
THE PESTICIDES LEVEL DETERMINATION IN VEGETABLES AND FRUITS COMMONLY USED IN THE REPUBLIC OF MOLDOVA AND ESTIMATION OF HUMAN INTAKE

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Abstract. The purpose of research is to assess the residual concentrations of pesticides in fruits and vegetables and to estimate the health risk associated with the consumption of pesticide-contaminated vegetables and fruits. A total of 5206 samples from twenty one different vegetables and fruits were collected. Residues of pesticides in concentrations exceeding the maximum residue levels were found in 22.9% of analysed samples. Thirteen insecticides, four fungicides, two acaricides and one herbicide were detected in the analysed samples. The estimated daily intake (EDI) has been established between 0.000001 and 0.0002 mg/kg of body weight/day. Calculated values of EDIs are lower than the levels of acceptable daily intake (ADI). The calculated hazard indices ranged from 0.000004 up to 0.15 for the analysed pesticides. The highest value of hazard index was calculated for diazinon – 0.15. It might be concluded that the long-term consumption of vegetables and fruits could pose a health risk for the population of the Republic of Moldova.

Keywords: pesticide residue, fruit, vegetable, estimated daily intake, risk assessment.