

## FOAM IN BATCH PASTEURIZERS

### What is the concern?

Foam and splashed milk are frequently found on surfaces above the milk level within batch pasteurizers. Tests have shown that the temperature of the foam may be well below the pasteurization temperature of the liquid in the batch pasteurizer. The concern is that pathogenic bacteria protected by the foam can re-contaminate the milk below.

### Controlling the amount of foam present

Excess foam is created through improper filling techniques and over agitation of product. The generation of foam can be significantly reduced by directing the product down the side of the patch pasteurizer. In addition, leaving the agitator off until the vat is half full will also minimize the air whipped into the product.

### How to assure the foam is pasteurized

The foam will be pasteurized if:

- The air space temperature above the product is at least 3°C higher than the minimum pasteurization temperature for the product, AND

- The air space temperature is held at this temperature (or higher) for at least 30 continuous minutes.

If the minimum air space temperature for the product is not met during the 30 minute hold time, then the air temperature must be re-heated to the minimum required air space temperature, and held for 30 (more) continuous minutes.

### How can the air space be heated?

To attain the proper, specified air temperature, the air space can be heated in a variety of ways:

- By continuing to heat the product (liquid) to a high enough temperature that the proper, specified air space temperature will be attained;
- By using an air space heater (electrical) that will heat the air space in order to attain the proper, specified air space temperature,
- By injecting culinary steam into the air space such that the proper, specified air space temperature is attained.

Product	Minimum Product (liquid) Temperature & Continuous Time to Achieve Pasteurization	Minimum Air Space Temperature & Continuous Time to Achieve Pasteurization
Milk or Re-constituted Milk (<10% Milk Fat)	63°C for 30 minutes	66°C for 30 minutes
Cream or Re-constituted Cream (≥10% Milk Fat)	66°C for 30 minutes	69°C for 30 minutes
Ice Cream, or Ice Cream Mix, or any Dairy Beverage Containing Sugar	69°C for 30 minutes	72°C for 30 minutes

*Remember, both the product AND the air space must be held for a continuous 30 minute hold-time in order for the product to be considered properly pasteurized.*

**For further information please contact the Dairy Plant Specialist at 604.707.2440**

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