

Abstract

Four antagonistic yeasts, *Trichosporon pullulans*, *Cryptococcus laurentii*, *Rhodotorula glutinis*, and *Pichia membranefaciens* were effective against several of the main postharvest pathogens (*Alternaria alternata*, *Penicillium expansum*, *Botrytis cinerea*, and *Rhizopus stolonifer*) on sweet cherries at 25 °C. *T. pullulans* was the most effective for controlling all the diseases at 25 °C. Biocontrol efficacy of the four yeasts was further evaluated against *A. alternata* and *P. expansum* at 0 °C in air and under controlled atmospheres (CA) with 10% O₂+10% CO₂. The results indicated that the activities of *C. laurentii* and *R. glutinis* against *A. alternata* and *P. expansum* were markedly enhanced by combination with CA conditions. Fruit treated with the two yeasts and stored in 10% O₂+10% CO₂ for 60 days had better control for both diseases than fruit stored at 0 °C for 30 days. *T. pullulans* had a poor effect against either *A. alternata* or *P. expansum* at 0 °C in air or in CA conditions. All four yeasts grew rapidly in the wounds of sweet cherries at 25 °C. Low temperature and CA conditions did not significantly affect the populations of *C. laurentii* and *R. glutinis*, but suppressed the growth of *T. pullulans* and *P. membranefaciens*.