

Title Sensitivity of *Penicillium* spp. and *Botrytis cinerea* to pyrimethanil and its control of blue and gray mold of stored apples

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Citation Crop Protection, Volume 24, Issue 2 , February 2005, Pages 127-134

Keywords *P. expansum*; Cyprodinil; Thiabendazole; Benzimidazole; Postharvest; Scala

### Abstract

Twenty-one *Botrytis cinerea* and 22 *Penicillium* spp. isolates were evaluated for sensitivity to pyrimethanil. Fungicide sensitivity was determined by measuring mycelial growth on agar medium amended with pyrimethanil. The mean EC<sub>50</sub> values for *B. cinerea* and *Penicillium* spp. were 0.039, and 0.331  $\mu\text{g ml}^{-1}$ , respectively. The subset of 17 *P. expansum* isolates had a mean EC<sub>50</sub> value of 0.314  $\mu\text{g ml}^{-1}$  ranging from a low value of 0.054 to a high value of 0.566  $\mu\text{g ml}^{-1}$ . Preharvest application of pyrimethanil at 800  $\mu\text{g ml}^{-1}$ , applied 20 days before harvest on 29 September, 1999 controlled postharvest blue and gray mold on wounded and inoculated 'Jonagold' apples after storage in air at 1 °C for 6 months. Similarly, pyrimethanil at 800  $\mu\text{g ml}^{-1}$  in 2000, and 600  $\mu\text{g ml}^{-1}$  in 2001, applied 2 weeks before harvest in each year controlled blue and gray mold on 'Gala' apples stored for 6 months. Pyrimethanil applied at rates ranging from 250 to 1000  $\mu\text{g ml}^{-1}$  after harvest to wounded 'Gala' apples inoculated with conidia of *B. cinerea* and thiabendazole-resistant *P. expansum*, completely prevented any blue or gray mold decay. Pyrimethanil is an important new fungicide for control of both blue and gray mold decay of apples that can be applied either before or after harvest.