

theory, it was assumed that the overall inactivation process involves a reversible sub-lethal stress and repair reactions to form reversibly injured cell or sensitized cell, which then undergoes irreversible injury leading to dead cell. A shoulder in low dose range in survival kinetics was associated with the repair process. Depending on the postulated mechanism, kinetic model equations were derived. The kinetics of cell inactivation by irradiation was expressed as depending on irradiation dose. By using experimental data in the developed model the inactivation parameters including threshold dose, radiation yield, decimal reduction dose and minimum sterilization dose were evaluated and microbial inactivation by irradiation was simulated by using the numerical values of the parameters. Developed model and model parameters may be used for the process control and the assessment of product quality in radiation preservation of food.



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## **RADIOACTIVITY OF SOME DRIED FRUITS**

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Radioactivity radiation from natural and artificial sources often acts at the same time in complicated combinations and without exception on all inhabitants of our planet. Natural and artificial radioactive isotopes pass into living organism by biological chain: soil-water-air-plants-foodstuffs-person and can be sources of inside irradiation. Accumulation of radionuclids in living organism in large quantities limit permissible concentration (LPC) can lead to pathological changes in organism. With above mentioned at the radioecological investigations, researches and control of changes of radionuclids concentration in environmental objects have important interests. Investigations of determination of radioactivity of environmental objects, which began in 1960 by professor Muso Muminov are continued in the department of nuclear physics of Samarkand State University. We work out semiconducting gamma-spectrometric method of determination of radionuclides concentration in weak –active environmental samples. We investigated radioactivity of different samples of natural environment and generalized results.

In this work the results of investigation of radioactivity of some dried fruits are presented. The spectra of  $\gamma$ -radiation of following dried fruits as grapes, apricot, apple and peach was investigated. In measured gamma-radiation spectra of these samples gamma-transitions of  $^{226}\text{Ra}$ ,  $^{232}\text{Th}$ ,  $^{40}\text{K}$  natural radionuclids and product of  $^{137}\text{Cs}$  division.

The specific gamma-activities these radionuclides were determined. The  $^{40}\text{K}$  have most specific activity and  $^{137}\text{Cs}$  – least. The calculated quantities of specific gamma-activity of radionuclides in gamma-spectra of investigated samples can replace to following row:

$$^{40}\text{K} > ^{232}\text{Th} > ^{226}\text{Ra} > ^{137}\text{Cs}$$