

THE EFFICIENCY OF NEW CHEMICALS HERBICIDES IN THE CONTROL OF WEEDS IN GRAIN FIELDS

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ABSTRACT:

The chemical- Atlantis star 3.6% was used to increase biological efficiency and productivity of by winter wheat against perennial biphasic weeds.

KEY WORDS: Herbicide, grain fields, Rumex crispus, vegetable crops.

INTRODUCTION:

Year by year in the country the grain fields have been expanding and now more than 1.1 million hectares are planted. Agriculture is one of the main sectors in Uzbekistan. Moreover it is also no secret that ever state strive to reap a bountiful harvest in its fields. High agrotechnics, fertilizing are the important problems in not only plant diseases and pest control, as well as weed control in order to collect bountiful harvest.

Weeds affect the 30-35% productivity of fields, along with serious impairment of plant growth and development in grain fields. They lead to decrease the quality of the product, promotes the spread of pests and diseases, because in most cases weeds act as a source of intermediate infection. They also have a negative effect on plant care, especially during the harvest season. All this eventually leads to additional costs: cultivation, harrowing, treatment of crops with herbicides, cleaning of seed materials, control of pests and diseases, and so on.

METHOD:

Today weeds include: achambiti (*Capsella bursa-pastoris*), bangidevona (*Datura*

stramonium L), kuy pechak (*Convolvulus arvensis* L), otkulok (*Rumis acetosella*), raps (*Raphanus raphanistrum* L), lattatikon (*Cisium ochroletapideum*), ola buta (*Atriplex* L.) And these plants are a major factor that negatively affects the productivity of agricultural crops and the decline in labor productivity, the deterioration of product quality. Weeds are widespread from year to year and have a significant impact on crop yields, declining by 10 percent in cereals, 13.4 percent in legumes, 7.5 percent in cotton, 6 percent in potatoes, and 10.8 percent in vegetable crops [1].

Weeds occupy the upper layers of the vegetation cover in grain fields and serve as a source of plant growth retardation, decrease photosynthesis intensity, contamination of products with harmful seeds, and the spread of insects and diseases [2].

For the effective protection of plants, it is possible to regularly monitor the emergence and spread of pests in crops, using modern agrotechnical methods to prevent them without causing economic damage to farms. [3]

Effective use of chemicals, especially herbicides, is important in the control of weeds, along with the timely and quality implementation of mechanical, agrotechnical, biological and other measures. At present, herbicides included in the State Register of the Republic of Uzbekistan are widely used in the control of annual and dicotyledonous and grain weeds during the winter wheat harvest, and effective and high yields are achieved [4].

EXPERIMENT:

Our research was carried out in 2019 in the field experiments of the Research Institute of Cereals and Legumes with field experiments with new chemicals against weeds of winter wheat. In the experiment, the Atlantis star, a product of BAYER, gained 3.6% in order to determine the effect of the drug herbicide on annual and annual monocotyledonous and dicotyledonous (belonging to the family of corn) weeds found in winter wheat fields, its 0.3 g / ha. Normally studied by preparing a working solution. To compare the biological efficacy of the drug in the experiment, a standard variant was obtained, in which the Atlantis product of the firm BAYER was 3.6% v.r. preparations 0.3 g / ha. Normally studied by preparing a working solution. The exposure of weeds in the experimental field to Atlantis star 3.6% and Atlantis 3.6% will depend on the rate of application of the herbicide and at what stage of development the weeds are. This is due to the fact that the height of the main stem of weeds in the control variant ranged from 25 to 30 cm, 30 days after treatment with herbicide Atlantis star treated with 3.6% did not exceed 10-15 cm, while Atlantis treated with 3.6% it was found that this figure did not exceed 18-22 cm. During

the fall wheat harvest, the number and species of all weeds in the experiment were determined 3 days before the Atlantis star 3.6% processing. The number and species of all weeds in the experiment were determined 3 days before Atlantis 3.6% treatment in the template variant.

The system of conducting experiments was as follows.

1. Control (unprocessed)
2. Atlantis 3.6% (standard) 0.3 g / ha
3. Atlantis star 3.6% - 0.3 g / ha

Three variants were carried out on the basis of "Guidelines for testing insecticides, acaricides, biologically active substances and fungicides" (2004) issued by the Chemical Commission in three rounds. Before spraying the experimental drugs in the harvesting phase of winter wheat, 1 m² of weeds were taken into account. The types and names of weeds found in the experimental field were taken into account according to the experimental options. Experiments were performed every 30 days to determine the biological effectiveness of the drugs on the options. During the follow-up, the average biological efficacy of the annual and perennial biphasic drugs used every 30 days according to the options was as follows (Table 1).

Table 1 Biological effectiveness of Atlantis star 3.6% against weeds (%)

1	Weed name	Number of weeds per 1 m ² before processing			Number of weeds per 1 m ² 30 days after treatment			Biological efficiency%	
		Control (unprocessed)	Atlantis 3.6% (standard) 0.3 g / ha	Atlantis star 3.6% 0.3 g / ha	Control (unprocessed)	Atlantis 3.6% (default) 0.3 g / ha	Atlantis star 3.6% 0.3 g / ha	Atlantis 3.6% (default) 0.3 g / ha	Atlantis star 3.6% 0.3 g / ha
1	Capsella bursa-pastoris	18	19	18	22	1,5	0,9	92,1	95
2	Datura stramonium L	9	10	9	9	1,5	1,2	85,0	86,7
3	Convolvulus arvensis L	6	5,2	5,8	7	1,5	1,3	71,2	77,6
4	Rumis acetosella	5	4,5	5	5	1,2	1	73,3	80,0
5	Raphanus raphanistrum L	3	5	3	4	0,3	0,1	94,0	96,7
6	Cisium ochroletapideum	5	7	5	5	1,1	0,8	84,3	84,0
7	Atriplex L	5	4	4,1	5	0,9	0,7	77,5	82,9
	Average	7,2	7,8	7,1	8,1	1,1	0,9	82,5	86,1

The average biological efficacy of Atlantis 3.6% 0.3 g / ha 30.5 days after treatment of this drug, which was used in our experiments on the Central Field Experimental plot, was 82.5% compared to the control, the productivity of Atlantis star 3.6% 0.3 g/ha was 86.1% compared to the control .

CONCLUSION:

The results of the experiment showed that the effectiveness of Atlantis 3.6% herbicide against annual weeds was averaged when applied at 0.3 g / ha. Experiments have shown that Atlantis star 3.6% highly effective against some perennial weeds when applied at 0.3 g / ha. However, during the experiment, perennial weeds (*Rumex crispus*) were observed to grow again 30-40 days after spraying, as the effectiveness of the drug was low in the areas where the root sprouted.

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