Submission - P1007 Primary Production & Processing

Requirements for Raw Milk Products

from MDU Public Health Laboratory, University of Melbourne.

We note that the stated objectives are

- consistency through national Standards and the permission to allow the domestic production of products that are currently permitted for import
- replacement of current references to foreign legislation and
- consideration of applications for extensions to permissions in the Code for raw milk products
- public health and safety.

FSANZ proposes to consider the risk to public health and safety from raw milk products through the Category Framework below

Category	Raw milk products	Comments
1	In which pathogens are eliminated	Very hard cheeses currently permitted under Standard 1.6.2
2	Where pathogens may survive but not grow	Require a combination of control measures & verification activities for safety
3	Where pathogens survive and grow	This is a high risk category.

Our comments relate specifically to public health and safety:

1. Pasteurisation of milk is recognised as an effective means of inactivating pathogens that may be present. We believe, along with others in the scientific community (Schmidt & Davidson 2008) that this process confers safety on a product that is often contaminated and is a good medium for growth of pathogens.

2. We recognise, however, that product safety is the result of a combination of the intrinsic properties (such as pH, water activity, salt content) and the processes that it has undergone. Thus, we agree that products under Category 1, when properly produced, controlled and handled hygienically, *should* not generally pose a risk to public health and safety.
   Johnson *et al* (1990) found that there were no outbreaks linked to very hard Italian cheeses such as Parmesan, but there have been reports of outbreaks that have been linked to the consumption of aged cheeses including Cheddar and Gouda (D'Aoust *et al* 1985; Honish *et al* 2005; Anon 2008). The processes may not be adequate to eliminate pathogens if they are present in high numbers in the raw milk. Further, Altekruse (1998) has observed that *Salmonella, E. coli* O157:H7and *L. monocytogenes* may survive the curing processes of these hard cheeses. Thus, permission must be tied to some assurance that the milk used is of good microbiological quality.

3. Products under Category 3 cannot be permitted as the risk is amplified during their manufacture and storage.

4. Category 2 products, by implication, should only be conditionally approved for sale to the general population as low numbers of pathogens may be present from time to time

   Blanket approvals for each class may not be appropriate as controls for each cheese will vary depending on the supplier/source of raw milk, its composition and process. Verification of the effectiveness of control measures together with an understanding of the potential hazards, must occur throughout the process. But as the predictive value of product testing is subject to the sampling plan used, this approach is not fail-safe.

   Extract from Pastore *et al* 2008:
   For the specific dairy product involved in this outbreak, routine investigations for bacterial contamination are performed in white cheese (early stage of production) whereas in ripened cheeses, at the latest stage of production, only controls for listeria are routinely done. Since bacterial contamination may

occur at any stage of the production, in order to prevent further outbreaks linked to soft cheese "brand X" and similar dairy product we concluded that testing for salmonella should be systematically performed also in fully ripened cheeses, at the latest stage of production. Therefore, in Switzerland, the HACCP monitoring programme and the clearing procedures for the release of products on the market have been revised to intensify the measures aimed at preventing the risk of salmonella infections during production and ripening of cheese.

5. Survival of pathogens in Category 2 cheeses could potentially result in the transmission of
    a. resistant bacteria. The prevalence of resistant salmonellae among isolates from farmed (mostly dairy) cattle averaged 14% from 1994 to 2003. While resistant isolates were rarely reported from milk-related sources, they have been reported from isolates from goats (mostly from carcasses) (Handford *et al* 2006).
    b. pathogens with low infective doses such as Shiga-toxigenic *E. coli* and *Coxiella burnetii.* Cobbold & Desmarchelier (2000) detected STECs in 16.7% of faecal sampled from dairy cattle in Australia. Q fever, caused by *C. burnetii* is a recognised zoonosis in Australia. In 2006, some 400 cases were notified in Australia, with cases mostly from Queensland and New South Wales (Begg *et al* 2008). Transmission via raw milk was historically a very important route of infection.
6. Cross-contamination is harder to control in premises where raw milk products are produced. Pathogens have been shown to grow on aged mould-ripened soft cheeses (D'Amico *et al* 2008; Tan *et al* 2008).

References

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