ELIMINATING DICOTYLEDONOUS AND CEREAL WEEDS IN WINTER WHEAT FIELDS THROUGH HERBICIDE APPLICATION

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Annatation: This article describes various weeds found in winter wheat fields and methods of their destruction using various herbicides. Information is also provided on the effects of several types of herbicides used to eliminate weeds found on winter wheat fields and their effectiveness.

Key words: autumn wheat, weeds, herbicides, cereal crops, dicotyledonous plants, effectiveness, broad-spectrum impact, selective effect, dosage.

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.

The damage caused by the stagnant growth and development of weeds increases due to the creation of favorable conditions when grain crops are grown on irrigated lands. For this reason, there is a need to eliminate weeds in winter wheat fields with the help of ecologically clean and effective herbicides.

Purpose of work: The study of the influence and effectiveness of various herbicides, particularly Granstar and Puma, on weeds found in winter wheat fields.

Research object: The object of the study was a wheat field planted in the autumn on irrigated lands of the Surkhandarya region, experiments were conducted and the results were analyzed.

Research methods: Two types of herbicides were chosen as research methods, and their different doses and methods were tested to determine the effectiveness of the herbicide.

Results: The destruction of dicotyledonous and cereal weeds on winter wheat fields depends on the type, dosage, and methods of herbicide application. Herbicide control of weeds in winter wheat fields depends on the types, methods, and timing of herbicide application.

Due to the different selective properties of herbicides, the Puma Super herbicide is highly effective against cereals, while the Granstar herbicide is highly effective against dicotyledonous weeds. For this reason, depending on the timing of herbicide application, when using Puma super at a rate of 1 liter per hectare of land, its effect on dicotyledonous weeds was not observed at all, and when applied on March 20, it killed up to 89.9-92.9% of grain weeds, while when applied on April 10, it killed up to 89.5-93.8%. The main reason for the higher efficiency of the same rate (1 l/ha) of Puma super herbicide against spiked weeds in winter wheat fields 20 days later (April 10) can be considered to be the increase in temperature. As the air temperature rises, the physiological processes in the weeds become somewhat more active, and the properties of the internal (systemic) acting Puma super and other herbicides to kill spiky weeds increase. As mentioned, on April 10, compared to March 20, the number of weeds in 1 m2 of wheat field increased by 44, and the weeds grew a little, and the vegetative mass increased. Nevertheless, when the rate of 1 l/ha of Puma super herbicide was applied on April 10, compared to March 20, it was observed that the effectiveness was up to 1.1% higher. No effect on dicotyledonous weeds in winter wheat fields was observed when Puma super herbicide was applied at 1 L/ha on March 20th and when applied on April 10th.

Therefore, the use of Puma super herbicide at the rate of 1 l/ha in the beginning of April in the conditions of the experimental region is highly effective for eliminating wild oats, sedges, and other spiky weeds in the winter wheat field.

Granstar herbicide is more effective against dicotyledonous weeds in winter wheat fields when applied on April 10 than when applied on March 20. Because, it was observed that when the norm of 15 g/ha of Granstar herbicide was applied on March 20, it was slightly lower than when it was applied on April 10. Because, when Granstar herbicide was applied 20 times at the rate of 15 g/ha, the effectiveness of the dicotyledonous weeds ranged from 84.6% to 87.5%, depending on the types of weeds, while its effectiveness when applied on April 10 it was observed that it was 90.0-95.7%, depending on the types of weeds. The 15 g/ha norm of Granstar herbicide was not observed at all against spike weeds in winter wheat fields.

Therefore, the use of Granstar herbicide at the rate of 15 g/ha at the beginning of April against dicotyledonous weeds that develop in the fields of winter wheat in the irrigated lands of Surkhandarya region is considered to be a highly effective method.

However, although spike weeds are eliminated in winter wheat fields with Puma Super, dicotyledonous weeds thrive. If dicotyledonous weeds are eliminated only with Granstar herbicide at a rate of 15 g/ha, spike weed will flourish and destroy almost half of the winter wheat crop.

Therefore, one of the variants of our field experiments is research on the control of both spike and dicotyledonous weeds in a single application of herbicides by combining Puma super and Granstar herbicides. was carried out.

For this purpose, the rate of 1 l/ha of Puma super herbicide and 15 g/ha of Granstar herbicide was applied against spike and dicotyledonous weeds in the winter wheat field on March 20 and April 10. It was observed that the effectiveness in elimination is high depending on the types of weeds and the duration of application. As a result, the effectiveness of both herbicides when mixed and sprayed on March 20 was observed to be 86.0% to 100.0% depending on the types of dicotyledonous weeds. It was observed to be from 7% to 91.7%.

Puma super (1 l/ha) and Granstar (15 g/ha) herbicides were mixed and diluted

together to show greater effectiveness against spike and dicotyledonous weeds in winter wheat fields when sprayed on April 10 than when sprayed on March 20. That is, when both herbicides against weeds of both types were used together on April 10, it was observed that the rate of destruction of weeds in wheat fields was up to 25.7%.

Compared to the total number of weeds of all species in the winter wheat field, the herbicides Puma super (1 l/ha) and Granstar (15 g/ha) killed 75% when applied on March 20, the total weed kill rate when applied on April 10 was 82.3%. Of course, among the weeds that did not die, there are also those that do not belong to the dicotyledonous and spiky weeds, which are not affected by Puma super and Granstar herbicides.

It should be noted that while dicotyledonous and spike weeds develop and mature at the same time as wheat in irrigated lands, other types of weeds cannot bloom and germinate. These weeds tend to thrive after the winter wheat crop is harvested.

According to the overall results, it was observed that Puma super (1 L/ha) and Granstar (15 g/ha) applied in a mixed solution gave 93.3% control of white salamander when applied on March 20 and 88.3% when applied on April 10, wild oat was observed to be killed by 85.7% when sprayed on March 20 and 89.5% when sprayed on April 10. In all cases, we consider herbicides to be a highly effective way to control weeds in winter wheat fields at the end of April. Because, during this period, although the weeds have increased and the winter wheat has developed a lot, the germination of dicotyledonous and spiked weeds has stopped, and there is no need for repeated use of herbicides.

Conclusion: Due to the fact that winter wheat is planted in rows on the cover, herbicides against weeds are applied by means of tractor-mounted sprayers, so the tractor wheels can reveal a certain amount of wheat grass and kill or damage it. Therefore, it is an effective method to spray dicotyledonous and spiky weeds at the same time by mixing appropriate herbicides.

Therefore, not only in the Surkhandarya region, but also in the conditions of other regions, in the elimination of dicotyledonous and spiked weeds in winter wheat fields, Puma super (1 l/ha) and Granstar (15 g/ha) herbicides are mixed and dissolved. we recommend to apply it in early April after the plants have fully germinated.

List of used literature

1. Decision of the President of the Republic of Uzbekistan "On additional measures to introduce the market principle in the production and sale of grain", PQ-262, 28.05.2022.
2. Закиров Т.С. Культура земледелия в орошаемых условиях Узбекистана. - Т.: «Ўзбекистон», 1979.
3. Ermatov A. Irrigated farming. T.: "Teacher", 1983.
4. Rashidov M. I. and others. Recommendations for the use of Granstar herbicide in grain fields. Tashkent, 1998.
5. Oripov R., Khalilov N. Plant science. T., 2006.
6. Ibragimov Z.A. Field weeds and their control in short-rotation grain rotation (Nauchn.tr. KIEI, vip.1), 1996
7. Kholmatov M.Kh., Akramov B. Effectiveness of chemicals in the fight against weeds, diseases and pests in irrigated grain fields. "Cotton and grain farming" //J: No. 2, 2000
8. Elefferohorinos T. G. Weeds competition from Callium Aparine 1 and Veronica Persica Poir in Winter Wheat and their control by chlorsulfuron. //Aspects. №9,1985
9. Dependence of stem lodging resistance of winter wheat on weed control. Sullieva Suluv Khurramovna, JOURNAL OF AGRICULTURE & HORTICULTURE Volume 4, Issue 6, 55-58.

10. Dependence of winter wheat growth and development on the level of weed control. Sullieva Suluv Khurramovna, JOURNAL OF AGRICULTURE & HORTICULTURE Volume 4, Issue 6, 52-54.