Abstract: Background and Objectives: Bactofugation is a special form of separation that operates at a force of 980000 kPa and 55-65°C. It is used to reduce the bacteria and spores content of raw milk before heat treatment. It is also used to increase shelf life of the product by elimination of highly heat resistant organisms, depending on storage temperature and consequently make possible to reduce the pasteurization temperature. Bactofugation is able to reduce the total bacterial count by amounts up to 90% and also remove up to 95% of anaerobic spores in milk. The most application of this procedure is in cheese industry where spores can cause latent fermentation in hard and semi-hard cheeses. There are two types of bactofugation: 1. The two-phase bactofugation. 2. The one-phase bactofugation.

Material and Methods: In this investigation which was done in Pegah Milk Industry, the amount of total bacteria evaluated before and after entering to device. This study lasted three months, and each week two samples examined. Samples from both entrance and exit gates gathered and then cultured in order to determine the amount of bacteria reduction. For this purpose the plate count agar was used and then the total colonies were counted.

Results: Comparison between total counts demonstrate that this device is able to decrease the total bacteria count by amounts up to 99 percent in raw milk, and it is suitable before pasteurization.

Conclusion: Producing high quality and fresh dairy products are the main goal of dairy industries; hence bactofugation is appropriate method in reduction of bacteria load in these productions.

bactofugation-milk-reduction

Presentation: Poster