

## COMPARATIVE NEMATOLOGICAL RESEARCH ON INVASIVE AND VECTORAL IMPACT ON THE APPLE CROP UNDER THE CONDITIONS OF THE INTENSIVE VALUATION SYSTEM

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In the respective work were carried out bioecological and taxonomic investigations of invasive nematode populations and parasitic vectors associated with apple culture, compared in classic and intensive type orchards. Phytosanitary helminthotic biological control is prioritized through the seasonal and annual monitoring of evidence and remediation methods, through logistical and intellectual means, which are the basis of the research program within the Parasitology and Helminthology Laboratory, Institute of Zoology, according to the annual research programs of the State Program project, between the years 2020-2023.

The current events addressed motivated the purpose of the investigations carried out in the comparative establishment of the diversity of invasive nematode complexes and the vector helminthological parasitic impact on apple culture in various fruit-growing sectors, with the elucidation of the most dangerous species with a harmful effect in productive apple orchards. The objectives highlighted the most invasive species of nematodes and vectors of pathogenic viruses from the orders *Thylenchida* and *Dorylaimida*, associated with apple culture in various areas and apple orchards in the Republic of Moldova. Through specific methods and analyzes in the orchards and the laboratory, the diversity and structure of the nematode complexes associated with 15 invasive and vector species with parasitic impact and the provocation of viruses in practically all investigated sectors were established, where the most common species are highlighted: *Longidorus elongatus*, *Xiphinema index*, *X. riversi*, *X. brevicolle*, *X. diversicaudatum*, *Trichodorus primitivus*.

Comparative values of the density of the numerical flock were in abundance of 30-150 individuals/100 g/soil, compared to the investigated sectors and areas. At the same time, the frequency and intensity of the development of helminthotic diseases with the presence of 13 viruses caused associatively expressed by symptomatic aspects and degree of disease in the dynamics of growth and development of trees was estimated. They were noted with symptomatic diseases of viruses in trees on fruit and young saplings on leaves and shoots in average values of 5-20%, compared to maintenance technologies.

**Keywords:** apple orchards, biological indices, nematodes, phytosanitary control, viral diseases.