

Title Some factors influencing patulin production by *Penicillium expansum* in apples and pears
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Abstract

The objective of our study was to examine the effects of five *Penicillium expansum* isolates on patulin production in cultivars of apples and pears, in relation to incubation time, and incidence and severity of decay. These factors were evaluated in apples and pears inoculated with *P. expansum* and kept at 20 °C for short periods of time. The ability of five *P. expansum* isolates to grow and produce patulin in inoculated 'Golden Delicious' apples varied among the strains from below the limit of quantification to 662 mg kg⁻¹. The strains showed different pathogenicity and different capacities to produce the toxin. Variety and species of pome fruit influenced patulin production. In the same conditions of infection, *P. expansum* isolate PE97.IT produced higher patulin content in apples than in pears. The highest patulin production was 386 mg kg⁻¹ in 'Golden Delicious'. No blue mould symptom appeared in pears inoculated with *P. expansum* and no patulin was detected in fruit after 3 days at 20°C. However, patulin increased with incubation time after 6 and 8 days. No patulin was detected in healthy pear tissue but it was high in the decayed area. Patulin control is therefore possible by using only healthy fruit, sorting damaged and rotten fruit before processing.