



Preliminary research on mycobiota associated with oilseed rape crop soil from different areas of Romania

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Introduction: The presence in the rhizosphere of plants of various fungi has been shown to increase the yield of plants by improving germination, vigor of the seedling, plant growth, root morphogenesis, photosynthesis. Their presence improves the mechanisms of solubilisation and mineralization of the plants nutrients, facilitating their absorption by plants, regulating hormonal balance, production of volatile organic compounds and microbial enzymes, suppression of plant pathogens and alleviation of abiotic stress.

Results: Soil mycoflora associated with oilseed rape crop consisted in a variety of fungal species, the dominant species being *Cladosporium* spp., *Penicillium* spp., *Acremonium* spp., *Alternaria* spp., *Fusarium* spp., *Sclerotinia* spp., *Rhizopus* sp. and *Trichoderma harzianum*. Further investigations on molecular level by RFLP will be performed in order to confirm the identification at species level.

Keywords: oilseed rape, crop soil, mycobiota, potential antagonistic fungi

This study aimed to determine the fungal flora associated with field grown oilseed rape in order to understand its possible role in early crop establishment, as well as detecting potential beneficial antagonistic fungi against the main rapeseed phytopatogens for their use in their biocontrol.

Material and methods

The biological material consisted in soil samples collected from rapeseed-cultivated soil from three different pedoclimatic areas: Secuieni, Fundulea and Pitesti. Classical and microscopic techniques were used to assess the micoflora occurrence in the soil samples.



Conclusions:

Current agriculture, due to the restriction of pesticide use, in the context of European Commission Regulations, requires alternative approaches, such as the use of beneficial fungi as an active ingredient of biological control products.

More research is required to find the best way to maintain fungal biodiversity in soil, taking into consideration fungal functions and ecosystem services, including disease control, contamination detection, and bioremediation.