

## Evaluation of the effectiveness of *Candida oleophila* against *Penicillium expansum* in postharvest storage

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*Penicillium expansum* is one of the main postharvest pathogens of apples. It attacks mainly as a secondary agent through accidental wounds caused during harvesting operations. To find new alternatives to chemical treatments, we evaluated the effectiveness of *Candida oleophila* (CO) against apple pathogens. Fruits were injured and inoculated with the pathogen at a concentration of  $10^6$  conidia/ml. The positive control was treated with pyrimethanil and the negative one with water. Treatment with CO and fungicide were done 24 h before and after the inoculation. The apples were stored in a cold room at 1.5°C and 90% R.H. for 60 days. Disease incidence was evaluated on apples every 7 days and three different categories were used (low, medium or severe infections). Results showed that disease symptoms on non-injured fruits were very low. After 35 days, we observed 1.67% disease incidence on CO treatment 24 h before inoculation and 4.67% on CO treatment 24 h later. After 56 days, we observed high disease symptoms both on untreated and CO treated fruits which were injured and inoculated. A 95% disease incidence was recorded on fruits injured and treated with CO before inoculation with *Penicillium expansum*. Pyrimethanil was effective in controlling disease but not at high level. Injured fruits sprayed with pyrimethanil and then inoculated showed 21.67% disease incidence, whereas it was 26.7% on fruits injured, inoculated, and then sprayed with pyrimethanil. Results showed that with a high *Penicillium expansum* inoculum, the efficacy of CO used in postharvest treatment is very low and cannot be used to effectively control blue mould of apple.

*Candida oleophila*, *Penicillium expansum*, apple, storage, postharvest