

Title Control of spoilage in table grapes
Author Amnon Lichter, Franka Mlikota Gabler and Joseph L. Smilanick
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Abstract

Purpose of the review: Diverse means to control decay and spoilage of table grapes during storage have been described in numerous research papers that were published recently. The purpose of this review is to describe some of the major publications in this field and to point out on their advantages and shortcoming.

Main findings: Studies pertaining to the control of postharvest decay of table grapes and prevention of quality losses were categorised according to the general approach used (dry, wet, physical). Of the “dry” treatments, active modified atmosphere packaging (MAP), which includes volatiles for continuous control of decay, seems to be an attractive approach. Of the methods that can be directly integrated into current commercial practices, biofumigation with the fungus *Muscodor albus* warrants further assessment. Wet treatments have some inherent disadvantages because they require additional handling of the grapes. However, postharvest treatments with disinfectants such as ethanol can effectively control decay during cold storage of medium duration. These wet treatments can be useful to remove visible deposits of soil and pesticides, to prolong the storage life of organic grapes, and to disinfect and retard the decay of “ready-to-eat” grape products. Advantages of ethanol are that its efficacy can be enhanced by heat, sorbates, or MAP, and that it dries faster than other wet treatments.

Directions for future research: There are specific issues to be addressed for every technology to be considered. However, many of the studies published on the control of spoilage of table grapes report results using specific cultivars, storage of limited duration, or small scale experiments. Any technology further to be considered must be confirmed in large-scale, semi-commercial experiments to reveal potential pitfalls and limitations and to evaluate all aspects of fruit quality. In addition, a cost analysis of each technology is essential.