ASSESSMENT OF PESTICIDE RESIDUES IN OPEN WATER SOURCES

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In today's era of development, along with a sharp increase in the number of factories and enterprises, the daily increase in modern industrial zones, along with the creation of jobs, the waste they produce plays a significant role in polluting not only the atmospheric air, but also the water, soil and food products in the region. At the same time, the use of a number of pesticides in the production of agricultural products, protection against pests in various environmental conditions, and the prevention of pollution of open water sources with pesticides together with their environment is one of the urgent problems facing the employees of the Committee for Sanitary, Epidemiological, Peaceful and Public Health.

Purpose of the research. The purpose of the study is to assess the amount of toxic chemicals in open water sources.

Materials and Methods. The study was conducted based on the results of the annual report of the Department of Sanitary Epidemiology and Public Health of Surkhandarya region for 2000-2022.

The content of 6 main pesticides in open water sources, dichlorodiphenyltrichloromethylmethane (DDT), dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE) and α,β,γ hexachlorocyclohexane (α,β,γ GCHC), was analyzed based on SanNandK.

The study results were based on samples taken from 1 city and 14 districts of the region.

The statistical processing of the study results was carried out using the personal computer application package "Statistica for Windows 7.0".

Results and Discussion

During the monitoring, in 2020-2022, samples from open water sources in the city of Termez and 14 districts of Surkhandarya region were found to have excessive levels of chemical residues, with DDT levels in 352 (17.40%)-452 (16.6%) samples, DDD levels in 285 (14.09%)-452 (16.6%) samples, DDE levels in 329 (16.27%)-452 (16.6%) samples, (αGHCG) levels in 352 (17.40%)-452 (16.6%), (βGHCG) levels in 352 (17.40%)-452 (16.6%), (γGHCG) levels in 352 (17.40%)-452 (16.6%), Elevations were detected in 352 (17.40%)-

452 (16.6%) samples. The analysis of the results of pesticides by district revealed the following. In 2020, the highest levels of (DDT) and other pesticides were detected in 72 (3.56%) samples in Kumkurgan district, followed by 67 (3.31%) samples in Jarkurgan district, 58 (2.86%) samples in Termez city, 48 (2.37%) samples in Uzun district, and the fifth pillar was Bandikhon district, where 47 (2.32%) samples had excess REM. In 2022, the highest level of (DDT) was detected in Termez city in 138 (5.08%) samples, followed by 135 (4.97%) samples in Bandikhon district, 83 (3.06%) samples in Termez district, 43 (2.12%) samples in Jarkurgan district, and the fifth pillar was detected in 18 (0.66%) samples in Altynsay district, exceeding the permissible limit (PML). Analysis of the results obtained shows that the number of samples has increased over the years and the presence of pesticide residues, which requires the implementation of preventive work in this regard.

Our research shows that the amount of pesticides detected was the highest in 2020 in Kumkurgan district, while in 2022 it showed a high indicator in Termez city. The lowest number was detected in Angor district in 2020 and was not detected at all in Shorchi, Boysun, Muzrabad, and Kyzyrik districts, and in 2022, the lowest number was detected in Shorchi district and was not detected at all in Sherabad, Boysun, Muzrabad, Kyzyrik, and Uzun districts. This requires us to increase the efficiency of laboratory analyzes in this area and strengthen preventive work.