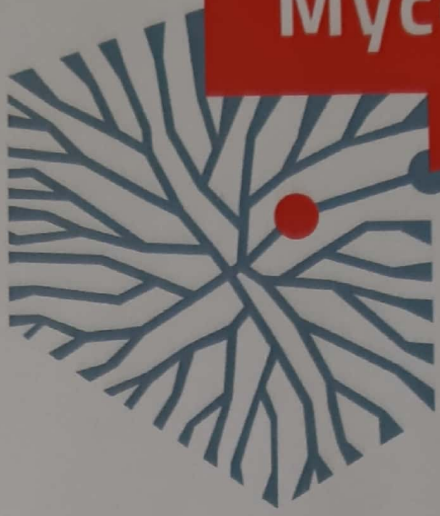
18th Congress of European Mycologists



WARSAW-BIAŁOWIEŻA
POLAND 16-21.09.2019

Abstract Book

Edited by Piotr Mleczko

ISBN 978-83-940504-3-6 Polish Mycological Society, Warsaw

Suggested citation:

Name of the first Author of abstract et. al. 2019. Title of abstract. In: Mleczko P. (ed.), Abstract Book, XVIIII Congress of European Mycologists, 16-21 September 2019, Warsaw-Białowieża, Poland. Polish Mycological Society, Warsaw, p. xx

PS - poster session

Rhizosphere of wild raspberries as a source of beneficial fungi

Michał Pylak, Karolina Oszust, Magdalena Frąc
Institute of Agrophysics, Polish Academy of Sciences, Lublin, Poland

It is hard to deny that modern agriculture, in particular organic farming, is focused on finding new solutions in plant protection. Fungal diseases in plants can cause serious yield losses. Beneficial microorganisms are mostly plant growth promoting bacteria and fungi. They are able to enhance nutrient uptake by plants, parasite on plant pathogens, induce resistance of plants, or secrete hormone-like compounds. Due to the fact, that plant roots play a major role as a carbon source in soil, some microorganisms adapted to living in association with roots in the narrow region of soil that is directly influenced by root secretions called rhizosphere. It has been proven that beneficial microorganisms introduced to plants rhizosphere are able to modify natural root microbiome enhancing plant defense against pathogens.

During our research we have obtained 31 rhizosphere soil and root samples from wild raspberries from 10 locations in Lubelskie voivodeship (Poland). Fungi from soil and root samples were isolated and identified, afterwards they were checked for antagonisms against 4 fungal plant pathogens. From 161 fungal isolates 41 species were identified as potentially beneficial. Further conducted research showed that 36 isolates showed satisfactory results inhibiting growth of previously mentioned pathogens 23 of them belonged to *Trichoderma* genus, and 2 to *Mucor* genus. Despite the fact, that *Mucor* genus is commonly known for its pathogenic properties, newly conducted research shows that it has stimulating effect on growth of some plants, thus it might be considered as beneficial.

This work was financed by The National Centre for Research and Development in frame of the project BIOSTRATEG, contract number BIOSTRATEG3/344433/16/NCBR/2018.