

# FOOD POISONING INCIDENT

## CHEESE PRODUCTION PLANT LISTERIA MONOCYTOGENES

### What is *Listeria monocytogenes*?

*L. monocytogenes* is a strain of bacteria responsible for the food-borne disease known as listeriosis. It is found in many environments including soil, vegetation, and raw milk. The most common symptoms of listeriosis are fever, headache, nausea, and vomiting. Persons most susceptible to the infection are new-borns, pregnant women, and the elderly. A further concern with listeriosis is its very high death rate - up to 35% in infected individuals.

### What Happened?

In October 1992, an individual was diagnosed with listeriosis. One of the foods consumed by this individual was a Mexican-style soft cheese manufactured at a dairy plant in the northwestern USA.

Coincidentally, random testing was performed by the state regulatory agency on the same product implicated in the food poisoning incident. The test sample was found to be positive for *L. monocytogenes*. A recall of the cheese was immediately initiated.

### Some Information on the Dairy Plant

The implicated dairy plant was licenced by the state regulatory agency. All products were HTST pasteurized. The plant produced mainly fluid milk products and Mexican-style soft cheese. The plant did not perform any regular quality control testing on their finished products. Samples of finished products were however tested monthly by the state regulatory

agency. Previous test results showed no contamination.

During the investigation at the plant, an inspection of the HTST revealed all public health safety controls were operating properly. As well, an examination of the pasteurization, storage, and packaging equipment indicated the plant was being adequately cleaned and sanitized.

### Cause of Contamination in the Cheese Making Process

Mexican-style soft cheese was produced one day per week. During an observation of the cheese making process, the raw skim milk from the outlet of the raw milk separator was directly connected to the pasteurized milk line which led to the cheese vat (see Figure 1). The only separation between the raw and pasteurized milk lines was a three-way valve. This condition only existed when the Mexican-style cheese was being produced, and **constituted a cross connection**. Dairy plant management was unaware that a cross connection existed in their operation.

### Conclusion

Milk line connections at this dairy plant were immediately modified and the cross connection eliminated.

Tests on subsequent cheese produced have been negative for *L. monocytogenes*.

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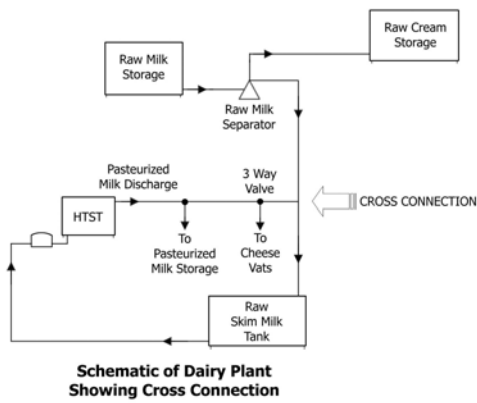


Figure 1:

Fortunately for this plant, the consequences of contamination by *L. monocytogenes* were relatively minor. Such was not the case in California in 1985. In that incident, 181 people were affected by a Mexican-style soft cheese contaminated with *L. monocytogenes*, resulting in 65 deaths.

For the dairy plant manager, this recent incident illustrates the importance of being familiar with all equipment and procedures in the dairy plant. A program ensuring that no possible cross connections are present in existing equipment or after equipment modifications is essential in assuring product safety.

For further information contact the Dairy Plant Specialist at Food Protection Services

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