

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].

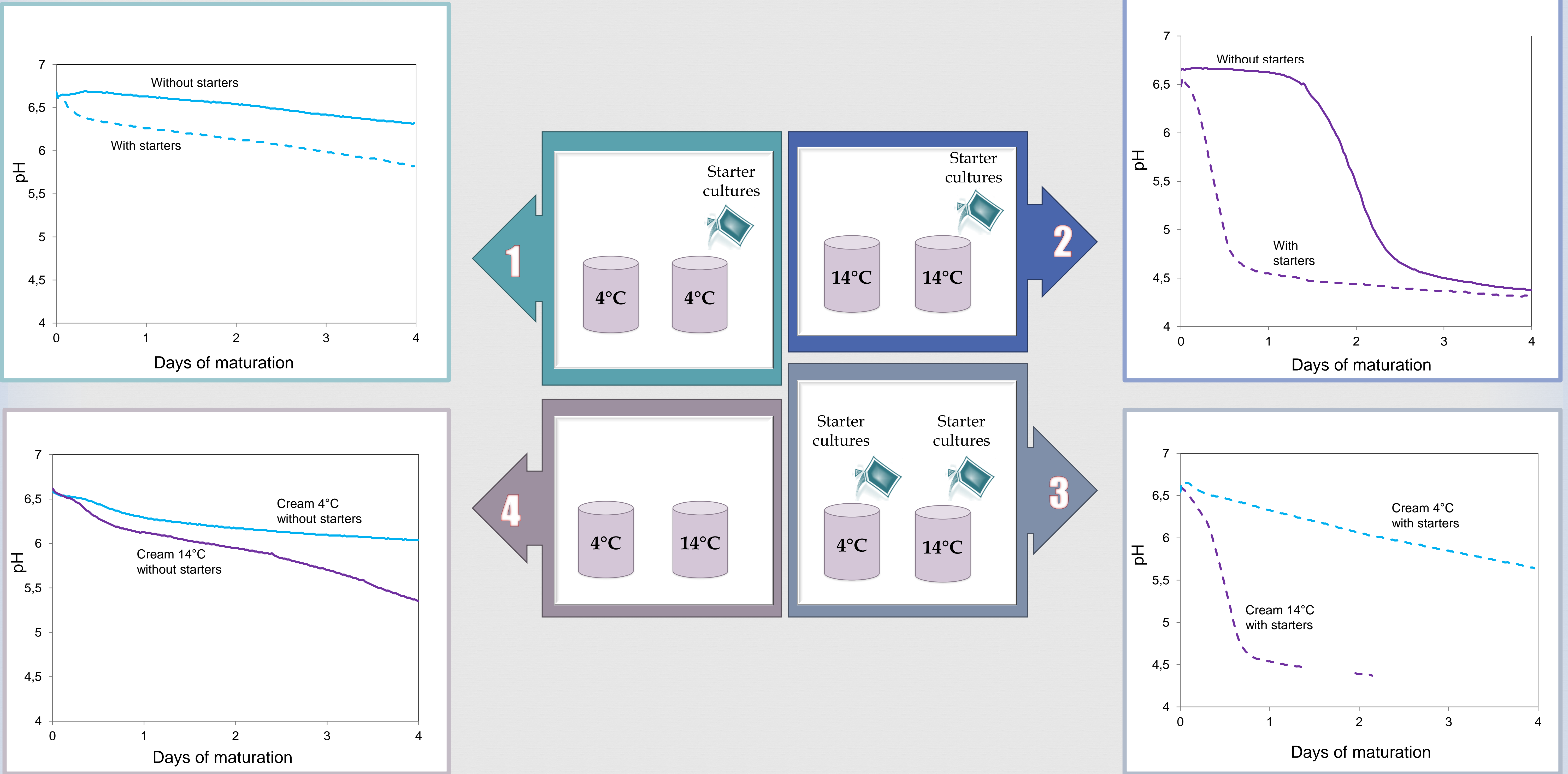
Objective

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



Conclusion

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

References

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