ISSN NO: 2771-8840
Date of Publication: 08-09-2022

The Effectiveness of the Herbicide Atlantis at Different Times and Rates in the Fields of Winter Wheat

Z.A.Ibragimov
Associate Professor of Karshi Engineering and Economics Institute.
Doctor of Philosophy agriculture
Sh.K.Yorqulova
Master student of the Karshi Engineering and Economic Institute

Abstract. On the fields of winter wheat, the herbicide Atlantis was applied at various doses and terms, and its effectiveness against weeds was determined. Atlantis was applied at 250, 275, and 300 g/ha norms and observed after 30 days, weeds were destroyed 88.0-92.4% of monocotyledonous weeds and 87.8-91.6% of dicotyledonous weeds, with total weeds 87.8-91%. According to the norms of herbicides, it was found that the effectiveness against weeds was high up to 8.0-12.2%.

Keywords: winter wheat, grain, herbicide, Atlantis, monocots, dicots, weed, experience, variant, control, rate, term, efficiency.

Introduction

Currently, a wide variety of herbicides from domestic and foreign manufacturers are used [6,7,8]. Most of them are selective herbicides. It mainly affects ordinary annual and perennial monocotyledonous or dicotyledonous weeds. New generation herbicides are supplemented with ingredients effective against monocots and dicots, annuals, and perennials. Therefore, much attention is paid to the selection of effective herbicides of a mixed type, which have an effective effect on annual and perennial monocotyledonous and dicotyledonous weeds [1,2,4,5].

Herbicides can be applied at different times before planting, during planting, and after planting [6,7,8]. However, in grain crops, it is used after sowing, since in the autumn period crops are less weedy, and from early spring weeds can be effectively controlled in a short time [4,6].

The object of study and methodology

Field experiments were carried out from 2015-2017 in the farm "Azamat Abdisamatovich" of the Kosonsky district, the size of the experimental plots is 180 m^2, the control plots are 100 m^2, carried out in four repetitions. In the experiments, herbicides were used in three periods: early spring (March 20), middle period (April 1), and late period (April 10) at three rates: 250, 275, 300 g/ha, and 300 l/ha of working solution. [3].

Research results and discussion

In our experiments, we determined the infestation of winter wheat fields with weeds before spraying with herbicides. During this period, air temperature and soil moisture are sufficient, and along with the growth of winter wheat, a monocot, and dicot, annual and perennial weeds began to develop rapidly.

Our experiments have shown that the use of the herbicide Atlantis at different times and rates is a highly effective way to control weeds in winter wheat fields (table-1).

When determining the number of weeds in the experimental plots on March 20, before the use of herbicides, monocotyledonous weeds 0.6-0.8 pcs.m^2, dicotyledons 36.8-39.2 pcs.m^2, and their total number was 38.5-39.8 piece m^2. When determining on April 1, monocotyledonous 6-7.2 pcs.m^2, dicotyledonous 68.1-74.9 pcs.m^2, in total 74.6-81.8 pcs.m^2. As of April 10, monocots were 15.4-17.1 m^2, dicots 85.5-93.5 m^2, totaling 100.9-110.6 m^2.

During the tillering period of winter wheat on March 20, when using the herbicide Atlantis at doses of 250, 275, and 300 g/ha, the efficiency for monocotyledonous weeds was 80.4, 87.9, 92.4%, for dicotyledonous weeds it was 79.3, 87.7%, 91.6%. When applied on April 1, the efficiency for monocotyledonous weeds was 80.2, 88.0, 91.8%, and for dicotyledons 79.1, 87.8, 91.0%. When applied on

ISSN NO: 2771-8840
Date of Publication: 08-09-2022

April 10 for monocotyledonous weeds, the efficiency was 79.6, 87.6, 91.8%, and for dicotyledons 78.2, 87.2, 90.4%.

The effectiveness of herbicide Atlantis on monocotyledonous and dicotyledonous weeds was observed almost equally. There was no significant difference in the effectiveness of weed control during the periods of herbicide application, high efficiency was noted at all times.

Table 1

Influence of different terms and norms of the herbicide Atlantis on weeds in the field of winter wheat. (2015-2017)

№	Experience Options	Quantity before application of herbicides, pieces/m2			Quantity 30 days after herbicide treatment, pieces/m2			Herbicide efficiency, %		
		monocots	licots	Total	monocots	licots	Total	monocots	licots	Total
20 - March										
1	Control (st)	0,6	38,1	38,7	15,8	91,1	106,9	-	-	-
2	Atlantis 250 g/ha	0,8	36,8	37,6	0,2	7,6	7,8	80,4	79,3	79,4
3	Atlantis 275 g/ha	0,7	37,7	38,5	0,1	4,7	4,7	87,9	87,7	87,7
4	Atlantis 300 g/ha	0,6	39,2	39,8	0,05	3,3	3,3	92,4	91,6	91,7
01 - April										
5	Control (st)	6,9	74,9	81,8	14,5	92,0	106,4	-	-	-
6	Atlantis 250 g/ha	7,2	74,5	81,6	1,4	15,6	17,0	80,2	79,1	79,2
7	Atlantis 275 g/ha	6,6	68,1	74,6	0,8	8,3	9,1	88,0	87,8	87,8
8	Atlantis 300 g/ha	6,6	69,8	76,4	0,5	6,3	6,8	91,8	91,0	91,1
10 - April										
9	Control (st)	17,1	93,5	110,6	16,6	87,2	103,8	-	-	-
10	Atlantis 250 g/ha	15,4	85,5	100,9	3,1	18,7	21,8	79,6	78,2	78,4
11	Atlantis 275 g/ha	16,6	88,6	105,2	2,1	11,3	13,4	87,6	87,2	87,3
12	Atlantis 300 g/ha	16,4	89,6	106,1	1,4	8,6	10,0	91,8	90,4	90,6

When studying the effectiveness of the rates of application of the herbicide Atlantis at a rate of 250 g/ha for monocotyledonous weeds in terms of terms, it was 80.4, 80.2, 79.6%, when applied at a rate of 275 g/ha 87.9, 88.0, 87.6%, when applied at a rate of 300 g/ha 91.7, 91.1, 90.6%, efficiency was observed. According to the variants of the experiment, the efficiency of monocotyledonous weeds was 7.5-12.2% higher.

When using Atlantis, the effectiveness was 79.3, 79.1, and 78.2% at a dose of 250 g/ha against dicotyledonous weeds; when applying the rate of 300 g/ha 91.6, 91.0, 90.4%. According to the variants of the experiment, the efficiency of dicotyledonous weeds was high up to 8.4-12.3%.

The effectiveness of Atlantis against common weeds in the field of winter wheat was 79.4, 79.2, 78.4% in terms of application at the rate of 250 g/ha, 87.7, 87.8, 87.3% when applied at the rate of 275 g/ha, 91.7, 91.1, 90.6% were noted when using the norm of 300 g/ha. According to the norms of herbicides, the effectiveness against weeds was high up to 8.3-12.3%.

The use of the herbicide Atlantis in doses of 275-300 g/ha against weeds on April 1-10 in the fields of winter wheat in the south of Uzbekistan during the end of tillering and the beginning of budding gives an efficiency of up to 87.8-91.1%.

Conclusions

In the Kashkadarya region, on the fields of winter wheat, the herbicide Atlantis was used at various doses and terms, and its effectiveness against weeds was determined. Atlantis was applied at a rate of 250, 275, 300 g/ha and observed after 30 days, weeds were destroyed 88.0-92.4% of monocotyledonous weeds and 87.8-91.6% of dicotyledonous weeds, with total weeds 87.8-91%. According to the norms of herbicides, it was found that the effectiveness against weeds was high up to 8.0-12.2%.

ISSN NO: 2771-8840
Date of Publication: 08-09-2022

References

1. Aripov A., Siddiqov P. Boshoqli don ekinlarining fevral oyidagi parvarishi va himoyasi //J. O'zbekiston qishloq xo'jaligi, 2015. - № 2. -B. 7-8. (Uz)
2. Bazdyrev G.I. Weeds and measures to combat them in modern agriculture // Moscow, Moscow Agricultural Academy, 1993, -242 p. (Uz)
3. Dospexov B.A. Methods of field experience//M, Agropromizdat, 1985. 352 p. (Ru)
4. Ibragimov Z.A. Weed control in the technology of cultivation of two crops of grain per year // Abstract of the thesis. diss. on sois. uch. Art. candidate of agricultural sciences SamSHI 1999. -21 p. (Uz)
5. Ibragimov Z.A. Influence of herbicide and fertilizer application on the yield of winter wheat. // “Actual problems of modern science”, 2018. №6 (103) S. 156-158 (Uz)
6. Ibragimov Z.A. G'allazorlarda begona o'tlarni bartaraf etishda urug'larining unib chiqishi davriga moslashtirilib gerbisidlar qo'llanilishi kerak // “Agro ilm” jurnali №1 (57) 2019 yil. 42-43 b. (Uz)
7. Ibragimov Z.A. Agroecological and economic aspects of the use of herbicide and fertilizers in grain production in the south of Uzbekistan // Materials of the 52nd International scientific conference of young scientists, agricultural chemists and ecologists dedicated to the 200th anniversary of the birth of Professor Yaroslav Albertovich Linovsky. Edited by V.G. Sychev. 2018. S. 75-77. (Ru)
8. Ibragimov Z.A. The dependence of the yield of winter wheat in the fight against weeds by chemical means // European science review, Premier Publishing s.r.o. Vienna. # 9-10, 2018. 133-135 p