**Effect of maturation temperature and starter cultures on the rate of cream acidification**

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**Introduction**

Butter is a dairy product rich in fat, but it also contains an aqueous phase, a good medium for microorganisms [1]. The growth of microorganisms can be prevented by the application of certain treatments like reducing pH. In raw milk butter production process, cream fermentation is a fundamental step to reduce pH [2]. In a previous study, it was found that this operation presented variations among producers in terms of the conditions of maturation applied [3].

**Objective**

The aim of this work was to study cream pH evolution in relation to the conditions of maturation applied, especially temperature and addition of starter cultures.

**Materials and methods**

Four comparative trials of maturation were conducted taking into account storage temperature and addition of starter cultures. Cream pH measurements were recorded every 30 minutes for 4 days in a row.

**Results**

**Temperature effect**

No cream acidification at 4°C and significant decrease of cream pH at 14°C.

**Starter cultures effect**

Fast acidification in the presence of starter cultures, especially at 14°C.

**Temperature and maturation period combined effect**

Low pH after 3 days at 14°C without starter cultures.

**Conclusion**

- No cream acidification at 4°C and significant decrease of cream pH at 14°C.
- Fast acidification in the presence of starter cultures, especially at 14°C.
- Low pH after 3 days at 14°C without starter cultures.

**References**


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