M59: The ELISA test to determinate the κ-casein B contents in bulk milk samples: Practical use.

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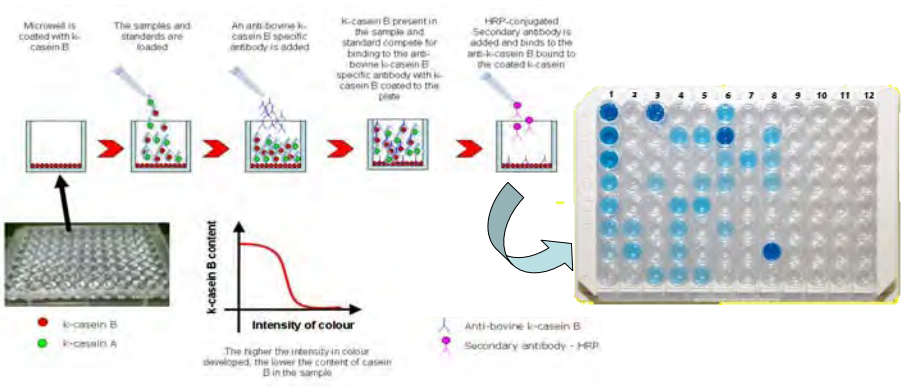
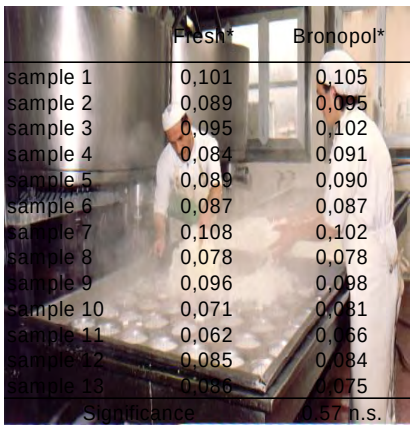
Introduction

k-Casein is one of the most important component of milk involved in the cheesemaking.
The most common variants presents in dairy milk are A and B. The differences between these variants are related to the substitution of two amminoacids, one in position 136 and one in 148.
Substantial differences in cheesemaking properties were found: better coagulation properties, more cheese from milk samples with B variant compared to the same quantity of milk with A variant.
The "test kappa" is a commercial ELISA test useful to quantify κ-casein B content in bulk milk samples. Using this test is possible to follow the yearly farm's variation of milk κ-casein B content.



Methods of milk conservation

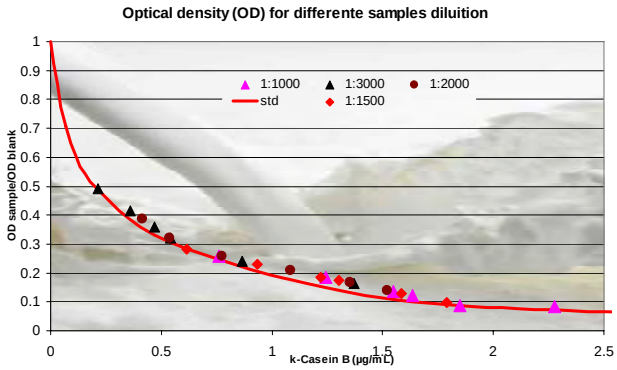
Three different methods of milk conservation were tested in 5 different herds: freezing, sodium merthiolate and Bronopol. The results show that all the used methods of conservations do not affect the test performances.



	Fresh*	Bronopol*
sample 1	0,101	0,105
sample 2	0,089	0,095
sample 3	0,095	0,102
sample 4	0,084	0,091
sample 5	0,089	0,090
sample 6	0,087	0,087
sample 7	0,108	0,102
sample 8	0,078	0,078
sample 9	0,096	0,098
sample 10	0,071	0,081
sample 11	0,062	0,066
sample 12	0,085	0,084
sample 13	0,066	0,075
Significance		0,57 n.s.

Dilution of samples

Four different ratio of milk dilution were tested: 1:1000, 1:1500, 1:2000 and 1:3000.
The follow graph shows the color intesity of the different dilutions and the calibration curves
The best results were obtained with the lowest dilution, due to the better matching of samples intensity color with the calibration curve.



Conclusion:

The test kappa can be a useful tools for monitor milk quality for cheese production.
Test performances were not affected by different methods on conservation of milk.
The best results were obtained with 1:1000 milk dilution.

www.testkappa.com

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