

(-6,53 %). The use of a lower concentration of the substance (10^{-10} %), on the contrary, had a weak stimulating effect (+1,38 %). The influence of the most diluted solution of a biologically active substance was characterized by the greatest positive effect relative to the index of carrot root length – +11,45 % relative to the control.

The reaction of the stem to the action of the considered biologically active substance was less pronounced, the deviation from the control variant did not exceed 2,5 %. Thus, seedlings from seeds treated with epibrassinolide at a concentration of 10^{-9} % – 47,13 mm were distinguished by the longest stem length, which was more than the value in the control by 1,03 mm or 2,23 %. A decrease in the concentration of a biologically active substance led to a slight inhibition of growth processes in the stem. Thus, when treating seeds with solutions at a concentration of 10^{-10} % and 10^{-11} %, a decrease in the length of the stem by 1,09 mm and 0,61 mm, respectively (-2,36 and -1,32 %) is noted.

Conclusion. In general, 24-epibrassinolide at low concentrations had an insignificant effect on the recorded parameters. In this case, the growth of the root in length was characterized by an inverse correlation on the concentration of the active substance ($r = -0.99$), and the growth of the stem and the number of germinating seeds was positive ($r = 0,74$ and $r = 0,87$, respectively).

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THE INDICATORS OF LIPID EXCHANGE OF HEMOLIFA OF PULMONARY FRESHWATER MOLLUSCS LIVING IN THE WATER BODIES OF GOMEL REGION

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The need to assess the effects of various environmental factors on the vitality of the body has now increased. Often X two common lung freshwater mollusks *Lymnaea stagnalis* (pond snail) and *Planorbarius corneus* (horn reel) [1] are used. To assess the body's condition, the indicators of carbohydrate, nitrogen and lipid exchanges are determined, and the rate of mobilization and utilization of energy substrates is studied, under the influence of various factors [2].

It is possible to evaluate the activity of lipid exchange when establishing the content of general cholesterol, triacylglycerol, cholesterol of high density lipoproteins. Lipids play an important role in cell metabolism. Cholesterol enters

the body with food, but most of it forms endogenously in the liver. Levels of cholesterol and triacylglycerol in blood are markers when diagnosing disorders of lipid exchange [3].

The aim of the work is to determine the content of lipids in the hemolymph of pulmonary freshwater shellfish of Gomel region, taking into account the habitat and transport type of oxygen.

Material and methods. Experiments were supplied on 36 lung freshwater shellfish divided into two groups: 18 *Lymnaea stagnalis* and 18 *Planorbarius corneus*. The mollusks were gathered in the autumn (September-October) from the water bodies of two districts of Gomel region (table 1).

Table 1 – Shellfish selection locations

Shellfish collection area	Collection site	The name of the body of water
Gomel district	Gomel	Lyubenskoye lake
Mozyr district	village Krasnaya Gorka	Pripyat river

The determination of triacylglycerol (TG), total cholesterol (TCS), cholesterol of HDL (CS of HDL) in hemolymph was carried out by standard biochemical reactions using the sets of reagents of «Analysis X» [4].

Mathematical processing of the obtained results was carried out by methods of parametric and nonparametric statistics using the package of statistical programs Microsoft Excel 2010, STATISTICA 12.5.

Findings and their discussion. The contents of TG, TCS and CS of HDL in hemolymph are presented in table 2.

Table 2 – The content of total cholesterol (mmol/l), high-density lipoprotein cholesterol (mmol/l), triacylglycerols (mmol/l) in the hemolymph of *Planorbarius corneus* and *Lymnaea stagnalis*, depending on the habitat ($M \pm m$)

Shellfish collection area	Indicator		
	TCS mmol/l	CS of HDL mmol/l	TG mmol/l
<i>Lymnaea stagnalis</i>			
Gomel district	0,41±0,02	0,074±0,011	0,29±0,01
Mozyr district	0,48± 0,01	0,078± 0,014	0,34± 0,02
<i>Planorbarius corneus</i>			
Gomel district	0,31±0,02	0,14±0,01	0,23±0,02
Mozyr district	0,34± 0,01	0,10± 0,003 ¹	0,24± 0,01

Note: ¹p<0,05 compared to the clams from the Gomel region

It is noted that *Lymnaea stagnalis* has the lowest TCS, CS of HDL and TG content in the Gomel district (table 2). Compared with the individuals collected in the Lubenskoye lake, the concentration of TCS and TG has been increased by 1.2 times in the Mozyr district. *Planorbarius corneus* had different patterns in the Mozyr district increasing the TG content by 1.3 times, the CS of HDL is reduced by 1.4 times compared to the Gomel region.

Conclusion. The differences in the content of general cholesterol, cholesterol of high density lipoproteins and triglycerides in *Lymnaea stagnalis* and *Planorbarius corneus* are determined, depending on the location and type of transport of oxygen.

Thus, anthropogenic changes in indicators of carbohydrate and lipid metabolism can serve as monitoring parameters for the ecological well-being of aquatic habitats of freshwater lung mollusks.

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