

# Bionanosensors for quality and safety of agricultural produce

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## Abstract

Assessing quality and safety related attributes of agricultural produce on demand based on point of care test is one of the keys for quality and safety management during agricultural production. To fulfill those needs, a method for quality and safety control testing is necessary involving a simple, rapid, easy to assess, requiring no expertise and laboratory facilities, and reliable test at affordable cost. The use of biosensors offer one opportunity to fulfill those demands, and the recent development of several electrochemical biosensors for quality and safety assessment has been addressed. However, the advancement in nanotechnology provides the extension of application to bionanosensors which better serve those demands. This paper is focused on the introduction of biosensors and nanomaterials, the integration to bionanosensors and application platforms using results of studies, especially on genosensors for nucleic acids and its activities, to test via metal nanoparticles for quality and safety aspects in a point of care manner.