

Abstract:

The aim of the research was to study the volatile substances produced by the grapes of *Vitis labrusca* 'Isabella' as possible biocontrol agents for the postharvest control of the fungus *Botrytis cinerea* on fruit of *Actinidia deliciosa* 'Hayward'. To conduct a quantitative analysis of the biological action of these volatile substances on the growth of *B. cinerea*, use was made, as a bioassay method, of the closed Mariotte system. In the *in vivo* experiments performed to study the action of the volatile substances on *B. cinerea*, use was made of the following interactive models: (i) volatile substances from grapes of *V. labrusca* 'Isabella' - *B. cinerea* - kiwifruit, and (ii) volatile substances from grapes of *V. vinifera* 'Roditis' - *B. cinerea* - kiwifruit. The results confirmed that volatile substances from 'Isabella' grapes have antifungal activity in that they limit the incidence of infection, reducing considerably both the amount of inoculum and the activity of the pathogen. These findings challenge postharvest scientists to develop new techniques as alternative methods for the control of *B. cinerea* rot on kiwifruit.