

of ionizing radiation, the term radiation hormesis, which was proposed in 1980 by Lucky T. [1].

In this paper we discuss the proposed O. Gerasymov use of certain provisions of the theory of dynamical systems, in particular - of stochastic resonance, as hormesis concept.

The International Commission on Radiological Protection has formed a concept about the linear no-threshold dependence of the probability of stochastic effects the dose. Formation of the concept is derived from the hypothesis that the harmful effects of ionizing radiation on the cell causes changes that could develop into a mutation at any arbitrarily small dose.

United Nations Scientific Committee on the Effects of Atomic Radiation to the data on the positive effects of low doses of ionizing radiation in fact casts doubt on the idea of the linear no-threshold harmful effects of radiation at low doses and cause arguments about the need to replace this paradigm [2].

Existing probabilistic approach does not carry any evidence.

It is concluded that the proposed O. Gerasymov approach differs from the no-threshold or probabilistic approaches and opens the way for an alternative parameterization of the phenomenological framework of hormesis.

The absence of sufficient data, is strictly addressed to the phenomenon of dose-effect needed to clarify the parameters of the influencing factors, hampers proper parameterization data on radiation hormesis in any of the proposed approaches. The task of forming accurate phenomenological database is a separate problem.

1. Kuzin, A. M. Ideas of radiation hormesis in the atomic age. M.: Nauka, 1995. 158 p.

2. Petin, V. G., Pronkevich, M. D. Radiation hormesis under the influence of small doses of ionizing radiation: A manual for the course "Ecological Biophysics". – Obninsk: INPE MEPhI, 2012. – 73 p.

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THE STUDY OF THE BIOLOGICAL PROPERTIES OF MELANIN PIGMENTS OF BASIDIOMYCETES IN ARTIFICIAL CULTURE

Melanins represent a numerous and intensively studied class of natural polyphenolic pigments. Melanin's pigments detect in living organisms on all evolutionary levels.

The research of physical and chemical, biological properties the melanin's pigments of the mushrooms received in the conditions of deep cultivation, definition of their type and predecessors, studying of a possibility of practical use as medical and treatment-and-prophylactic medicines.

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.

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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.