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# ABSTRACT BOOK

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## Lipid Peroxidation In The Body Of Different Species Of Animals And Birds

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### Abstract

Lipid peroxidation is a physiological process that ensures the full functioning of the body. According to the results of research conducted at the inter-faculty laboratory of biochemical and histochemical methods of the Bila Tserkva National Agrarian University, it was found that the content of lipid peroxidation products in the tissues of various animal and poultry species differs.

In the study of the organs and tissues of rabbits of the New Zealand breed, it was established that the content of total lipids is closely related to the processes of lipid peroxidation and the activity of antioxidant protection enzymes. An increase in the concentration of peroxidation products is accompanied by a decrease in the content of total lipids in the tissues of the heart of rabbits. A decrease in the content of TBA-reactive substances in the brain tissue of rabbits from birth to 90 days of age was noted. A moderate ( $r = 0.66$ ) correlation between the content of diene conjugates and lipid hydroperoxides, as well as a significant inverse ( $r = -0.77$ ) between the content of diene conjugates and TBA-reactive substances, was also found. In the heart of rabbits, an inverse moderate ( $r = -0.62$ ) correlation between the content of diene conjugates and lipid hydroperoxides is noted.

In the course of studies of Large White breed boars ejaculate, the intensity of lipid peroxidation is characterized by the accumulation of TBA-reactive substances, which exhibits a membrane-toxic effect and reduces the physiological ability of sperm. An increase in the content of TBA-reactive substances in sperm promoted a decrease in the activity of antioxidant enzymes catalase, glutathione peroxidase and a deterioration in sperm quality indicators: sperm motility decreased, their concentration and survival increased, the number of pathological forms and dead sperm increased.

In the course of studies of the blood serum of 6-month-old African ostriches, a high content of diene conjugates was noted, which tend to decrease with age. So, in 9-month-old ostriches, the studied indicator is significantly reduced ( $p < 0.05$ ). An increase in the content of diene conjugates is associated with an increase in the amount of lipid hydroperoxides in the blood serum, with a moderate correlation relationship found between them ( $r = 0.50$ ). At 60 months of age, the number of diene conjugates increases by 1.7 times ( $p < 0.01$ ) compared with the period of onset of egg laying (24 months). The content of lipid hydroperoxides in the blood of ostriches does not change significantly in the period from 6 to 18 months of age.

The pancreas of 1-day quail is characterized by a high content of lipid hydroperoxides and diene conjugates, as evidenced by a high positive correlative relationship ( $r = 0.76$ ). After reaching the age of 5-6 weeks, the content of lipid hydroperoxides in the pancreas decreases (by 2.8 times) and diene conjugates (by 2.7 times).

**Key words:** lipid peroxidation, rabbits, ostriches, boars, heart, longest back muscle, brain, blood.