Abstract:

The surface microflora of pears of the cultivar ‘Abbé Fétel’ was investigated. The most frequent genera of fungi found were Alternaria, Aspergillus and Penicillium. The in vitro and in vivo antagonism among the fungi Penicillium expansum, Aspergillus flavus, Alternaria alternate and Stemphylium vesicarium, was studied. In vitro antagonism was tested in paired cultures on agar plates, while in vivo antagonism was assessed from the fungal species isolated from any of the four different sections of pear flesh, from the surface (first section) to the carpel area (fourth section). In dual culture tests, A. flavus proved to be a strong antagonist of A. alternate, by growing over its colony. In the case of all other paired fungal cultures, a strong antibiosis effect was observed. In the in vivo test, pear fruits were inoculated after immersion in a conidial suspension of 0.1 x 106 spores/ml of each of the aforementioned fungi separately, or in one produced after mixing conidial suspensions of the above concentration of all fungal species together. P. expansum and A. flavus were isolated from diseased or healthy tissues of the carpel area, when pears were inoculated with a suspension produced from each of the two fungi or from all the fungi together. A. alternate and S. vesicarium were isolated only from the first section and only after inoculation of pears with a suspension produced from each of the two fungi separately. This is the first report of penetration of the four fungi into different sections in the flesh of pears and of antagonism in between them.