THE FUNGUS MOLD SENSITIVITY TO FUNGICIDAL PREPARATIONS INVESTIGATION

Vehera P. R., Gutnik J. J., Los S. A., Lysak Y. S., Strelnikov L. S.
Scientific supervisor: assoc. prof. Shapovalova O. V.
National University of Pharmacy, Kharkiv, Ukraine
gutnik1505@gmail.com

Introduction. Fungus mold is a group of heterogeneous micellar fungi. Most of them are soil saprophytes, some belong to the plants epiphytic microflora, commensals on the skin or mucous membranes. Some of them are the humans, animals and plants disease pathogenic agents. Fungus mold species are the most common contaminants in biotechnological laboratories. Taking into account the undeniable harmfulness of these fungi, the study of their sensitivity to fungicidal drugs is relevant.

Aim. In vitro investigation of the fungus mold Mucor, Aspergillus and Penicillium sensitivity to fungicidal preparations of various groups.

Materials and methods. As test cultures the isolates of mold fungi *A. niger, Penicillium spp., Mucor spp*., which were obtained from the various plant species explants surface were used. The preparations Biocide-fungicidal mixture PPM (group of heterocyclic organochloride compounds), preparation P-30 (the substance of peroxydisuccinic acid) fungicidal activity at concentrations of 1%, 0.5%, 0.25% was investigated using unified methods and techniques of cultural mycological researches. The research was carried out at the Department of Biotechnology of the NFaU and in the Forest Tree Breeding laboratory of the G. M. Vysotskiy Ukrainian Research Institute of Forestry & Forest Melioration.

Results and discussion. During the PPM research by the method of agar diffusion and the method of optimal conditions for the fungicidal action determining with 60 min. exposure there was no effective influence on all test-cultures strains. The analysis of the research of the effectiveness of antimycotic hazelnut explants (Corylus avelliana) PPM pre-treatment results showed that the preparation effectively inhibited the fungi growth, but long-term treatment with 1% and 5% solution substantially reduced the plant cultures viability to 78% and 14% respectively. The research of P-30 antifungal activity indicate that the fungicidal drug action appears in the concentration of 1% and 0.5%.

Conclusions. The PPM preparation at a concentration of 1%, 0.5%, 0.25% under the 60 min. exposure does not have a fungicidal effect on the *A. niger, Penicillium spp., Mucor spp.* isolates in vitro. The fungicidal action of the P-30 substance in the concentration of 1% and 0.5% and the 60 min. exposure was determined. The possibility of using this preparation for plant explants sterilization and the plant cultures obtain requires further research.

SELECTION OF CLEAN CULTURE OF STRAPS BACILLUS SUBTILIS FROM VEGETABLE AND GRAIN CROPS FOR PRODUCTION OF PROBIOTIC PREPARATIONS

Vorotyntseva V. V.
Scientific supervisor: prof. Ustenova G. O.
The Republican State Enterprise "Kazakh National Medical University named after S.D. Asfendiyarov» of the Ministry of Health of the Republic of Kazakhstan, Almaty, the Republic of Kazakhstan
vika.31_97@mail.ru

Introduction. The use of probiotics in medicine and pharmacy is gaining increasing popularity. The use of microorganisms of the genus Bacillus subtilis as probiotic strains becomes extremely relevant because of their high efficiency and safety. In consequence of this, the possibility of isolating pure culture in production laboratories is considered, with the aim of further use in the pharmaceutical industry.

Aim. The aim of the work was to identify the optimal seed material, among vegetable and cereal crops, by isolating pure cultures of Bacillus subtilis strains from potatoes, beets and wheat grains and identifying them.

Materials and methods. To isolate pure cultures, we made a surface sowing of the material, in an amount of 4 samples for each, followed by dilution of the obtained colonies to various selective media. As a seed, based on literature data, we selected grains of wheat, potatoes and beets. Nutrient media: meat-peptone agar, serum agar, blood agar and Saburo medium. Conditions of the study are air temperature 18-