

EFFECT OF GUMIMAX STIMULATOR ON RE-PLANTED SUNFLOWERS

Tadjiev Karim Mardanakulovich*

*Doctor of philosophy Agriculture,
Surkhandarya Research and Experimental Station of the Research Institute of Cotton Breeding,
Seed Production and Agrotechnology, UZBEKISTAN

Email id: KarimTadjiev@gmail.com

DOI: 10.5958/2249-7137.2022.00179.3

ABSTRACT

In Surkhandarya region, the use of growth stimulants Gumimax for early and high yield of sunflower was studied. When using the growth stimulator Gumimax (seed treatment at a rate of 0.75 l / t; spraying the plants in phase 3-4 pairs of leaves 0.4 l / ha) showed a positive effect of sunflower seed oil.

KEYWORDS: *Sunflower, Stimulant, Norm, Gumimax, Seed And Plant Processing, Yield, Seed Oil*

INTRODUCTION

In our country, the cultivation of secondary crops on the vacant lands of cereals will allow us to meet the needs of our people in food.

In the southern regions of the country there is a period of no frost for 130-140 days after the autumn wheat harvest, during which the optimum temperature for plants is 2400-32000 C. The useful temperature for sunflower is 1850 ° C for early ripening varieties and 2150 ° C for medium ripening varieties. This means that 1.5-2.0 c / ha of sunflower can be sown with the effective use of effective temperatures during this period of the season.

In the Surkhandarya region, dry, dusty Afghan winds of 15 m / s per second are expected in summer. This leads to soil erosion and has a partially negative effect on the growth and development of plants. On the hottest days of summer, the temperature reaches 39.5-480C. During these months, hot and dry hot winds raise the temperature and reduce the relative humidity by 12-20% or even less. Under such conditions, many crop traces are shed on the plants.

Due to such unfavorable weather conditions, it is not possible to grow the desired crop. As a result, from year to year there are significant losses and a lot of economic damage to agriculture. In this case, it is important to use growth-regulating substances in the production of high-quality and sustainable crops from winter wheat. Growth stimulants increase the resistance and immunity of plants to adverse conditions, accelerate the metabolic process, activate the synthesis of proteins and carbohydrates. A number of measures have been taken in this direction and positive results have been achieved.

Biostimulants are environmentally friendly, accelerate the growth and development of plants, contribute to high yields at low cost (P. Du Jardin, 2015), as well as chemicals used in plant protection (2013) in some cases it is possible to reduce the use of mineral fertilizers and pesticides [1].

Therefore, we aim to develop acceptable terms and standards for the use of Gumimax stimulant in the production of high-quality sunflower after sowing of winter wheat.

Research methods. Experiments revealed the content of humus in the soil in the method of IV Tyurin, total nitrogen and phosphorus IM Maltseva and LI Gritsenko, mobile phosphorus BP Machigin and exchangeable potassium PV Protasov.

The experiment was conducted in the conditions of barren meadow soils of Surkhandarya region. Sunflower seeds sown after winter wheat were pre-sown with Jahongir navi seeds and treated with Gumimax stimulator during the growing season.

Observations, calculations and analyzes in field experiments were carried out in accordance with the methodological guidelines of the UzPIT "Methods of conducting field experiments" [2]. During the period of use of chemicals, "Brief methodological guidelines for state testing of growth-regulating substances" were used, and the obtained data were mathematically statistically processed in the style of BA Dospekhov. [3]

The field experiments were divided into four rows, two of which were computational, and two of which were defensive. The row spacing was 70 cm, the area of each division was 28 m² and the height was 10 m. Sunflower seeds were sown in 3-4 seeds (70 x 25 -3-4) every 25 cm. The sunflower plant was sown with a stimulant hand in 3-4 leaf cycles.

Research results. Experiments have shown that the effect of treatment of sunflower seeds, re-sown after winter wheat with Gumimax stimulant at different rates, on seed yield. [4]

According to the results of the study, the average seed yield in the control variant was 16.2 c / g. When the seed was treated with the standard sodium humate at the rate of 0.8 kg / t, it was 17.9 c / ha, which is 1.7 c / ha more than the control variant.

0.5 to Kungabokar seed with Gumimax stimulant; 0.75; When processed at a rate of 1.0 l / t (var. 3; 5; 7), the average seed yield is 18.5; 18.7; 18.5 c / ha, 2.3 out of control; 2.4; Increased by 2.3 c / ha.

Also, sunflower seeds with Gumimax stimulant 0.5; 0.75; 1.0 l / t and 3-4 pairs of leaves at a rate of 0.4 l / t (var. 4; 6; 8) seed yield 18.9; 19.7; At 18.8 c / ha, these controls were 2.7; 3.4; 2.6 c / ha was observed.

When 3-4 pairs of sunflowers were applied with Gumimax stimulant at the rate of 0.4 l / ha, the average seed yield was 17.8 c / ha, which is 1.6 c / ha more than the control.

When the effect of the stimulant Gumimax on the content of sunflower seeds in the experiment was determined, the average content of sunflower seeds in the experimental variants was 45.5-48.6%, while in the control this figure was 45.5%.

Sodium humate stimulator is applied to the seed at the rate of 0.8 kg / t 47.0%, as well as with the stimulator Gumimax 0.5 before sowing the seed; 0.75; 47.4 in the variants processed at the rate of 1.0 l / t (var. 3; 5; 7); 47.6; 47.4%, 0.5 with Gumimax stimulant; 0.75; 1.0 l / t and 3-4

pairs of leaves at a rate of 0.4 l / ha (var. 4; 6; 8) 48.0; 48.6; 47.8% and 46.4% when applied at the rate of 0.4 l / ha in 3-4 pairs of leaves with Gumimax stimulant.

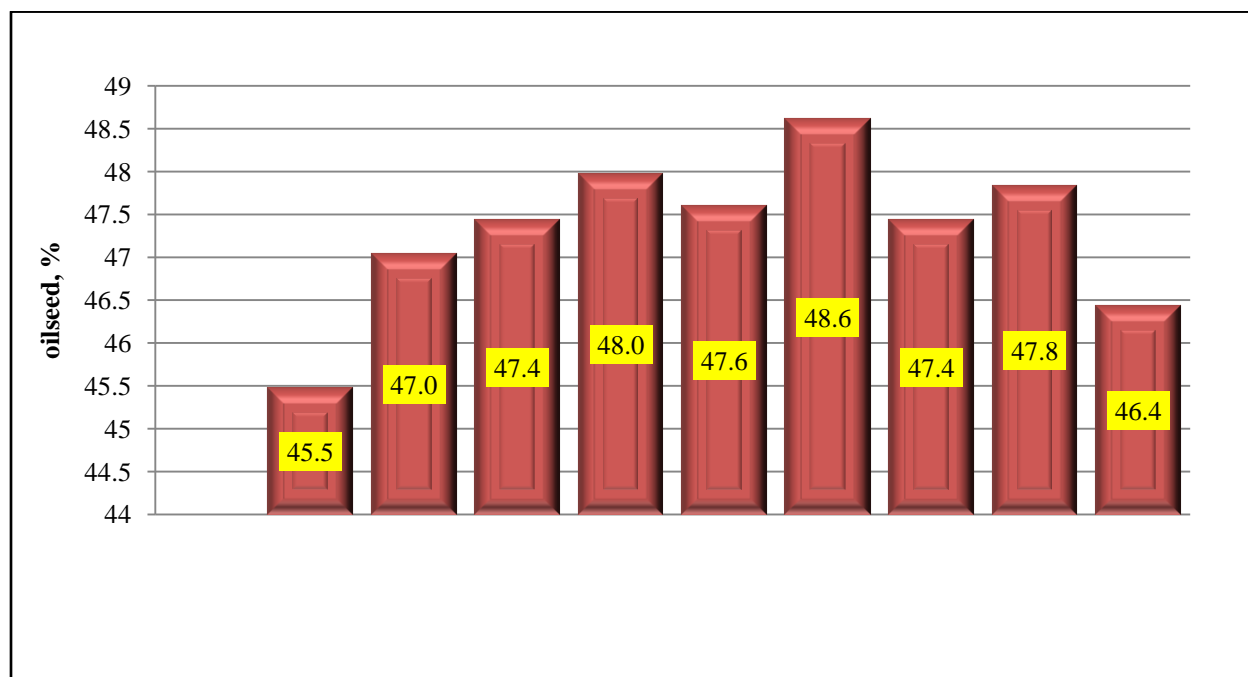


Fig. Effect of repeated sunflower treatment with Gumimax stimulant on brain content, %

In particular, the content of sodium humate in the seeds was 1.6% higher than in the control of sunflower seeds, and 0.5 times before sowing the seeds with the stimulator Gumimax; 0.75; 1.0 l / t in the developed variants (var. 3; 5; 7) mutually compatible 2.0; 2.1; 2.0%, when treated with Gumimax stimulator at the rate of 0.5-0.75-1.0 l / t per seed and 0.4 l / ha per 3-4 pairs of leaves (var. 4; 6; 8) 2 , 5; 3.1; 2.4% and 1.0% increase when applied at the rate of 0.4 l / ha in 3-4 pairs of leaves with Gumimax stimulant. [5]

Based on the data, it can be concluded that 0.75 l / t before sowing and 0.4 l / ha in 3-4 pairs of leaves before sowing of sunflower seeds with Uzgumi stimulant increased the content in sunflower seeds by 3.1%.

Thus, when sowing sunflower seeds with Gumimax stimulator at the rate of 0.75 l / t before sowing and 0.4 l / ha in 3-4 pairs of leaves, the seed yield increases by 3.4 c / ha and the yield by 3.1%.

REFERENCES

1. Vasin AV, Vasina NV, Trofimova EO. Effectiveness of the use of growth stimulants in the separation of grain feeders. Deposit of young scientists in agrarian science: Mat. Mejdunar. Scientific-practical. Conf. Kinel: RIC SGSHA, 2015. pp. 96-103.
2. Nurmatov Sh, Mirzajonov K, Avliyokulov A, Bezborodov G, Akhmedov J, Teshayev Sh, Niyozaliev B, Kholikov B, Khasanova F, Mallaboev N, Tillabekov B, Ibragimov N, Abdualimov Sh, Shamsiev A. Methodical manual "Methods of conducting field experiments". UzCRI.- Tashkent, 2007. 141 p.

3. Dospekhov B. Methods of field experience 5-oe from the ball and processing Moscow agropromizdat 1985. pp.245-256.
4. Radkowski A, Radkowska I. Effect of foliar application of growth biostimulant on quality and nutritivevalue of meadow sward. Ecol. Chem. Eng., 2013;20:1205–1211.
5. Jardin D. Plant biostimulants: Definition, concept, main categories and regulation. Sci. Hortic., 2015;196; 3-14