



# MONITORING OF INDUSTRIAL COTTON VARIETIES AFFECTED BY ROOT ROTT AND HOMMOSIS IN THE FARMS OF THE TASHKENT REGION

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<p><b>Received:</b> 13<sup>th</sup> May 2022 <b>Accepted:</b> 13<sup>th</sup> June 2022 <b>Published:</b> 26<sup>th</sup> July 2022</p>	<p>More than 100 diseases caused by cotton microorganisms have been identified in countries around the world, and their number is likely to increase every year. Among these diseases, seedling diseases occupy a leading position in all cotton-growing countries. In particular, the damage caused by these diseases to cotton growing in Uzbekistan is considered to be great. This article presents information on the spread and damage of cotton diseases by root rot and gommosis in some farms of the Tashkent region and draws the appropriate conclusions</p>

**Keywords:** Cotton, root rot, gommosis, examination, sample, genus, seedlings.

## INTRODUCTION

Irrigated agriculture often creates favorable conditions for the development of dangerous cotton diseases. Among the most common cotton diseases that cause significant damage to cotton are diseases of cotton seedlings. Cotton sprout diseases include gummosis and root rot.

Cotton is most severely affected in the early stages of vegetation at low air and soil temperatures, high humidity, and during heavy rainfall by such diseases; as root rot and gummosis [1, 2, 3, 4, 5, 6, 7].

At present, effective measures have been put into practice to combat gummosis and root rot, which have led to the extinction of these diseases. However, these diseases cannot be considered defeated in some years, outbreaks of these diseases occur yet [8, 9, 10].

In this regard, we studied the susceptibility to gummosis and root rot of industrial varieties of cotton in Tashkent region.

## I. MATERIALS AND METOHODS

Examination of cotton crops for susceptibility to root rot and gummosis was carried out in the farms of Tashkent region according to the method of M.A. Karimov (1976).

The survey is carried out as follows: regardless of the size of the field - maps, 10 samples are taken from each hectare. Breakdown is considered a linear meter (large step). Plants on a given running meter are taken into account, and of them are diseased. 10 plants are selected for the sample. Samples must be staggered. The first sample is taken five steps away from the edge of the field, i.e. on the fifth row, the rest on every 29<sup>th</sup> row, and in a row after 50 steps. In this order, 10 samples are taken per hectare. If the map is larger than a hectare, the number of samples increases accordingly. The objects of research were samples of diseased cotton plants of the C-6524 and Sultan varieties, affected by gummosis and root rot, as well as isolates isolated by us from diseased cotton plants - the causative agents of cotton and root rot.

## II.RESULTS AND AND DISCUSSION

Examination of cotton crops in the phase of seedlings for susceptibility to gummosis and root rot showed their wide distribution (table No. 1). Gummosis and root rot appeared in all the surveyed farms of Tashkent region.

Table. 1 shows that the highest damage to cotton seedlings by gummosis appeared on the Sultan variety, the percentage of damage on the farm "Ofarin moy tepa" corresponded to 29%, and on the farm "Khurram Rustam Agro" 26%. Variety C-6524 turned out to be less affected compared to variety Sultan, the highest susceptibility to gummosis on variety C-6524 appeared in Buka region, the Kuk Aral farm and corresponded to 23% and the Pskent region in the Bakhtiyor Agro Leader farm and corresponded to 24 %. The lowest susceptibility to gummosis appeared on variety S-6524 in Bekabad region and corresponded to 12%.

The results of surveys of cotton crops in the seedling phase for susceptibility to root rot showed that all the examined varieties of cotton in the farms of Tashkent region are affected by this disease (Table No. 1). The highest

susceptibility of cotton to root rot was manifested in the farms of Buka district on the Sultan variety and varied from 34% to 38%.

Cotton susceptibility to root rot of variety C-6524 varied from 20% to 34% in all farms of Tashkent region. The lowest susceptibility of cotton variety C-6524 was manifested in Pskent region in the farms of "Bakhtiyor Agro Leader". Gummosis affects cotton at all stages of its development. In this regard, we conducted a survey of cotton crops for the manifestation of gummosis on true leaves and stems.

The results of the study showed that the variety Sulton is strongly affected by gummosis, in the seedling phase its susceptibility varied from 25% to 30%, in the true leaf phase from 10% to 20%, and in the stem form from 3% to 5% (Table. 2).

The susceptibility of variety C-6524 in the seedling phase (cotyledons form) in many farms of Tashkent region varied from 3% to 20%, while the susceptibility of the leaf form from 3% to 5% (table. 2).

Based on the surveys, we found that all industrial varieties of cotton, despite the fact that the cotton seeds were treated with Dalbron, the susceptibility to gummosis and root rot manifested itself.

An analysis of the completeness of the treatment of cotton seeds showed that the completeness of the factory treatment is 88-96%, but when the seeds are soaked, part, and sometimes 30-50% of the preparation is washed out, which is the reason for the susceptibility of cotton to phytopathogens.

Based on the surveys, we found that the completeness of the factory dressing is 88-96%, but when the seeds are soaked, often, and sometimes most of the drug is washed out, which is the reason for the susceptibility of cotton to root rot and gummosis.

### III. CONCLUSIONS

Based on the above, the following conclusion can be drawn:

1. All examined varieties of cotton are affected by gummosis and root rot in the germination phase;
2. The Sulton variety was the most affected by root rot and gummosis, and the C-6524 variety was less affected.
3. The reason for the susceptibility of cotton to gummosis and root rot is poor seed dressing and environmental factors, which is consistent with the data of Karimov, 1974; Babayan, 1963; Askarova, 1977.

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**1-table. The susceptibility of cotton to gummosis and root rot in the farms of Tashkent region**

№	Farms	Area (ha)	Area	Varieties	Total plants in the experiment (number)	sick plants		Of those affected by gummosis and root rot			
						abs	%	Gummosis		root rot	
								amount	%	amount	%
1	Ofarin moy tepa	30	Buka district	Sulton	100	67	67	29	29	38	38
2	Cook yelled	12	Buka district	C-6524	100	56	56	23	23	33	33
3	Khurshid Said orol	17	Buka district	C-6524	100	46	46	20	20	26	26
4	Khurram Rustam Agro	10	Buka district	Sulton	100	60	60	26	26	34	34
5	Khudoykulov Begmat	12	Srednechirchiksky district	C-6524	100	39	39	15	15	24	24
6	Sado-Zameen Nouri	21	Srednechirchiksky district	C-6524	100	40	40	18	18	22	22
7	Bakhtiyor Agro Leader	15	Pskent district	C-6524	100	44	44	24	24	20	20
8	Said Akbar Abdusalom	21	Pskent district	C-6524	100	38	38	18	18	20	20
9	Karimov Javlon	10	Bekabad district	C-6524	100	34	34	12	12	22	22

**2-table. Cotton susceptibility to gummosis in some farms of Tashkent region**

№	Place of examination farms	Area	Cotton varieties	Area (ha)	Susceptibility						Dressing (fungicide)
					Cotyledon		sheet		stem		
					балл	%	балл	%	балл	%	
1	Ofarin moy tepa	Buka district	Sulton	30	3	30	1	10	0,5	5	Dalbron
2	Cook yelled	Buka district	C-6524	12	2	20	0,5	5	0,2	2	Dalbron
3	Khurshid Said orol	Buka district	C-6524	17	1	10	0,5	5	0	0	Dalbron
4	Khurram Rustam Agro	Buka district	Sulton	10	2,5	25	2	20	0,3	3	Dalbron
5	Khudoykulov Begmat	Srednechirchiksky district	C-6524	12	1,5	15	0,5	5	-	-	Dalbron
6	Sado-Zameen Nouri	Srednechirchiksky district	C-6524	21	1	10	0,3	3	-	-	Dalbron
7	Bakhtiyor Agro Leader	Pskent district	C-6524	15	1	10	0,2	2	-	-	Dalbron
8	Said Akbar Abdusalom	Pskent district	C-6524	21	1	10	0,3	3	-	-	Dalbron
9	Karimov Javlon	Bekabad region	C-6524	10	0,3	3	-	-	-	-	Dalbron

Note: five-point scale

Legend: points (%) 0 - 0%, 1-10%, 2-20%, 3-30%, 4-40%, 5-over 60%.