The influence of Kazakhstan potassium humate on the productivity of beef cattle

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The analysis of the current state and development of cattle breeding in the Republic of Kazakhstan shows that there is a tendency to reduce the number of livestock, and, consequently, to reduce beef production. Therefore, increasing the efficiency of beef cattle breeding, obtaining high-quality raw materials of animal origin is one of the main problems of the modern agro-industrial complex [1]. The use of domestic preparations based on humic acids in meat farming would increase weight gain, reduce the incidence of infectious diseases, and activate metabolic processes. The results of the analysis of antimicrobial and bioregulatory properties of drugs of domestic origin based on humic acids showed their antimicrobial activity, biological activity and harmlessness [2].

The aim of the research is to develop an effective feed additive to increase productivity and normalize the metabolism of meat breeds of animals, using a local and cheap natural source of mineral and biologically active substances. A non-toxic domestic preparation of potassium humate obtained from brown coals of Kazakhstan is used as a feed additive.

The analysis of potassium humate showed the content of a wide range of biologically active substances: the mass fraction of humic acids in terms of dry matter is 56%, additionally contains more than 70 mineral compounds. The method of feeding farm animals and poultry was characterized by the fact that the following is additionally introduced into the diet: 1% solution for animals, 1.5% solution of potassium humate for poultry, 1 time a day during morning or evening feeding for 10 to 15 days with feed or water.

It has been established that the domestic preparation of potassium humate has a positive effect on the general condition of animals, normalizes metabolic processes in the body, increases the natural resistance, stimulates growth and development, and improves the conversion of feed in the rumen, which has a positive effect on the productivity of beef cattle and poultry. Regardless of age, on the 7th day of taking a feed supplement of potassium humate, calves have a noticeable shine and a bright color of wool, molting is completed within a month, calves become mobile and active, chewing gum is activated, average daily weight gain increases by 7.6-8.9%. Clinical signs of metabolic disorders and beriberi completely disappeared in animals after 20-30 days from the start of the feed additive application. In pigs, calmer animal behavior, a decrease in stress response, and a decrease in piglet waste by up to 20% were noted. Potassium humate has a positive effect on the increase in live weight of broilers-quails and goslings: in quails – on average by 5%, in goslings-by 7%. The use of the drug to laying quails contributes to an increase in egg production of poultry by 3%.

In production experiments, it was found that the intake of potassium humate increases the monthly weight gain in fattened bulls weighing 350-450 kg from 28 to 36 kg or on average 30.76 ± 2.5 kg, which allowed us to recommend it as a feed additive.

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