Journal of Chemical, Biological and Physical Sciences

An International Peer Review E-3 Journal of Sciences

*Available online at*www.jcbsc.org

Section A: Food Biotechnology

CODEN (USA): JCBPAT Research abstract

Analysis of *Brucella* and Salmonella Present in the Milk, Using Infrared Spectroscopy (FTIR).

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Abstract: Diseases transmitted by food, which are caused by the presence of various pathogenic microorganisms, have had an impact to human health, as well as in the food industry. Because of this reason, practical strategies for determining the presence of this type of contamination in food are required. Particularly farm milk is one of the foods that are most likely to be contaminated if the hygiene conditions are not suitable for handling. This paper presents an analysis of cow milk from farm, which has been intentionally contaminated with the pathogenic microorganisms: *Brucella* and *Salmonella.* The analysis of the contaminated samples was carried out using Fourier transformed infrared spectroscopy technique. The infrared absorption spectra show changes in spectral regions corresponding to carbohydrates (900-1100 cm^{-1}) and the region of proteins (1500-1700 cm^{-1}) when the concentration of strain are modify in the milk.

Keywords: raw milk, microorganisms, pathogens and spectroscopy FTIR.

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