

THE IMPACT OF HERBICIDES ON THE STRUCTURE AND YIELD OF WINTER WHEAT

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ABSTRACT

The increase in grain production in Uzbekistan should be ensured primarily by increasing yields. To do this, you must use all available reserves. In the conditions of modern intensive farming, weed control is one of the most important elements of the farming system, on which the increase in crop yields depends.

Keywords: herbicide, preparation, dicotyledonous plants, weed plant, winter wheat, and biological effectiveness.

INTRODUCTION

One of the main indicators of winter wheat yield is the number of grains in the grain and the number of grains formed in it. The number of grains and their size depends on the plants' moisture supply, mineral nutrition, light, temperature, sowing of healthy and live seeds, sowing times and norms, weed control, and biological characteristics of the variety.

Weed control is important in the cultivation of abundant crops. The most demanding period of the plant for water and nutrients - is the stages of accumulation and flowering. If the plants are not cleared of weeds during this period, they will share moisture, light and nutrients, resulting in a decrease in the number of grains in the spike, 1000 grain mass, and yield.

The components that affect the formation of the crop (number of tubers, degree of accumulation, productive accumulation, number of spikes, number of grains in a spike, grain weight in a spike, yield index), the ratio of grain to plant vegetative organs is a component of the crop. Not losing weeds has a negative impact on productive accumulation, the number of grains in the spike, and the size of the spike. Especially if no herbicide is applied during the accumulation period, it slows down the accumulation of protein in the grain, deteriorating the quality of the bread.

If the thickness of 1 m² of salt marshes, weeds, sedges and other weeds exceeds 50 plants, it absorbs an average of 30-70 kg of nitrogen, 10-15 kg of phosphorus, 50-70 kg of potassium per 1 hectare. This amount of nutrients is sufficient for grain formation of 15-17 ts/ha. Irrigation of weeds reduces the efficiency of mineral fertilizers in the soil, the utilization factor by 30-40%.

Lack of moisture or nutrients during the accumulation, weeding, and sprouting phases of plants lead to a decrease in the number of spikes and grains in the spikes. These indicators are also affected by weed infestation of the fields.

MATERIALS AND METHODS

Placement of laboratory, field and production experiments, biometric measurements on plants, phenological observations in the research work "Methodology of the State variety testing of agricultural crops", "Methodology of agrochemical analyzes of soils and plants", "Methodology of agrophysical research", "Methodological recommendations for assessing the quality of grain", "Methods of biochemical research of plants". The results of the experiment were analyzed mathematically and statistically by B.A. Dospekhov.

Accounts will be carried out in 3 terms: on the 15th, 30th and 60th day after spraying. To conduct censuses of the species and quantitative composition of annual dicotyledonous weeds, experiments will be carried out in accordance with the "Guidelines ..." published by the State Chemical Commission in 2007.

RESULTS AND DISCUSSION

In scientific experiments, the length of the spike of the Tanya variety, the number of spikes and grains in the spike, the weight of grains in a single spike varied depending on the application of herbicides per 1000 grain mass. The analysis of the table shows that the number of grains in the spike varied depending on the application of herbicides in all variants. The lowest spike length was 8.8 cm when no herbicide was used, and the highest was 9.6 cm when using Derby 175 SC, 17.5% sus.k.60 ml. Biostar 75% s.e.g. % em.k was 9.1-9.2 cm when using herbicides. Also, the lowest number of grains per grain (grains) was 38.1 when the herbicide was not used, and the highest was 44.2 when using Derby 175 SC, 17.5% sus.k.60 ml. Annual biphasic weed Biostar 75% s.e.g, 41.1 when applied at 20 g / ha, single and perennial weed Fluroxipir 36% em.k, 0.55 ml and Starane 200, 20% em.k was observed to be 41.5–42.2 cm when using herbicides. Correspondingly, the lowest grain weight per grain was 1.4 g when no herbicide was used, and the highest was 2.1 g when using Derby 175 SC, 17.5% sus.k.60 ml. Biostar 75% s.e.g. % em.k was 1.8-1.9 g when using herbicides.

Table 1 Dependence of spike structure on herbicide application.

No	Options	spike length, cm	Number of grains in 1 grain (pieces)	Grain weight per 1 spike, g	Number of spikes in 1 spike (pieces)	Mass of 1000 grains, g	productivity	additional yield
1	1 Control (without herbicide)	8,8	38,1	1,4	16,5	35,2	30,2	-
2	Biostar 75% s.e.g, 20 g / ha	9,0	41,1	1,7	17,5	39,1	48,4	18,1
3	Derby 175 SC, 17.5% sus.k.60 ml	9,6	44,2	2,1	18,0	44,3	75,8	45,6
4	Fluroxipir 36% em.k, 0.55 ml	9,1	41,5	1,8	17,6	40,1	52,3	22,1
5	Starane 200, 20% em.k	9,2	42,2	1,9	17,7	41,1	54,0	23,8
	HCP ₀₁ =	0,21	0,73	0,22	0,39	0,89	0,96	0,74

The lowest number of spikes per spike showed 16.5 when the herbicide was not used, the highest when Derby 175 SC, 17.5% sus.k.60 ml when 18.0. Biostar 75% s.e.g. .k was found to show 17.6-17.7 units when herbicides were applied. The main indicator of grain yield was 9.1 g higher when using Derby 175 SC, 17.5% sus.k.60 ml compared to the control of the mass of 1000 grains. Other options showed a 3.9–5.9 g higher result than the control. Accordingly, productivity has also increased. Yield in the field without herbicide application is 30.2 ts / ha,

Derby 175 SC, 75.5 ts / ha when using 17.5% sus.k.60 ml, Biostar 75% s.e.g, 20 g / ha when applied 48 , 4 ts / ha, Fluroxipir 36% em.k, 0.55 ml and Starane 200, 20% em.k herbicides used 52.3-54.0 ts / ha.

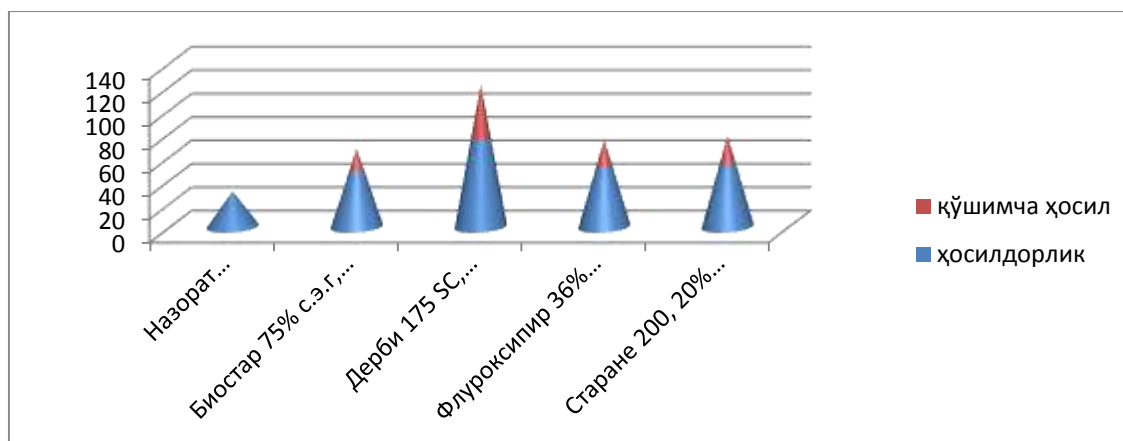


Figure 1. Effect of herbicides on wheat yield.

CONCLUSION

The application of herbicides after wheat harvest did not adversely affect the field germination of wheat. As a result, the area of nutrition expands, the process of photosynthesis improves, and plants grow rapidly due to the full absorption of light and minerals, which has an impact on quality and yield. Derby 175 SC, 17.5% sus.k. The use of the drug has been shown to be highly effective. As a result of the loss of wheatgrass, which causes the most damage, along with other weeds, when using this drug, the underground, upper and root systems of plants are well developed. Herbicides do not give the expected result because they do not lose a certain amount of weed when applied without matching the type and composition of the weeds. With the right choice of herbicides, it was found that an additional yield of 45.6 ts/ha could be achieved.

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