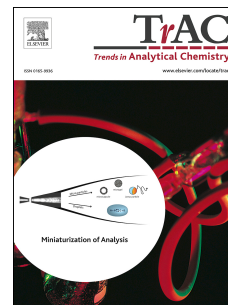


Accepted Manuscript

Nanostructured (Bio)Sensors For Smart Agriculture

Amina Antonacci, Fabiana Arduini, Danila Moscone, Giuseppe Palleschi, Viviana Scognamiglio



PII: S0165-9936(17)30273-X

DOI: [10.1016/j.trac.2017.10.022](https://doi.org/10.1016/j.trac.2017.10.022)

Reference: TRAC 15040

To appear in: *Trends in Analytical Chemistry*

Received Date: 26 July 2017

Revised Date: 28 October 2017

Accepted Date: 29 October 2017

Please cite this article as: A. Antonacci, F. Arduini, D. Moscone, G. Palleschi, V. Scognamiglio, Nanostructured (Bio)Sensors For Smart Agriculture, *Trends in Analytical Chemistry* (2017), doi: 10.1016/j.trac.2017.10.022.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Nanostructured (Bio)Sensors For Smart Agriculture

Amina Antonacci¹, Fabiana Arduini², Danila Moscone², Giuseppe Palleschi²,
Viviana Scognamiglio^{1*}

¹ *Institute of Crystallography (IC-CNR), Department of Chemical Sciences and Materials Technologies, Via Salaria km 29.300, 00015, Monterotondo, Italy*

² *Department of Chemical Science and Technologies, University of Rome "Tor Vergata", Via della Ricerca Scientifica, 00133 Rome, Italy*

Abstract

Intense farming represents one of the main sources causing detriments to vital resources as lands and water, due to unsustainable agricultural practices and the resulting environmental pollution. Furthermore, the increasing world population and the impact of climate change contribute to worsen these constraints. To these regards, several attempts have been completed to provide pioneering technologies for facing against these challenges, including nanostructured (bio)sensors. Indeed, nanotechnology-based (bio)sensors, thanks to the exploitation of fascinating properties of functional materials at the nanoscale, can support farmers in delivering fast, accurate, cost-effective, and in field analyses of i) soil humidity, ii) water and soil nutrients/pesticides, and iii) plant pathogens. Herein, we report a glance of the nano nanostructured (bio)sensors developed to support smart agriculture, reporting representative examples form the literature of the last 10 years.

Keywords: ~~nan~~ nanostructured (bio)sensors, nanomaterials, smart agriculture, soil physico-chemical parameters control

**Corresponding author:*

Viviana Scognamiglio, PhD

Institute of Crystallography - National Research Council

Department of Chemical Sciences and Materials Technologies

Via Salaria Km 29.300, 00015 Monterotondo Scalo, Rome, Italy

e-mail: viviana.scognamiglio@milib.ic.cnr.it

phone: +39 06 90672922

fax: +39 06 90672630

Download English Version:

<https://daneshyari.com/en/article/7687997>

Download Persian Version:

<https://daneshyari.com/article/7687997>

[Daneshyari.com](https://daneshyari.com)