

Poster

Extension of the Salmonella detection method UNE-EN ISO 6579:2003



Rocío Linares (1,2,*) Adela Gavira (2), Antonio Coronel (2), Said Hamad (1)

(1) Departamento de Sistemas Físicos, Químicos y Naturales. Área de Química-Física. Universidad Pablo de Olavide. Ctra. de Utrera, km 1. 41013 Sevilla – España. *e-mail: rociolinares@gmail.com

(2) Laboratorio Innoagral. Universidad Pablo de Olavide. Edificio 47. Laboratorio 2-03. Ctra. de Utrera, km 1. 41013 Sevilla – España.

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ABSTRACT

Motivation: The food sector is in a continuous fight against infectious diseases, among which the most relevant is the bacteria Salmonella. The disease it causes is called Salmonellosis, and it can affect both animals and humans. Salmonellosis causes big losses in the food sector, since it poses a risk to public health, so it is important to control it. For this reason, laboratories carry out routine food quality controls to ensure the innocuity of the food analyzed. There are several methods whose objective is to detect efficiently the presence of Salmonella bacteria in food. The one we have used in the laboratory is a conventional method whose regulation is established in UNE-EN ISO 6579:2003. The goal of the project is to expand the detection method of Salmonella ISO 6579, in order to confirm that this detection method can be used efficiently in the tested products.

Methods: The ISO 6579:2003 is a horizontal method that consists of a pre-enrichment phase of the test sample in a nonselective liquid medium, followed by a selective enrichment phase, followed by a final phase in which any possible Salmonella colonies are grown in selective, solid culture media. In this way it is possible to confirm or rule out the presence of colonies, and carry out their characterization by biochemical and serological tests. Eight different foods that have not been validated before in our laboratory were artificially contaminated with 10 UFC Salmonella. The limit of detection and the influence of the presence of other microorganisms were both analyzed.

Results: Biochemical and serological confirmation tests have determined the presence of Salmonella in all food products evaluated for the established detection limit. We have also verified that the presence of accompanying flora does not influence the process of Salmonella detection.

Conclusions: Since it has been possible to detect the presence of Salmonella under the established detection limit, and with the presence of accompanying flora, it can be concluded that the ISO 6579 methodology is effective in the evaluated foods. Therefore, these food products have been validated in the laboratory following the UNE-EN ISO 6579:2003 regulations and we have carried out the extension of this validation method.

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