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BREADING OF *Triticum spelta*

GORE Andrei*, https://orcid.org/0009-0002-7356-7289
LEATAMBORG Svetlana, https://orcid.org/0000-0003-4091-1522
ROTARI Silvia, https://orcid.org/0009-0007-5122-9373

Moldova State University, Institute of Genetics Physiology and Plant Protection, Chisinau, Republic of Moldova,
**Corresponding e-mail*: *andrei.gore@sti.usm.md*

Triticum spelta is one of the oldest cereals. This wheat is superior to common wheat in terms of protein, fiber, B vitamins and minerals (magnesium, iron, zinc, etc.). It has a low glycemic index, which results in effective detoxification. Spelt wheat is healthy, and it is beneficial for the human body. The goal of our research was to create new forms and lines of spelt wheat that are more productive than existing spelt wheat varieties that are resistant to lodging and other environmental factors.

Material and Methods: For create new lines of Triticum aestivum ssp. spelta we used intraspecific hybridization. We used five varietis from other countries (Titan, three unknows sorts and Arctic).as initial material and other varieties of spelt winter wheat created by us in our laboratory. We have sown our material according to principle one ear – one line. The length of the plots in the selection field was 1.5 m. and the distance between the rows was 40 cm. As a control variety we used the Titan variety from Czech Republic The surface of control field has been - 5 m2. The selection field have been sown manually.

Results: For crosses, we selected the 10 best parental parents (mother, father) in intraspecific crosses (spelt x spelt). The percentage of grain binding varied this year from 6.2% at combination Arctic x Titan to 59.6%, the Arctic x Spelta Rom combination. The height of the plants in the collection ranged from 115 to 143 cm. The best spelt wheat genotypes were harvested from the selection field and selected on base of productivity, quality, and resistance to lodging, drought, and disease. Plant height in this field was ranged from 65 to 150 cm. The harvested samples demonstrated good and very good lodging resistance. The yield of the selected spelt genotypes ranged from 200 g/0.6 m² to 315 g/0.6 m². The yield of spelt wheat were slightly lower than those of common wheat. The two best naked-grain samples had a yield from 260 g/0.6 m² (IS pop Arctic) and 320 g/0.6 m² (IS pop Titan), compared to 200 g/0.6 m² for Titan (control) and 290 g/0.6 m² for Kuialnic (common wheat,

control). The best samples were sown in the control field in the autumn of 2024. In 2025, the highest yield was produced by line KK 3 (2.8 t/ha), compared to the control variety Titan (2.2 t/ha).

Conclusions The percentage of grain binding varied this year from 6.2% - (Titan x Arctic combination) to 59.6%, the Arctic x Spelta. The two best naked-grain samples had a yield - 315 g/0.6 m² (IS pop Titan) and 260 g/0.6 m² (IS pop Arctic), compared to 200 g/0.6 m² for Titan (control). In 2025, the highest yield was produced by line KK 3 (2.8 t/ha), compared to the control variety Titan (2.2 t/ha).

Keywords: Spelt, Productivity, Line, Form, Control, Variety.

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