



University of Zabol
Graduate School
Faculty of Veterinry
Department of Food hyegien

The Thesis Submitted for the Degree of M.Sc
(In the field of Veterinary)

Title:

Prevalence of *Brucella* bacteria in unpasteurized dairy products consumed in Sistan region using PCR assay

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Abstract

Brucellosis is one of the most important zoonotic diseases transmissible between humans and other mammals, *Brucella* can be transmitted to humans through the consumption of contaminated milk and dairy products or contact with raw animal products. Today, a large number of livestock and humans around the world suffer from brucellosis. In this research, 175 non-pasteurized traditional dairy samples were collected from dairy shops in Zabol city, these samples were including: milk, yogurt, cheese, buttermilk and ice cream, 35 samples from each of them, the samples were collected by 15 ml falcons and were transferred in vicinity of ice to the laboratory of Veterinary Medicine Faculty of Zabol University. DNA extraction was done by boiling method. After DNA extraction, PCR test was performed to check the presence of *Brucella* bacteria in the samples and to identify the species. The result shows that one sample was positive for *Brucella abortus* and the positive sample was out of 35 milk samples. Therefore, the prevalence of *Brucella* infection was 0.58% (one sample out of 175 tested samples) in non-pasteurized dairy product and 2.86% (one sample out of 35 tested samples) in non-pasteurized milk samples. In the recent research, the prevalence of *Brucella* infection is much lower than other researches that have been conducted in the past years in the Sistan region, which is due to the implementation of free brucellosis vaccination for livestock in the Sistan region. These vaccinations have been done annually and regularly throughout the Sistan region during recent years.

Keywords: *Brucella abortus*, *Brucella melitensis*, Sistan, unpasteurized dairy products, PCR.