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EPYPHYTIC-ENDOPHYTIC INTERACTIONS ON THE OLIVE TREE *OLEA EUROPAEA*

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The bacterium *Pseudomonas savastanoi* pv. *savastanoi* (Psv), is responsible for the "olive knot" disease producing tumorous galls mostly on stems and branches of olive trees. This endangers olive harvest, reducing tree strength and ultimately killing them [1]. Interaction of Psv at infection sites with other microorganisms, mainly epiphytic, but in the knots as well, causes disease spread, [2]. In olive knots some of the latter either depress Psv growth or increase knot sizes [2, 3]. Prevention strategies appear the better way to control olive knot. The endophytic fungal community associated to Psv in the phyllosphere of olive tree cultivars is able to antagonize Psv following experiments in vitro. This antagonistic activity against Psv was particularly displayed by the fungus *Epicoccum nigrum*, that was showed the capacity to inhibited the Psv growth/ biomass on 96%, after 48 hours of interaction. A nonlinear mathematical system is introduced for understanding the action of this resident fungus (*E. nigrum*) in Psv development. It accounts for interactions between olive tree-Psv-*E.nigrum* and furthers our knowledge on the olive knot disease spreading.

References

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