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ANALYSIS OF THE ROOT AND ROOT CIRCUMFERENCE NEMATODE OF SILYBUM MARIANUM (L) GAERTN

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ABSTRACT

Nowadays, consistent reforms are being carried out in he field of protection of medicinal plants, rational use of natural resources, the establishment of plantations for the cultivation of medicinal plants and their processing. The cultivation of medicinal plants in agriculture and supply of raw materials for the pharmaceutical industry are important issues.Medicinal plants are valuable, but there are pests that damage them and cause various diseases, and the yield of medicinal plants, at their expense, is declining from year to year. Silibummarianum L. contains many medicinal properties that are beneficial to the human body.

KEYWORDS: *Soil, Medicinal Plants, Nematode, Agriculture, Asteraseae, Phytohelminthology*

INTRODUCTION

Sistematic status: Silibummarianum L. is a division of closed-seeded plants , a class of dicotyledons, an annual plant belonging to the family of complex inflorescences(Asteraseae).Herbs fundamentally, plants or part of plants used for the treatment of many physiological disorders due to the presence of many phytochemicals and medicinal properties. Among these, milk thistle is an important herb playing a role as an antioxidant. [2]This herb botanically known as *silybummarianum*, belongs to family, Asteraceae .Silibummarianum L. veins present on the leaves when broken their leaves these veins produce milky fluid due to this reason this herb named as milk thistle. The plant is an adaptive crop with low requirements. It's mainly cultivated as a medicinal plant. As a result of research, the following species belonging to the genus Xiphinema from ectoparasitic nematodes was found: Xiphinema index,. The detected ectoparasite is a virus carrier in phytonemato. The hosts of this phytoparasite are sugar cane, grapes, cotton, laurel, figs, cultivated and wild-growing fruit trees.

Material and methods

In phytohelminthology, two methods are used to take samples from soil and plants. One is the route, the other is the stationary method. The Berman method, widely used in phytohelminthology, was used to isolate phytonematoids from soil and roots. The route method

was used in the studies. Samples were taken from the soil of the root and periphery of three different varieties of rastoropsha plant at approximately the same distance as the plan, on foot, on the road - the method of crossing (route). Samples were collected from the experimental plots of Mamun Academy of Khiva district of Khorezm region in June and July 2021 from the areas planted with medicinal crops. When sampling, attention was paid to the condition of the medicinal plants.The nematodes, isolated from plant tissue and soil, were released into the water through a metal net and collected in front of the clamp. [1]Specimens for nematode isolation were stored at room temperature for approximately 24–48 hours, if stored longer than this, the fine tissue of saprazoidnematodes may be dissected. Sedimented nematodes were converted to 4-5% formalin to preserve the original.One-tenth of the glass test tube was filled with 40% formalin and the nematode water collected in front of the clamp was transferred to the test tube. Labels with information about the samples taken were placed in the test tubes and covered with a foam cap. In total, 20 plant roots and 60 soil samples were taken. More than a hundred regular drugs have been prepared.[3]

The study of the faunal composition of phytonutrients of agricultural crops in Uzbekistan was carried out on a large scale by the well-known phythelminthologist AT Tulaganovand his students. Preliminary information about phytonematoidsis given in the works of A.T.Tulaganov, the scientist who founded the School of Phytogelminthology in Uzbekistan. The results of the research are described in scientific works.Phytonematoids differ from other multicellular organisms by the diversity and abundance of their species in soil organisms.In cultural landscapes, the biomass of nematodes is 50 kg per hectare. Depending on the type of nutrition, nematodes can be divided into true saprobiotic species, semi-true and true parasitic species. True saprobiontscan be found where organic matter decomposes. Saprobiotic nematodes are involved in the processes of metabolism, soil formation with other organisms in the soil.The flora is valuable and some plants are also used in crop rotation. For example, when alfalfa is planted, the mechanical composition and physical properties of the soil are improved, and the soil is enriched with nutrients. The study of alfalfa nematodes in Uzbekistan was initiated by phythelminthologist A.T.Tulaganov.[4]

Based on the above, various phytonematodes of agricultural crops, vineyards and fruit trees in Uzbekistan were studied many years ago, mainly in different districts of Surkhandarya region, Karakalpakstan, Tashkent city, Tashkent region, and in other regions, such as Khorezm region. The need to study the composition of phytonematodafauna of plant roots and root zone soils was identified.

Khorezm region is located in the north-west of Uzbekistan, in the lower reaches of the Amu Darya, 600-610 east, 400-410 north latitude. The territory of Khorezm region is located in the northern part of the Turanlowland, the ancient Amudarya delta occupies part of the left bank and a small part of the Kyzylkum on the right bank.

RESULTS AND CONCLUSION

In our samples , 14 species (144 copies) were identified: Mylonchulussolus (rastoropsha plant from the soil around the root of the panacea-6 species), E.pratensis (rastoropsha plant debut variety from the soil around the roots), E.labiatusrastoropsha plant E.monohystera (from the soil of the root and periphery of the panacea plant), E.parvus (from the soil of the root and rhizome of

the Samaritan plant, 6), Enchodellusmacrosa from the soil around the root of the variety-3) (figure 1).

Figure 1.

Distribution of root and peripheral soil phytonematoids of medicinal plant varieties by ecological groups

№	Ecological groups	Types of nematodes	individs	As a percentage of the total number of species
1	Pararizobionts	14	144	30
2	Devisaprobionts	15	206	31
3	Eusaprobionts	6	109	12
4	Phytohelminths	13	321	27
Total		**48**	**780**	**100**

13 species (321 copies) were found from phytoparasites. This group includes parasites that cause real damage to plants, causing nematodes, obligate and facultative parasites of plants. They are studied in two small groups.[5] Nonspecific phytoparasites that do not cause specific diseases, of which 9 species (88 copies) were found. Specific pathogenic phytoparasites that cause specific diseases.Of these, 4 species (233 copies) were found: Ditylenchusdipsaci (rastoropsha plant panatseya root, root circumference soil - 30, rastoropsha plant debut type root circumference soil - 12, rostoropsha plant samaryanka variety root circumference plant soplooty (9a) variety of root, soil around the root was found in 10 types.When describing phytonematodes, de Mann's formula, 1884, modified by Mikoletsky, was used and they were assigned to ecological groups (measurements were made mainly by A.T.Tulaganov and A.Z. Usmanova.Nematodes found in the soil and at the root of the plant affect plant growth and development. Nematodes living in soils rich in organic humus help to improve soil condition. They also play an important role in nitrogen balance.

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