HEALTH INDICATORS OF THE POULTRY DRINKING WATER TREATED WITH ELECTROMAGNETIC VIBRATIONS

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Abstract. Water is an important factor in poultry raising; therefore, both quantitative and qualitative analysis of water should be performed on a regular basis. Water treatment on poultry farms has been gaining greater popularity in Europe. A physical method developed by Swiss researchers is based on treating water with electromagnetic vibrations and thus influencing various processes taking place in the water, and first of all, removing a biofilm i. e. reducing pathogenic microflora in water and potentially demising water-borne infections. The researches were performed at the Research Laboratory of Biologically Active Substances of Lithuanian University of Educational Sciences and on the farmer's V. Rimša farm. For the trial 2 groups, each one containing 32 000 day-old ROSS-308 cross chickens, were formed. The first group (n=32 000) was a control group, and the other one was a trial group (n=32 000). The broiler chickens of the trial group received feed of the same composition and nutritional value as the chickens of the control group, only their drinking water was treated with electromagnetic vibrations which structurize water and destroy a biofilm in water supply pipelines. Using water treated with electromagnetic vibrations for watering birds, the performance and health of chickens may be improved: the measured mass of chickens of the trial group was bigger by 17.60 per cent ($p < 0.05$), due to the enhanced feed conversion, the amount of consumed water in the trial group was bigger by 5. 28 per cent, better histological indicators of duodenum were obtained in the trial group, mortality of the chickens of the trial group was lower by 2.61 per cent. Litter moisture decreased twice ($p < 0.05$), and as a result, microclimate of the poultry house improved.

Keywords: chickens, drinking water treated with electromagnetic vibrations, litter moisture, histology, mortality.