

The purpose of this study is to study the physico-chemical and biological properties of melanin's pigments.

To achieve this goal the following tasks were assigned:

- research of accumulation of pigments of phenolic nature from collection strains of basidiomycetes on agar;
- research of antioxidant, genoprotective properties and the sorption capacity of melanin and biomass of fungi containing melanin .

Methodological basis of research is scientific works of domestic and foreign scientists in the field of study and research of biological properties of melanin pigments. As methods of research were used private biological methods.

Has been revealed high genoprotective and antioxidation activities the melanin's pigments from a deep mycelium the basidiomycetes. It is established that melanins from *Ph. robustus* M-10 and *I. obliquus* V-26 in concentration respectively 10 and 20 mkg/ml total prevent DNA damages the phage λ with products of peroxidase oxidation of aminobiphenyls. Melanin's of basidiomycetes in concentration of 200 mkg/ml of a melanina for 75–80% inhibit reaction of peroxidase oxidation of a dianizidin. Genoprotektive activity of *Ph. robustus* M-10 is twice higher than at a pigment of *I. obliquus* V-26.

It is shown that a deep mycelium and melanin's pigments of mushrooms of *Ph. robustus* M-10 and *I. obliquus* V-26 have high sorption ability in relation to ions of lead, copper, zinc, nickel. Effective sorption of ions of heavy metals is carried out in the range of temperatures of 15–30 °C (with a maximum at 25 °C) at pH environments 6,0. It is revealed that a deep mycelium and melanin *Ph. robustus* M-10 have high affinity to lead, one of the most widespread and people of pollutant hazardous to health. Sorption capacity of melanin *Ph. robustus* M-10 concerning the tested metals considerably (by 1,3–1,4 times) surpasses that of V-26 *I. obliquus* melanin.

Karmilitsyna A.¹, Zhyvitskaya A.¹, Arachou A.², Levdanskaya N.¹

¹ *International Sakharov Environmental Institute of Belarusian State University,
Minsk, Republic of Belarus;*

² *State Institution Lida Zone Center of Hygiene and Epidemiology,
Lida, Republic of Belarus*

ANALYSIS OF THE REPRODUCTIVE HEALTH OF THE POPULATUION OF GRODNO REGION IN 2006–2014

Reproductive health is an important factor which generates favourable demographic prospects of the country. Now the decrease of reproductive health reserves, deterioration of all parts of the reproductive cycle such as conception, pregnancy, formation of a complete family, the quality of children's health are being observed. Therefore the problems associated with health in general and reproductive health in particular are of special relevance in modern society.

The research aims to analyze the dynamics and the identification of the main trends of indicators characterizing the reproductive health of the population of Grodno region in 2006–2014.

Based on the collected data characterizing the reproductive health of the population of Grodno region for the period from 2006 to 2014 extensive and intensive indicators, birth rate growth, long-term trends were calculated using the method of least squares.

Based on the analysis of the figures obtained we can draw the following conclusions:

- Over the period of research there is an increase in the birth rate in the population from 10.0 to 12.6 per 1,000 people. And the birth rate in the urban population is higher than in the rural one and it is 13.3 and 10.5 per 1,000 people respectively up to the end of the period of research;
- There is a decrease in the birth of premature infants. In 2006 the figure was 3.4% of the number of births, it decreased to 2.8% in 2014;
- The number of stillbirths reduced from 0.27% to 0.2% of the number of live births and stillbirths;
- There is a decrease in the number of abortions. At the beginning of the period of research the figure was 4,200, at the end of the research it decreased to 2,800;
- There is a dramatic decline in maternal mortality from 18.2 deaths per 100 thousand live births in 2006 to its complete absence from 2008 to the end of the analyzed period;
- The number of infant deaths has also been reduced. In 2006 the figure was 1.0 per 1,000 live births and in 2014 it was 0.8 per 1,000 live births. However mortality rates in premature infants are still relatively high.

In the light of the foregoing in the current circumstances the structure of the family planning service should be improved and supplemented with the development of reproductive health care and related services.

Kasach Y., Handogy A.

*International Sakharov Environmental Institute of Belarusian State University,
Minsk, Republic of Belarus*

THE ROOTING ACTIVITY OF TALPA EUROPEA IN POPULATED AREAS OF PUHOVICH I REGION

The modern aims of using nature resources of commercial mammals strongly demand the clear understanding about the main ecological features of different species. The talpa is essential in fur-trade being the prominent commercial species (Savitsky and others, 2005). The biocentric role of talpa is very prominent and varied. All the above reflects the thematic justification, the aim of which is the studying of the talpa's ecological features in conditions of Puhovich region.