

Title Control of citrus green and blue molds by chinese propolis
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Abstract

Green and blue molds, caused by *Penicillium digitatum* and *Penicillium italicum*, respectively, are economically important postharvest diseases of citrus fruits. In this study, Chinese propolis ethyl acetate extract (PEAE) was evaluated to control *P. digitatum* and *P. italicum* on postharvest citrus fruits. The results indicated PEAE strongly inhibited mycelia growth and induced hyphae prominent abnormal morphological alterations. Also, PEAE had strong detrimental effect on spore germination of the tested pathogens in a concentration-dependent manner. For in vivo tests, PEAE could both reduce decay caused by *P. digitatum* and *P. italicum* respectively in wound-inoculated fruit and naturally infected fruit; meanwhile, no negative influences on the overall quality of the citrus fruits were observed with PEAE treatment. Therefore, PEAE could be used as a natural antifungal agent to control citrus blue and green mold.