

Of milk

and cheese

Highlights from the *International Journal of Dairy Technology* spotlight fermented milks with nutritional labelling and cheeses with non-traditional coagulants, Andrew Wilbey says

FERMENTED milks are becoming more popular, and so the issue features a major review of strained fermented milks – in particular their terminology and nutritional labelling to meet legal requirements in a wide range of countries worldwide. Research reports cover a wide range of dairy topics.



Dairy microbiology

The development of a laboratory membrane system enabled cell lysates from lactic acid bacteria (LAB) to be investigated as potential nutrient media for non-starter LAB. This can help the understanding of the microbiology of cheese maturation. A separate study reported an investigation of the ability of certain non-starter LAB to produce anti-hypertensive and anti-thrombotic peptides from milk proteins.

Dairy processing factors were shown to have an influence on the resistance of some strains of *Lactobacilli* to simulated gastric digestion, an important factor in probiotic activity. Inactivation of contaminant organisms is important both safety and product quality. A comparison of batch and continuous heating systems for inactivation of *Bacillus* spores showed a tendency for a more heat-resistant tail after batch heating. Growth, injury and inactivation of *Listeria* monocytogenes strains in goats' milk over a temperature range of 0° to 65°C was reported to vary with the strain,

with large variations in D values at 50° and 55°C.

Dairy chemistry

Frying often results in oxidation of milk fat but there can be reluctance to add commercial antioxidants such as butylated hydroxyanisole (BHA). Extracts from green tea, clove and coriander were shown to be superior to BHA in extending the induction period. A separate study compared the oxidative stability of milk-fats from Simmental cows, Dalmatian sheep, Croatian goats and Dinaric donkeys, plus the antioxidant effects of their respective milk proteins. The cow and donkey milkfats were the more stable while whey from the donkey milk exhibited the highest antioxidant properties, comparable to BHA.

Transglutaminase has been used to modify the properties of proteins and hence those of dairy products. Application of the enzyme to goats' milk proteins showed that it was more effective with caseins than the whey proteins, whereas heat had the opposite effect. The protein content of Polish goat milks was investigated, indicating that overall there were higher levels of casein and total protein in the autumn-winter but higher whey protein levels in the spring-summer period.

Cheese

Powdered ginseng, often used as a traditional Asian medicine, was added to Asiago cheese. No differences in lactic acid bacteria counts were noted but the additions resulted in some changes to colour and to increased hardness. The overall acceptability to cheese with 0.1% nano-powdered ginseng was similar to that of the control cheese. The ripening of Tulum cheese, a traditional Turkish variety potentially made from a number of raw milks, was



Torta del Casar is one of a group of Iberian ewes' milk cheeses where the coagulating agent is an extract from *Cynara cardunculus* rather than rennet.

A comparison between the activities of extracts from different locations was indicated that the activity of the enzymes stages in the maturation of the cheese could provide an indicator for the subsequent creaminess and firmness of the final cheese.

Nabulsi cheese, the major Jordanian brined cheese, is prepared from raw milk and preserved by boiling in strong brine before cooling and storage. Heat treatment in hermetically sealed glass jars containing at least 10 per cent brine was sufficient to eliminate vegetative microorganisms. **Dill**

Information:

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