

BIOLOGICAL CHARACTERISTICS OF PSEUDOMONAS VIRIDIFLAVA ISOLATED FROM SUGAR BEET SEEDS

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Bacteria Pseudomonas viridiflava were isolated and identified from sugar beet seeds. Its biological characteristics were determined and received results were compared with data of other researchers that also had isolated and investigated this species.

Isolates, properties, identification, Pseudomonas viridiflava

Free of seed infection is one of the basic requirements that ensure high and stable yields of crops. However, because the seeds can spread pathogens that lead to lower quality of seeds and crops to poor performance [3].

On the surface and in the internal tissues of seeds microbiota is very diverse and capable intensively developed [4]. Seeds of sugar beet is also a favorable substrate for a wide range of micro-organisms. In particular the results of the selection of bacteria from the surface of sugar beet seeds, treated chemicals, demonstrating their great species diversity. As part of the microbiota treated seed disinfectants - glomeruli found bacteria of the genera Aureobacterium, Bacillus, Cellulomonas, Enterobacter, Erwinia, Microbacterium, Micrococcus and Pseudomonas [1].

Sugar beets during the growing season affected by many pathogens various etiologies, so it is important to detect pathogens on the surface and inside the seed prior to enabling young plants to avoid infection.

The goal of research - identification of selected isolates of bacteria definition of a number of biological features to prevent early initiation of their infection.

Materials and methods research. For the isolation of bacteria seeds after 15 minutes and rinse with running sterile water were ground with 0.5 ml of saline and used for bacteriological sowing potato agar surface. Bacteria were cultured in an incubator at a temperature of 28 ° C.

The morphological, cultural and physiological and biochemical properties of selected bacteria was determined using classical methods [2, 8], the identification was carried out according to the determinant Burge [6].

To determine the presence of pectinase enzymes studied the ability of bacteria isolates matseruvaty pieces of potatoes and beets. In isolated bacterial isolates was determined as the ability to induce hypersensitivity reaction in tobacco leaves. Pathogenic properties of the isolates was determined by artificial infection of sugar beets and beans. We used a suspension of bacteria (at a concentration 1×10^9 cfu / ml of sterile tap water), which was applied to the surface of plant leaves, followed by needle injury [2].

The range of fatty acids (FA) in total cellular lipids was studied by gas-liquid chromatography spectroscopy. For hydrolysis of bacterial cells, lipids and their methylation LCD bacterial mass was maintained at 1.5% - tion H_2SO_4 solution in methanol in sealed ampoules for one hour at $80^\circ C$. Methyl esters LCD extracted with a mixture of ether - hexane (1: 1). The prepared samples were analyzed in chromatography system Agilent 6800N / 5973 inert.

Conclusions

Isolated from sugar beet seeds bacteria on the set of morphological, cultural and biochemical, hemotaksonomichnyh attributes identified as members of the species *Pseudomonas viridiflava*, which are mainly located in epiphytic plants in the state, but under certain conditions can initiate the infectious process.

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