

# ECONOMIC EFFECTIVENESS OF HERBICIDES APPLICATION AGAINST CEREAL AND DICOLYTIC WEEDS IN WINTER WHEAT FIELD

Sulliyeva Suluv Xurramovna<sup>1</sup>

Qahhorov Ismoiljon Barotali o'g'li<sup>2</sup>

Candidate of Biological Sciences, Associate Professor of the Faculty of Natural  
Sciences of Termez State University<sup>2</sup>

Teacher of the Faculty of Natural Sciences of Termez State University<sup>2</sup>

**Annatation:** As we know, the result of any research is evaluated by the solution of a scientific problem, a new type of technology or the convenience and economic efficiency of the methods used. This article provides information on the economic efficiency of several selected types of herbicides when applied to weeds in the winter wheat field.

**Key words:** winter wheat, economic efficiency, herbicide, weeds, yield

**Introduction:** Due to the fact that spiked grain crops are planted close together and not specially processed, weeds grow freely among them, absorb water and nutrients, provide shade, create favorable conditions for the free development of diseases, pests, insects and other negative effects on grain yield and quality decreases to 40-50 percent. This will certainly lead to a decrease in economic efficiency. For this reason, it is important to study the effectiveness of using different herbicides separately or in combination at different time intervals.

**Purpose of work:** The purpose of the work is to determine the effectiveness of Puma super and Granstar herbicides against spiked and dicotyledonous weeds on several varieties of winter wheat on grain yield.

**Research object:** Several varieties of autumn wheat grown in irrigated lands of Surkhandarya region and various Puma and Grabstar herbicides were selected as research objects..

**Research methods:** In the course of the study, herbicides were applied to the weeds growing in the winter wheat field at different times, observation and comparison of the results was carried out.

**Results:** The results of our experiments showed that the effectiveness of Puma super and Granstar herbicides against spiked and dicotyledonous weeds in the field of Kroshka variety of winter wheat increased by up to two times. However, determining the economic efficiency of herbicides used against weeds is of particular importance. Because such herbicides are ecologically pure and effective, and because they are imported from abroad, the price is high. In addition, 40-50% or more damage of weeds in grain fields causes a sharp decrease in the efficiency of grain production. In recent years, despite the sharp increase in spike and dicotyledonous weeds in wheat fields, the work of eliminating them with the help of appropriate herbicides has significantly decreased.

The demand for such herbicides in the world market is increasing due to the fact that the herbicides used against spike and dicotyledonous weeds in the winter wheat field are effective and environmentally friendly. For this reason, as noted in Table 5.27, the average price of 1 liter of Puma super herbicide used for the complete elimination of wild oats and other spiked weeds in each hectare of winter wheat field is 25,000 soums in 2005, 2006 30,000 soums in 2007 and 32,000 soums in 2007. Similarly, the cost of Granstar herbicide, which should be used to eliminate dicotyledonous weeds in winter wheat fields, is 4,800 soums per hectare in 2005, 5,175 soums in 2006, and 5,280 soums in 2007. because of the organization, our farmers did not buy such herbicides.

*table -5.27*

**Economic effectiveness of herbicides application against cereal and dicolytic weeds in winter wheat field. (when herbicides are applied on March 20)**

№	Indicators	Experience options			
		I (st)	II	III	IV

<b>2005 year</b>					
1	Productivity s/ha	31,3	45,3	46,9	56,7
2	Total costs, in sums	329133	354133	333933	358933
	Herbicides, sum, ha	-	25000	4800	29800
3	Total income from the sale of grain, in sums	268210	388176	401886	485862
4	Net profit, sums	-60923	34043	67953	126929
5	Rate of return, %	-18,5	9,6	20,3	35,4
<b>2006 year</b>					
1	Productivity s/ha	34,4	50,1	49,5	57,3
2	Total costs, in sums	422073	452073	427248	457248
	Herbicides, sum, ha	-	30000	5175	35175
3	Total income from the sale of grain, in sums	394430	574447	567567	657002
4	Net profit, sums	-27643	122374	140319	199754
5	Rate of return, %	-6,5	27,1	32,8	43,7
<b>2007 year</b>					
1	Productivity s/ha	32,8	48,5	47,3	56,1
2	Total costs, in sums	588336	620336	593616	625616
	Herbicides, sum, ha	-	32000	5280	37280
3	Total income from the sale of grain, in sums	432927	670151	624312	740464
4	Net profit, sums	-155409	19819	30696	144848
5	Rate of return, %	-26,4	12,3	5,2	23,1

However, considering that each bush of some weeds sheds up to 0.5 million seeds on the ground every year and increases year by year, the price of such herbicides should be of little interest to our farmers.

At the same time, if we take into account the fact that it develops along with winter wheat and reduces the yield and quality of the crop, we witness the limitless damage caused by weeds. According to the results of our experiments (Table 5.27), the yield from winter wheat fields with a lot of spiky and dicotyledonous weeds does not exceed 29.8-34.4 s/ha, against spiky weeds Puma super (1 l/ha), when Granstar (15 g/ha) herbicides used against dicotyledonous weeds were mixed together and dissolved, it was observed that the grain yield was 56.1-61.2 s/ha.

As a result, there was a sharp increase in net income and profitability due to the increase in income from the sale of grain to the state. As a result, expenses spent on Granstar and Puma super herbicides, along with other expenses, were fully covered, and an increase in net profit was observed.

On March 20, when Puma super was applied separately against wild oats and other spiky weeds, the grain yield was 14.0 s/ha in 2005, 15.7 s/ha in 2006, and 15 s/ha in 2007. It was observed that it increased by 7 s/h.

When Granstar (15 g/ha) herbicide was applied against dicotyledonous weeds on March 20, grain yield was increased by 15.6 s/ha in 2005 compared to the herbicide-untreated control option, and this situation was 15.1 s/ha in 2006. /ha showed that in 2007 it will be more than 14.5 s/ha.

However, when Granstar herbicide was applied separately against dicotyledonous weeds, the grain yield when both herbicides were mixed together and dissolved and applied on March 20 was significantly higher than when the herbicide was applied to the control option and when the herbicides were applied separately. was observed.

When we compare and analyze the experimental options of this situation, we witness the following evidence. In 2005, compared to the control option without

herbicides, the grain yield when both herbicides were mixed together was 56.7 s/ha, and it showed that the grain yield was 25.4 s/ha more than the control option.

The purpose of the analysis of data on grain yield in the economic analysis part of the dissertation was to show the high efficiency of the combined use of herbicides. If the grain yield when the herbicide Puma super (1 l/ha) was used separately against spike weeds was 45.3 s/ha, the additional grain yield when both herbicides were used together, Puma super separately showed that it was 11 s/h higher than the one used. The same speed was observed in the effectiveness of the combined use of Puma super with the separate application of Granstar herbicide, and an additional grain yield of 9.8 s/ha was achieved.

According to the experiments of 2006-2007, the law of 2005 was repeated, showing that the combined use of Puma super (1 l/ha) and Granstar (15 g/ha) herbicides is more effective.

**Conclusion:** The results of the research show that the herbicide Puma super (1 l/ha) against spike weeds that develop simultaneously with winter wheat, Granstar (15 g/ha) against dicot weeds It is considered a promising method to mix and melt together at the beginning of April, which is considered the time of sorghum germination, and opens new prospects for further development of grain growing in the conditions of the irrigated southern regions of our country.

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