CZU: 582.288:632.26

TRICHODERMA SPECIES FOR PLANTS PROTECTION AGAINST ALTERNARIOIS

Crucean Ș.*, Scerbacova T., Lungu A.
Institute of Genetics, Physiology and Plant Protection, Chisinau, Republic of Moldova
*E-mail: stefan.crucean@igfpp.md

Pathogenic species of *Alternaria* can infect all parts of plants. Worldwide there is an increased presence of *Alternaria spp.* mycotoxins in raw food materials and foods. To reduce their pathogenicity, it is important to use biological methods for plants protection. The aim of the research is to select strains *of Trichoderma* micromycetes for the creation of the microbial control agents against pathogenic species of *Alternaria.*

The research objects presented 20 strains of the *Trichoderma spp* fungi from laboratory's collection. The antagonistic activity of mycelial cultures of *Trichoderma* against the pathogen *A. alternata* was studied by dual culture method. The indicator of inhibition of the pathogen by *Trichoderma spp*. was calculated (%) and assessed (in points) by the degree of overgrow of the *Alternaria spp* colonies (Поликсенова В.Д., 2004). The antifungal activity of the culture liquid was evaluated by agar diffusion method. (Егоров Н.С., 2004).

On the 10th day of the experiment, two strains; 2N and 13N have given high antagonistic activity with inhibition rates of 94% and 83% respectively. The other *Trichoderma* fungi strains have given less activity with inhibition rates from 59% to 81%. The degree of overgrow of *Trichoderma spp* fungi of the colony of the pathogen for 9 strains consisted 4 points, 4 strains - 3 points, 5 strains populated the colonies by half - 2 points. The colonization of the pathogen by the *T. virens* strain CNMNEFD-13 was 25% (or 1 point) and there was no growth reduction of the pathogen by the strain 8N (0 points). At the same time, no signs of colonization of the *Trichoderma* culture by the pathogen were seen. Evaluation of the fungicidal activity of the three *Trichoderma spp* liquid cultures was performed by the agar diffusion method. All tested strains have inhibited growth of the pathogen with the formation of the sterile zones with a radius of 13-16 mm.

As a result of the research, two strains of *Trichoderma* fungi, 2N and 13N, from the laboratory's collection, were proposed for further elaboration of the microbial control agents against *Alternaria* fungi.

***Acknowledgments*:** Research was carried out within the State Program project nr. 20.80009.7007.16. "Synergism between natural factors and ecologically harmless microbiological means of regulating the population density of harmful organisms for the protection of agricultural crops in conventional and ecological agriculture", funded by the National Agency for Research and Development of Republic of Moldova (ancd.gov.md).

Keywords: *Trichoderma micromycetes,* microbial agents, mycelial cultures, antifungal activity.