

Subsection - 2.2 Plant protection

CZU: 633.16:632.952 (478)

RESULTS OF THE TESTING OF THE NEW REMEDIES WITH FUNGICIDAL ACTION ON WINTER BARLEY IN THE CONDITIONS OF THE REPUBLIC OF MOLDOVA

**Bivol Alexei¹, Bădărău Sergiu¹, Iurcu-Straistaru Elena², Bivol Elisaveta¹,
Tacu Valeriu¹**

¹Technical University of Moldova, Chisinau, Republic of Moldova

²Institute of Zoology of SUM, Chisinau, Republic of Moldova

E-mail: bivolalexei65@gmail.com

Eared cereals, including winter barley, are subjected during the vegetation period to an attack pressure from numerous pathogens, causing foliar and ear diseases, which present a particular danger for the quality and quantity of the harvest. Annual plants are subjected to the intervention of a complex of pathogenic agents, which include over ten species of diverse mycotic nature, as key objects of economic importance that annually cause serious damage such as: *Ustilago tritici*, *Tilletia caries*, *T. foetida*, *Puccinia recondita*, *P. glumarum*, *P. graminis*, *Erysiphe graminis*, *Fusarium graminearum*, *Septoria tritici*, *S. graminum*, *Helminthosporium tritici-repentis*. Based on the current phytosanitary situation challenging the range of specific diseases, the purpose and objectives of the research carried out in the years 2022-2023 estimate the investigations on some pathogenic agents in the winter barley crop in order to develop and implement new chemical remedies in the integrated plant protection system as are: Amistar Prime, SE, Ampir, SC and Lot no. 1, SC with fungicidal action in combating key diseases in barley culture. At the same time, we set out to establish the biological efficiency values of the fungicidal products tested in combating pathogens: *Erysiphe graminis* f. sp. hordei, *Helminthosporium gramineum*, *Helminthosporium teres*, *Puccinia anomala*, *Septoria graminum* made under the conditions of cereal agrocenoses on productive sectors of SRL „Vatra-Razaseasca”, Central zone, Ialoveni district. The comparative research results highlighted the frequency and intensity of the attack, in the years 2022-2023, in values of 13-22%, in impact with environmental factors. Following the application of the treatments with the new remedies such as: Amistar PRIME, SE, Ampir, SC and Lot no. 1, SC as current fungicides for the winter barley culture, with a wide spectrum of mentioned mycotic action, they estimated an efficiency high in values of 85.0 - 93.3%, compared to doses and variants, which were at the level of the standard variant. Based on the experimental results obtained, it was proposed to include the tested preparations: Amistar PRIME, SE, Ampir, SC and Lot no. 1, SC in winter barley chemical protection management according to the economic damage threshold.

Acknowledgments: The research program was carried out within the technical-scientific collaboration contract no. 3/2023 regarding the testing of phytosanitary products.

Keywords: winter barley, biological control, chemical management, disease, fungicides.