SECTION 23. Agriculture. Agronomy. The technique.

Surayyo Abdumutalovna Misirova
doctor of Philosophy (PhD) in agricultural sciences, head of the department of "Ornamental gardening and horticulture", Namangan engineering – technological institute, Namangan, Uzbekistan

Ibroxim Sharifboyevich Qurbonov
assistant in department of "Ornamental gardening and horticulture", Namangan engineering – technological institute, Namangan, Uzbekistan

Nazokat Qobiljonovna Sayfullayevna
assistant in department of "Technology of storage and primary processing of agricultural products", Namangan engineering – technological institute, Namangan, Uzbekistan

Dildora Odiljon qizi Ne`matova,
master in department of "Technology of storage and primary processing of agricultural products", Namangan engineering – technological institute, Namangan, Uzbekistan

DETERMINATION TYPES OF FUNGI-PATHOGENS OF ORNAMENTAL FLOWER CROPS IN CONDITIONS REGION NAMANGAN

Abstract: For the first time 59 rinds, 11 forms and 1 variation of fungi-pathogens in 15 types of flowers grown in the conditions of Namangan regions were defined. Infection of selected flowers by 81 kinds of fungi-pathogens was determined. For the first time in the conditions of our republic on 15 types of flowers was used Trichoderma viride as a biological method and such kind of fungicides as Maksim, Baileton, Fundazol in controlling of defined diseases as chemical method and economic efficiency of these measures were estimated.
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1. INTRODUCTION

Currently, worldwide, measures are being taken to control more than 1,500 species of pests and microorganisms that cause diseases in ornamental flowers. Of the microorganisms that cause diseases, 92% belong to various fungi. Therefore, the definition of diseases of ornamental flowers, causing various fungi, their bioecological properties, the rules of distribution and the development of measures to

combat them makes it possible to obtain a high income in states with developed floriculture [1-3].

It is known that the State Register of Crops recommended for sowing in the Republic of Uzbekistan describes 15 species and 55 varieties of ornamental flowers, which is evidence that our state pays special attention to the development of floriculture. In particular, only in Tashkent, decorative flowers are grown in more than 100

greenhouses to meet the demand of the population for flowers in more than 100 greenhouses. However, an increase in flowers infected with fungus-pathogens is the main reason for the decrease in their yield and quality [4-5].

Currently, in the republic, in the conditions of the Tashkent and Namangan regions, a concrete plan is being developed for effective measures to combat the contamination of decorative flowers with pathogens that cause diseases. In this regard, targeted research, including research in the following areas, is one of the urgent problems: identification of the types of fungi-pathogens that occur in decorative flowers; reducing the degree of infection of plants; acceleration of their growth and development; yield increase [6-10].

At this work they knew bioecological features of fungi types which damage agricultural crops and their systematic distribution at laws. Besides that, they professed fighting measures for them and introduced to practice. Nevertheless, flower plants diseases in the city of Namangan and the regions of Namangan. Were not studied by any one.

The aim of this work in to determinate allocated types of fungi from the ornamental flowers in Namangan region.

2. MATERIALS AND METHODS
2.1. Research Sites

The experiments were carried out in floriculture farms located in the Namangan regions during 2017-2018, and laboratory work was carried out at the Namangan Engineering-Technological Institute.

Studies were conducted in the following sequence:

Collection of samples of herbaria infected flower plants and their parts carried out by the method of MK Khokhryakova; the isolation of fungi from the seeds of flowering plants and the determination of their species by the methods of N.N. Naumova, A.Ya.Semenova, A.P. Abramova, MK Khokhryakova; species of fungi in the cells of infected plants were determined using the determinants of V.I.Bilya, P.N.Golovina, and T.A. Dobrazrakova. Taking into account the reinfection of plants, the Gauss average was used as a calculation variant [7-15].

The annual amount of the rain is 268-359mm. formed that is 146 - 199 mm. the month of January - April. The most rain is at the middle of March, the annual rain is 300-500 mm. in mountains Ares is 500-1000mm. Some of the mountains which has moisture climates the rein is 1500-1600mm.

2.2. Planting Material

In works [2-5] the systematic arrangement of species of fungi isolated from flower plants is given. This work presents 59 species, 11 forms and 1 variation of fungus-pathogens isolated from flower plants grown in greenhouse conditions in Namangan regions for 6 years and revealed that they belong to 4 classes, 7 subspecies, 11 families and 28 detachments.

The largest group consists of fungal species that are included in the *Deuteromycotina* class and consist of 35 species and 5 forms. Then follows the class *Basidiomycotina* - 16 species; *Ascomycotina* - 6 species, 4 forms and 1 variations; *Mastigomycotina* consists of 5 species. The smallest group is the sterile mycelium, consisting of 1 species. The most frequently encountered species in the study were *Fuzarium* species of fungi, which have 8 species and 6 forms. Of these, *F.oxysporum f.sp.dianthi, F.oxysporum f.sp.chrysanthemi, F.oxysporum f.sp.glodioli, F.oxysporum f.sp.lilii, F.oxysporum f.sp.narcissi, F.oxysporum f.sp.tulipa and F.oxysporum* cause fusarium wilt; *F.venaceum, F.moniliforme, F.hetecosporium, F.solani, F.culmorum, F.gibbosum, F.redolens*- fusarium rot. Then from the *Botrytis* family of 6 species cause gray rot, B.Cinerea infects aster, dahlia, chrysanthemum, carnation, gerbera, iris, rose; B. Gladiolorum - gladiolus, B. elliptica - lily, B. Narssicola - narcissus, B. Paeonia - peony, B. Tulipa - tiulpan.

3. RESULTS

In the conditions of our republic, fungicides were used as chemical control measures against diseases of ornamental flower plants, which are included in the list of "Chemical agents allowed for use by the State Chemical Commission". Special attention was paid to determining their economic efficiency. The following fungicides of Barak (1.0-2.0 kg / ton), Maxim-2.5% (0.2 and 0.4 l / ton), Vitavaks 200-75 (3.0-4.0 kg) and Topsin-M 70% cf (1.0-1.5 kg / t). As a reference against root rot disease of many plants, Fundazol 50% cp (2.0 kg / t) is used, which gives good results (Table 1 and Table 2).

The economic efficiency of the use of the *Trihoderma viride* fungus in the control variant of 0.01 hectares (100m^2) net profit amounted to 2199000.0 sum, and the profitability was 760.9%. The same indicators of the fungus *Trihoderma viride*, when they are propagated on oats, using a consumption rate of 60 kg / ha (Table 1 and Table 2), the net profit was 2555319.0 som and the profitability was 873.1%. When using this fungus at a rate of 120 kg / ha, the net profit was 2667238.0 soum and profitability was 911.1%. When using the pure spores of the same fungus, the consumption rate was 4 g/l and 8g/l, the net profit was 2299252.0 and 2443032.0 soums, respectively, and the profitability was 785.4% and 833.9%. Based on the above information, it is possible to draw such conclusions, as a result of the use of the fungus *Trihoderma viride* against the *Fusarium* rot of the *chrysanthemum*

flower with a calculation rate of 120 kg/ha, the possibility of achieving high efficiency was proved
.

4. CONCLUSIONS

During the conducting experiment we determined for the first time 59 rinds, 11 forms and 1 variation of fungi-pathogens in 15 types of flowers grown in the conditions of Namangan regions. Infection of selected flowers by 81 kinds of fungi-pathogens was determined. For the first time in the conditions of our republic on 15 types of flowers was used *Trichoderma viride* as a biological method and such kind of fungicides as Maksim, Baileton, Fundazol in controlling of defined diseases as chemical method and economic efficiency of these measures were estimated.

Table 1.

The biological effects of the fungus T.viride against *Fusarium* rot flower plants.

Variants	Aster L.				Chrysanthemum				Gladiolus (Tourn.) L.				Narcissus L.			
	The number of plants	The number of diseases of plants	%	Biological effects,%	The number of plants	The number of diseases of plants	%	Biological effects,%	The number of plants	The number of diseases of plants	%	Biological effects,%	The number of plants	The number of diseases of plants	%	Biological effects,%
control	442	106	23,9	-	311	89	28,6	-	560	104	18,5	-	282	93	32,9	-
Trihoderma viride oats, 60 kg / ha	457	62	13,5	43,5	356	51	14,3	50,0	57,3	52	9,0	51,3	295	45	15,2	53,7
Trihoderma viride oats, 120 kg / ha	470	51	10,8	54,8	370	37	10,0	65,0	582	40	6,8	63,2	310	32	10,3	68,6
Trihoderma viride pure spores of 4 g / l	449	72	16,1	33,0	324	52	16,0	44,0	568	58	11,9	35,1	294	51	17,3	47,4
Trihoderma viride pure spores of 8 g / l	452	59	13,0	45,6	342	44	12,8	54,5	572	50	8,7	52,9	292	44	15,0	54,4

Table 2.

The biological efficacy against *Fusarium* in region Namangan.

Variants	The consumption rate, l / t, kg / ha	The number of plants, pieces.	Number of infected plants, pieces.	The degree of infestation, %	biological efficiency, %
Gladiolus (Tourn.) L.					
Control	-	386	120	31,0	-
fundazol (reference)	2,0	436	34	7,7	75,1
Maksim	0,2	448	26	5,8	81,2
	0,4	449	21	4,6	85,1
Topsin-M	1,0	408	52	12,7	59,0
	1,5	401	25	6,2	77,2
Vitavaks	3,0	415	46	11,0	64,5
	4,0	422	35	8,2	73,5
Baraka	1,0	412	51	12,3	60,3
	2,0	423	46	10,8	65,3
Narcissus L.					
Control	-	456	162	35,5	-
fundazol (reference)	2,0	551	37	6,7	81,1
Maksim	1,0	559	32	10,0	83,9
	1,5	571	29	5,7	85,9
Topsin-M	1,0	544	49	9,0	74,6
	1,5	436	34	7,7	75,1
Vitavaks	3,0	530	71	13,3	62,5
	4,0	536	54	10,0	71,8
Baraka	1,0	519	110	21,1	40,5
	3,0	536	101	18,8	47,0
Tulipa L.					
Control	-	291	83	28,5	-
fundazol (reference)	2,0	348	16	4,5	84,2
Maksim	1,0	334	26	7,7	72,9
	1,5	349	22	6,3	77,8
Topsin-M	1,0	316	34	10,7	62,4
	1,5	328	32	8,5	73,5
Vitavaks	3,0	318	33	10,3	63,8
	4,0	326	28	8,5	70,1
Baraka	1,0	314	52	16,5	42,1
	2,0	326	38	11,6	59,2

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