

Title Integration of biocontrol strategies into organic production of horticultural crops
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Abstract

Most of the research and development of acceptable organic technologies has been pre-harvest-oriented. There has been little effort to provide new post-harvest technologies for organic products, resulting in insufficient post-harvest methods being available for organic fruits and vegetables. The greatest need is to develop strategies to control post-harvest decay. For some products, there is an additional need to replace chemicals being used to control postharvest disorders or insect infestation; some of which may no longer be available, e.g. diphenylamine in the EU after May, 2010. Organically-acceptable postharvest decay control will depend on the introduction of effective biopesticides and anti-fungal biocontrol agents. The terms 'biopesticide' and 'biocontrol agent' will be defined and compared. The issues of efficacy and acceptability for organic production will be reviewed, i.e. approval of a biopesticide or biocontrol agent does not guarantee efficacy or acceptability in organic production. Increasing efficacy by combining biopesticides or biocontrol agents with other 'organically-accepted', non-chemical technologies will need to be encouraged. Recent advances in Controlled atmosphere (CA) technology, e.g. Dynamic CA (DCA), will be discussed since CA technology is a known technology that, depending on the commodity, can maintain quality as well as reduce decay and/or eliminate the use of insect and disorder-controlling chemicals. Other non-chemical post-harvest technologies which may be successful will also be discussed, e.g. UV-C treatment, heat treatment, anti-microbial surfaces. More research is needed on each of these technologies, both singly and in combination with each other.