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EFFECTS OF FUSARIUM (FUSARIUM L) DISEASE ON THE VEGETATIVE ORGANS OF SOYBEAN PLANTS AND EFFICIENCY OF SEED DISINFECTANTS AGAINST IT

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ABSTRACT

This article describes the development of Fusarium wilt in Oyjamol and Tomaris-MAN varieties of soybeans and the effect on the vegetative organs of the disease and the effect of the most effective insecticides for chemical control of the disease in order to prevent the disease.

Keywords: Soybean, disease, vegetative organ, fusarium, dressing, leaf, root, plant stem

INTRODUCTION

In today's world agricultural practice, the importance of soybeans in increasing soil fertility and meeting the food needs of the population is immeasurable, as soybeans contain large amounts of protein and vegetable oil at the same time. In the field of agricultural production, soybean products are widely used in the food and textile industries.

In more than 90 countries around the world, the area under soybeans is more than 109.7 million hectares, with an average yield of 27.6 c / ha. More than 370 million tons of soybeans are produced in the world's leading soybean countries. In particular, the United States (117.3 million tons), Brazil (96.2 million tons), Argentina (58.8 million tons), China (11.9 million tons), Canada (5.8 million tons). tons) are the countries that produce the most soybeans. In Central Asia, soybean yields range from 18 to 21 c / ha. It also leads to a loss of yield of 4-10 c / ha due to diseases that damage the soybean crop during the growing season.

According to T. Karabut, soybean diseases are divided into three groups: seedling diseases, leaf spot and rot diseases, and the use of antibiotics and antiseptics against soy diseases [1].

Damage to the leaf-stem mass of soybean plants by diseases reduces their productivity. This condition is primarily explained by a decrease in photosynthetic activity, as there are no species of soybeans that are absolutely resistant to disease. But there are varieties that are more resistant to adverse environmental conditions and the spread of disease. This means that they have a higher yield and use less fungicides.

S.V.Bezmutko and I.A. According to Kojevnikova, at the initial stage of protection of soybean seeds and seedlings from diseases, one of the most effective ways to ensure economic and environmental safety is to treat the seeds before sowing. Seed treatment plays the most important decisive role in the prevention of fungal diseases. Among the fungicidal disinfectants-Maxim XL 035 FS (fludioxonyl 25 g / l and metalaxyl-M 10 g / l) and Delit Pro, KS (piraclostrobin 200 g / l) have been shown to be cost-effective against fungal diseases [2].

Studies by G.M.Saenko and N.A.Bushneva have shown that the disease is reduced in seeds and seedlings treated with fungicides, especially the most effective drugs Maxim KS gave high results [3].

In order to study the effect of soybean fusarium (Fusarium L) disease on plant vegetative organs, productivity and its quality indicators, experiments were conducted on soybean fusarium (Fusarium L) disease and the application of chemical measures against it. In the experiment, the development of fusarium wilt and the effect of the disease on the autonomic organs was assessed using seed pharmacists in the Oyjamol and Tumaris-MAN varieties of soybean in the Control (Untreated), Daltebu-FS (Etolon), Sunvaks, Tebikur and Tebuconazole variants (Table 1).

In the research, 5 plants of Oyjamol and Tomaris-MAN varieties of soybean were taken and the total weight of the plant was measured and analyzed. According to the results of the analysis, the average plant weight in Oyjamol variety ranged from 30 g to 80 g. At the same time, 11-67 g in the Control variant, 55-126 g in the Etalon (Daltebu-FS) variant, 41-56 g in the variant using Sunvax, 53-91 g in Tebikur and 95-115 g in the variant using Tebuconazole. The average plant weight in the Tomaris-MAN variety ranged from 29 g to 78.4 g. 29-70.7 g in the control variant, 20.3-42.3 g in the Etalon (Daltebu-FS) variant, 47.8-136 g in the variant using Sunvax, 44.9-88.9 g in Tebikur and in the variant using Tebuconazole 46.7-133 g.

When analyzing the root system of Oyjamol and Tomaris-MAN varieties of soybeans, 1.1-8.4 g in the Control (Untreated) variant of the Oyjamol variety, 6.3-7.6 g in the Etalon (Daltebu-FS) variant, 3 in the Sunvaks variant, 1-5.7 g, 3.6-8.6 g in Tebikur and 4.9-11 g in the variant in which the drug Tebuconazole was used. 2.4-6.3 g in the Control (Untreated) variant of Tomaris-MAN, Etalon (Daltebu-FS) 2.1-5.2 g, Sunvaks 2.2-9.1 g, Tebikur 3.1-7.4 g and Tebuconazole 3.8-11.5 g was up to

Table 1 Development of fusarium (Fusarium L) and its effect on vegetative organs in Oyjamol and Tomaris-MAN varieties of soybeans (Karshi-2021).

№	Name of the drug	The substance that affects	Oyjamol						Tomaris-MAN					
			Weight of Plant, g											
			1	2	3	4	5	ўр	1	2	3	4	5	ўр
1	Control (Untreated)	---	11	12	31	27	67	30	29	48,8	63	33,5	70,7	49
2	Etolon (Daltebu-FS)	Tebuconazole 6%	117	90	62	55	126	90	20,3	42,3	30,7	57	36,6	37,4
3	Sunvaks	Carboxin + Tiram	41	48	49	36	56	46	47,8	90	116	136	71,2	92,2
4	Tebikur	Tebuconazole	91	58	94	59	53	71	44,9	88,9	55,2	61,1	78,4	65,7
5	Tebuconazole	Tebuconazole 60 g / l	115	85	54	53	95	80	59,7	133	46,7	77,3	56,4	74,7
			Weight of Root, g											
1	Control (Untreated)	---	1,1	0,9	2	3,1	8,4	3,1	5,4	2,4	6,3	3,3	4,7	4,42
2	Etolon (Daltebu-FS)	Tebuconazole 6%	6,3	4,5	5	3,4	7,6	5,4	1,3	3,1	2,1	5,2	2,1	2,76
3	Sunvaks	Carboxin + Tiram	3,1	3,4	4	3,3	5,7	3,9	2,2	6,8	9,1	8,8	4	6,18
4	Tebikur	Tebuconazole	8,6	3,8	5,6	3,6	3,6	5	3,6	7,4	3,1	4,6	6	4,94
5	Tebuconazole	Tebuconazole 60 g / l	11	9,2	4,9	7,1	8,6	8,2	6,2	11,5	3,8	6,7	4,3	6,5
			Total number of leaves, piece											
1	Control (Untreated)	---	25	31	106	66	87	63	37	49	86	89	171	86,4
2	Etolon (Daltebu-FS)	Tebuconazole 6%	97	89	34	64	157	88	35	75	41	79	48	55,6
3	Sunvaks	Carboxin + Tiram	31	37	43	27	36	35	99	162	154	209	88	142
4	Tebikur	Tebuconazole	57	34	73	36	36	47	47	97	57	93	94	77,6
5	Tebuconazole	Tebuconazole 60 g / l	103	101	35	33	53	65	82	180	39	73	50	84,8

			Number of diseased leaves, piece											
1	Control (Untreated)	---	25	26	93	61	65	54	26	46	45	82	142	68,2
2	Etolon (Daltebu-FS)	Tebuconazole 6%	3	2	0	1	3	1,8	0	4	0	0	2	1,2
3	Sunvaks	Carboxin + Tiram	4	3	5	2	4	3,6	1	1	1	4	0	1,4
4	Tebikur	Tebuconazole	0	2	7	8	2	3,8	0	1	0	1	1	0,6
5	Tebuconazole	Tebuconazole 60 g / l	5	0	1	2	5	2,6	0	2	0	5	2	1,8
	Control (Untreated)		Degree of incidence, %											
1	Etolon (Daltebu-FS)	---	70	40	90	90	90	76	20	10	5	30	10	15
2	Sunvaks	Tebuconazole 6%	20	20	20	60	40	32	5	0	0	5	5	3
3	Tebikur	Carboxin + Tiram	5	10	5	5	10	7	0	0	0	0	5	1
4	Tebuconazole	Tebuconazole	5	5	5	0	0	3	0	0	0	5	5	2
5		Tebuconazole 60 g / l	60	0	5	0	5	14	5	5	5	10	10	7

The total number of leaves in the soybean plant was 35-88 in Oyjamol, 55-142 in Tomaris-MAN, up to 54 in Oyjamol and 68.2 in Tamaris-MAN. formed the body.

In our experiments, the incidence of fusarium wilt in Oyjamol and Tomaris-MAN varieties of soybeans was assessed.

In summary, it has been proven that shade has a serious effect on the leaves, roots and stems of the plant, which develops during the growing season as a result of storage of Fusarium wilt in the seeds. To prevent the disease, it is recommended to use Sunvaks and Tebikur inseminators, as well as to plant the Tomaris-MAN variety when planting disease-resistant varieties.

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