

Abstract

Peach fruit (*Amygdalus persica* cv. Okubao) were inoculated with either antagonist *Cryptococcus laurentii* or pathogen *Penicillium expansum* and stored at 20 and 0 °C to investigate the effect of antagonist and pathogen on some pro- and anti-oxidant enzymes in non-infected flesh of fruit during storage. Both *C. laurentii* and *P. expansum* markedly induced activities of polyphenol oxidase (PPO), peroxidase (POD) and superoxide dismutase (SOD) in peach fruit at 20 °C, whereas only *P. expansum* had a significant effect on the inducing of malondialdehyde (MDA) content of the fruit. *C. laurentii* showed more efficiency in the promotion of PPO, POD and SOD activities of peach fruit than *P. expansum*. At 0 °C the inducing effect on the pro- and anti-oxidant enzymes by the yeast and pathogen was complex. The results indicated that both *C. laurentii* and *P. expansum* could induce anti-oxidant enzyme synthesis at 20 and 0 °C, but the rate of induction depended on storage temperature, inoculation time and treatment. PPO might play a key role in the defence system at both temperatures.