UDC 636.03:636.5:637

B. KYRYLIV
Institute of Animal Biology of NAAS

AGE DYNAMICS OF GROWTH AND DEVELOPMENT OF DUCKLINGS DEPENDING ON THE INTENSITY OF PROTEIN METABOLISM

As a result of the research, it was found that in the process of growing ducklings the STAR 53 (heavy) cross of the French breeding of «Grimaud frères selection», there are critical periods of growth and development associated with changes in intensity due to growth of feathers at the age of 26–40 days and change in the diet. The value of average daily increments is directly proportionally tied to the intensity of digestion and assimilation of nutrients and biologically active substances, which, in turn, depend on the activity of proteolytic enzymes in the tissues of the mucous membrane of the 12-type intestine, and of the glandular stomach of the pancreas, of the contents of the 12-type gut and liver The activity of the proteases in the above tissues affected the bosynthetic processes in the ducklings organism, in particular on the content of soluble proteins, amine nitrogen, and the activity of aminotransferases (Al AT, Ac AT). In critical age periods of growth and development for ducklings it is necessary to raise the level of protein and exchange energy in the diet or to enrich with biologically active substances that increase their use from feed.

The nature of changes in the activity of proteolytic enzymes depended on age and composition of the diet.

The highest activity in the pancreas was observed from one to six days of age, in the intestine 12-type gut decreased from one to 12 days of age, in the mucous tissue increased to 37-day-old age, and then decreased, and in the liver tissue increased at 6 and 72 days old.

The content of soluble proteins was highest in the liver tissue and the lowest in the pancreatic tissue and did not change significantly with age. With age, the content of soluble proteins increased significantly in the 12-type gut and mucous membrane of the 12-type gut.

The total content of free amino acids in tissues is indicated by the intensity of the processes of splitting and absorption of nutrients of the feed. In the period from one day to day 37, the concentration of amine nitrogen in the liver tissue increased with subsequent decrease in subsequent age periods. Similar changes were observed in the pancreatic tissue, but with a maximum increase in 72-day age.

As a result of the study activity of aminotransferases, which is one of the indicators of the state of the organism, it has been established that with their age their activity increases somewhat and is within the limits of the physiological norm, which testifies to the normal processes of biosynthesis of proteins in the organism of birds.