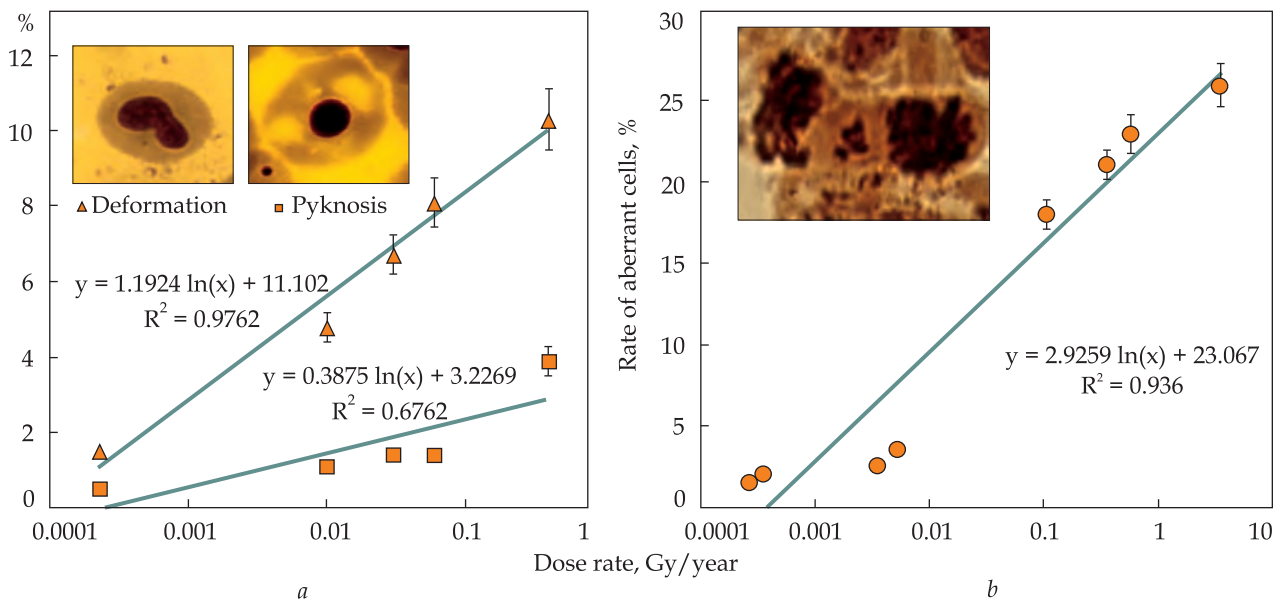


METHODS FOR BIO-INDICATION OF ECOLOGICAL STATE OF WATER BODIES UNDER THE EFFECT OF LONG-TERM RADIOACTIVE CONTAMINATION



Dependence of frequency of injured red cell nuclei of peripheral blood of common rudd (a) and dependence of amount of aberrant cells in embryo tissues of pond snail (b) on radiation dose

Areas of Application

The method is to be used by nuclear fuel cycle enterprises and regulatory bodies in the field of nuclear industry and environment protection for monitoring the state of aquatic ecosystem under conditions of radioactive contamination to ensure the ecological safety in nuclear power engineering and the protection of environment from radiation

Specification

The method is based on the use of cytogenetic parameters (rate of aberrant cells) of embryonic tissues of freshwater pond snails and root meristems of higher aquatic plants, as well as of hematologic parameters (rate of deformations and pyknosis of peripheral blood red cell nuclei) of freshwater fish in order to determine the biologically significant levels of contamination of aquatic ecosystem components with main dose-forming radionuclides

Advantages

The developed methods and criteria adequately show the level of radiation impact and detect the early damages of the most sensitive components of biotic communities in aquatic ecosystems exposed to radiation

Stage of Development. Suggestions for Commercialization

IRL5, TRL3
 The method for monitoring the quality of aquatic environment affected by nuclear fuel cycle enterprises is developed upon request

IPR Protection

IPR2

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