Petitioner submission of 22 June 2023

PE1978/F: Allow raw milk to be sold in Scotland

This submission was written by Stuart Whitby, and has been edited and submitted for publication by the petitioner, Cristina Rosique-Esplugas.

Dear members of the Citizen Participation and Public Petitions Committee,

Thank you for investigating this petition further and for the chance to provide further information in defence of our proposition.

In viewing your previous discussion, you proposed 4 external agencies to help your decision. One of these was Food Standards Scotland, who quoted an ACMSF (Advisory Committee on the Microbiological Safety of Food) report that there was an increased risk from RDM (Raw Drinking Milk) in England. This omitted the following paragraph, which stated that this increased risk was statistically insignificant and reflected the 5-fold increase in production and consumption of RDM in England. FSS have previously stated that “Raw milk is a high-risk food”. This contradicts the statement in the ACMSF’s report which confirms that “Raw milk remains medium risk with medium uncertainty”. FSS are the agency who relentlessly pursued and nearly destroyed Errington Cheese after an e-coli related death which was later traced to poor handling practices of raw meat, and attempted to destroy the artisan cheese industry in Scotland via regulation which was impossible to meet. FSS appears to be unjustifiably biased against unpasteurised milk products.

Next was the Food Standards Agency. On 14th March 2018, their officers demonstrated a lack of awareness of research into the benefits of drinking raw milk in a meeting discussing risks. They do not appear to have given any consideration to a response from a Senior Researcher at the University of Utrecht’s Department of Immunopharmacology, who is a specialist in the field of raw milk, milk quality, organic grassland and animal husbandry. This indicates that the FSA may not have a full understanding of available knowledge in this area.

The FSA state that there is little credible scientific evidence to support the claim that raw milk has health benefits. The reality is that there is little funding to investigate these benefits as there is no industry funding for that research. However, there are multiple articles where components of raw milk are tested and confirmed to be of benefit.

Dairy UK was approached for comment. Dairy UK represent milk processors. Legalising the sale of milk, which is merely filtered, not processed, is against their interests as an agency.

Neither the FSA nor FSS have any responsibility for public health, merely the safety of food. It is easy to destroy everything in milk by pasteurisation. However, this negates any health benefits as well as pathogen risk.

Alkaline phosphatase is one of the components of raw milk. Low levels of intestinal alkaline phosphatase have been linked to asthma, allergies, poor intestinal barrier function (leading to poorer outcomes vs E-coli O157), leaky gut, obesity, colitis, irritable bowel disease, insulin resistance associated with type 2 diabetes, frailty related to aging, and liver fibrosis as caused by alcoholism. Testing in these studies[1] is generally performed by consumption of orally supplemented alkaline phosphatase. However, alkaline phosphatase is abundant in raw milk, and delivered to the intestine thanks to the protection of the fat globules. The test for successful pasteurisation is to confirm the destruction of alkaline phosphatase. Alkaline phosphatase is just one of a long list of beneficial enzymes in milk that are destroyed by pasteurisation.

Raw drinking milk is simply "milk in its natural form", as recommended by Public Health Scotland in its promotion of breastfeeding as providing the best nutrition for infants. Pasteurised milk is the processed version of this, and has only become common in the past 100 years since the upscaling of the dairy industry resulted in lower cleanliness standards in city dairies in the early-to-mid 20th century. Milk testing agencies have

[1] Studies on the consumption of alkaline phosphatase:

Santos, G. M., Ismael, S., Morais, J., Araújo, J. R., Faria, A., Calhau, C., & Marques, C. (2022). Intestinal alkaline phosphatase: A review of this enzyme role in the intestinal barrier function. Microorganisms, 10(4), 746. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9026380/

Wu, H., Wang, Y., Li, H., Meng, L., Zheng, N., & Wang, J. (2022). Protective effect of alkaline phosphatase supplementation on infant health. Foods, 11(9), 1212. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9101100/

Gao, C., Koko, M. Y. F., Ding, M., Hong, W., Li, J., Dong, N., & Hui, M. (2022). Intestinal alkaline phosphatase (IAP, IAP Enhancer) attenuates intestinal inflammation and alleviates insulin resistance. Frontiers in Immunology, 13. https://www.frontiersin.org/articles/10.3389/fimmu.2022.927272/full

Kühn, F., Adiliaghdam, F., Cavallaro, P. M., Hamarneh, S. R., Tsurumi, A., Hoda, R. S., ... & Hodin, R. A. (2020). Intestinal alkaline phosphatase targets the gut barrier to prevent aging. JCI insight, 5(6). https://insight.jci.org/articles/view/134049

Liu, Y., Cavallaro, P. M., Kim, B. M., Liu, T., Wang, H., Kühn, F., ... & Hodin, R. A. (2021). A role for intestinal alkaline phosphatase in preventing liver fibrosis. Theranostics, 11(1), 14. https://www.thno.org/v11p0014.htm

confirmed that levels of pathogens in milk have been consistently falling since the 1980s – the time when the ban was put in place in Scotland.

At the very least, Scottish consumers who wish to purchase raw milk should have the option to do so. At present, there are people in Scotland who (perfectly legally) buy raw milk from England which is sent by post (at least 70 litres per week confirmed). The main reason that pathogens grow in raw milk is due to a lack of proper temperature control. As such, the length of time in the distribution network leads to a far higher chance of Scottish consumers becoming ill than would be the case if this was legally available for sale in Scotland.

Please note the following from the previously mentioned Senior Researcher's response to the FSA:

"*In 2014 three quantitative microbial risk assessments (QMRAs) and other scientific papers on the topic of raw milk were subject to review. The reviewer demonstrated how inappropriate evidence has long been mistakenly used to affirm that raw milk is a high-risk food. The scientific papers cited demonstrated a low risk of illness from raw milk consumption for each of the pathogens Campylobacter, Shiga-toxin producing E. coli, Listeria monocytogenes and Staphylococcus aureus. The low risk profile applied to healthy adults as well as members of susceptible groups: pregnant women, children and the elderly.*

The QMRAs contradicted the long-held view that raw milk is a high-risk food and their accuracy was confirmed using foodborne illness outbreak data."

Furthermore, the FSA provided a foodborne illness outbreak report which shows that raw milk is significantly lower risk than shellfish, chicken, deli meats, pre-packed sandwiches, and bagged salad.

The ACMSF's report on the relative risk ranking of foods for vulnerable groups showed the risk of unpasteurised milk lower than pasteurised.

A survey of 50 Scottish dairies for the BBC confirmed that 49 out of 50 farmers drank raw milk. It is legal to sell raw milk for animal consumption in Scotland, and it is unknown how many people "buy for animal consumption" and drink it themselves with no oversight.... and no reported problems in 40 years.

While failures in raw milk production quality can produce local outbreaks of illness, the source can be quickly identified (following the English

model of local distribution). An outbreak from pasteurised milk is much harder to trace – one involving pasteurised ice-cream in the US resulted in an expected 400,000 cases of illness country-wide.