Abstract:

A combined strategy of blue mold control consisting of reduced fungicide dose and biological control with antagonistic bacteria was evaluated. The sensitivity of antagonistic Pseudomonas fluorescens strain EPS288 to twenty pesticides used in pear production was characterized by agar incorporation tests. The strain EPS288, a natural, non-genetically modified P. fluorescens, was tolerant to benomyl, imazalil and folpet fungicides. Before storage, 'Conference' and 'Passe Crassane' pear fruits were wounded and submitted to the following treatments: (i) non-treated, (ii) fungicide (imazalil plus folpet) at the standard dose, (iii) Pseudomonas fluorescens EPS288, and (iv) combined P. fluorescens EPS288 plus 25% of the standard dose. Fruits were then inoculated with Penicillium expansum and stored. Biological control of P. expansum with P. fluorescens EPS288 was effective but less so than fungicide alone at the standard dose. However, combination of the biological control agent with a 25% reduction of fungicide dose was as effective as the standard fungicide alone.