

## EVALUATION OF THE VARIETY AND LINES OF TWO-SEASONAL SOFT WHEAT FOR HEAT RESISTANCE

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### Abstract:

This article analyzes the heat resistance of protein coagulation indicators of the leaves of the variety and the wheat yarn line at the beginning of the spiking phase. The KR19-19thDSBWYT-29782 line with the highest performance was chosen for the purpose of creating a grade for an unfavorable external environment.

**Keywords:** double-handle wheat, heat resistance, protein coagulation in leaves, line, variety and samples.

### Introduction

Global climate change has a negative impact on all areas of development. From 1980 to 2017, when global data on climate change began to be recorded, the temperature of the Earth's planet increased by 1°C. Although this information seems invisible to us, but if we look at it as an average of the surface of the planet, we see that the change is great, As a result, glaciers are melting and sea levels are rising dramatically. If greenhouse gas emissions do not cease, scientists predict that the average temperature of planet Earth will rise by 4°C. According to forecasts, this situation will make most of the land uninhabitable [9].

The adverse effects of climate change affect various sectors. Agriculture remains one of the most affected sectors, facing significant changes due to rising temperatures. Studies in many countries show that climate change can lead to significant losses in agriculture. Therefore, in analysing the two-way relationship between climate change and agriculture, it is necessary to create new varieties that are resistant to adversity.

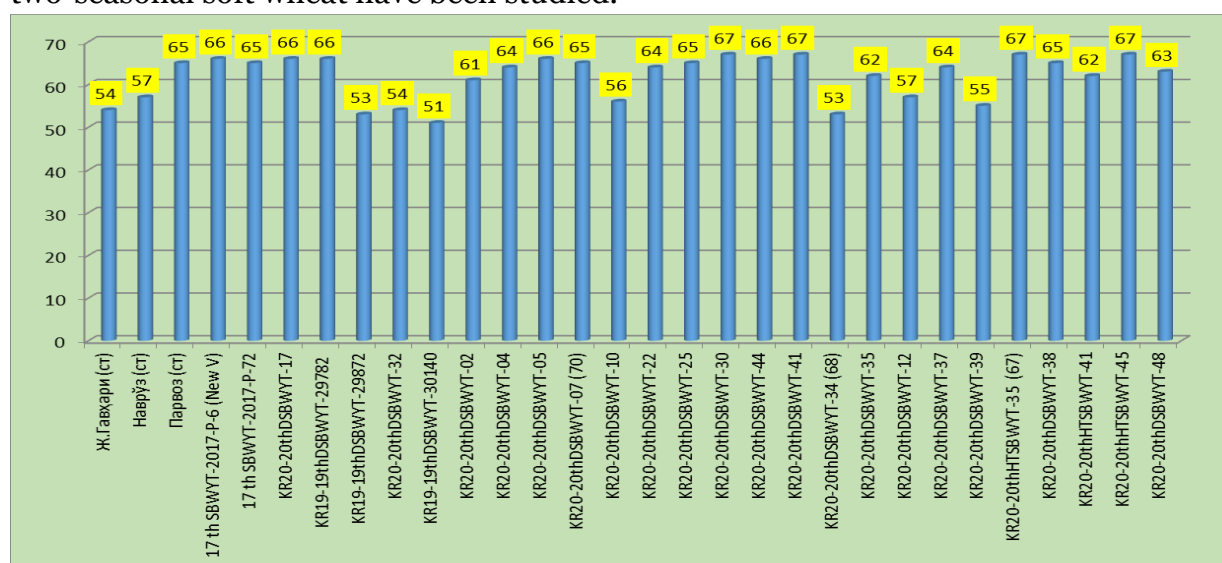
### Material and Methods

Heat resistance in the leaf, studied by sampling the plant leaves from a field at the beginning of the period of spiking. The coagulation temperature of the protein was determined by the Genkel method (1982). To this end, 2 g of leaves were crushed in a porcelain mortar. Then 25 ml of distilled water (H<sub>2</sub>O) was added and mixed. The resulting solution was filtered and heated on an electric tile before the protein coagulated and the coagulation temperature of the protein was determined. The higher

the coagulation of the protein in the leaves at a higher temperature, the more heat-resistant it is.

## Results and Discussion

The heat resistance of the plant also means that it is resistant to drought. Day temperature above 40°C is considered to be unfavorable to the plant, and yee long stay will lead to yego death [1]. Scientific studies have shown that plants die within 10 minutes at a day temperature above 51°C. [9] With this in mind, studies have been carried out to determine the thermal resistance. In our studies 30 varieties and lines of two-seasonal soft wheat have been studied.



**Fig 1. Heat resistance of the variety and lines of two-season soft wheat.**

It was found that the heat resistance of the studied two-seasonal soft wheat was in the temperature range of 54-67 °C. The protein's coagulation temperature was in 9 ranges of temperature-resistant 51-60°C, 12 ranges temperature-resistant 61-65°C, and 9 ranges temperature-resistant 66-67°C. The lines KR19-19thDSBWYT-29782, KR20-20thDSBWYT-30, KR20-20thHTSBWYT-35(67), KR20-20thDSBWYT-41, KR20-20thHTSBWT-45 are resistant to the coagulation of the protein.

## Conclusion

Among the two-seasonal varieties of soft wheat and the heat resistance line are 5 lines resistant to 66-67°C. The KR19-19thDSBWYT-29782 line was selected to create a stable grade to adverse environmental factors

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