



Preharvest Conditions Affecting Apple Quality, Antioxidant Responses and Susceptibility to the Infection by Grey Mould (*Botrytis cinerea*)

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During postharvest storage of apples, there are losses as a result of diseases such as grey mould, caused by the fungus *Botrytis cinerea*. One focus of this study was to investigate whether preharvest weather conditions affect apple quality, antioxidant responses and the susceptibility to infection by grey mould. The results show that preharvest exposure to high levels of sunlight can improve quality and reduce the susceptibility of apples to postharvest disease. In addition, high levels of protein and phenolic compounds were positively associated with tolerance. The susceptibility also depends on the cultivar. A field study in Sweden following eight orchards over three years shows that the quality of apples and the development of disease varied strongly among years of harvest and with the orchard's location. Preharvest weather conditions strongly affected the growth and development of apples as well as their quality, among which high humidity and high rainfall during flowering and fruit set and low temperature during maturity were the most influential on apple quality and the susceptibility to infection by grey mould. Knowledge of such crucial factors may guide apple growers to interventions aiming at improving apple quality and postharvest storage.



Ms. Tuyet Bui was born in Vietnam in 1973. She obtained bachelor in Agronomy at the Hanoi Agricultural University No. 1, Vietnam in 1995. She received her Master in Tropical and International Agriculture at the Georg-August-University Göttingen, Germany in 2004. She joined the PhD studies at the Department of Chemistry and Molecular Biology, University of Gothenburg, Sweden in 2015.