

Title Quantitative and qualitative analysis of *Botrytis* inoculated on table grapes by qPCR and antibodies

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Abstract

The fungus *Botrytis cinerea* is the major cause of decay in table grapes during storage, and the severity of decay depends in part on contamination with the fungus before storage. The current SO₂ technology to prevent decay is robust and independent of the level of contamination by *B. cinerea*. The introduction of alternative technologies may however require implementation of means which are proportional to the level of contamination. The objectives of this study were to test the feasibility of quantifying *B. cinerea* in artificially inoculated grapes and to monitor the progress of disease during storage. Two methods were compared for detection of *B. cinerea* in grapes; an antibody kit specific for *B. cinerea*, and quantitative PCR using fungal specific primers. Antibodies for fast detection of *B. cinerea* yielded positive results only in the later stages of decay development. In contrast, the quantitative PCR demonstrated positive identification of the fungus at all storage time points, and found increasing amounts of the fungus during storage.