

TRITICALE BREEDING AND RESEARCH FOR QUALITY: RESULTS OF THE LAST TEN YEARS IN SZEGED

Bernadett Langó, Szandra Purgel, Lajos Bóna
Cereal Research Non-Profit Ltd., Szeged, Hungary

Triticale (*x Triticosecale* Wittmack) is the first man-made cereal, hybrid of wheat and rye, which has been cultivated. Its history only began in the 19th century, and the largescale production started in the last 30 years all over the world. In recent decades, the triticale breeding in Hungary has risen, 14 Hungarian varieties have been released, and these are likely to use in the growing area of about 100 thousand hectares. Our company has a significant role in Hungarian triticale breeding and seed business as owner of five widely used cultivars including the market leader, cv. GK Maros. In our breeding program, the main goal is yield improvement; however, recently, the utilization of this crop has required more concentration in selection procedure for quality traits (feed, food and industrial aspects). We use mainly Mid European hexaploid winter type gene-pool to investigate basic grain physical- (thousand kernel weight, diameter, hardness) and chemical (fibers, protein, starch and minerals) traits as well as technological (falling number, rheology, baking) values. Also, we examine the variation, parent-offspring relationships and the effects of genotype vs. environment on the magnitude of these parameters. The results help to choose new lines and varieties appropriate for economical field production, feeding, industrial usage as well as for human consumption. The results could be a good guidance for further quality improvement during breeding. In the future, new varieties with improved nutritional benefits and more favorable technological characteristics can be developed, which could help to keep the position of the Hungarian varieties in seed market.