Exploratory study on postharvest pathogens of 'Nicoter' apple in Flanders (Belgium)

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Abstract

Apple is an economically important product worldwide. Because it is stored for long periods under low temperature and controlled atmosphere (CA) conditions fungal-caused decay during storage can occur. This complex multi-pathogen problem, caused by fungi with different infection mechanisms and conditions, requires various control strategies. However, very little information is available on which pathogens primarily cause this decay. Therefore, the goal of this study was to collect decayed samples from CA stored apples and isolate and identify the pathogens. Additionally, we aimed at investigating whether there is a link between rot incidence and fruit history and characteristics. In this experiment 'Nicoter' apple showed the highest abundance for the genus *Penicillium*, followed by *Fusarium*, *Botrytis*, *Neonectria* and *Monilinia*. We detected a significant correlation between fruit mass and rot incidence, most likely due to a relation between fruit mass and pre/postharvest factors. Larger fruit may have been in a more advanced ripening stage, making them more susceptible.