



EFFECT OF THE USE OF HERBICIDE AND FERTILIZER ON ECONOMIC EFFICIENCY IN THE GROWTH OF WINTER WHEAT

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Article history:	Abstract:
Received: 21 th May 2021	Against the background of the increased norm and the ratio of mineral fertilizers (N ₂₁₀ P ₁₀₅ K ₇₀) when growing winter wheat, when the tendency is growing between wheat monocotyledonous and dicotyledonous weeds 300 g/ha of Atlantis herbicide contribute to an increase in the grain yield to 25.8 c/ha, net profit 692633 soums/ha, profitability up to 17.8%.
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INTRODUCTION

The use of herbicides and fertilizers against weeds in the cultivation of abundant and high-quality grain from winter wheat has been proven in the achievements of science and the experience of advanced production [1,5,6]. However, effective methods of single- and double-stage weed control, common in wheat fields, have not been developed in regional conditions. The developed ones are also one-sided and do not meet modern requirements [3,7].

Therefore, the Action Strategy of the Republic of Uzbekistan for 2017-2021 identifies as an important strategic task "... the development of grain growing through the introduction of intensive methods of agricultural production, strengthening food security, the introduction of resource-saving agro-technologies ...". Of particular importance in the implementation of the program is the elimination of weeds in winter wheat fields by herbicides and the determination of optimal rates and ratios of fertilizer application.

Therefore, in the conditions of the southern desert regions of Uzbekistan, which are unfavorable for the cultivation of cereals, weeding of winter wheat fields with the use of herbicides and determining the optimal norms and ratios of mineral fertilizers are widely used in our research.

The aim of the study was to determine the yield and cost-effectiveness of mineral fertilizer norms and ratios in field conditions treated with Atlantis herbicide, which completely eliminates such weeds, as a single application against single and dicotyledonous weeds that are widespread in spring wheat fields in spring. reached

OBJECT AND METHOD OF RESEARCH

In 2015, when we applied the Atlantis herbicide at 250, 275, 300 g / ha in early, mid and late spring against single and double-stage weeds in winter wheat fields, the 300 g / ha standard was more effective when applied in late spring. In 2016-2018, two experimental backgrounds with and without Atlantis herbicide were used against single and double-stage weeds in winter wheat fields in the desert region of Uzbekistan. Mineral fertilizers were applied in both experimental backgrounds: (N150P70K50), recommended (N180P90K60), and increased (N210P105K70) norms and ratios were applied, and field experiments were conducted in 2016-2018 at the farm "Azamat Abdisamatovich" in Kasan district [2].

The size of the field experimental plots was 180 m² and the calculation plots were 100 m² and were conducted in four repetitions [2]. Economic analyzes were conducted on the basis of data obtained on grain yield [4].

RESEARCH RESULTS AND ITS DISCUSSION

Significant variability in cost-effectiveness was observed under the conditions and ratios of mineral fertilizers applied under Atlantis herbicide control and unresolved branch conditions against single and dicotyledonous weeds, which are widespread in spring wheat fields in the spring (Table 1).

Due to the fact that the cost of applied fertilizers has increased over the years, the costs have increased in the experimental options, while the share of total revenues has increased, while the net profit has decreased in the experimental option not used in Atlantis. This is due to the increase in the weight and cost of mineral fertilizers, although grain yields have increased due to the norms and ratios of mineral fertilizers, and the rapid use of weeds in the background without the use of Atlantis herbicide. Because against the background of the experiment in which Atlantis was not used, it was observed that with the increase in the weight of mineral fertilizers applied, the

profitability also decreased in proportion to the decrease in net profit. For example, in the control option where Atlantis herbicide was not applied, the net profit was 553,000 soums / ha, while the net profit from mineral fertilizers was 31.7% and the profitability was almost halved.

Therefore, an important aspect of increasing grain yield at the expense of mineral fertilizers in the cultivation of winter wheat should be the weeding of wheat fields with herbicides.

A positive solution to this problem can be seen in the background of an experiment in which 300 g / ha of Atlantis herbicide was applied on 10 April to eradicate single- and double-stemmed weeds in winter wheat fields. Because the norms and ratios of mineral fertilizers are the same whether or not Atlantis herbicide is used, the economic indicators are different, and a sharp increase in net profit and profitability can be observed against the background of the experience of using Atlantis herbicide.

Table 1

Effect of application of herbicides and mineral fertilizers against weeds in the cultivation of winter wheat (Average for 2016-2018)

Nº	Experiment options	Harvest, ts / ga	total cost, soums / ha	total income, soums / ha	net profit, soums	Profitability, %
When Atlantis is not used						
1	N ₀ P ₀ K ₀	30,6	1742000	2295000	553000	31,7
2	N ₁₅₀ P ₇₀ K ₅₀	39,7	2608234	2977500	369266	14,2
3	N ₁₈₀ P ₉₀ K ₆₀	42,5	2806869	3187500	380631	13,6
4	N ₂₁₀ P ₁₀₅ K ₇₀	44,7	2984347	3352500	368153	12,3
When Atlantis is used						
5	N ₀ P ₀ K ₀	38,3	2132000	2872500	740500	34,7
6	N ₁₅₀ P ₇₀ K ₅₀	57,8	2998234	4335000	1336766	44,6
7	N ₁₈₀ P ₉₀ K ₆₀	61,0	3196869	4575000	1378131	43,1
8	N ₂₁₀ P ₁₀₅ K ₇₀	64,1	3374347	4807500	1433153	42,5

When single and double-stage weeds in winter wheat fields were eliminated by Atlantis herbicide, the net benefit from mineral fertilizers applied increased by 1.8-1.9 times. The situation observed in terms of net profit was also evident in profitability. This is because the yield in the non-NPK control variant of the experiment was 24.7%, while the norms and ratios of mineral fertilizers were reduced relative to the recommended norms and ratios (N150P70K50). , a further increase in the norms and ratios of mineral fertilizers increased the yield by 18.4-17.8% compared to the control option, while the recommended rate and ratio decreased (N150P70K50) compared to the applied variant.

This situation shows that as the net profit increases, the profitability decreases, albeit slightly, as the norms and rates of application of mineral fertilizers are increased.

This situation indicates the high purchase prices of mineral fertilizers. Based on the above, the main factor in increasing the yield and cultivation efficiency of winter wheat, as well as the effectiveness of applied mineral fertilizers is the eradication of monocotyledonous and dicotyledonous weeds with 300 g / ha of Atlantis herbicide in the spring. and opens up new horizons for the development of grain growing.

CONCLUSION

Atlantis herbicide, which has a massive effect on monocotyledonous and dicotyledonous weeds, causing stunted growth in winter wheat in the spring. net profit will increase to 692633 soums / ha, profitability will increase to 17.8%.

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