Title Harvesting, handling and storage of table grapes (with focus on pre- and post-harvest pathological aspects)

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Abstract

Decay on table grapes, whether pre- or post-harvest, can cause considerable financial loss for producers, as well as the trade. In South Africa and many other countries, fungi such as *Botrytis, Rhizopus, Aspergillus* and *Penicillium* as well as bacteria and yeasts are primarily accountable for pre-harvest decay. Post-harvest fungal decay is mainly caused by *Botrytis cinerea*; however, other pathogens, depending on the storage conditions, may also cause losses. To reduce the risk of decay development, an integrated approach of decay management should be followed. Pre-harvest control mostly relies on strategies to prevent or reduce the risk for infections and does not only entail the application of fungicides. The application of correct cultivation and vineyard practices is of utmost importance. Decay monitoring during the growing period, especially near to optimum harvest maturity, is required. Post-harvest control starts by observing and recording weather conditions prior to and during packing. Careful handling during harvesting and packing, to minimize injuries, and hence infections, is a prerequisite for reducing decay development during storage. Handling of grapes after packing and during cold storage needs to focus on limiting the likelihood of further infections and in reducing the spread of decay. In this effort, temperature management plays a vital role. Packing aids, of chemical or non-chemical nature, may also be used for decay control during storage. The use of SO2 sheets has become an integral part of decay control on table grapes intended for medium or longer-term storage. As important is the selection of the applicable packaging materials, where internal packaging in particular, may have a profound effect on grape quality maintenance.