

Accepted Manuscript

Conventional and Emerging Detection Techniques for Pathogenic Bacteria in Food Science: A Review

Saima Hameed, Lijuan Xie, Yibin Ying

PII: S0924-2244(17)30768-9

DOI: [10.1016/j.tifs.2018.05.020](https://doi.org/10.1016/j.tifs.2018.05.020)

Reference: TIFS 2234

To appear in: *Trends in Food Science & Technology*

Received Date: 18 December 2017

Revised Date: 22 May 2018

Accepted Date: 22 May 2018

Please cite this article as: Hameed, S., Xie, L., Ying, Y., Conventional and Emerging Detection Techniques for Pathogenic Bacteria in Food Science: A Review, *Trends in Food Science & Technology* (2018), doi: 10.1016/j.tifs.2018.05.020.

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.



Abstract

Background

Continuous transformation and development of new detection tools for bacteria has converted the laborious scientific work into smart apparatus in recent years. The journey had begun with the culture-based plate enumeration, and now it has evolved into several culture-independent techniques. Polymerase chain reaction (PCR) is on the top of the list that is now a routinely used biological approach to detect bacterial cells. Instrumental techniques are also helpful in this regard, as they are more sensitive for detection of various microbes.

Scope and approach

In this review, we described new trends and their practical application in the fields of detection **microbiology** and **food technology**. This study provides a brief overview of conventional and modern **detection techniques** which includes nucleic-acid sequence based techniques to non-destructive imaging techniques.

Key findings and conclusions

Besides the availability of antibiotics and clinical treatments, bacterial infections significantly increase the mortality rate. It is necessary to detect apparent **infectious agents** beforehand. Therefore, the detection methods for microorganisms should be more rapid, smart and reliable in response to the need. Conventional detection techniques are slow and time-consuming but more accurate and reliable than the modern detection techniques. By combining the mentioned techniques, scientists can achieve better results.

Keywords: Microbiology; Food technology; Detection techniques; Infectious agents

Download English Version:

<https://daneshyari.com/en/article/10143075>

Download Persian Version:

<https://daneshyari.com/article/10143075>

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