

## Physiological resistance of *Fusarium oxysporum* to the preparation “Maxim”

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### Abstract

The study is aimed at studying the physiological resistance of the *Fusarium oxysporum* strain 2011 to the preparation "Maxim". It is shown that the manifestation of physiological resistance occurs during the growth of a microorganism during solid-phase cultivation in the presence of a fungicidal preparation. The results of the previous study are confirmed: with growth on a nutrient medium with the addition of the "Maxim" preparation, *Fusarium oxysporum* undergoes physiological and kinetic changes. It has been shown that, under the action of the "Maxim" drug, changes occur in the structure of the cytoplasmic membrane of cells, its percentage of lipids increases along with the increase in the amount of the drug introduced into the medium from 8.2% to 15.2%. At the same time, the level of dehydrogenase activity of cells increases. And between the increase in the percentage of lipids and dehydrogenase activity there is a direct linear relationship. It is also shown that the peak of dehydrogenase activity occurs at the exponential growth phase, followed by a decrease in the level of enzymatic activity and the yield of the culture in the stationary phase of growth.

All this indicates that the emergence of resistance in *Fusarium oxysporum* to the drug "Maxim" is associated with the physiological changes of cells within the norm of response to external change, and also allows to make an assumption about the confirmation of the theory of changes in intracellular processes and the activation of adaptation mechanisms in the microorganism *Fusarium oxysporum* Strain of 2011.

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[9] Fungicide resistance action committee: FRAC Code List ©\*2017: Fungicides sorted by mode of action (including FRAC Code numbering). URL:<http://www.frac.info/publications/downloads> (Дата обращения 10.03.2017).