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EFFECT OF HERBICIDES APPLICATION ON WEED DRY MASS IN MAIZE FIELD

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Abstract. The article presents data on the effect of the application of Hemglyphos and Ximstop herbicides on the dry mass of weeds in a corn field under typical sierozem soil conditions of the Tashkent province. It was found that when Hemglyphos was applied in the fall at a rate of 3.0 l/ha and Ximstop, 33% s.c. herbicide at a rate of 1.5 l/ha, when applied pre- and post-planting, annual weeds were reduced by 90.6-93.3%, their bunch mass by 86.2-89.5%, perennial weeds by 88.0-91.4%, and bunch mass by 86.0-87.6%.

Keywords: herbicide, Ximglifos, 54% s.c., Himstop 33% s.c., weeds, dry mass.

Introduction. Weeds with different biological properties grow among agricultural crops. In the fight against weeds, it is necessary to take into account their species and biological properties. It is important to conduct chemical control measures against weeds on a scientific basis and improve the technology of their application. In this regard, the use of alternating herbicides, pre- and post-application, and the use of their mixtures allow increasing the effectiveness of chemical measures [3, 4].

Therefore, in our experiments, we set the goal of achieving high and high-quality grain yields by increasing the effectiveness of weed control measures in corn fields.

Materials and Methds. Field experiments were conducted in the conditions of typical gray soils of the Tashkent region. Along with sowing against annual weeds in corn fields, the herbicides Himstop, 33% s.c., and against perennial weeds Ximglifos, 54% s.c., were applied separately and sequentially. Field experiments were conducted in 7 variants.

Table 1

Experimental scheme

No	Options	Herbicide rate, l/ha
1.	Control (without herbicide)	-
2.	Stomp, 33% s.c., 1.5 l/ha	1,5

3.	Ximstop, 33% s.c., 1.0 l/ha	1,0
4.	Ximstop, 33% s.c., 1.5 l/ha	1,5
5.	Ximstop, 33% s.c., 2.0 l/ha	2,0
6.	Ximglifos, 54% s.c., 3.0 l/ha	3,0
7.	Ximglifos + Ximstop 3.0 +1.5 l/ha	3,0 +1,5

The maize hybrid Uzbekistan 601 ESV was grown. Ximstop, 33% e.k herbicide was applied in the spring along with the planting of maize in a tape method against annual weeds. Ximglifos, 54% e.k. was applied in the autumn against perennial weeds in early October.

Phenological observations and biometric measurements in the experimental field were carried out according to the methods of UzPITI "Methodology of Field Experiments" [2] and B.A. Dospekhov "Methodology of Field Plant Protection", [1].

Results and Discussion. In assessing the effectiveness of weed control measures, it is also important to determine the reduction in their dry mass. The effect of herbicides on the dry mass of annual and perennial weeds was determined separately (Table 2). In the control variant, the dry mass of annual weeds was 26.8-32.2 g/m2. When the Stomp 33% e.k. preparation was applied at a rate of 1.5 l/ha, the dry mass of annual weeds decreased by 85.4-86.5%, and the dry mass of perennial weeds by 12.4-18.8%.

Table 2

The effect of herbicides on the dry mass of weeds (2021-2023)

T. r	Options	Annual weeds				Perennial weeds			
		accounting 1		accounting 2		Accounting 1		Accounting 2	
		g/m^2	decreasing, %	g/m^2	decreasing,%	g/m^2	decreasing,%	g/m^2	decreasing,%
1.	Control (without herbicide)	32.2	-	26.8	-	4.67	-	5.48	-
2.	Stomp, 33% s.c., 1.5 l/ha	4.35	86.5	3.90	85.4	3.79	18.8	4.80	12.4

3.	Ximstop, 33% s.c., 1.0 l/ha	5.93	81.6	5.48	79.6	4.06	13.0	4.94	9.85
4.	Ximstop, 33% s.c., 1.5 l/ha	3.99	87.6	3.74	86.0	3.78	19.0	4.67	14.8
5.	Ximstop, 33% s.c., 2.0 l/ha	3.09	90.4	3.27	87.8	3.68	21.2	4.42	19.3
6.	Ximglifos, 54% s.c., 3.0 l/ha	24.4	24.3	21.6	19.4	0.60	87.1	0.78	85.7
7.	Ximglifos + Ximstop 3.0 +1.5 l/ha	2.50	92.2	2.73	89.8	0.44	90.6	0.64	88.3

In the variants where the herbicide Himstomp 33 % s.c. was applied at rates of 1.0; 1.5; 2.0 l/ha, the dry mass of annual weeds decreased by 79.6-81.6; 86.0-87.6; and 87.8-90.4 %, respectively.

When the herbicide Himglifos 54.4 % s.e. (3.0 l/ha) was applied, the dry mass of perennial weeds decreased by 85.7-87.2 %, while when the herbicide Himglifos 54.4 % s.e. (3.0 l/ha) was applied, the dry mass of perennial weeds decreased by 85.7-87.2 %. It was found that when herbicides were applied sequentially (1.5 l/ha), the dry mass of annual weeds was reduced by 89.8-92.2%, and the dry mass of perennial weeds was reduced by 88.3-90.6%.

Conclusion. Therefore, the removal of weeds with herbicides allows for the effective reduction of their dry mass. The sequential application of the herbicides Himstomp, 33% and Himglifos, 54% s.c. allows for the effective and timely removal of annual and perennial weeds.

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