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NEW APPROACHES IN DECISION OF PROBLEMS OF ENRICHMENT OF THE MIXED FEEDS FOR POULTRY

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In the industrial poultry farming it is especially impossible to avoid influence of physiology stress factors in critical periods of development and productivity of poultry. Stress is the deviation from the optimum terms of maintenance, feeding and watering. There are many possible stresses for the poultry: a vaccination, transfer from an incubator to the poultry house, transportation, heat stress, unbalanced ration or his change, presence of mycotoxins in feed During stress in an organism of the poultry an excess of free radicals is formed that can damage all types of biological molecules and promote oxidative processes. All this leads to a decrease in the productivity and quality of the final product [1].

The introduction to the ration the preparations of biologically active substances is one of the methods of prevention and reducing the negative effects of stress in the intensive technological chain of poultry breeding. During the stress the poultry has an increased need for certain nutrients and biologically active substances for a fight against negative factors. However there is regularity that under stress conditions the consumption of feed is reduced, which leads to receiving less of nutritious and biologically active substances.

Under these conditions the mixed feed should be additionally enriched with amino acids, vitamins, enzymes, salts of microelements, antioxidants, and other preparations of biologically active substances in order to maximize the mobilization of the organism protective forces against stress. The introduction of such substances directly into mixed fodders or mixed feeds causes some technological difficulties due to their small amount. The best effect is achieved by phased dosing and mixing of microcomponents with filler in the composition of previous mixtures, protein-vitamin, protein-vitamin-mineral additives and premixes [2, 3].

The recipes of premixes are constantly improved taking into account innovative achievements in the field of genetics and feeding, the level of productivity of farm animals and poultry and the appearance of new preparations of biologically active substances on the market. When choosing preparations of biologically active substances in the premix it take into account the needs for them of organism of farm animals and poultry, their availability, concentration and form of release, the possibility of full and effective use of the active start of the preparation and the absence of toxicity.

Today the forage market of premixes has a great number of enrichment mixtures of different concentrations of domestic and foreign production. 1% productive premixes are the most widespread. Also on the market there is a wide assortment of highly concentrated premixes, so-called blends or pre-premixes, with the norms of introduction into the composition of mixed feed from 0,2 to 0,5%. The high concentration of preparations of biologically active substances in the composition of blends complicates their choice by the consumer, because it requires constant monitoring of the content of biologically active substances and their recalculation. In addition, with the use of blends, there are some problems associated with the probability of interaction between the preparations of the biologically active substances of the mixture and the manifestation of the effect of antagonism, the precision of dosing and the uniform distribution of components of the blend

in the composition of the feed [4].

It has been established that vitamin E is the main antioxidant in the cell membranes. The high doses of vitamin E are used to protect against oxidative processes during stress. However this amount is not enough to fully protect the organism of poultry. As a result there was a need to recycle vitamin E that is its recovery into an active form, due to other antioxidants, vitamins, microelements and amino acids [5].

As a result of the analysis of literary and patent information sources, and based on the experience and needs of industrial poultry producers, there was a need for the development of a universal complex premix. At optimum level of content of biologically active substances it would satisfy the needs of poultry, provide a productive effect at the lowest feed costs and protect against stress. All groups of poultry have both general requirements for the content of biologically active substances in the ration and some differences depending on age, type, purpose and health status.

Experimentally it was found that vitamin E is involved in the recycling of fat soluble vitamins A, D3, the microelements Zn, Mn, Se, the amino acids – lysine and methionine, probiotic - immunobacterin D. The optimal correlation and synergistic interaction of the components allow to maintain effective vitamin E recycling, reduce formation of free radicals and provide immunomodulating action. These factors contribute to the quality of the egg and its shell. Oxidative stress leads to inflammation in the shellfish, which prevents the formation of the shell and worsens its quality.

The universal complex premix is designed for the use in the ration of the poultry as a universal enrichment of mixed feeds with a basic set of vitamins, amino acids and microelements. If it is necessary to increase the content of biologically active substances in the ration using a universal complex premix, there is a possibility of changing the chemical composition of feed by the components of the recipe.

The advantages of using a universal complex premix in comparison with known premixes are the lack of restrictions on the use for the poultry of a certain function or age group, the comfort of application, the possibility of producing on its basis address premixes to order. In addition, due to the optimal correlation and antioxidant effect of the components, their synergistic action and the absence of over-consumption of preparations of biologically active substances, a high economic effect of the use of universal complex premix for the poultry is achieved.

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