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FREQUENCY OF OCCURRENCE OF POLYAUXOTROPHIC VARIANTS OF BACTERIA OF THE GENUS *BACILLUS* IN SOIL SAMPLES EXPOSED TO PROLONGED IONISING RADIATION

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Ionising radiation can cause damage to the structure of many biomolecules, including DNA. Anthropogenic sources of ionising radiation include accidents at nuclear power plants, such as the Chernobyl accident in 1986, which caused long-term radioactive contamination [1]. Studies assessing the frequency of occurrence of polyauxotrophic variants of ammonifying bacteria in the microbial communities of soils in radioactive zones have given us a better understanding of how nutritional requirements change under conditions of chronic exposure to radiation.

Keywords: ionising radiation, polyauxotrophic forms, soil samples, microbiological communities.

Ionising radiation is a type of radiation in the form of electromagnetic waves or particles with sufficient energy to ionise an atom or molecule [2]. Excess of this radiation has a damaging effect on many living organisms. For example, the structure of soil microbiocenoses in the areas affected by the damage of the fourth unit of the Chernobyl nuclear power plant has shifted towards species that have lost the ability to independently synthesise several key amino acids - polyauxotrophs.

This study evaluated the spectrum of polyauxotrophy in bacteria of the genus *Bacillus* (*B. cereus*, *B. subtilis*, *B. thuringiensis*, *B. mycoides*) isolated from soils exposed to long-term ionising radiation. Soil samples were taken at three sites with different levels of environmental radioactivity in August and September 2023: the territory of Polessky State Radiation and Ecological Reserve (PSRER), Belarusian Nuclear Power Plant (Bel NPP) and Orsha district (natural background level of ionising radiation).

Soil material was sampled using the envelope method from a plot with a total area of 25m² for each study area. Polyauxotrophic variants were identified by their inability to grow on minimal agarised medium (300 ml of 2% water agar, 100 ml of salt concentrate (NH₄Cl - 20 g, NH₄NO₃ - 4 g, Na₂SO₄ - 8 g, K₂HPO₄ - 12 g, KH₂PO₄ - 4 g, MgSO₄ × 7 H₂O - 0,4 g, distilled water - 1000 ml) and 4 ml of 20% glucose solution) and the requirement of five or more growth factors (amino acids). Seventeen amino acids with a concentration of 2 mg/ml (leucine, proline, serine, cysteine, tyrosine, glutamic acid, histidine, arginine, lysine, methionine, asparagine, glycine, tryptophan, alanine, phenylalanine, isoleucine, threonine) were used. All cultures were incubated at +37°C for 24 hours.

As a result of the conducted research on estimation of frequency of occurrence of polyauxotrophic variants of bacteria of genus *Bacillus* in soil samples, which were under conditions of long-term exposure to ionising radiation, it was revealed that less frequently polyauxotrophic variants of bacteria of genus *Bacillus* were found in soil samples of Orsha district - 33,8±2%, which were under conditions of natural background level of ionising radiation, than in soil samples from PSRER - 58,75±2%. It is also shown that in the soil samples taken in the territory of Bel NPP the percentage of polyauxotrophic variants of the investigated genus was 52,4±2%.

The current study is one of the first to investigate the structure of soil microbiological communities under conditions of radioactive stress. Our results showed that prolonged exposure to ionising radiation of anthropogenic nature can lead to an increase in the percentage of occurrence of polyauxotrophic variants of bacteria of the genus *Bacillus* in soil microcommunities. Our study revealed disturbances of the main metabolic processes under conditions of increased radioactive stress. The biodiversity of soil microbial communities and mechanisms of implementation of genetic errors in biosynthetic processes largely depend on the impact of prolonged ionising radiation.

BIBLIOGRAPHY

1. *Coleman, D.* Soil biology, soil ecology, and global change / D. Coleman, E. Odum, D. Crossley. New York: Oxford Univ., 2018. – 200p. (P. 104–111).
2. *Алтон, Л.* Развитие и выживаемость бактерий рода *Bacillus* / Л. Алтон. М.: Колос, 2018. – 35 с. (С.12-15).

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