

Influence of innovative biological plant protection products on the resistance of common wheat to fungal diseases

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Due to climate change, over the past 10-15 years there has been an intensive development of various fungal diseases of the main crops. Chitosan, obtained by means of deacetylation of chitin, has got great potential as safe plant protection product. Novochisol, an innovative derivative of chitosan, has recently been obtained, which has a number of advantages: chemical stability, higher solubility and adhesion, the ability to form very effective complexes with active substances of various action. However, the properties of novochisol have not yet been sufficiently tested on plant objects in vivo. We tested the effectiveness of chitosan and novochisol on seedlings and plants of common wheat *T. aestivum*. Stem rust *Puccinia graminis*, a very harmful pathogen of this crop, was used as the causative agent. The preparations were applied to different plant organs (leaf, stem, spikes) at different times before pathogen infection. As a result, novochisol at a concentration of 2.5% showed the greatest effectiveness against stem rust damage when it was applied to the organs of an adult plant 6 days before the fungus attack.

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The main publications of authors on the subject of the abstract:

Teplyakova O.I., Fomenko V.V., Salakhutdinov N.F. Novochisol™ Seed Treatment: Effects on Germination, Growth and Development in Soft Spring Wheat // Natural Products Chemistry & Research (2022) 10(5): 1-4. doi 10.35248/naturalproducts.10.5.1-04

Take-home message:

Novochisol is very effective and safe innovative preparation for plant protection against fungal diseases