

**SELECTION OF DONORS WITH VALUABLE ECONOMIC TRAITS IN THE
CREATION OF NEW SUNFLOWER VARIETIES AND THEIR IMPORTANCE IN
THE SELECTION PROCESS.****Khabibullaev Kholzhura Abdukhalil ugli**Research Institute of Grain and Legume Crops,
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Abstract: The article analyzes research in the field of sunflower (*Helianthus annuus* L.) cultivation. In world practice, attention is paid to the work being carried out to create varieties resistant to various stress factors, with a high yield and high oil content. Based on experiments conducted in Uzbekistan, the economically valuable traits, flowering period, resistance to water scarcity, and adaptability of varieties and samples are studied.

Keywords: sunflower, selection, genotype, donor, yield, stress factors, tolerance, vegetation.

In recent years, sunflower cultivation has become an important branch of Uzbekistan's agriculture. Because this crop has high economic efficiency and is widely used as a source of food and technical oil. Worldwide, effective scientific research on sunflower breeding is being conducted in such countries as Russia, Ukraine, Turkey, China, and the USA. The main goal of these studies is the creation of high-yielding, early-maturing, and high-quality seed-producing varieties that can withstand various stress factors. In the conditions of Uzbekistan, the need to create new genotypes suitable for the local agro-climate is growing..

Experimental material and method: Sunflower, by its nature, is a cross-pollinating crop. Therefore, when organizing experimental nurseries, so that the flowering period of the studied varieties did not coincide with each other, the sowing period was determined with a 15-day difference. The experiment was conducted on an area of 480 m² in 4 repetitions. The size of each delyanka was 2.4×41.7 m, and the protection zones were separated by a corn row. In the experiments, the following varieties were studied: Olimp, catalog 1, T-14, catalog 2, Asia and Yangi Zamon.

In the first years of research, along with variety samples imported from Turkey, the Asian variety was studied as a standard. Compared with the modern variety, the main economic characteristics of the plants were assessed - ripening time, yield, oil content, and drought tolerance. At the next stage, the Asian variety was selected as the breeding base, and together with it, a Turkish sample with catalog number 1 was sown and allowed for free pollination. All varieties were analyzed during the growing season through phenological observations. The results showed:

- Olympic and Asian varieties showed stable growth and high yield in drought conditions;
- The 1st catalog sample was distinguished by the degree of oil content (47-49%);
- The Yangi zamon variety attracted special attention due to its early ripeness;

- The T-14 variety was recommended as a water-deficiency-resistant genotype.

Discussion

Scientific approaches in the field of sunflower breeding are based on long-term observations and phenological analyses. As a result of in-depth study of biological and economic characteristics, the possibility of creating new, climate-resilient, high-quality genotypes increases. In the conditions of Uzbekistan, growing sunflowers in areas freed from grain, rational use of land resources, ensuring food security, and increasing the income of dehqan-farmer households are of great importance.

Conclusion: According to the research results, the Asian, Olympic, and 1st Catalog varieties were selected as the most promising for use as donors in the breeding process. They showed high results in terms of yield, oil content, early maturity, and durability. In the future, the creation of new sunflower hybrids with enriched genotypes based on these varieties will become the main direction of breeding work.

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