

THE EFFECT OF CHEMICALS ON THE PRODUCTIVITY INDICATORS OF COMMON WINTER WHEAT ON THE FLOUR DEW DISEASE

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Abstract:

This article discusses the selection of drugs with an effective effect using chemical preparations used against the powdery mildew disease of soft winter wheat.

Key words: Soft wheat, wheat flour, diseases, yellow rust, plant height, spike length.

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In the world today, due to the change of the global climate, it is becoming invisible that various types of diseases and pests are spreading to the agricultural crops. Based on this point of view, the wheat powdery mildew disease is observed almost every year in the southern regions of the Republic of Uzbekistan, including the Kashkadarya region, and shows a serious impact on grain productivity. Weather conditions are favorable for the development and spread of the disease, which allows the fungi to spread quickly to the fields. Using one of the new effective fungicides against them, choosing one of the best effective fungicides is considered one of the most urgent issues today.

In the research conducted by B.A. Sulaymonov., B.S. Boltaev., Sh.G. Komilov (2013), the powdery mildew disease forms a layer of white cotton-like spots on plant leaves, and then the layer becomes thick, gray or yellowish-gray, forming bulging pads. conidia of the disease-causing fungus appear. The disease develops and spreads very quickly when the air temperature is 15-20 °C and the relative humidity is 80-95% [1]. E. Duveiller., P.K.Singh., M., Mettsalama., R.P.Singh., A. Dababatlar (2018) found that wheat powdery mildew disease requires an average air temperature of 15-22 °C . It develops well when the relative humidity is 75-100% and leads to loss of productivity [2].

Wheat powdery mildew was first identified by Martius in the Moscow region of Russia in the early 19th century. In recent times, it has become apparent that the



development of powdery mildew disease in the fields is being observed every year by our research scientists based on climatic conditions. This disease is widespread in favorable climatic conditions, and in a short period of time, it spreads over large areas in the form of strong epiphytotia, causing a serious threat to productivity [4]. According to the experiments of I.P.Mozharova, A.A.Korshunov, T.Yu.Voznesenskaya (2018), the height of the plant increased by 10,9 cm by 23,5%, and the spike length by 17,2 cm, the number of grains in the ear increased by 51,7% from 20 grains to 26,75 and the productivity, the mass of 1000 grains increased in the studies [3].

Methods of research:

Conducting field experiments, phenological observation, harvesting and counting, and laboratory analysis in generally accepted methods, statistical analysis of data B. A. Dospheov Dispersion is analyzed based on "Metodika polevogo opyta" method and Microsoft Office Excel 2010 programs. The prevalence of yellow rust and powdery mildew diseases of wheat was determined based on the method of Peresykin, Tyuterev, Batalova 1991, 2002, the effect of diseases on productivity was determined by Chumakov's method (1974), yellow and powdery mildew damage in field conditions was determined using the Manners and Modified Cobb scale.

The object of research:

Chemical control of yellow rust and powdery mildew in soft wheat Kesh-2016, Duazol 40 k.e.k 0.25 l/ha (etolon) + IFO PZN 2,0 l/ha, Bi-Kanazol 400 g/ha 1 0,2-0,3 l/ha+ IFO PZN 2,0 l/ha, Rauma 490 k.e.1,25 l/ha + IFO PZN 2,0 l/ha, Alta Super 40% 0,3 l/ha + IFO PZN 2,0 l/ha, Altus Duo 32,5% 0,3 l/ha+ IFO PZN 2,0 l/ha, AZOTE 320 SC, 32% K.S 0,3 l/ha + IFO PZN 2,0 l/ha, preparations were used.

Results of the research:

On the basis of the above-mentioned information, scientific research work on combating yellow rust and powdery mildew was conducted in the field experiment field of the foothills of Kashkadarya region. In the experiment, the use of IFO PZN suspension in foliar feeding with fungicides as a new technology for protection



against yellow rust and powdery mildew in soft wheat variety "Kesh-2016" and the effect on the development of this disease was studied (table 1).

In the results of the conducted scientific research, the "Kesh-2016" variety of autumn soft wheat, taken as an object, was subjected to chemical control against yellow rust and powdery mildew. According to it, due to damage caused by yellow rust and powdery mildew diseases, the lowest rate was observed in the control and etalon (Fungicide) variants, the height of the plant in the control variant was 92,2-94,5 cm on average, the spike length was 6,6-7,1 cm on average, and it was found that the average number of grains in a spike was 35,4-36,4 grains, and the weight of a grain in one spike was 1 g. In the case of Duazol, 40% 0,25 l/ha (template), the height of the plant is on average 95,4-98 cm, the spike length is 7,7-8 cm on average, and the number of grains per spike is 37,4 on average. It was found that - 38,6 grains, the weight of grain in one spike was 1,3 g.

As a result of chemical control, the average height of the plant is 98,1-98,8 cm, the length of the spike is 8-8,4 cm, and the number of grains per spike is average. 38,4-41 grains, the weight of grain in one ear was up to 1,6 g. Also, when AZOTE 320 SC, 32% K.S. 0,3-0,4 l/haishlov is given, the average height of the plant is 105,3-109,1 cm, the length of the spike is 9,3-10 cm on average, the number of grains per spike the average was 44,5-45,8 grains, the weight of grain in one spike was 1,8-1,9 g.

In addition, when treated with the drug Rauma 490,49 k.e.1,25 l/ha, the average height of the plant is 105,5-108,6 cm, the average length of the spike is 9,2-10,1 cm, the number of grains in one spike the average was 46,2-46,4 grains, the weight of grain in one spike was 1,8-1,9 g. When using Alta Super 40% 0,3 l/gafungicide studied in the experiment, the average height of the plant is 100,3-101,7 cm, the length of the spike is 8,1-8,5 cm, the number of grains in one spike is 40-42,2 grains on average, the grain weight in one ear was up to 1,5 g.

In the researches, in the variant where Altus Duo 32,5% 0,3 l/ha fungicide was used, the average height of the plant was 99,3-102,2 cm, the length of the spike was 8-8,5 cm on average, and the number of grains per spike was 42,2-43 on average. grain, it was found that the grain weight in one spike was up to 1,5-1,6 g.



Table 1 Biometric indicators of soft wheat Kesh-2016 variety and the effect of fungal diseases (Shahrizabz 2020-2022 year).

Type of disease	Experience options	Plant height, sm. 2020-2021-2022 year, average		Spike length, sm. 2020-2021-2022 year, average		The number of grains in one spike. 2020-2021-2022 year, average		Weight of grain in one spike, g. 2020-2021-2022 year, average	
		Fungicide	Fungicide+suspension	Fungicide	Fungicide+suspension	Fungicide	Fungicide+suspension	Fungicide	Fungicide+suspension
Yellow rust, (<i>Pucciniastriformis</i>)	Control (Untreated)	92,2	95,2	6,6	6,6	35,4	35,9	1	1,1
	Duazol, 40% d.e.c. 0.25 l/ha (etalon)	95,4	98,3	7,7	8,3	37,4	37,7	1,3	1,3
	Bi-Kanazol 400 g/l 0.2-0.3 l/ha	98,1	101,8	8	8,6	38,4	39,1	1,6	1,6
	AZOTE 320 SC, 32% K.S 0.3-0.4 l/ha	105,3	117	9,3	10,5	44,5	45,7	1,8	2
	Rauma 490 k.e. 1.25 l/ha	105,5	118,3	9,2	10,5	46,2	47,4	1,9	2
	Alta Super 40% 0.3 l/ha	100,3	106,2	8,1	8,5	42,2	42,8	1,5	1,7
	Altus Duo 32.5% 0.3 l/ha	99,3	104,1	8	8,2	43	44,1	1,6	1,7
Flour-dew (<i>Erysiphegraminis.f.sprtrici</i>)	Control (Untreated)	94,5	96	7,1	7,6	36,4	37,1	1	1,1
	Duazol, 40% d.e.c. 0.25 l/ha (etalon)	98,7	101,3	8	8,9	38,6	38,7	1,3	1,3
	Bi-Kanazol 400 g/l 0.2-0.3 l/ha	98,8	103,8	8,4	9,8	41	42,7	1,6	1,7
	AZOTE 320 SC, 32% K.S 0.3-0.4 l/ha	109,1	114,5	10	11,9	45,8	49,4	1,9	1,9
	Rauma 490 k.e. 1.25 l/ha	108,6	113,9	10,1	12,4	46,4	51,2	1,8	1,9
	Alta Super 40% 0.3 l/ha	101,7	104,1	8,5	9,9	40	42,5	1,5	1,6
	Altus Duo 32.5% 0.3 l/ha	102,2	107,2	8,5	10,2	42,2	44,1	1,5	1,6
Max		109	118,3	10,1	12,4	46,4	51,2	1,9	2
Min		92,2	95,2	6,6	6,6	35,4	35,9	1	1,1
Mean		101	105,8	8,4	9,4	41,3	42,7	1,5	1,6

High results were achieved in 2 options used together with the second (Fungicide+suspension) against the disease, in which, among the preparations used throughout the plant, Rauma 490,49 k.e. 1,25 l/ha + IFO PZN 0, compared to the control and etolon and other preparations. When applied at 2 l/ha, the length of the



spike increased by an average of 18,7-23,1 cm compared to the control option, by 15,6-23,1 cm compared to the etolon option, and by an average of 3,9-5,8 cm compared to the etolon option. up to 3,9-4,1 cm, the average number of grains in one spike is 11,5-15,3 compared to etolon is 9,7-15,3 the weight of one grain is 0,9 g in comparison to the control option It was found that it was 0,6-0,9 g higher than etolone.

In the case of the anti-disease preparation AZOTE 320 SC 32% KC 0,3 l/ha + IFO PZN 0,2 l/ha, the average height of the plant compared to the control was 19,3-21,8 cm, compared to the control option, the average was 16,2-18, by 7 cm, the length of the spike is on average 3,9-5,3 cm compared to the control variant, up to 2,2-3,6 cm compared to etolon, the number of grains per spike is on average 9,8-13,5, compared to etolon on average 8-11,7 pieces, the weight of grain in one spike increased by 0,8-0,9 g compared to the control version, and 0,6-0,7 g compared to etolon.

When we analyze the results obtained on the basis of scientific research, the following conclusions can be drawn. In our second option, we studied Rauma 490,49 k.e.1,25 l/ha + IFO PZN 2,0 l/ha when we carried out chemical treatment with AZOTE 320 SC 32% KC 0,3 l/ha + IFO PZN 0,2 l/ha showed high efficiency compared to other drugs used. It is recommended to use these preparts for yellow and powdery mildew diseases that occur in grain crops in production.

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