

Title Applications and future developments of sensors in relation to postharvest analysis of fruits, vegetables and other crops

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Abstract

Purpose of review: This review examines the current and future potential applications of biosensor-based technologies in the postharvest analysis of fruit, vegetables and other crops. The basic format of sensors is summarised and key elements in their generation highlighted. Difficulties with current sensor formats are described and approaches to improve their utility are outlined. Examples of the applications of sensors, particularly surface plasmon resonance-based systems, are given to demonstrate the current and future potential of the technology to overcome problems associated with analytical approaches presently used.

Limitations: The review is limited by the relatively small number of papers available related to applications. However, there are clear opportunities available and significant research is beginning to concentrate on key issues and already there is clear demonstration of potential.

Directions for future research: Future developments of miniaturised sensors for the performance of multi-analyte, real-time detection e.g. biochips and arrays, using high-throughput systems linked to automatic responses, independent of an operator, with wireless control, are discussed.