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INFLUENCE OF THE STIMULANT GUMIMAX ON THE GERMINATION OF SUNFLOWER SEEDS SOUNTED AS A REPEATED CULTURE

Tadjiyev Karim Mardanakulovich
orcid.org/0000-0003-3566-191X, karimgeobio@gmail.com
1st year student ***Eshboyeva Zarina Rustam kizi***
Termez State University of Engineering and Agricultural Technologies

Аннотация:В условиях такырных почв с признаками олуговения Сурхандарьинской области при обработке повторной культуры подсолнечника, посеянного после озимой пшеницы при обработке стимулятором Гумимакс перед посевом семян подсолнечника нормой 0,75 л/т ускорилась всхожесть семян.
Ключевые слова:Озимая пшеница, повторные культур, подсолнечник, стимулятор, Гумимакс, дозы, семена, росток, всхожесть семян

Abstract: In the conditions of takyr soils with signs of meadow formation in the Surkhandarya region, when treating a second crop of sunflower sown after winter wheat, when treated with the Gumimax stimulator before sowing sunflower seeds at a rate of 0.75 l/t, seed germination accelerated.

Key words: Winter wheat, repeat crops, sunflower, stimulant, Gumimax, doses, seeds, sprout, seed germination

Global climate change, constant population growth around the globe and industrial development lead to an increase in demand for agricultural products. “Currently, 28.4 million hectares of sunflower are sown in the world, and 57.0 million tons of sunflower seeds have been harvested.” In recent years, unfavorable weather conditions, low water levels and drought have negatively affected agricultural production.

Однако в результате климатических изменений, вызванных неблагоприятной погодой, дефицитом воды и засухой в последние годы, возникают проблемы при получении высокого и качественного урожая с повторными культурными поселениями после озимой пшеницы. To solve these problems, the development and scientific substantiation of optimal rates and timing of the use of regrowth stimulants in the cultivation of sunflower sown as a crop after winter wheat are considered relevant.

The oil content in modern zoned sunflower varieties is 50-52 (56)% fat by weight of the dry matter of the seeds.

Sunflower oil is semi-drying and has high taste qualities. It is used directly for food purposes, and is also used to produce margarine, in canning, baking, confectionery and other areas of the food industry.

The main fatty acids in sunflower oil are linoleic and oleic acids. The content of linoleic acid in the oil of modern sunflower varieties is 55-60% of the total fatty acids, oleic acid - 30-35%.

Sunflower oil also contains phosphatides, vitamins A, D, E, K and other substances beneficial to humans.

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Sunflower oil of lower grades is used for the manufacture of soap, varnishes and paints, stearin, linoleum, films, waterproof fabrics, electrical fittings, etc.

Waste from processing seeds into oil - cake formed during the press method of oil production, and meal (or cake flour) during the extraction method - are valuable feed for farm animals with a high protein content, which contains a large number of essential amino acids. The share of waste accounts for 33-35% of the mass of seeds.

1 kg of meal corresponds to 1.02 feed units and contains 363 g of digestible protein. 1 kg of cake is 1.09 feed units and contains 226 g of digestible protein.

Threshed sunflower heads also serve as animal feed. The yield of dry baskets reaches 56-60% of the seed weight. 1 kg of flour from dried baskets corresponds to 0.8 feed units and contains 38-43 g of protein [1].

K.M. Tadzhiev, Sh. Abdualimov [5] recommended treating sunflower seeds with the Gumimax stimulant at a rate of 0.75 l/t to obtain a high-quality harvest from repeated sunflower crops in the conditions of the Surkhandarya region.

Treatment of sunflower seeds with growth stimulants Gumimax has a stimulating effect on plant growth, the effect on yield showed a positive effect in comparison with the control [2, 3, 4].

Research methods. Field experiments, laboratory analyses, phenological observations and calculations were carried out on the basis of methodological guidelines: “Methods for conducting field experiments”, “Methods of agrochemical, agrophysical and microbiological research in field cotton areas”, “Methods of agrochemical analyzes of soils and plants”, mathematical processing of the data obtained was carried out using the Microsoft Excel program according to the method of B.A. Dospehov.

Germination of sunflower seeds begins at a temperature of 4-6 °S. An increase in temperature accelerates the emergence of seedlings. At a temperature of 8-10°S, seedlings appear 15-20 days after sowing, at 15-16°S - after 9-10 days, and at 20°S - after 6-8 days. The optimal germination temperature is 12-15 °S.

The sum of active temperatures for the period from sowing to emergence of seedlings is 140-160 °S.

After seedlings emerge, the plants' heat requirements increase. In the flowering phase and in the subsequent period, the optimal temperature for sunflower is 25-27 ° S. Temperatures above 30 °S have a depressing effect.

The sum of active temperatures required for the ripening of early ripening varieties is 1600-1800 °S, for mid-ripening and late ripening varieties - 2000-3000 °S.

Based on the effect of using different rates of the Gumimax stimulant before sowing sunflower seeds sown after winter wheat (Figure).

The germination rate of sunflower seeds sown after winter wheat in the control variant was 70.9%, when using Sodium humate at a rate of 0.8 kg/t^{-1} 80.2%, when using the stimulator Gumimax at a rate of 0.5 l/t^{-1} 82.0-82 .6%, at a norm of 0.75 l/t^{-1} 84.1-85.0%, at a norm 1.0 l/t^{-1} 81.6-82.4%, which is 10.7-14.1% higher or germination was higher by 1-2 days compared to the control.

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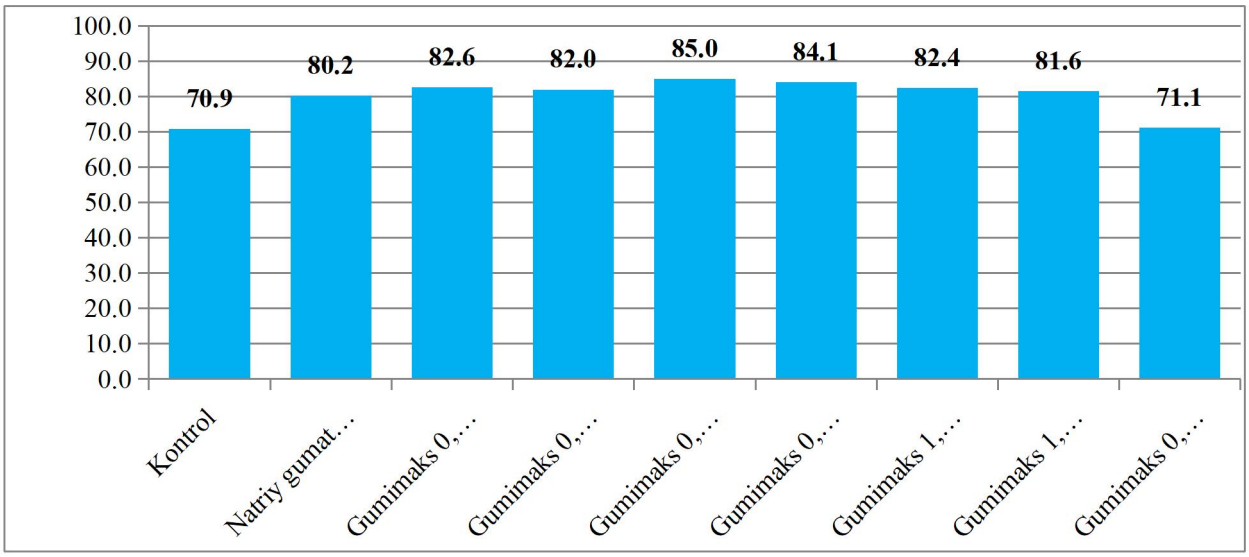

Drawing. Effect of the stimulator Gumimax on the germination of sunflower seeds sown as a repeat crop, %

Conclusions. In the conditions of takyr soils with signs of meadow formation in the Surkhandarya region, when treating sunflower seeds with the stimulant Gumimax at a rate of 0.75 l/t, germination increased by 14.1%, where early plant shoots were obtained in more than 1-2 days.

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