

"ZEROX" INCREASES RELATIVELY THE RESISTANCE OF COTTON TO ROOT ROT

R.O. Atoeva*

*Teacher,

Bukhara State University, UZBEKISTAN

Email id: atoeva@mail.ru

DOI: 10.5958/2249-7137.2022.00457.8

ABSTRACT

The article studied the effect of the "Zerex" immunostimulant on the root rot disease of the cotton plant by using the norms (1-2-3 l/t; l/ha) and terms (pre-sowing treatment of seeds, in phases 2-4 x true leaves). The best results due to resistance to root rot were obtained on the use of the "Zerex" preparation at the consumption rates of 2 l/t, the average biological efficiency in three years was 80.1%

KEYWORDS: *"Zerex", Plant Density, Application Of Norms And Terms, Bukhara-10, Root Rot Disease, Biological Efficiency*

1. INTRODUCTION

Immunostimulators and stimulants protect plants from biotic and abiotic conditions, reduce the types of reactive oxygen species that cause stress, they activate the antioxidant defense system or increase the content of salicylic acid compounds, resulting in increased plant immunity [1,2].

The use of immunostimulants in agricultural crops has been shown to have a positive effect on their fertility [3], growth and development processes [4], dry mass, pure photosynthesis productivity [5,6], productivity [7] and other physiological processes in plants [8].

2. Literature Review

A universal, contact-active ZEROX immunostimulant (containing 3000 mg/l of silver colloid) has three-way influence on plants. Firstly, it destroys fungal and bacterial phytopathogens;

- Secondly, the silver ions of ZEROX interact with the plant receptors and enzymes, as a result, high levels of oxygen are produced in the plant cell and the immune system against various pathogens in the plant body is formed.

- Thirdly, it regulates effects of endogenous phytohormones in the plant, reduces the sensitivity to ethylene (ripening and aging hormones) and increases the amount of the auxin (growth hormone) [9].

One such effective fungicide is the "Zerex" immunostimulant (containing 3000 mg/l of colloidal silver). "Zerex", like other immunostimulants, increases plant resistance to diseases.

3. Research Methodology

Scientific research was conducted in 2018-2019 in the city of Bukhara, at the experimental station CSSEAITI Bukhara SIS. The experimental area consists of saline soils with a moderate weight of mechanical composition and the ground waters are located in the depth of 2.0-2.5 m.

Then the effect of different norms of ZEROX (1.0-2.0-3.0l / ha) on cotton provides high resistance to root rot in a field was studied. As a Etalon, Fitovak-200ml / t immunostimulant and as a control variant drinking water were used. Different norms of Zerox were treated in the vegetation period of cotton. According to the experimental system, all variants with the use of the "Zerox" immunostimulant were compared with aetalonimmunostimulant ("Fitovak"200 ml/t, ml/ha) and a control variant (drinking water).

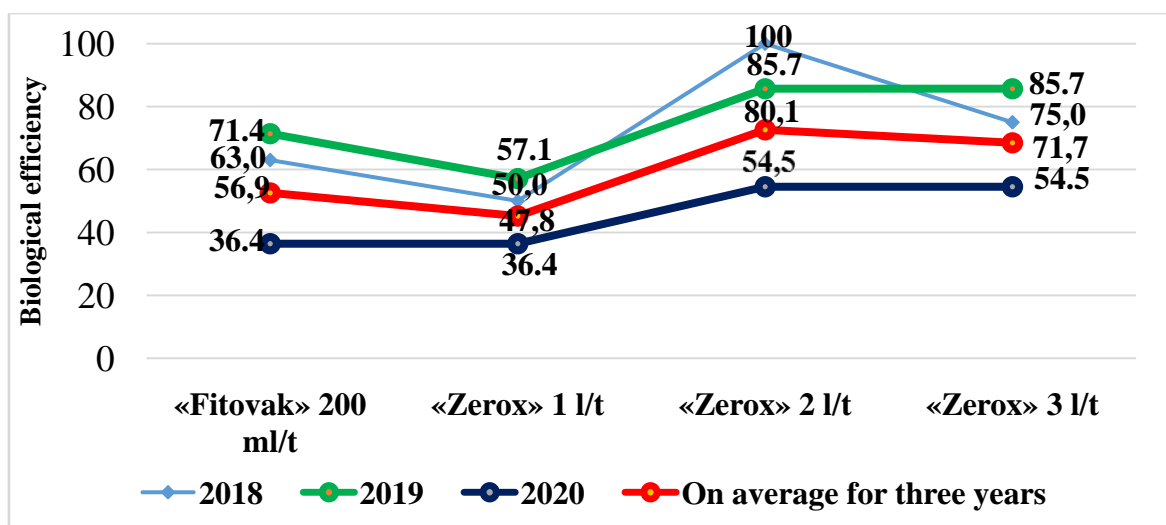
All analysis and phenological observations carried out in the investigation in field and laboratory condition were conducted on the basis of "Methods experiments of field" which written Uzbekistan Cotton Science Research Institute [10] and Plant Insect Protection Center, as well as, methods given in several other literature. Research data was mathematical process in the method of B. Dospexov [11].

At the same time, before sowing, the seeds were treated with "Zerox" at the rate of 1-2-3 l/t and "Fitovak" at the rate of 200 ml/t, and the control variant was treated with drinking water.

From the 3-fold repetition of each option, 50 seedlings were obtained and the degree of damage to their roots and stems was determined in the period of 2-4 true leaves, as well as in comparison with the standard and control options. Due to many rains in 2018-2019-2020, the sowing date was slightly later than in previous years. However, precipitation after sowing in 2018-2020, was not observed root rot in germinated seedlings was practically absent, and depending on the degree of application of "Zerox", the incidence was lower than in the control.

4. Analysis and Results

Observations were made on an average area of 1 m² to detect root rot. According to a 2018 study, (on average) 4 control options, 1.5 standard options, and Zerox 1-3 l / t; According to the variants applied to 1 / ha: root rot disease was detected in 2-1 seedlings. As a result, the biological efficiency was respectively: 63-50.0-75%, while in the variant with the use of "Zerox" 2 l / t, plants affected by root rot were not detected, and the BS was 100%. In 2019, on variants treated before sowing with the "Zerox" immunostimulant at a rate of 1-2-3 l/t, the BS of infected plants per 1 m² was 57.1-85.7-85.7%, respectively (1-diagram).



Also, according to the results of observations in 2020, the control, standard and "Zerox" 1-2-3 l / t variants formed, respectively, BS 36.4-36.4-54.5-54.5%. According to studies conducted over an average of three years, the variants using BS Zerox 1-2-3 l / t and Fitovak 200 ml / t, respectively: 47,8-80,1-71,7-56,9%. Thus, the most positive result in terms of resistance to cotton root rot disease was observed in the 2 l / t variant of Zerox.

CONCLUSION

From the studied scientific results, the following conclusions can be drawn: The best results due to resistance to root rot were obtained on the use of the "Zerox" preparation at the consumption rates of 2 l/t, the average biological efficiency in three years was 80.1%

REFERENCES

1. Aripov B. F. idr. Dynamics of protein biosynthesis in various strains of soil actinomycetes //central asian journal of medical and natural sciences. – 2021. – T. 2. – №. 3. – C. 191-198.
2. Rashidova N. T. et al. Basidial Mushrooms and Prospects for their use in the Biotechnology //Central asian journal of medical and natural sciences. – 2021. – T. 2. – №. 5. – C. 183-188.
3. Ikramova M. L., Atoeva R. O. The effect of the use of Zeroximmunostimulants on the germination, formation and development of the root system of cotton //Bulletin of Gulistan State University. – 2019. – T. 2019. – №. 3. – C. 55-59.
4. Ikramova ML, Atoeva RO Scientific Bulletin. Scientist // Ilmiyahabarnoma. Scientific Bulletin Founders: Andijan State University. ZM Babura - No. 4. - S. 30-37.
5. Ikramova M. L., Atoeva R. O., Rakhmatov V. N. Application of the immunostimulantseros for determination of leaf surface, dry mass and net productivity of photosynthesis of cotton plant //Asian Journal of Multidimensional Research. – 2021. – T. 10. – №. 9. – C. 244-250.
6. Odilovna A. R. Influence of the ImmunostimulantZerox for Pure Photosynthesis Efficiency of Bukhara-10 Cotton //Eurasian Journal of Research, Development and Innovation. – 2022. – T. 7. – C. 30-34.

7. Ikramova M. L., Atoeva R. O., Atoeva D. O. Influence of the Zerox Immunostimulant on Cotton Production // American Journal of Plant Sciences. – 2020. – T. 11. – №. 4. – C. 564-568.
8. Ikramova M.L., Rakhmatov B.N., Atoeva R.O. Influence of cell sap concentration and osmotic pressure when using the immunostimulant "Zerox" in different doses, and the density of cotton. – 2021.
9. Fungicide and bactericide of contact action based on colloidal silver. Scientists of the Moscow State University. AgroKhimProm, 2016.–15p.
10. Methods of conducting field experiments. - Tashkent: LLC Albit, 2007. - p. 140-143.
11. Armor B. A. Methods of field experience. M.: Kolos, 1989. -