

Hygienic Evaluation for the Presence of Enterobacteriaceae in Yogurt Produced in Industrial Conditions in Tirana



Healthcare

Keywords: Yogurt, Enterobacteriaceae, hygiene, Ph, contamination.

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Abstract

Yogurt is a food made in the traditional manner by people with high nutritional value. In our desk today disclosed this product processed in industrial way, where we value we glance ethics required microbiological standards. We take our study randomly from some markets of Tirana this product from different companies noted an inconsistency between the values marked with the ones we got in after testing. Of the 100 samples from three different companies we found that 64 samples positive for the presence of Enterobacteriaceae, with an average load 4.7×10^3 cfu/ml. Samples were tested at Food Safety and Veterinary Institute (FSVI) according to ISO 21528-2: 2004 standards. In some markets we not concluded a fresh environment for the conservation of this product. This poses a danger to public health. Therefore it requires attention during the production, and appropriate conditions fridge gone as long conservation to maintain the right temperature to have a much healthier product.

1. Introduction

Yogurt is a dairy-product of the fermentation that causes lactic acid and also is a way to preserve nutrients that milk itself (Hui, Y.H.(1992), Oyeleke, S.B., (2009). Product yoghurt consumed worldwide, it is a way of getting protein, for the rich a life as healthy (McKinley M. C. (2005). Following the high demand for yogurt as product food, food industry production facilitated the industrial way to now adding quantity of its production, but above all by maintaining the taste of the product quality and safety (McKinley M. C. (2005); Tamine A. Y. (2002). Also improving industrial process has improved not only the preservation of taste than traditional yogurt, but the product microbiological parameters. Yoghurt produced conditions should not have Industrial microbial presence as the Enterobacteriaceae family. Presence of Enterobacteriaceae is an indicator not the best, not a good hygiene when handling the initial product to the packaging process of conservation (Rodrigues L. A., et a., (2010). The aim of our study is the identification of Enterobacteriaceae in industrial yogurt after the first days of production in markets of Tirana.

2. Materials and Methods

All samples taken were transported the boxes 4°C refrigerator temperature in fresh environment, laboratory of the Institute of Food Safety and Veterinary (FSVI), which were analyzed for the presence of the Enterobacteriaceae family. The method used is based on the standard method **ISO 21528-2: 2004** for the identification of Enterobacteriaceae in yogurt. Samples taken initially dividing companies. In aseptic using sterile pipette and then inokulojmë 1 ml for each sample. Throw in each petri dish 10 ml of agar heat VRBG selektiv advance banjomari $44-47^{\circ}\text{C}$ temperature. The time interval from the moment the ground ngrohim to distribute through the tiles should not be more than 15 minutes. Perform movement careful horizontal slabs in order to mix the best inoculum with the ground and leave to cool, we spend incubated 37°C for 24 ± 2 hours, choose to count the plates with two dilutions of a pasnjëshme containing at least from 15 to 300 colony colony tipke. If colonies occupy less than half of the surface of the platter, then counting the area becomes clearer. Calculating the number of microorganisms present in the sample, it was conducted by conducting successive decimal dilutions. Colonies typically take red to pink or purple (with or without ring opaleshente).

3. Results and Discussions

Samples were taken randomly at 10 points different trading of mow, where previously we had defined three companies that will be tested. The sampling period was the first quarter of 2015. In total, we tested 100 samples, where the company a we took 34 samples where 22 of them tested positive for Enterobacteriaceae with an average load 3.8×10^3 cfu/ml. The product was kept in a cool environment. Company (B) we took 25 samples and of these 10 resulted positive for Enterobacteriaceae with an average load 4.2×10^3 cfu/ml higher than company (A). The marketing facilities and conservation of the product were fresh but not requiring that the product temperature not exceeding 10^0 C. The results of the company were higher (C) 4.7×10^3 cfu/ml. We first slimming 10^1 managed to count over 300 colonies which showed a high contamination. During this period longer we were monitoring and Ph which acid had different values, which are presented in table 1.

Company	No. of Samples	Positive for Enterobacteriaceae	Average Load	Value of pH
A	34	22	3.8×10^3 cfu/ml	3.69
B	25	10	4.2×10^3 cfu/ml	3.72
C	41	32	4.7×10^3 cfu/ml	4.07

Table N₀ 1: Values obtained by testing

Average values 3.69 -3.72- 4.07, there was an increase in the average values of samples (C) on the third day. We test three companies mow and noted the presence of Saccharomyces spp. is desirable because Lactobacillus and Saccharomyces spp. They are responsible for the flavor and fragrance, and the latter is involved in fermentation of milk for yogurt production. Results obtained from the our samples showed no microbiological parameters according to hygienic standards, which shows a processing temperature not appropriate starting material. Detection of Enterobacteriaceae probably indicates contamination during production and after due to a non-hygienic handling during packaging and conservation.

4. Conclusions

Yogurt samples taken at the Tirana market led to a significant presence of Enterobacteriaceae, which show a risk to consumer health. The presence of these mikorganizmave comes as a result of poor hygiene standards in the production process and manipulation with hands as possible carriers of enterobacteria and their subgroups. Therefore, the attention of the parties concerned, including the manufacturer, it is necessary to reduce the pollution of production after and check the condition of yogurt on sale by retailers

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