

Title *Aloe vera* gel activity against plant pathogenic fungi
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Abstract

The antifungal activity of *Aloe vera* gel at $1-10^5 \mu\text{l l}^{-1}$ was tested on four common postharvest fruit pathogens: *Penicillium digitatum*, *P. expansum*, *Botrytis cinerea*, and *Alternaria alternata*. The natural gel suppressed both germination and mycelial growth with *P. digitatum* and *A. alternata* being the most sensitive species. Spore survival of *P. digitatum*, *A. alternata*, and *B. cinerea* was reduced by 15–20% at $1 \mu\text{l l}^{-1}$, but the gel was similarly effective against *P. expansum* only when the concentration exceeded $10^3 \mu\text{l l}^{-1}$. For the first two species, the suppressive effect of the gel increased with an increase in the concentration, culminating in 95% reduction in spore survival at $10^5 \mu\text{l l}^{-1}$. *B. cinerea*, however, responded with a partial germination recovery when the gel concentration was greater than $10 \mu\text{l l}^{-1}$. The inhibitory effect of the plant gel on colony growth was exhibited at $1 \mu\text{l l}^{-1}$, when a 67–69% reduction in radial growth was recorded for *P. digitatum*, *A. alternata*, and *B. cinerea*, and a 19% reduction for *P. expansum* after five days on potato dextrose agar (PDA) at 23 °C. The effect of the gel on disease development in *P. Digitatum*-inoculated grapefruit was expressed by both a delay in lesion development and a significant reduction in the incidence of infection following dipping in a concentration of plant gel of $10^3 \mu\text{l l}^{-1}$.