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Ecological Faunistic Analysis of Phytonematodes Encountered in Rice Agrocenoses on the Example of Surkhandarya Region

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Annotation: In the article, the species composition, biological and ecological characteristics, fauna, distribution, study of plant damage and endemic species of rice phytonematodes distributed in the soil around the root and around the root, on the stem and leaves of rice phytonematodes in the Surkhandarya region, and the data on endemic species were collected by foreign and CIS scientists. noted in the research works.

Keywords: phytohelminth, spike crops, phytonematode, rice plant, species, root nematodes, agriculture.

Phytohelminthology is progressing significantly in all countries of the world where agriculture is developed. It is characterized by timely detection of all roundworms in nature, including plant parasites, i.e. phytohelminths. Phytohelminths damage almost all types of plants from more than 2000 species and annually cause the death of up to 10% of the world's plant productivity. In the world, the rice cultivation area is 155.5 million ha (planted in more than 115 countries), the yield is 38.4 s/ha, the total harvest is 596.4 million ha. constituted t (1999). The main rice growing countries: China (31.7 million ha, yield 63.2 s/ha, gross yield 200.4 million t), India (44.8 million ha, yield 29.2 s/ha, gross yield 131.2 million t), Indonesia (11.6 million ha, yield 42.9 s/ha, gross yield 49.5 million t) (1999). The cultivated area in Uzbekistan is 17,452 thousand ha, and the yield is 83,776.5 tons (2021). Spring rice is a heat-loving and light-loving short-day plant, its seeds germinate when the soil temperature is 10-12°, it grows well at 22-27°. The vegetation period is 120-130 (in Uzbekistan, 100-145) days, and rice is grown by irrigation (irrigation rate is 16-24 thousand m³/ha). 5-25 cm thick water is applied during the period of tuber formation. Rice grows well in black, chestnut, marshy soils. Rice is grown under irrigation and crop rotation. Rice in Uzbekistan. It is planted in spring, in the second half of April, on non-saline or different degrees of salinity (seedlings are grown in some countries). Accordingly, in order to increase the productivity of the rice plant, Uzbekistan followed the path of agricultural intensification. However, concentration and intensification are the basis of the intensive system of agricultural production, which leads to the deterioration of the phytosanitary condition of the crop rotation areas. In particular, the specialization of farms in the cultivation of rice leads not only to the activation of various pests, the consistent accumulation of invasive species in the soil.

Faunal studies are of primary importance in phytohelminthology. Development of taxonomic work, analysis of the morphological structure of nematodes, grouping and ecological description of species and faunistic research on identification of harmful phytohelminths foreign scientists: Bridge.J, Plowright.R.A, Peng D, Golden.M.A, Brichfield.WE.Khan, Arjun , Lal (1988), D. Sigh, K. Agrawal, (1987), as well as scientists from CIS countries: Ye.S. Kiryanova, E.L. Krall (1969), Ye.S. Kiryanova, E.L. Krall (1971), A.Y. Riess (1988), P.SH. Nesterov (1979), A.A. Paramonov

(1952; 1958; 1962; 1967), T.S. Skarbilovich (1975), A.T. Tolaganov, P.B. Haydarova worked on rice phytonematodes.

For the first time, E.S. Kiryanova recorded the nematode species in the research conducted in the fields of Tajikistan.

A. T. Tolaganov conducted complete phytohelminthological scientific research in the fields of rice plants in Panjikent district of Tajikistan and Samarkand region of Uzbekistan. During the research, the author identified 59 species, of which 21 species are considered to be characteristic of rice plants. .

S. M. Karimova identified 25 species of rice fields in Qaybeshev and Kegeyli regions of Karakalpakstan. A. T. Tolaganov identified 12 species of phytonematodes from the same districts.

In addition, information about nematodes of rice plants in Tashkent, Fergana regions and Karakalpakstan can be found in the works of B.F. Maslinnikova and O'tambetov. From foreign countries, he conducted scientific research on phytonematodes of rice plant in India, Australia, Korea and other countries. Among them, K.Sen M.K.Dasgupta gave information about the use of a mixture of dry rice straw with soil against plants infected with nematode nematodes. Phytohelminthologist K.Eshnazarov conducted the same research in Surkhandarya region against nematode nematodes of tomato and cucumber. used. The result was positive.

Scientist D. B. Haydarova, who worked on phytonematodes of rice plants in Surkhandarya region, defended her candidate's thesis in 2007. According to the author, a total of 107 species were identified from the samples collected from rice fields of 5 districts, 8 collective farms in Surkhandarya region.

Research materials and methods

In order to study phytonematodes of rice plants of Surkhandarya region, material is collected using route and stationary methods depending on different seasons. It was determined that 5 varieties of rice are planted in villages such as "Shalikor" of Muzrabot district. These are "Oz-Ros-7/13", "intensive", "lazur", "Avangard", "Alanga" varieties. "Oz-Ros-7/13" and "Avangard" varieties are planted more in Shalikor village. In order to check phytonematodes of rice plant, samples are collected using 2 different ways.

1. Route method.

2. Stationary method.

Using the route method, samples are collected from all community farms, where the root and root area of the plant are above the soil. It should be taken mainly in the months of August. Because this period corresponds to the period of flowering and milking of the ear. For this, the parasite is excavated with nematodes, and the roots are gradually removed from the soil. If the plant is infected with parasites, the color of the plant is gray, the leaves are yellow and sparse.

In the stationary method, it is carried out by studying the syndynamics and autodynamics of the phytonematoma in the plant tissues and the soil around the roots.

A field planted with rice in "Sholikor" village of Muzrabot district was selected for sampling. When all are divided into four sections, the area of each section is equal to 50-60. Counting 10 plants from each field at a depth of 20 cm, the roots and the soil around the roots are mainly grown in rice water, so it is difficult to collect samples. Rice is planted in April. (When 1-2 leaves emerge, i.e. grass, stemming, flowering, milk spike period). At the time of collecting samples from the

plant, the diseased plants were not well developed and were severely damaged. The simplest method for removing nematodes from plants is the Berman Funnel method. Visual method was used to remove nematodes from plant tissue. Plant organs are separated (root, stem, leaf, etc.) and washed in tap water. Separated organs are cut from 5.5 cm and 20 g are taken and put in a milk filter and placed in a Berman funnel. After 20-24 hours, test tubes are removed and fixed with 0.4 formalin. It is necessary to isolate phytohelminths from the affected tissue. The method is relatively easy, in which the affected leaf pieces are taken from the stem and the spike in small pieces and put in a glass with water. put in a petri dish and mix well. Plant tissue is expanded with two needles or a scalpel. In this case, phytohelminths come out of the infected plant tissues very quickly. If the water is observed through a molecular microscope, the phytohelminths separated in the water are clearly visible. In addition, nematodes can be isolated by washing the soil through a sieve. The nematodes falling through the sieve into the test tube are fixed with formalin

Temporary and permanent preparations are prepared for the detection of nematodes. The temporary preparation is made from pure glycerin, and the permanent preparation is made from glycerin gelatin.

Used literature

1. Haydarova P.B. "Паразитических нематоди риса в Сурхандаринской области ". Uzb. Biolog, iyul 2005. N°1 s48-51.
2. Haydarova P.B. "нематоди риси в Сурхандаринской области" Uzb Biol og. jurnal 2005 N°2,3 str 64-67 .
3. Haydarova P.B. "Эколого-фаунистический анализ нематод риса. Биологии наука XXI века". Тез. Докл. 10-ой Пушиниской школи-конф. Молодих ученик-Пушино- 2006 str 327 .
4. Mavlonov. O, Xurramov A. Sh. O'zbekiston janubidagi g'alla ekinlarining parazit fitonematodalar va ekspertiza Zoologiya va gistologyaning muammolari Respublika ilmiy amaliy konferentsiyasi materiallari. T. 2006.68-70 betlar.
5. Mavlonov O.Eshova X " Битые готические взаимоотношения фитонематод с пустинними ратениями" матер. Риспуб. научно-практич конференции. Т.2008 70-73
6. Масленникова В.Ф. Т. «Нематод фауна риса Узбикистана» М: 1963-1493-495 г.
7. Xurramov SH.X.«Нематоди сахарного и меры борьбы с ними» Toshkent 1980 y. str 152-154.
8. Rustamovna, A. D. (2020). Technology Of Teaching Languages. *JournalNX*, 180-183.
9. Алаудинова, Д. (2022). Theoretical approach of oral communication competency. *Общество и инновации*, *3*(3/S), 147-151.
10. Kuvanchieva, M. D., Jumayev, U. N., & Alaudinova, D. R. (2019). FEATURES OF LAND AS CAPITAL AND THE IMPACT AND MECHANISM OF AGRICULTURAL CAPITALIZATION. *Научные горизонты*, (12), 52-56.