

**MANIFESTATION OF TRANSGRESSIONS ON THE TRAITS
OF SPIKE PRODUCTIVITY IN F₂ POPULATIONS
OF COMMON WHEAT**

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Transgressive segregation in plant populations is an important factor contributing to the emergence of forms with new characteristics that are superior to the "best" parent. The mechanisms of transgressions have not yet been fully established, but the phenomenon itself is widely used to identify and select plant forms with economically valuable traits that are resistant to pathogens, pests, and unfavorable abiotic factors. Our research is devoted to the study of the influence of the parental forms on the elements of the productivity of the spike of soft winter wheat using the example of 8 F₂ hybrid populations obtained in reciprocal crosses. Positive and negative transgressions were revealed for the traits spike length, number of spikelets per spike, number of grains per spike, weight of one grain, weight of the grains from one spike.

The most significant positive transgressions based on the degree (T_g) and frequency (T_f) were recorded in the case of *the grain mass* character (T_g = 9.32-20.97%; T_f = 31.67-48.33%) in the combinations of wheat Moldova 11 (M11) x Moldova 16 (M66), Moldova 16 (M16) x M11, M16 x Basarabeanca. The combinations Basarabeanca x L M / M3, L M / M3 x Basarabeanca, and of the mass were noted by relatively high indices (T_g = 6.11- 7.50%; T_f = 12.5-25.0%) *grains per spike* - combinations M11 x M16, M16 x M11, Kuaialnic x M66, M66 x Kuaialnic: T_g = 6.70-15.1%; T_f = 8.33-26.67%. Insignificant positive transgressions were found for the character of *the number of grains per spike* in 5 combinations, and for the number of *spikelets per spike* - only one case (T_g = 4.29%, T_f = 10.83%) in the Kuaialnic x M66 combination.

According to the studied traits, genetic distances between parental forms did not affect the manifestation of transgressions. It was found that in F₂ hybrids, obtained on the basis of reciprocal F₁ hybrids, the direction of crossing influenced quite significantly the degree and frequency of transgressions in some combinations, without changing their direction. For example, the combination M16 x M11 recorded for *the mass of a grain* T_g = 11.56%; T_f = 31.67%, and M11 x M16 - T_g = 20.97%; T_f = 35.83%.

This indicates that the successful selection of crossbreeding components and revealed specificity of the manifestation of transgressions in common wheat F₂ hybrids can contribute to the expansion of transgressive variability on the elements of spike productivity in order to create valuable forms.

Keywords: common wheat, hybrid, populations, traits productivity.