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Aspects Regarding the Impact of Phytoparasitic Nematodes on *Rubus idaeus* and *Fragaria* × *Ananassa* Crops in the Central Development Region of the Republic of Moldova

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Abstract: The berry sector, encompassing crops such as raspberry (*Rubus idaeus*), strawberry (*Fragaria* × *ananassa*), blackberry (*Rubus fruticosus*), etc., is undergoing dynamic development in the Republic of Moldova, showing significant potential for both the domestic market and exports. In the context of modern agriculture, characterized by intensification and rationalization, there is a parallel increase in the pressure exerted by diseases and pests on these crops. In recent years, changes in agricultural practices, the diversification of cultivars and introduction of new varieties, the uncontrolled import of planting material, along with the effects of climate change, have heightened the need for phytosanitary monitoring and testing of berry crops. Helminthological research conducted in the Central Development Region of the Republic of Moldova (Hancești, Orhei, and Călărași districts) on *Rubus idaeus and Fragaria* × *ananassa* plantations. Among the 12 plantations surveyed, associated nematodes belonging to the genera *Pratylenchus* (fam. Pratylenchidae), *Rotylenchus* (fam. Hoplolaimidae), *Ditylenchus* (fam. Anguinidae), and *Xiphinema* (fam. Longidoridae) were identified in 42% of the samples, with a low infestation level (<100 nematodes per 100 cm^3 of soil). Nematodes of the genus *Xiphinema* are recognized as major biological vectors of economically significant plant viruses affecting agricultural crops. Additionally, symptoms of root system damage were observed in 35% of the plantations. These nematode species typically migrate and feed within the root cortex, causing significant tissue damage that inhibits the growth and development of raspberry and strawberry plants. Moreover, during feeding, the nematodes disrupt plant tissues, facilitating secondary infections by soil-borne fungal and bacterial pathogens. The identified species are of notable economic and epidemiological importance. Nematode populations establish quickly in the soil, are influenced by climatic conditions, and can survive for extended periods. This underscores the need for preventive and control measures, such as annual monitoring of soil and root health; use of certified and pathogen-free planting material; implementation of integrated management practices, such as crop rotation, biofumigation, and biological treatments adapted to local environmental conditions.

Keywords: Berry Crops Moldova; Phytosanitary Monitoring; Plant-Parasitic Nematodes; Root Damage; Integrated Management.