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HYBRID WHEAT: CHALLENGES, OPPORTUNITIES, BENEFITS, PROSPECTS

Wheat – the main grain crop in the world. Its crops cover an area of 217 million hectares. Increase grain production is possible due to improvements in the selection process, in particular the creation of hybrid culture.

The article noted the current directions of reference wheat breeding. Dedicated heterosis vector, and as a major priority in the selection process of culture. Summarizes Achievements of fifty years of experience scientist's works on heterosis breeding of wheat were summarizes. The advantages of hybrids for yield and performance compared to the released varieties.

There are two main ways of creating hybrid culture. The first method involves castration fertile forms using gametotsyds and subsequent hybridization. The second – the use of cytoplasmic male sterility, which is controlled by recessive sterile cytoplasm and nuclear genes *rf1rf1rf2rf2*. The possible donors CMS for use in the selection process are indicated.

Described A brief history of the first MS-hybrids and hybrids based on fertility in wheat was described. There are problems creating heterotic hybrids F1. Possible ways to address the issues of complex hybrids by crossing the first generation hybrids with varieties also are indicated. The possibility of the use of hybrids in commercial crops has been installed.

The specific targets to breeders for the near future is allocated.

Key words: heterosis selection, wheat, hybrid, parent components, cytoplasmic male sterility.