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Faunist Analysis of Phytonematodes of Corn Plant in The Southern Territory of Surkhandara Region

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Annotation: In the southern parts of Surkhandarya region, a comprehensive study of the complex of nematode fauna of grain crops, including corn, and the identification of disease-causing species, the fight against parasitic species in increasing the yield of corn the basis of these data measure is the development of measures.

Keywords: Nematodafauna, saynxorst metodi, Merlinius dubius, Helicotylenchus pseudorobustus, H. digitatus, Tylenchorhynchus bucharicus, Ditylenchus dipsaci Pratylenchus scribneri, Meloidogyne arenaria

We all know that the state, prospects and types of food crops grown in the country, their role in the national economy and exports depend, first of all, on the geographical location of the country, its soil and climatic conditions and of course, the culture and level of agriculture. If so, it depends on the skill of growing a particular product, how much such products are in demand in domestic and foreign markets. In our country, agriculture is the main branch of the national economy, and exemplary work is being done, especially for the independence of grain. In particular, measures such as expanding the area under crops and increasing yields are clear examples of this. In particular, among cereals, it is important to grow corn as a grain and fodder crop. However, the corn plant, like all agricultural crops, is under the influence of one or another pest, which not only adversely affects the growth and development of the plant, but also sharply reduces its yield. Leads to the outflow. One of these pests is microscopic organisms, i.e. phytonematodes.

The study was carried out in 6 collective farms of Jarqurghon, Termez districts (Surkhan, N. Boymurodov, Ak Tepa, Namuna, Zhdanov, October 40) samples of corn and soil collected served as.

The material was collected from B.-666 and Chui-62 hybrid varieties of corn in June, July, August and September 2019-2021. 180 soil and 420 plant (600 plant) samples from the registered farms were examined to study maize nematode fauna. 34 species of nematodes were found in the soil around the corn plant and its roots. (Table 1.).

Nematodes found in the soil around the corn plant and its roots

Table - 1.

№	Nematoda type	Soil	Root	Stem	Total	%
1	2	3	4	5	6	7
1	Mononchus truncatus	4	2	-	6	0,5
2	Dorylaimus stagnalis	30	-	-	30	2,7
3	Mesodorylaimus bastiani	11	-	-	11	1,0
4	Rhabditis brevispina	35	20	-	55	5,0
5	Cephalobus persegnis	35	15	-	50	4,5

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6	Eucephalobus striatus	39	19	-	58	5,2
7	E. oryuroides	20	13	-	33	3,0
8	E. mucrotatus	32	10	-	42	3,8
9	Heterocephalobus elongates	35	-	-	35	3,2
10	H. Teres	26	11	-	37	3,3
11	Acrobeloides buetschlii	30	18	2	50	4,5
12	Panagrolaimus mycop'ilus	37	18	-	55	5,0
13	P.armatu	41	18	-	59	5,3
14	P.multidentatus	33	17	-	50	4,5
15	Aphelenchus avenae	19	10	-	29	2,6
16	Aphelenchoides composticola	15	7	-	22	2,0
17	A. parietinus	15	6	-	21	1,9
18	Psilenchus minor	11	4	-	15	1,4
19	Ditylenchus dipsaci	19	10	-	29	2,6
20	D. intermedius	23	10	-	33	3,0
21	Tylenchorhunchus bucharicus	12	14	-	26	2,3
22	T. clindricus	15	5	-	20	1,8
23	Merlinius dubius	14	6	-	20	1,8
24	Helicotylenchus psendorobustus	20	12	-	32	2,9
25	H.digitatus	19	11	-	30	2,7
26	H.dihystera	14	10	-	24	2,2
27	H. Kornurus	10	8	-	18	1,6
28	H.crenicauda	8	6	-	14	1,3
29	Pratylenchus scribneri	14	9	-	23	2,1
30	P. pratensis	20	20	-	40	3,6
31	P.bicaudatus	17	17	-	34	3,1
32	P. brachyurus	16	16	-	32	2,9
33	P. crenatus	14	14	-	28	2,5
34	Meloidogyne arenaria	30	20	-	50	4,5
	TOTAL	733	376	2	1111	100

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They belong to 18 generations, 13 families, 5 families, 34 families. Twenty-four species were found in the soil around the corn root. At the root are 21 of these 24 species. A total of 30 species of nematodes are common for corn root and root soil.

Taking into account the above considerations, in 2018-2021, scientific research was conducted to study the faunistic complex of phytonematoids found in corn in the conditions of Surkhandarya region. Plant and soil samples were collected using a route method widely used in phytohelminthology, and 184 plant and 215 soil samples were analyzed.

The samples were isolated on the basis of Berman's funnel method at a temperature of 25-30 C0 for 24 hours and fixed with 4-6% pharmacological solution. A total of 847 phytonutrients were isolated and permanent preparations were prepared on the basis of the Sainhorst method. Root bulge nematodes

females were isolated by direct cleavage of the root, and preparations were prepared from the anal-vulvar body part to determine the composition of the species using the peculiarities of their external structure. The species composition of phytonematodes was determined using the MBR-3 microscope and a phase contrast device, as well as atlases of phytonematodes and identifiers of phytonematodes prepared at the Institute of Parasitology of the Russian Academy of Sciences. The phytonematodes identified during the study belonged to 2 subclasses, 5 subclasses, 6 subclasses, 10 large families, 13 families, 15 subfamilies, 18 genera and 24 species. The identified phytonematoids were divided into the following groups according to the ecological classification of AAParamonov: parasisobionts - 3 species (12.5% of the total number of individuals), eusapriobionts - 1 (4.1%), devisaprobionts - 10 (41.7%), disease phytohelminths - 3 (12.5%), disease-causing phytohelminths - 7 species (29.2%). Krogerus classification was used in the analysis of the number of individuals of phytonemato species found. According to him, the dominants - 8 species, subdominants - 12 species, rare - 4 species. When analyzed by category, the phytonemats found in Mononchi, Dorylaim, Rhabditi, Aphelenchi, and Tylenchi were found to be members of the genus, with the first 2 genera representing a total of 3 species, with few species and individuals. There are 11 species in the Rhabditida family, *including Cephalobus persegnis, Eucephalobus striatus, Acrobeloides buetschlii, Panagrolaimus rigidus, P. mycophilus, P. multidentatus* were noted to be dominant. In Aphelenchi, 2 species from the genus Aphelenchus avenae were recorded and found to be more frequent. Eight species were identified from the genus Tylenchida, with *Merlinius dubius, Helicotylenchus pseudorobustus, Ditylenchus dipsaci,* and *Meloidogyne arenaria* predominating. In terms of the number of species and individuals in the study, the first place was taken by the Rhabditida series, and the second place was taken by the Tylenchida series. Scientific studies have shown that phytohelminths that cause disease in the soil around the corn plant and its roots include *Merlinius dubius, Helicotylenchus pseudorobustus, H. digitatus, Tylenchorhynchus bucharicus, Ditylenchus dipsaci Pratylencia* parasitic parasitic scribneri. For the first time in the conditions of Surkhandarya region (Termez districts and Jarqurghon) the nematode fauna of the corn plant was studied. As a result, 34 species of nematodes were found in the root and peripheral soil of the corn plant. These nematodes belonged to 2 subclasses, 5 subclasses, 6 subclasses, 10 large families, 13 families, 15 subfamilies, 18 genera.

The parasitic nematodes listed above have a direct or indirect effect on the productivity of the corn plant, which is important in the study of the species composition and distribution of phytonematoids, as well as in the fight against them.

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