be obtained. Full utilization allows the production of products for both direct consumption and long-term storage. Separate use of components allows the extraction of milk fat, protein complexes or their individual fractions, lactose, and mineral salts [31,32].

Conclusion.

1. Premix, mycotoxins, heavy metals and bacteria metabolic products as a sorbent for and gastrointestinal tract mucus floor surrounded to take tool as, their chick to the body entrance This reduces the productivity to increase and of meat biological value to increase take is coming.
2. Premix under the influence broiler of chick's safety and productivity and his/her meat to the quality the impact study according to taken information this shows that his the most acceptable dose 80 mg/ dose per day solution is to drink.

Reference.

1. Duktov A., Krasochko P. Chitosan and broiler feed //Jivotnovodstvo Rossii. - 2018. - S. 15-16.
2. Silina N. E. Synthesis of block copolymers of chitosan and d,l-lactide under ultrasonic action, composite and base of chitosan and poly(d,l-lactide), structure and properties //Dissertation of application of the candidate of chemical sciences. Nizhny Novgorod. -2020. - S. 52-53.
3. Ivanishcheva A. P., Sizova E. A., Nechitaylo K. S. Perevarimost pitatelnyx veshchestv pri ispolzovanii v ratione cyplyat-broylerov organomineralnoy dobavki //Jivotnovodstvo i kormoproizvodstvo. - 2021. - T. 104. - no. 4. – S. 22-31.
4. Rakhmonov F. X., Eshimov D., Islamov X. I. "Chitosan and milk serum powder with fed broiler of chicks physiological - biochemical indicators." Khorezm Mamun academy Newsletter No. 6, June 2023, pp. 162-166.
5. Glaskovich M. A. i dr. Immunostimulant "Apistimulin-A" in the ratio of chicks and broilers for obtaining ecologically safe products for poultry: recommendations for production. Gorky. - 2019. - S. 51-52.
6. Galiev D. M., Shatskikh E. V. Morfohistologicheskoe sostoyanie pecheni syplyat-broylerov pri spolzovanii kormovoy dobavki BSh //Vestnik biotekhnologii. - 2019. - No. 2. - S. 2-2.
7. Holbayevich R.F. et al. Explanation on the physiological and biochemical indicators of broiler chicks fed with chitosan and whey powder //Academia Repository. - 2024. - T. 5. – no. 2. - S. 184-187.
8. Lutkovskaya Ya. V., Sizova E. A. Obzor deystviya kormovykh dobavok na ekspressiyu genov khozyaystvenno poleznykh priznakov tsyplyat-broylerov //Otvetstvennyy redaktor–. Syktyvkar. - 2021. - S. 71-72.

9. Sirvidis V., Kepaleps I., Gudavichyute D. Vliyanie yodirovannoy vody doitogennykh preparatov na rost i razvitiye broylerov // Konferentsia po ptitsevodstvu. - Zelenograd, 2003. - S. 116-118.
10. Hernander, L.A. Postprandial hemodynamics in the conscious rat. L.A. Hernander, P.R. Quietys, D.N. Grander // Amer. J. Physiol. 1986. - Vol. 251, No. 1. - P. 117-123.
11. Gradusov Yu.N. Usvoayaemost amino acid / Yu.N. Gradusov. - M.: Colossus. - 1979. - 400 p.
12. Gulyushin, S.Yu. "Nutoks Fito Plus" - prevention of chronic mycotoxicosis and stimulation of the function of the oven and tsyplyat-broylerov / S.Yu. Gulyushin, V. Slaugalvis, D.E. Golovachev // Tsenovik. - 2010. - No. 5. - S. 51-53.
13. Dyakov, I.P. Primenenie novykh sorbentov-plastifikatorov pri proizvodstve carbamidenogo concentrate // I.P. Dyakov, S.P. Lyubimov, V.A. Pereygin // Jivotnovodstvo. - 1980. - No. 1. - S. 31-33.
14. Zolnin, A.V. Question about toxicity of elements / A.V. Zolnin // Tezisy dokladov Vserossiyskoy konferentsii "Ekologicheskie problemy selskogo hozyaystva i proizvodstva kachestvennoy produktsii". - Moscow - Chelyabinsk. - 1999. - S. 71-72.
15. Larionova O. S., Sarycheva A. S. Ispolzovanie alternativnogo kormovogo belka iz lichinok musca domestica v ptitsevodstve //Kormlenie selskohozyaystvennykhivotnykh i kormoproizvodstvo. - 2020. - No. 4. - S. 3-14.
16. Farkhod Rakhmonov, Dusmurat Eshimov, Khurshid Islamov, Gulchehr Ubaydullaeva, Barno Hayitova. The effect of chitosan and whey powder on the weight of broiler chickens. BIO Web of Conferences, 2024. EDP Sciences. 95. 01025 p.
17. Orlov M. M. i dr. Influence of amino acids methionine and dry milk serum on zootechnical indicators of broilers //Izvestiya Orenburgskogo gosudarstvennogo agrarnogo universiteta. - 2021. - no. 5 (91). - S. 250-254.
18. R.F. Holbayevich, E. Dusmurod, I.K. Iskanderovich, U.G. Bakhriddinobna, ... Explanation on the physiological and biochemical indicators of broiler chicks fed with chitosan and whey powder. Academia Repository 5 (2), 184-187.
19. Nechaev S. A. Effektivnost primeneniya vysokobelkovykh kormovykh dobavok iz vtorichnogo srya pererabatyvayushchikh otrasley APK (gluten, "Organic") pri vyrashchivaniit sytlyat-broylerov // Dissertatsiya na soiskanie uchenoy stepi candidate selskohozyaystvennykh nauk. Stavropol. -2020. - S. 56-57.
20. Bulchuk E. Molochnaya syvorotka dlya muchnykh konditerskikh izdeliy /E. Bulchuk, V. Astashina, 3. Skobelskaya // Khlebprodukt, 2006. - No. 5. S. 60-62.
21. Lyons J.J., Vandepopuhere J.M. Substitution of soybean meal crude protein by crude protein from distillers dried grains soluble in laying hen diets / J.J. Lyons, J.M. Vandepopuhere // Poultry Sc. 1993. - Vol. 72, Suppl. 1. - P. 126.
22. Rakhmonov F. Kh. Influence of Chitosan and Serum on the State of Broiler Chickens. Eurasian Research Bulletin. 5/6/2023. 20. 23-27 p.
23. Aleksandrov V.A. Ispolzovanie sukhoy molochnoy sivorotki v kombikormax dlya chicken-broylerov. /V.A. Alexandrov, O.A. Taufik, S.M. Hamadi and dr.//Biologicheskie osnovy i tekhnologicheskie metody intensivifikatsii ptitsevodstva. M., 1989. - S. 34 - 39.
24. Feltnell R. Prakticheskoe kormlenie ptitsy / R. Fentnell, S. Fox. M.: Kolos, 1983.-271 p.
25. Filippovich E.G. Netraditsionnye korma v rationakh selskohozyaystvennykhivotnykh / E.G. Filippovich. M.: Kolos, 1984. -271 p.
26. Tmenov I.D. Effektivnost ispolzovaniya molochnokisloy pasty v rationakh kur-nesushek // D. Tmenov, B.S. Kaloev, A. Dorieva // Sovr.vopr.intensifikatsii kormleniya, soderjaniyaivotnykh i uluchsheniya kachestva produktov jivotnovodstva. M., 1999. - S. 88 - 89.

27. Fisinin V. Mirovoy i otechestvennyi opyt povyshenia konkurentnoy obsnosti ptitsevodstva / V. Fisinin // Material nauch. -practice.conf. "Nauka ptitsevodstvu Ivanovskoi oblasti" May 24, 2001. Ivanovo. - Sergiev Posad - Ivanovo, 2002. - S. 8 - 20.
28. OST 10 213-97. Syvorotka molochnaya. Technical conditions. S0107.1998. -VNIIMS.
29. Andres S. Protein functionality expertise plus from blending protein sources results in new ingredients / C. Andres // Good process. 2000. - 41. -N 12. -P/- 40 -43.
30. Schiller G.G. O vibore perspective putey pererabotki molochnoy sivorotki / G.G. Schiller // Dostigeniya v oblasti tekhnologii i tekhniki pererabotki molochnoy sivorotki. Uglich: 1993. - S. 3 - 9.
31. Kijapkin, S.I. Vliyanie elementoorganicheskogo soedineniya "Krezooferan" na obmen veshchestv i produktivnogo remontnogo molodnyaka kurnesushek / Kijapkin S.I.//: avtoref. diss. ... candidate s.-x. date: 06.02.08. - Saransk. - 2011. - 22 p.
32. Pshatsieva, Z.V. Kormovye dobavki v rationakh porosyat-ot'emyshey / Z.V. Pshatsieva, V.R. Kairov, N.A. Yurina // Izvestiya Gorskogo gosudarstvennogo agrarnogo universiteta. - Vladikavkaz. - 2014. - T. 51. - No. 4. - S. 139-142.