

RESISTANCE OF MEDICAL BASIDIOMYCETES TO *TRICHODERMA VIRIDE*

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Medicinal basidiomycetes are becoming more common in production, but their cultivation is associated with such a problem as a saprophytic mycobiota. *Trichoderma viride* is one of the most dangerous and prevalent saprophytes. *Trichoderma* causes depression or extinction of mycelium if the cultivated strain does not show sufficient antifungal activity. As a result yield is greatly reduced or can be completely lost. *T. viride* feed on directly by mycelium of macromycetes and reveals clear pathogenic properties in such cases. To avoid this it is important to conduct selection and apply in the production the tryhoderma resistant strains of edible mushrooms. Thereby the purpose of this study was the investigation of the *T. viride* resistance of medicinal basidiomycetes strains, which antifungal properties are still not well estimated.

The study was conducted on four strains from ONU collection: *Ganoderma lucidum* strain F 101, *Auricularia auricula-judae* strain F 201, *Flammulina velutipes* strain F 303, *Hericium erinaceum* strain F 601. As the pathogen was chosen the most virulent strain of *Trichoderma viride*, which was isolated from the affected fruiting bodies of oyster mushroom. Antifungal properties of fungi were studied by the colliding colonies method. Control variants, without infection, were laid in parallel.

The highest growth inhibition was found in *H. erinaceum* – the growth rate decreased 1.38 times, the rate of inhibition was equal to 27.7%, the area occupied by the mycelium suspension during growth of 55%. Strain *G. lucidum* had 1.36 decreasing of growth rate and the corresponding rates 26.7% and 75% of occupied areas. In strain *A. auricula-judae* reduction of growth rate was noted in 1.25 times with the rate of inhibition in 20% and 80% of the occupied area. The inhibition of *F. velutipes* mycelium was not detected. At the time of termination of mycelium growth it took on 95% of the Petri dish.

All investigated strains except strain F601 *H. erinaceum* in contact with the pathogen were appeared morphological changes of colonies: sealing, discoloration and others. The study of the spectrum of activity and multiple molecular forms of carboxylesterases demonstrated no change as at the number of the macromycetes enzyme isoforms so as in their activity in condition of basidiomycetes and pathogen cocultivation. Thus, by the used methodology, the resistance of studied strains of medicinal basidiomycetes to *T. viride* can be arranged in the following order: F 303 *F. velutipes* – 95 %, F 201 *A. auricula-judae* – 80 %, F 101 *G. lucidum* – 75 %, F 601 *H. erinaceum* – 55 %.