

The World Of Fungi Of Melons In The Conditions Of The Southern Surkhandarya Region Of The Republic Of Uzbekistan

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Annotation: This article contains information about the fungal world of melons in Surkhandarya region. In this case, the most common fungal species in melons and watermelons from the main melon crops and the laws of their distribution by plants were studied. The obtained data are of theoretical importance in the protection of melon crops from fungal diseases.

Keywords: Tissue, Deuteramycetes, Ascomycetes, Oomycetes, wet chamber, micromycet, Cucumis melo, Citrullus lanatus, fungal world, mycobiota, form, fungus.

Introduction. Scientists around the world are developing scientifically based effective control measures against melons based on the study of the world of fungi, the laws of development of fungi, the biological characteristics of the species. Such multifaceted research has been conducted by scientists from the United States, Brazil, Greece, Israel, Spain, Italy, Mexico, Tunisia, Turkey, China, India, and other countries. Our scientists are also studying the fungal diseases of melons and measures to combat them. However, we also targeted areas that have not been studied in the context of the Republic.

Research methods. Herbarium specimens of diseased melons served as a source in the scientific work. Collection of samples is carried out on the basis of the route during the entire vegetation period of the plants. Herbarium samples were prepared from diseased plant samples based on accepted methods.

Table 1
Disease-causing fungi isolated from melons and watermelons and their systematic location (2020-2021)

Class	Order	Family	Category	Types and forms
1	2	3	4	5
Oomycetes	Peronosporales	Pythiaceae	Pythium	P.debarianum DB.
		Peronosporaceae	Peronosplasmopora	P.cubensis (Berk et.Curt) Clinton
Ascomycetes	Erysiphales	Erysiphaceae	Erysiphe	E. cichoracearium DC.
				E.cichoracearium f.cucurbitacearum
			Sphaerotheca	S.fuliginea f.cucumidis Jacz.
Deuteromycet	Moniliales	Moniliaceae	Aspergillus	A.clavatus Desm.
			Pencillium	P.expansum Lk.
			Botrytis	B.cinerea Pers.
			Verticillium	Vdahliae Kleb. Vnigrescens Pethybr.
		Dematiaceae	Theilaviopsis	Th.basicola (Berk.et.Br) Ferk
			Cladosporium	C.cucumerinum Ell.et.Arth
				C.herbarum Fr.

			Alternaria	A.alternata (Ell.et.Ev). Elliot. A.cucumerina Ell.et.Elliot A.cucurbitae Let.et. Boum			
e	Acervulales	Tuberculariac	Fusarium	F.gibbosum App.et.Wr. emend Bilai			
s				F.gibbosum f.sp.melonis F.moniliforme Schlecht. F.oxysporum f.sp.melonis F.oxysporum f.sp.niveum (E. F.Sm.) Fusarium sp. F.solani f.sp.melonis Sn. eЦБяш			
				Pycnidiales	Sphaerioideae	Ascochyta	A.cucumis Fautr.et.Raum.
				Mycelia	Agronomycetac	Rhizoctonia	R.solani Kuehn
Total: 3	6	8	14	23 type and 6 forms			

Analysis of herbarium samples was carried out in the laboratory by microscopic and biological methods. Wet chamber method (Naumov, 1937) is used to separate micromycetes within the tissue. Inoculation of mucoromycetes in the nutrient medium, their storage is carried out according to accepted methods (Naumov, 1937, Dudka and others, 1982). Determinants available in determining the species composition of isolated micromycetes.

Vasilevsky, Karakulin, 1936, Azbukina, 1974, Bilay, 1977, Pidoplichko, 1977-1978, etc.) and “Fungal flora in Uzbekistan” (1983-1997). Aisworth and Bisby (1998) monographs were used to systematize the identified fungal species.

The results obtained. Cucumis melo L. and watermelon Citrullus lanatus (Thub.) Matsum are the main melons grown in the field in Surkhandarya region. et Herbarium samples were collected from Nakai crops. The collected herbarium samples were mycologically analyzed using methods adopted in the laboratory. From the collected herbarium samples were identified 23 (6) species of fungi belonging to 3 classes, 6 orders, 8 families, 14 genera.

Of the identified fungi, the most numerous species were representatives of the class Deuteromycetes - 19 species, 4 forms, representatives of the class Ascomycetes - 3 species, 2 forms, and then representatives of the class Oomycetes - 2 species. The most common pathogens belong to the genus Fusarium, consisting of 5 species, 4 forms, followed by 3 species from the genus Alternaria and 1-2 species from the remaining genus. During the study, the laws of propagation of identified fungal species in the host plant were studied.

According to Table 2, 23 pathogens and 6 fungi were recorded in melons and watermelons planted in Surkhandarya region. Of these, 20 species and 4 forms were found in melons, 15 species and 2 forms in watermelons. In addition, Alternaria cucurbitae, Alternaria cucumerina, Botrytis cinerea, Cladosporium cucumerinum, Sphaerotheca fuliginea f.cucumedis, Fusarium gibbosum, Fusarium moniliforme, Peronoplasmopora cubensis, Pythium debaryanum, Thielaviopsis basicola, Verticillium dahliae species were isolated from melon and watermelon crops.

Samples taken from the diseased melon plant included Alternaria alternate, Aspergillus clavatus, Erisiphe cichoriacearum f.cucurbitaecearum, Fusarium gibbosum f.sp.melonis, Fusarium sr., Fusarium oxysporum f.sp.melonis, Penicillium expansum, Rhizoctonia solani, Verticillium nigrescens lar, watermelon Ascochyta cucumis, Cladosporium herbarum, Erisiphe cichoriaciaram, Fusarium oxysporum f.sp.niveum, Trichothecium roseum were isolated.

Table 2
Species of fungi isolated and identified from melon and watermelon crops

No	Types of fungi	In the Melon plant	In the watermelon plant
1	<i>Alternaria alternata</i>	+	-
2	<i>Alternaria cucurbitae</i>	+	+
3	<i>Alternaria cucumerina</i>	+	+
4	<i>Ascochyta cucumis</i>	-	+
5	<i>Aspergillus clavatus</i>	+	-
6	<i>Botrytis cinerea</i>	+	+
7	<i>Cladosporium cucumerinum</i>	+	+
8	<i>Cladosporium herbarum</i>	-	+
9	<i>Erisiphe cichoriacearum</i>	-	+
10	<i>Erisiphe cichoriacearum</i> f.cu-	+	-
11	<i>Fusarium gibbosum</i>	+	+
12	<i>Fusarium gibbosum</i> f.sp. melonis	+	-
13	<i>Fusarium moniliforme</i>	+	+
14	<i>Fusarium oxysporum</i> f.sp. melonis	+	-
15	<i>Fusarium oxysporum</i> f.sp. niveum	-	+
16	<i>Fusarium</i> sp.	+	-
17	<i>Fusarium solani</i> f.sp. melonis	+	-
18	<i>Penicillium expunsum</i>	+	-
19	<i>Peronoplasmodium cubensis</i>	+	+
20	<i>Pythium debaryanum</i>	+	+
21	<i>Rhizoctonia solani</i>	+	-
22	<i>Sphaerotheca fuliginea</i> f.cu-	+	+
23	<i>Thielaviopsis basicola</i>	+	+
24	<i>Verticillium dahlia</i>	+	+
25	<i>Verticillium nigrescens</i>	+	-
Total		21	16
Including		20 rounds, 4 rounds	16 rounds, 2 forms

Conclusion

1. From the herbarium samples collected from infected members of melon crops during the study, 3 classes, 6 orders, 8 families, 23 (6) species of fungi belonging to 14 genera were identified.
2. The most common species of fungi identified are representatives of the class Deuteromycetes, 19 species, 4 forms.
3. Representatives of the class Ascomycetes - 3 species, 2 forms, and then representatives of the class Oomycetes - 2 species.
4. In general, 20 species and 4 forms of fungi were observed in melons, and 15 species and 2 forms in watermelons.

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