



BSU

Studying the main characteristics of wheat entries selected from international nurseries in the different agro climatic conditions of Georgia

¹Z. Sikharulidze*, ¹K. Natsarishvili, ²Ts. Samadashvili, ¹L. Gorgiladze, ¹K. Sikharulidze, ¹R. Dumbadze, ²N. Chkhutiashvili

¹Institute of Phytopathology and Biodiversity, Batumi State University, Georgia

²Scientific Research Center of Agriculture, Tbilisi, Georgia

zoia.sikharulidze@bsu.edu.ge

Georgia is considered one of the places of origin of wild wheat. Although the climate in Georgia is very favorable for wheat production, nowadays, the wheat area is about 50 thousand ha and the average yield is 2.5 t/ha. The main reason for the current situation is that the farmers continue to plant old or poorly adapted imported cultivars. Therefore, strengthening the grain production in the country through growing improved varieties, is one of the internal priorities for the Georgian agricultural sector. In recent years, the situation was improved through the collaboration with the CIMMYT&ICARDA for cereal diseases monitoring and testing of winter wheat nurseries.



In total nine genotypes of wheat selected from different International Nurseries (20thIWWIT-IR-17, 4thIWWSRRN, 1stCACWWYT) including local variety Lomtagora 126 were tested at four locations of Georgia: Dedoplistskhara (Kakheti zone), Mtskheta (Shida Kartli zone), Borjomi (Samtskhe zone), Akhalkalaki I (Javakheti zone). Each yield trial was planted on 10m² plots in four replications using a randomized block design. Common wheat yields, yield components (productive head/ m², grain/head and 1000 kernel weight) and grain quality (glute, protein content) were determined.

In accordance with the 2020 year results of yield trials, **the highest yield showed the two genotypes: F885K1.1/SXL/3/OMBUL/..(20IWWIT-IR-22) and HBK0935W-24/K...105W2.1 (17IWWIT-IR-9807) with an average yield 7.8t/ha and 8t/ha and 1000 kernel weight –53g and 45g, respectively. The average yield of the rest genotypes was between 3.3 – 6.2t/ha.** The grain quality and the bread-making quality of the majority varieties excluding two genotypes: SG-RU24/BILINMIYEN96.55(IN-20IWWIT-IR-13) and KUV/LJILN //ORACLE/ PEHLIVAN(IN- 20IWWIT-IR-17) were good. The septoria glume blotch, tan spot, stem rust, leaf rust and stripe rust were indicated on eight entries with different severity. The promised genotypes were characterized by adult plant resistance to rusts and moderate resistance to glum blotch and tan spot.

Tested genotypes:

1. HBK0935WH...(17 IWWIT - IRR-9807)
2. BURBOT-6/CARDINAL(18FAWWON-SA – 33)
3. SG-RU 24/BILINMIYEN96(20 IWWIT- IR-13)
4. KUV/LJILN//ORACLE...(20 IWWIT - IR-17)
5. F885K1.1/SXL/3/...(20 IWWIT - IR-22)
6. T03/17 (4WWSRRN #8)
7. PYN/PARUS/3/...(4WWSRRN #13)
8. DULGER-1/VORONA/...(4WWSRRN #20)
9. Lomtagora 126
10. AMSEL/TUI/...(CWA-WFYT,ICARDA)

The work was supported by Shota Rustaveli National Science Foundation of Georgia (SRNSFG grant FR-18-978)