

Title Biological control of postharvest brown rot (*Monilinia* spp.) of peaches by field applications of *Epicoccum nigrum*

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Abstract

Seven field experiments were carried out in peach orchards located in Spain, Italy, and France in 2001 and 2002 to develop an effective and practical method of controlling brown rot disease caused by *Monilinia* spp. by pre-harvest applications of *Epicoccum nigrum* treatments. Three trees (100 fruits), randomly selected in each orchard, were used as the sample unit and every treatment was repeated four times. Factors considered in each orchard and year to compare *E. nigrum* and/or fungicide pre-harvest application were the time of application, fresh or formulated cells, and dose. Fresh or formulated cells (10^{6-7} conidia ml⁻¹) of *E. nigrum* need to be applied twice both at bloom and preharvest to reduce postharvest brown rot. Chemical fungicides reduced disease in French and Italian trials but not in a Spanish trial. Integrated control (biological and chemical) was efficient in controlling the pathogens. *E. nigrum* application, alone (applied 4 times) or in combination with fungicides can be considered in a disease control strategy for reducing fungicide treatments and residues. A further reduction of brown rot may be possible by a better formulation of the biological product and postharvest combined treatments.