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DISCOVERY OF METHODS OF OBTAINING ECOLOGICALLY PURE BROILER CHICKENS MEAT

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In the Republic of Belarus special attention is paid to increasing the poultry meat production, broiler chickens in particular. For further maintenance of the high-quality poultry meat we have developed, introduced into production and patented the mycotoxin adsorbent „Belasorb". The purpose of our research was to establish the chemical composition of the broiler chickens muscle tissue for a possible increase in the nutritional and energy meat value when introduced into the diet „Belasorb"at various rates. Feed additive mycotoxin adsorbent „Belasorb" is characterized by a high sorption capacity for: aflatoxin B1 – 92.24 %, ochratoxin A – 77.41 %, T-2 toxin – 56.95 %, deoxinivalenol – 65.77 %, zearalenone – 43.00 %, fumonisin – 60.88 %. The main component is organo-mineral zeolite – tripoli. Scientific and economic experience was carried out in OAO Agrokombinat „Dzerzhinsky" on broiler chickens of the cross „Ross-308". The duration of the experiment is 41 days. For experimental poultry „Belasorb" was given at a rate of 1 kg/t (poultry house No. 106), 2 kg/t (poultry house No. 104) and 3 kg/t (poultry house No. 108) of compound feed. The control poultry raised according to the generally accepted feeding technology (poultry house No. 105) was fed only standard compound feed. Research work was carried out according to approved methods using monographic, research and practical research methods. Protein mass fraction in the samples of pectoral muscle meat from poultry house No. 106 (11 kg/t) was higher – by 0.44%, from poultry house No. 104 (2 kg/t) – by 0.87% and from poultry house No. 108 (3 kg/t) – by 0.9% than from meat samples taken from control poultry house No. 105. In the samples of pectoral muscles from poultry of the control poultry house No. 105 2.96% of fat was recorded. In the pectoral muscles of broilers grown in poultry house No. 106, the indices decreased by 0.48%, in poultry house No. 104 – by 0.72% ($p<0.001$) and in poultry house No. 108 – by 0.73% ($p<0.001$) compared with the control indices of poultry house No. 105. The greatest decrease in indices was noted in the samples of femoral muscles obtained from poultry from poultry houses No. 104 and No. 108 – 0.94% ($p<0.001$) and 0.93% ($p<0.001$), respectively. Data on the chemical composition of the pectoral and femoral muscles in 100 g allowed us to calculate the nutritional and energy value of meat from experimental broiler chickens. The energy value of meat due to the reduction of fat level in the pectoral and femoral muscles was effective and amounted to 487.5-491.2 kJ. The calculated caloric content of meat improved the dietary properties of the experimental poultry product by 1.82-2.56%.

Keywords: broiler chickens, chemical composition, energy value, meat, nutritional value, thigh muscles, pectoral muscles.