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SOIL MICROBIOME UNDER THE INFLUENCE OF NANO AND BIOPREPARATIONS

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ABSTRACT

The results of the study of soil microbiome in Kent soybean crops under the influence of nanopreparation "Avatar 2 Organic" and biopreparations "Groundfix" and "Ecostern" are presented in the paper. It is shown that nano- and biopreparations can significantly affect the number of major groups of soil microorganisms. Features of exposure depend on the type of preparations and compositions in which they are used. It was found that the combined use of nano- and biopreparations inhibits the development of oligotrophs, cellulosic and sporeforming bacteria. As a result, there is a weakening of the destruction processes of organic matter and the predominance of its synthesis. It is shown that the nanopreparation "Avatar 2 Organic", subject to the recommended application standards, does not have a toxic effect on biopreparations that contain soil bacteria *Bacillus subtilis*, *Enterobacter* sp., *Bacillus megaterium* var *phosphaticum*, *Enterococcus* sp, *Paenibacillus polymyxa*, *Azotobacter* sp. The antimicrobial activity of the nanopreparation begins to appear after increasing the rate of its consumption by more than 100 times.

Key words: biopreparation, Ecostern, Groundfix, nanopreparation, soil, soil microbiome, physiological groups of microorganisms.