ANTAGONISTIC ACTIVITY OF BACTERIA ISOLATED FROM *OLEA EUROPAEA* L. RHIZOSPHERE AGAINST SOME PHYTOPATHOGENS

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Phytopathogenic bacteria cause major economic losses in agriculture. These microorganisms affect the seeds and all organs of the plant during the growing season, disrupt the normal course of physiological processes, cause necrosis and fading of plant organisms. The number of fruits and the quality of production decrease in plants affected by phytopathogenic bacteria.

The attention of researchers is directed to the search for new bioactive compounds with antimicrobial action. Actinomycetes, especially *Streptomyces* sp., are producers of many biologically active compounds: antibiotics, enzymes, plant growth-promoting molecules. Such properties make these microorganisms interesting as agents of biological control of phytopathogens as well as the basis of biological products for stimulating plant growth.

The aim of this study was to identify actinobacteria strains capable to synthesize compounds with antibiotic action against phytopathogenic microorganisms. 166 actinomycetes isolates of the *Olea europaea* L. rhizosphere were used in the work. *Pseudomonas syringae* IMV B-8511, *P. fluorescens* 8573, *P. savastanoi* pv. *phaseolicola* IMV B-4012, *Pectobacterium carotovorum* IMV 8982, *Xanthomonas campestris* pv. *campestris* IMV B-80036 were used as the test-cultures to study antagonistic properties of isolated actinomycetes. The sensitivity of three species of pseudomonads was different: 36.7% of actinomycetes strains inhibited the growth of *P. syringae* IMV B-8511 and 30% of strains inhibited *P. fluorescens* 8573 and *P. savastanoi* pv. *phaseolicola* IMV B-4012. The antagonistic indexes (AI) of the most of strains had values between 1.0-3.0. 1.8% of the bacterial isolates had AI of 7.6-14.6 against *P. fluorescens* 8573 and 5.4% of them inhibited the growth of *P. savastanoi* pv. *phaseolicola* IMV B-4012 and had AI values of 3.1-4.0. *P. carotovorum* IMV B-8982 was the most resistant of the studied phytopathogens. This bacterium was inhibited by the 21.7% of the isolates with AI between 1.2-6.3. The least resistant was *X. campestris* pv. *campestris* IMV B-80036. 48.2% of the isolates inhibited its growth and showed AI in range of 1.1-14.3. 7.2% of the studied isolates inhibited the growth of all of the test strains. Actinomycetes strains 20-128 and 20-144 had the highest AI values.

Thus the following studies and analyzes of secondary metabolites will allow to identify the compounds that provide the antagonistic activity of these actinomycetes against the phytopathogenic bacteria.